CMP PRESERVES PLANT SURVEYS REPORT

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Acronyms and Abbreviations

ASMDs	area specific management objectives
CDFW	California Department of Fish and Wildlife
CESA	California Endangered Species Act
CMP	Comprehensive Monitoring Plan
County	County of San Diego
CRPR	California Rare Plant Ranking
ESA	Endangered Species Act
FMP	Framework Management Plan
GPS	Global Positioning Satellite
HCP	Habitat Conservation Plan
ICF	ICF International
MSCP	Multiple Species Conservation Plan
MSP	Management Strategic Plan
MSPA	Management Strategic Plan Area
NCCP	Natural Community Conservation Planning
NVCS	National Vegetation Classification System
ORV	Off Road Vehicle
SANDAG	San Diego Association of Governments
SDMMP	San Diego Management and Monitoring Program
USFWS	U.S. Fish and Wildlife Service
VCM	Vegetation Classification Manual for Western San Diego County

Summary

As a participant in the Multiple Species Conservation Plan (MSCP), the County of San Diego (County) is obligated to conduct biological monitoring of habitats and species covered by the MSCP, within County-owned and managed conserved lands (open space parks and preserves) overseen by the County of San Diego Department of Parks and Recreation (DPR), to ensure that the MSCP biological conservation goals and conditions for species coverage are being met. The County has prepared a Comprehensive Monitoring Plan (CMP) to provide detailed specifications for implementation of adaptive management and monitoring, which includes focused goals and objectives for target resources and detailed monitoring protocols and is intended to achieve the area specific management objectives (ASMDs) for species per the adopted South County MSCP Framework Management Plan (FMP).

In support of the MSCP and CMP conservation goals and objectives, ICF International conducted habitat and resource specific surveys and monitoring in all 10 of the DPR CMP Preserves. The surveys and monitoring were conducted to provide the DPR with recommendations for adaptive management, including management and monitoring of vegetation communities, habitat stressors/disturbances, high priority invasive plants, and sensitive plants.

Specifically, ICF conducted (1) vegetation mapping, (2) habitat stressors/disturbances surveys, (3) high priority invasive plant species surveys, (4) incidental rare plant surveys, and 5) protocol sensitive plant monitoring for highly threatened sensitive plant species.

This report summarizes all survey methodologies, data collected during the 2015 survey period (July through August), and includes recommendations for adaptive management, including management and monitoring of vegetation communities, habitat disturbances/stressors, high priority invasive plants, and sensitive plants.

The CMP Preserves encompass approximately 13,603.56 acres of native/naturalized vegetation communities comprising 65 vegetation associations/alliances, including 3 herbaceous wetland types, 9 upland herbaceous types, 14 drought-deciduous shrublands, 15 evergreen shrublands, 1 riparian shrubland, 8 riparian forest and woodlands, 7 upland forest and woodlands, and 5 land cover/unvegetated types.

The current surveys documented 8 high priority invasive plant species, 13 habitat stressors/disturbances, and 12 previously unrecorded sensitive plant populations, and completed protocol sensitive plant monitoring for 3 different plant species within 10 newly established monitoring plots.

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Chapter 1
Introduction

1.1 Purpose of the Project

As a participant in the Multiple Species Conservation Plan (MSCP), the County of San Diego (County) is obligated to conduct biological monitoring of habitats and species covered by the MSCP to ensure that the MSCP biological conservation goals and conditions for species coverage are being met. The County has prepared a Comprehensive Monitoring Plan (CMP) (ICF 2015) to provide detailed specifications for implementation of adaptive management and monitoring within County-owned and managed conserved lands (open space parks and preserves) overseen by the County of San Diego Department of Parks and Recreation. The CMP is an adaptive implementation plan that includes focused goals and objectives for target resources and detailed monitoring protocols and is intended to achieve the area specific management objectives (ASMDs) for species per the adopted South County MSCP Framework Management Plan (FMP).

To comply with the CMP's surveillance-level and resource-specific goals and objectives, surveys were conducted within the 10 CMP Preserves to document existing vegetation communities, habitat stressors/disturbances, high priority invasive plant populations, and previously unrecorded sensitive plant populations, and to conduct protocol sensitive plant monitoring for highly threatened plant species. The information gathered from these surveys was then used to make adaptive management and monitoring recommendations to ensure that the conservation goals of the MSCP are being met.

1.2 Multiple Species Conservation Program Context

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

The combination of the subregional MSCP Plan and Subarea Plans serve as a Multiple Species Habitat Conservation Plan (HCP) pursuant to Section 10(a)(1)(B) of the Federal Endangered Species Act (ESA), the Natural Community Conservation Planning (NCCP) Program pursuant to the California NCCP Act of 1991 (amended in 2001), and the California Endangered Species Act (CESA). The South County MSCP Subarea Plan was adopted in October 1997 and covers 23 vegetation communities and 85 plant and animal species. The County is preparing the North County Plan for the northwestern unincorporated areas of the County. The North County Plan will help conserve habitat that benefits numerous species, including the 63 species proposed for coverage under the plan.

Species-specific management and monitoring requirements for the South County MSCP are summarized in Table 3-5 of the MSCP Plan. In addition, the assurances and obligations to implement the South County MSCP Subarea Plan have been established in the Implementing Agreement, which was signed by the County, USFWS, and CDFW (formerly the California Department of Fish and Game).

Chapter 2
Study Area Description

2.1 Project Location

Currently, this CMP includes the following 10 open space parks and preserves: Boulder Oaks Preserve, Del Dios Highlands Preserve, El Capitan Preserve, El Monte Regional Park, Lakeside Linkage Preserve, Lusardi Creek Preserve, Oakoasis Preserve, Ramona Grasslands Preserve, Stelzer Regional Park, and Sycamore Canyon/Goodan Ranch Preserve (Appendix A: Figures 1 and 2).

All of these preserves, with the exception of Ramona Grasslands and a portion of Del Dios Highlands, are within the South County MSCP and will be monitored and managed in accordance with the Implementing Agreement (County of San Diego 1998). Ramona Grasslands and the northern half of Del Dios Highlands are located within the draft North County Plan area and are included at this time due to the number of sensitive onsite resources, and existing conservation easements and deed restrictions that require their conservation and management. Several of the preserves in the CMP (Boulder Oaks, El Capitan, El Monte Regional Park, Oakoasis, and Stelzer Regional Park) are clustered together, and have similar topography, vegetation communities, and covered species. Additional preserves will be added to this CMP in the future. Monitoring prioritization, goals, objectives, and monitoring protocols will be re-evaluated, and the CMP will be revised every 8 years. Additional preserves that are not yet included in the CMP will be incorporated at that time.

Baseline biodiversity inventories have been completed for each of the CMP Preserves—Boulder Oaks (ICF 2013), Del Dios Highlands (TA 2008), El Capitan (ICF 2008a), El Monte Regional Park (ICF 2008b), Lakeside Linkage (ICF 2008c), Lusardi Creek (ICF 2008d), Oakoasis (ICF 2008e), Ramona Grasslands (RECON 2005; ICF 2010), Stelzer Regional Park (ICF 2008f), and Sycamore Canyon/Goodan Ranch (ICF 2008g).

Detailed information about baseline biological resources and physical settings are discussed in these reports and are therefore not presented in this report.

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Chapter 3
Methods

ICF International (ICF) biologists conducted botanical surveys from July 2 through August 21, 2015 (Appendix B) within the CMP Preserves that included the following: (1) existing vegetation mapping updates; (2) habitat condition and threats assessment surveys; (3) invasive plant surveys; (4) rare plant surveys; and (5) rare plant monitoring.

The following sources are followed for taxonomy and nomenclature, including both scientific and standardized English names: *The Jepson Manual: Vascular Plants of California* (Baldwin et al. 2012) and *Checklist of the Vascular Plants of San Diego County* (Rebman and Simpson 2014). The scientific binomial from the cited references is included with the first mention of a species in the body of this report.

All existing data for the CMP Preserves were reviewed prior to fieldwork. Available data reviewed included baseline biological inventory reports, resource management plans, and ASMDs for the CMP Preserves, San Diego Management and Monitoring Program (SDMMP) Master Occurrence Matrix, San Diego Association of Governments (SANDAG) SanBios data, and vegetation mapping from the *Vegetation Classification Manual for Western San Diego County* (AECOM 2011).

All data collection was done with iPad Air devices using the Esri Collector application. The iPad Air devices were connected via Bluetooth to sub-meter accurate Global Positioning Satellite (GPS) units. All existing data for each preserve and digital imagery was loaded into Esri Collector, which allowed for digitally creating and editing data (points, polygons, and lines) at any scale and attributing the data with custom digital data forms. At the completion of each field day all data was wirelessly synced into ArcGIS Online for post processing.

3.1 Vegetation Communities/Habitats

Vegetation communities were mapped within the Preserve boundaries and a 100-foot buffer pursuant to County of San Diego guidelines (County of San Diego 2010).

In 2010 SANDAG funded a vegetation mapping project to create a vegetation classification manual based on *A Manual of California Vegetation* (Sawyer, Keeler-Wolf, Evens 2009) that was specific to western San Diego County. As a result of this project, the *Vegetation Classification Manual for Western San Diego County* (AECOM 2011, herein referred to as VCM) was completed in 2011 and included vegetation mapping for all of western San Diego County, including all of the existing CMP Preserves.

ICF botanists traversed the CMP Preserves via meandering transects in an effort to accurately categorize and map the vegetation communities. The existing low-resolution VCM vegetation mapping was updated for this current project using Esri Collector by creating new polygons or by updating and refining existing polygons. Updates to the existing vegetation mapping were consistent with the VCM (AECOM 2011).

To ensure consistency with previous mapping, the MSCP, and other planning or regulatory documents, the mapping of the CMP Preserves was cross-walked to the Holland classification

system (1986), as modified by Oberbauer et al. (2008), pursuant to guidelines detailed in Appendix C of the VCM. Mapping of the VCM and the modified Holland classification system are presented in the results.

The VCM is a hierarchical system that is consistent with the National Vegetation Classification System (NVCS). The highest levels of the NVCS are very broad, and therefore not part of the locally derived VCM, which focuses on the lowest levels—the alliances, associations, and stands. *Alliances* are characterized by "the presence of diagnostic species within a range of cover values within a single plant stratum," and *associations* are a "subset of types within an alliance, which are further defined by additional diagnostic species that may be present in any stratum" (AECOM 2011). The most basic unit in the VCM classification system is the *stand*, which is defined by species composition and relative cover, as well as structural integrity (e.g., vertical and horizontal structure resulting from local environmental conditions and site history). *Semi-natural stands* are equivalent to an alliance but dominated by nonnative species.

The vegetation types (e.g., alliances and associations) were determined by assessing the relative dominance of tree, shrub, and herbaceous species. These determinations were made using the dichotomous key in the VCM. In addition, to confirm the field identification, "membership rules" were reviewed as well as slope aspect, topographic position, and soil texture for each alliance and association.

All existing staging areas, roads, and trails (land cover) were included on the map and depicted as either disturbed habitat (bare ground) or urban/developed (paved). Land cover types or unvegetated areas not described in VCM are presented with their modified Holland code descriptions.

3.2 Habitat Condition and Threats Assessment Surveys

A general habitat condition and threats assessment was conducted concurrently with vegetation mapping. The habitat condition and threats assessment was conducted utilizing the stressors checklist provided by the SDMMP (http://sdmmp.com/reports_and_products/Other_Documents/Monitoring%20and%20Management%20Strategic%20Planning/Stressors.pdf), included herein as Table 1. Attribute data recorded in Esri Collector included the stressor type, severity, and perceived extent within the preserve. Severity and perceived extent within the preserve categories used were consistent with the stressors checklist provided by the SDMMP and are listed in Table 1. Sub-meter accurate GPS units were used to map stressors as points or polygons.

Table 1. Potential Disturbances/Stressors Checklist

Potential Disturbances/Stressors	Severity	Perceived Spatial Extent
Nonnative forbs	0. Unknown	0. Unknown
Nonnative grasses	1. May cause minor impacts on species or populations in the immediate or long term	1. Highly localized (e.g., one plant, clump, burrow, nest, etc.)
Nonnative woody plants		
Dumping/trash		
Encampments		
Feral pig activity		

Potential Disturbances/Stressors	Severity	Perceived Spatial Extent
Ground squirrel activity	2. May cause significant impacts on species or habitat, but not within next 2 years	2. Within an approximately 25-meter area
Gopher activity		
Trampling		
Vandalism	3. May cause significant impacts on species or habitat within the next 2 years	3. Within an area of approximately 26–50 meters
Current grazing		
Historic grazing		
Historic agriculture	4. May cause extirpation of a species population	4. Within an area greater than 50 meters
Altered hydrology		
Erosion		
Urban runoff		
Slope movement		
Soil compaction		
Fuel break		
Road construction/maintenance		
Illegal vegetation clearing		
Vegetation management/restoration		
Off Road Vehicle (ORV) activity		
Recent fire		
Development/fragmentation		
Illegal trails		
Disease/parasitism		
Other		

3.3 Invasive Plant Surveys

Invasive plant surveys were conducted concurrently with vegetation mapping and targeted 36 invasive species; 29 of the species are prioritized for near-term management and monitoring as outlined in the *Management Priorities for Invasive Non-native Plants: A Strategy for Regional Implementation, San Diego County, California* (Dendra Inc. 2012) (Table 2). Seven additional invasive plants were not included in Table 2: invasive perennials eucalyptus (*Eucalyptus* sp.), natal grass (*Melinis repens* ssp. *repens*), tree tobacco (*Nicotiana glauca*), African fountain grass (*Pennisetum setaceum*), date palm (*Phoenix* sp.), salt-cedar (*Tamarix* sp.), and Mexican fan palm (*Washingtonia robusta*). Invasive plant surveys focused on new invasions, but previously mapped areas were surveyed for expanding populations. Sub-meter accurate GPS units were used to map invasive plants. Individual invasive plants were mapped as points, and larger populations were mapped as polygons. Attribute data recorded in Esri Collector included regional priority and recommended action as outlined in *Management Priorities for Invasive Non-native Plants: A Strategy for Regional Implementation, San Diego County, California* (Dendra Inc. 2012).

Table 2. Priority Invasive Species and Priorities for Immediate Action

Scientific Name	Common Name	San Diego PAF Score	Regional Priority[a]	Recommended Action[b]
Management Level 1 – Surveillance (region-wide)				
Cytisus scoparius	Scotch broom	3.2	Medium	Surveillance
Euphorbia terracina	Carnation spurge	5.1	Very High	Surveillance
Management Level 2 – Eradication (region-wide)				
Aegilops triuncialis	Barbed goat grass	Not reviewed[c]	High	Monitor
Ageratina adenophora	Eupatory	5.4	High	Fund management
Carrichtera annua	Ward's weed	4.2	High	Monitor
Centaurea calcitrapa	Purple star thistle	2.8	Low	Coordinate
Centaurea solstitialis	Yellow star thistle	5.9	High	Fund management
Centaurea stoebe ssp. *micranthus*	Spotted knapweed	6.0	Medium	Fund management
Elymus caput-medusae	Medusahead	6.1	Very High	Coordinate; Fund management
Genista monspessulana	French broom	6.9	Very High	Fund management
Hypericum canariense	Canary Island St. John's wort	5.9	High	Fund management
Iris pseudacorus	Yellow flag iris	5.6	High	Fund management
Lythrum salicaria	Purple loosestrife	8.1	Very High	Fund management
Retama monosperma	Bridal broom	6.4	Very High	Fund management
Management Level 3 – Containment (management unit or watershed)				
Arundo donax	Giant reed	8.9	Very High	Fund management
Cortaderia selloana and *jubata*	Pampas grass (and jubata)	8.8	High	Fund management
Cynara cardunculus	Artichoke thistle	6.3	Very High	Coordinate; Fund trial
Ehrharta calycina	Perennial veldt grass	5.9	Medium	Additional data
Ehrharta longiflora	Long-flowered veldt grass	4.5	Medium	Additional data
Emex spinosa	Devil's thorn	4.8	Medium	Coordinate; Fund trial
Lepidium latifolium	Perennial pepperweed	7.9	Very High	Fund management; Additional data
Oncosiphon piluliferum	Globe chamomile	5.1	Medium	Additional data
Spartium junceum	Spanish broom	5.2	Medium	Coordinate; Fund management
Management Level 4 – Directed Management (sub-management unit or reserve)				
Agrostis avenacea	Pacific bent grass	5.6	Very High	Fund management
Brachypodium distachyon	Purple false brome	6.7	Very High	Fund management
Dittrichia graveolens	Stinkwort	5.6	High	Additional data
Foeniculum vulgare	Fennel	6.5	Very High	Fund management
Silybum marianum	Milk thistle	5.0	High	Additional data
Management Level 5 – Directed Suppression (reserve or site)				
Glebionis coronaria	Crown daisy	5.3	Medium	Additional data

PAF = Plant Assessment Form (California Invasive Plant Inventory Database; http://cal-ipc.org/paf/)

[a] Regional Priority is based on PAF score and management feasibility (see individual species discussions).

[b] Recommended Actions:

Scientific Name	Common Name	San Diego PAF Score	Regional Priority[a]	Recommended Action[b]
Additional data = additional distribution/abundance data are needed to assess impacts and/or management feasibility. Coordinate = facilitate coordinated management of species between multiple entities and/or management units. Fund trial = test the ability of multiple entities to effectively implement management across a management unit. Fund management = fund management of species. Monitor = monitor established control programs to ensure species is being managed effectively. Surveillance = watch for occurrences of species region-wide (early detection). [c] This species was discovered only recently in the region and was not included on the list for PAF review. However, it is being actively controlled.				

3.4 Sensitive Plant Surveys

For the purpose of this project, sensitive plant species include all species listed or proposed for listing by the USFWS and CDFW, any species listed as 1B through 4 on the California Rare Plant Ranking (CRPR), any species on the County list (Groups A, B, C, and D), and any species covered under the South County MSCP.

Focused sensitive plant surveys were not conducted. However, while conducting vegetation mapping, incidental rare plant observations that were previously unreported were mapped. Sub-meter accurate GPS units were used to map rare plants. Individual rare plants were mapped as points, and larger populations were mapped as polygons. Attribute data recorded in Esri Collector included CRPR Status, San Diego County Special Status, and MSCP Status.

3.5 Sensitive Plant Monitoring

As outlined in the CMP, seven sensitive plant species—San Diego thornmint (*Acanthomintha ilicifolia*), Encinitas baccharis (*Baccharis vanessae*), Lakeside ceanothus (*Ceanothus cyaneus*), San Miguel savory (*Clinopodium chandleri*), variegated dudleya (*Dudleya variegata*), willowy monardella (*Monardella viminea*), and spreading navarretia (*Navarretia fossalis*)—were prioritized for resource-specific monitoring. Species prioritization focused only on species for which population-level monitoring was considered critical for effective management.

Due to project timing, resource-specific monitoring was conducted for three of the seven sensitive plant species: Encinitas baccharis, Lakeside ceanothus, and willowy monardella. Site inspections were conducted for San Miguel savory and variegated dudleya, but focused monitoring could not be conducted in 2015. Resource-specific monitoring followed the Management Strategic Plan (MSP) 2014 Rare Plant Monitoring Protocol prepared by SDMMP. The following methods were used to establish permanent monitoring plots and monitor sensitive plant occurrence status.

- The perimeter of the current extent of the occurrence was mapped when feasible. When mapping the current extent of the occurrence was not feasible polygons delineating the extent of the occurrence from previously conducted biological baseline surveys were used as the current extent and surveyed for accuracy. Once the current extent of the occurrence was established the number of plants within the current mapped extent and area of the current mapped extent were recorded.

- Monitoring plots consisted of a 10-meter radius circle and were established within the current extent of the occurrence for each species. The center point of the monitoring plot was mapped with a sub-meter GPS unit and permanently marked with rebar. A permanent aluminum marker stenciled with the monitoring plot's number was installed on top of the rebar. The plot number consisted of a two or three letter code for the Preserve name, the year the plot was established, and the numerical order the plot was established within the Preserve. For example, BO201502 indicates that this plot is in Boulder Oaks Preserve, was established in 2015, and is the second monitoring plot established within the preserve.
- Once a monitoring plot was established monitoring activities were conducted and included recording number of plants per plot, phenological stages of plants, evidence of herbivory, disease, and stunted growth. Associated species within the monitoring plot were recorded and a habitat assessment was conducted.
- A photo point was established at the edge of the monitoring plot, mapped with a sub-meter GPS unit, and permanently marked with rebar. A permanent aluminum marker stenciled with the code PP (Photo Point) was installed on top of the rebar. The photo point was placed to allow for the best vantage point of the entire monitoring plot. A picture was taken from the photo point facing towards the center point of the plot. The cardinal direction, elevation, and camera angle were recorded for each photo;
- A threats assessment was conducted within the current/maximum extent of the occurrence and an adjacent 10-meter buffer.

Additional data not specified in the SDMMP was also collected for Encinitas baccharis and willowy monardella.

- Encinitas baccharis – within each monitoring plot the number of female and male plants were recorded.
- Willowy monardella – the height, width, and length in meters of each willowy monardella patch was recorded within the monitoring plot. These two measurements were multiplied together and divided by the value 0.785 meters to give an estimated number of plants (Rebman and Dossey 2006). The estimated number of plants was rounded to the nearest whole number and then classified as a seedling, juvenile, mature or adult.
    - Seedling: lacks multiple stems and is less than 4 inches tall.
    - Juvenile: lacks multiple stems and is more than 4inches tall.
    - Mature: more than 4 inches tall and has less than 20 stems.
    - Adult: is more than 4 inches tall and has more than 20 stems.

Chapter 4
Results and Discussion

4.1 Vegetation Communities/Habitats

A total of 65 vegetation alliances, associations, and land cover/unvegetated types were recorded within the CMP Preserves (Table 3). Figures illustrating VCM alliances, associations, and land cover/unvegetated types are included in Appendix A: Boulder Oaks—Figures 3A–3H, Del Dios Highlands—Figures 6A–6D, El Capitan—Figures 9A–9J, El Monte—Figure 12A, Lakeside Linkage—Figures 15A–15B, Lusardi Creek—Figure18A, Oakoasis—Figures 21A–21B, Ramona Grasslands—Figures 24A–24L, Stelzer—Figures 27A–27B, and Sycamore Canyon—Figures 30A–30H. These vegetation community types are described below and organized as presented in the classification key by functional group (i.e., herbaceous wetland vegetation, upland herbaceous vegetation, drought-deciduous shrublands, evergreen shrublands, riparian shrublands, riparian forests and woodlands, and upland forests and woodlands). The VCM does not include land cover types or unvegetated habitat (e.g., agriculture, disturbed habitat, urban/developed, open water, and non-vegetated channel); therefore, land cover types and unvegetated habitat are described using the Oberbauer-modified Holland classification system (Oberbauer et al. 2008; Holland 1986).

Until the VCM was finalized in 2011, South County MSCP preserve lands were generally mapped using the modified Holland classification system. To ensure consistency with previous mapping efforts, the CMP Preserves map data layer was cross-walked to the modified Holland system pursuant to the VCM (AECOM 2011; Table 3). Figures illustrating modified Holland system mapping are included in Appendix A: Boulder Oaks—Figures 4A–4H, Del Dios Highlands—Figures 7A–7D, El Capitan—Figures 10A–10J, El Monte—Figure 13A, Lakeside Linkage—Figures 16A–16B, Lusardi Creek—Figure19A, Oakoasis—Figures 22A–22B, Ramona Grasslands—Figures 25A–25L, Stelzer—Figures 28A–28B, and Sycamore Canyon—Figures 31A–31H. Vegetation communities summarized by Preserve are presented in Appendix C.

Table 3. Vegetation Communities and Land Cover Types within the CMP Preserves

VCM Code	VCM Alliance	VCM Association	VCM Common Name	Modified Holland Code	Modified Holland Classification	Preserve	Total
Herbaceous Wetland Vegetation Subtotal							*27.51*
5.2.1	*Anemopsis californica* Alliance	*Anemopsis californica-Juncus arcticus* Association	Yerba Mansa Meadows	52310	Cismontane Alkali Marsh	Ramona Grasslands	16.09
5.30.1	*Schoenoplectus americanus* Alliance	*Schoenoplectus americanus* Association	American Bulrush Marsh	52410	Coastal and Valley Freshwater Marsh	Boulder Oaks	11.32
5.35.1	*Typha* (*angustifolia*, *domingensis*, *latifolia*) Alliance	*Typha domingensis* Association	Cattail Marsh	52410	Coastal and Valley Freshwater Marsh	Boulder Oaks	0.10
Upland Herbaceous Vegetation Subtotal							*1855.02*
5.21	Mediterranean California Naturalized Annual and Perennial Grassland Semi-Natural Stands	Mediterranean California Naturalized Annual and Perennial Grassland Semi-Natural Stands	N/A	42200	Non-Native Grassland	Boulder Oaks	127.11
						Del Dios Highlands	1.52
						El Capitan	14.70
						Lakeside Linkage	4.75
						Lusardi Creek	0.18
						Oakoasis	5.24
						Ramona Grasslands	1,469.21
						Stelzer	1.05
						Sycamore Canyon	22.53
5.32	*Selaginella bigelovii* Alliance	Alliance Only	Bushy Spikemoss Mats	32500	Diegan Coastal Sage Scrub	El Capitan	0.78
5.5	*Avena* (*barbata*, *fatua*) Semi-Natural Stands	*Avena* (*barbata*, *fatua*) Semi-Natural Stands	Wild Oats Grasslands	42200	Non-Native Grassland	El Capitan	3.69
						El Monte	6.58
						Lusardi Creek	2.95

VCM Code	VCM Alliance	VCM Association	VCM Common Name	Modified Holland Code	Modified Holland Classification	Preserve	Total
5.8	*Bromus* (*diandrus*, *hordeaceus*)-*Brachypodium distachyon* Semi-Natural Stands	*Bromus* (*diandrus*, *hordeaceus*)-*Brachypodium distachyon* Semi-Natural Stands	Annual Brome Grasslands	42200	Non-Native Grassland	El Monte	3.76
						Sycamore Canyon	1.40
5.9	*Bromus rubens*-*Schismus* (*arabicus, barbatus*) Semi-Natural Stands	*Bromus rubens*-*Schismus* (*arabicus, barbatus*) Semi-Natural Stands	Red Brome or Mediterranean Grass Grasslands	42200	Non-Native Grassland	Sycamore Canyon	104.70
5.13.1	*Deinandra fasciculata* Provisional Alliance	*Deinandra fasciculata* Association	Fascicled Tarweed Fields	42300	Wildflower Field	Lusardi Creek	18.72
5.14.1	*Distichlis spicata* Alliance	*Distichlis spicata*-Annual Grasses Association	Salt Grass-Annual Grasses Grassland	42120	Valley Sacaton Grassland	Boulder Oaks	0.29
						Ramona Grasslands	59.21
5.24.1	*Nassella pulchra* Alliance	*Nassella pulchra* Association	Purple Needlegrass Grassland	42100	Native Grassland	Ramona Grasslands	0.37
						Sycamore Canyon	1.33
5.7.1	*Brassica nigra* and Other Mustards Seminatural Stands	*Brassica nigra* and Other Mustards Seminatural Stands	Upland Mustards	42210	Non-Native Grassland: Broadleaf-Dominated	Lusardi Creek	1.64
						Sycamore Canyon	3.30
Drought-Deciduous Shrublands Subtotal							*2,326.06*
4.6.1	*Artemisia californica* Alliance	*Artemisia californica* Association	Coastal Sagebrush Scrub	32510	Diegan Coastal Sage Scrub: Coastal form	Lusardi Creek	20.89
						Ramona Grasslands	15.40
						Sycamore Canyon	2.97
4.7	*Artemisia californica*-*Eriogonum fasciculatum* Alliance	Alliance Only	Coastal Sagebrush-California Buckwheat Scrub	32500	Diegan Coastal Sage Scrub	Lakeside Linkage	58.32
						Lusardi Creek	27.57
						Ramona Grasslands	679.86

VCM Code	VCM Alliance	VCM Association	VCM Common Name	Modified Holland Code	Modified Holland Classification	Preserve	Total
4.7.1	*Artemisia californica-Eriogonum* fasciculatum Alliance	*Artemisia californica-Eriogonum fasciculatum-Malosma laurina* Association	Coastal Sagebrush-California Buckwheat-Laurel Sumac Scrub	32500	Diegan Coastal Sage Scrub	El Capitan	429.63
						El Monte	24.52
						Lakeside Linkage	52.25
						Lusardi Creek	0.98
						Oakoasis	1.20
						Ramona Grasslands	37.13
						Stelzer	381.66
						Sycamore Canyon	241.46
4.7.2	*Artemisia californica-Eriogonum fasciculatum* Alliance	*Artemisia californica-Eriogonum fasciculatum-Opuntia littoralis/Dudleya* (e*dulis*) Association	Coastal Sagebrush-California Buckwheat-Succulent Scrub	32400	Maritime Succulent Scrub	Lakeside Linkage	20.34
						Lusardi Creek	28.99
4.8.1	*Artemisia californica-Salvia mellifera* Alliance	*Artemisia californica-Salvia mellifera* Association	Coastal Sagebrush-Black Sage Scrub	32500	Diegan Coastal Sage Scrub	Boulder Oaks	2.26
						Lusardi Creek	0.49
4.13.1	*Bahiopsis laciniata* Alliance	*Bahiopsis laciniata-Artemisia californica-Eriogonum fasciculatum* Association	San Diego Sunflower-California Buckwheat Scrub	32500	Diegan Coastal Sage Scrub	El Capitan	39.69
						Lakeside Linkage	11.95
						Stelzer	1.15
4.23	*Eriogonum fasciculatum* Alliance	Alliance Only	California Buckwheat Scrub	32500	Diegan Coastal Sage Scrub	Ramona Grasslands	12.17
4.24.1	*Eriogonum fasciculatum* Alliance	*Eriogonum fasciculatum-Salvia apiana* Association	California Buckwheat-White Sage Scrub	32500	Diegan Coastal Sage Scrub	Ramona Grasslands	14.71
						Sycamore Canyon	17.12
4.23.2	*Eriogonum fasciculatum* Alliance	*Eriogonum fasciculatum-Salvia columbariae-Mirabilis laevis* Provisional Association	California Buckwheat-White Sage Scrub	32500	Diegan Coastal Sage Scrub	El Monte	0.68

VCM Code	VCM Alliance	VCM Association	VCM Common Name	Modified Holland Code	Modified Holland Classification	Preserve	Total
4.29.1	*Isocoma menziesii* Alliance	*Isocoma menziesii* Provisional Association	Menzies's Goldenbush Scrub	32000	Coastal Scrub	Lusardi Creek	3.02
4.43.2	*Salvia apiana* Alliance	*Salvia apiana-Artemisia californica* Association	White Sage-Coastal Sagebrush Scrub	32500	Diegan Coastal Sage Scrub	El Capitan	9.27
						Ramona Grasslands	2.30
						Sycamore Canyon	4.21
4.44	*Salvia mellifera* Alliance	Alliance Only	Black Sage Scrub	32500	Diegan Coastal Sage Scrub	Sycamore Canyon	69.11
4.44.1	*Salvia mellifera* Alliance	*Salvia mellifera-Eriogonum fasciculatum* Association	Black Sage-California Buckwheat Scrub	32500	Diegan Coastal Sage Scrub	Del Dios Highlands	1.92
						Sycamore Canyon	29.72
4.44.2	*Salvia mellifera* Alliance	*Salvia mellifera-Malosma laurina* Association	Black Sage-Laurel Sumac Scrub	32500	Diegan Coastal Sage Scrub	Sycamore Canyon	83.13
Evergreen Shrublands Subtotal							*8,343.35*
4.1	*Adenostoma fasciculatum* Alliance	Alliance Only	Chamise Chaparral	37200	Chamise Chaparral	Del Dios Highlands	8.69
						Lusardi Creek	34.25
						Oakoasis	23.07
						Ramona Grasslands	299.09
						Sycamore Canyon	214.73
4.1.4	*Adenostoma fasciculatum* Alliance	*Adenostoma fasciculatum-Ceanothus tomentosus* Association	Chamise-Ramona-Lilac Chaparral	37120	Southern Mixed Chaparral	Boulder Oaks	939.13
						El Capitan	7.06
						Oakoasis	348.07
						Sycamore Canyon	20.62

VCM Code	VCM Alliance	VCM Association	VCM Common Name	Modified Holland Code	Modified Holland Classification	Preserve	Total
4.1.2	*Adenostoma fasciculatum* Alliance	*Adenostoma fasciculatum*-(*Eriogonum fasciculatum*, *Artemisia californica*, *Salvia mellifera*) Association	Chamise-Coastal Sage Scrub	37G00	Coastal Sage-Chaparral Transition	El Capitan	441.60
						Lusardi Creek	11.71
						Ramona Grasslands	509.02
						Sycamore Canyon	734.13
4.2.1	*Adenostoma fasciculatum-Xylococcus bicolor* Alliance	*Adenostoma fasciculatum-Xylococcus bicolor* Association	Chamise-Mission Manzanita Chaparral	37120	Southern Mixed Chaparral	Lusardi Creek	5.87
						Sycamore Canyon	132.63
4.2.2	*Adenostoma fasciculatum-Xylococcus bicolor* Alliance	*Adenostoma fasciculatum-Xylococcus bicolor-Ceanothus tomentosus* Association	Chamise-Mission Manzanita-Ramona-Lilac Chaparral	37120	Southern Mixed Chaparral	Boulder Oaks	182.97
						El Capitan	697.60
						Sycamore Canyon	644.05
4.2.4	*Adenostoma fasciculatum-Xylococcus bicolor* Alliance	*Adenostoma fasciculatum-Xylococcus bicolor-Ceanothus verrucosus* Association	Chamise-Mission Manzanita-Wart-Stem-Lilac Chaparral	37C30	Southern Maritime Chaparral	Del Dios Highlands	290.07
4.2.6	*Adenostoma fasciculatum-Xylococcus bicolor* Alliance	*Adenostoma fasciculatum-Xylococcus bicolor-Quercus* (*berberidifolia*, ×*acutidens*) Association	Chamise-Mission Manzanita-Scrub Oak Chaparral	37120	Southern Mixed Chaparral	El Capitan	867.24
						Oakoasis	0.19
						Ramona Grasslands	72.96
4.4.1	*Arctostaphylos glandulosa* Alliance	*Arctostaphylos glandulosa-Adenostoma fasciculatum* Association	Eastwood Manzanita-Chamise Chaparral	37120	Southern Mixed Chaparral	Boulder Oaks	235.41
						Del Dios Highlands	2.76
4.16.1	*Ceanothus leucodermis* Alliance	*Ceanothus leucodermis* Association	Chaparral Whitethorn Chaparral	37120	Southern Mixed Chaparral	Boulder Oaks	63.07

VCM Code	VCM Alliance	VCM Association	VCM Common Name	Modified Holland Code	Modified Holland Classification	Preserve	Total
4.18.1	*Ceanothus tomentosus* Alliance	*Ceanothus tomentosus* Association	Ramona-Lilac Chaparral	37120	Southern Mixed Chaparral	Boulder Oaks	217.84
						Oakoasis	18.94
						Sycamore Canyon	251.68
4.19.1	*Ceanothus verrucosus* Alliance	*Ceanothus verrucosus* Association	Wart-Stem-Lilac Chaparral	37C30	Southern Maritime Chaparral	Del Dios Highlands	405.27
4.35.1	*Malosma laurina* Alliance	*Malosma laurina-Lotus scoparius* Association	Laurel Sumac-Deerweed Scrub	32000	Coastal Scrub	Del Dios Highlands	0.21
						El Capitan	2.91
						Lusardi Creek	14.72
						Ramona Grasslands	16.45
						Stelzer	8.99
						Sycamore Canyon	37.49
4.42.1	*Rhus integrifolia* Alliance	*Rhus integrifolia* Association	Lemonadeberry Scrub	32500	Diegan Coastal Sage Scrub	Lusardi Creek	28.18
4.37.1	*Quercus* (*berberidifolia*, ×*acutidens*) Alliance	*Quercus* (*berberidifolia*, ×*acutidens*) Association	Scrub Oak Chaparral	37900	Scrub Oak Chaparral	Del Dios Highlands	14.46
						El Capitan	31.65
						Ramona Grasslands	29.65
						Sycamore Canyon	33.2
4.38.1	*Quercus* (*berberidifolia*, ×*acutidens*)-*Adenostoma fasciculatum* Alliance	*Quercus* (*berberidifolia*, ×*acutidens*)-*Adenostoma fasciculatum* Association	Scrub Oak-Chamise Chaparral	37900	Scrub Oak Chaparral	Boulder Oaks	106.56
						El Capitan	16.13
						Oakoasis	14.09
						Ramona Grasslands	295.64
						Sycamore Canyon	6.49

VCM Code	VCM Alliance	VCM Association	VCM Common Name	Modified Holland Code	Modified Holland Classification	Preserve	Total
Riparian Shrublands Subtotal							*420.26*
4.11.1	*Baccharis salicifolia* Alliance	*Baccharis salicifolia* Association	Mule-Fat Thickets	63310	Mule-Fat Scrub	Ramona Grasslands	18.10
Riparian Forests and Woodlands Subtotal							*402.17*
3.4	*Platanus racemosa* Alliance	Alliance Only	Western Sycamore Riparian Forests and Woodlands	62500	Southern Riparian Woodland	Ramona Grasslands	0.73
3.4.3	*Platanus racemosa* Alliance	*Platanus racemosa-Quercus agrifolia* Association	Western Sycamore-Coast Live Oak Riparian Forests and Woodlands	61300	Southern Riparian Forest	El Capitan	8.37
						Stelzer	25.89
						Sycamore Canyon	22.87
3.6	*Quercus agrifolia* Alliance	Alliance Only	Coast Live Oak Forests and Woodlands	61310	Southern Coast Live Oak Riparian Forest	Ramona Grasslands	31.10
3.6.3	*Quercus agrifolia* Alliance	*Quercus agrifolia-Salix lasiolepis* Association	Coast Live Oak-Arroyo Willow Riparian Forests and Woodlands	61310	Southern Coast Live Oak Riparian Forest	Oakoasis	20.31
						Ramona Grasslands	0.32
3.6.4	*Quercus agrifolia* Alliance	*Quercus agrifolia-Toxicodendron diversilobum*-Grass Association	Coast Live Oak-Poison Oak-Grass Forests and Woodlands	61310	Southern Coast Live Oak Riparian Forest	Boulder Oaks	5.12
						Del Dios Highlands	0.54
						El Capitan	195.28
						El Monte	25.47
						Oakoasis	1.74
						Ramona Grasslands	20.03
						Stelzer	1.36
						Sycamore Canyon	1.95
						El Monte	0.82
3.8.1	*Salix gooddingii* Alliance	*Salix gooddingii* Association	Goodding's Black Willow Riparian	62500	Southern Riparian Woodland	Del Dios Highlands	0.28

VCM Code	VCM Alliance	VCM Association	VCM Common Name	Modified Holland Code	Modified Holland Classification	Preserve	Total
			Forests and Woodlands			Ramona Grasslands	16.00
3.9.1	*Salix laevigata* Alliance	*Salix laevigata* Association	Red Willow Riparian Forests and Woodlands	62500	Southern Riparian Woodland	Del Dios Highlands	0.57
3.10.0	*Salix lasiolepis* Alliance	*Salix lasiolepis* Association	Arroyo Willow Riparian Forests and Woodlands	61320	Southern Arroyo Willow Riparian Forest	Boulder Oaks	2.06
						Lusardi Creek	12.75
						Ramona Grasslands	8.61
Upland Forests and Woodlands Subtotal							*307.45*
3.2	*Eucalyptus* (*globulus*, *camaldulensis*) Semi-Natural Stands	*Eucalyptus* (*globulus*, *camaldulensis*) Semi-Natural Stands	Eucalyptus Forests and Woodlands	79100	Eucalyptus Woodland	Del Dios Highlands	7.01
						Lakeside Linkage	1.52
						Lusardi Creek	5.48
						Ramona Grasslands	22.74
						Stelzer	1.50
3.6	*Quercus agrifolia* Alliance	Alliance Only	Coast Live Oak Forests and Woodlands	71160	Coast Live Oak Woodland	El Capitan	8.23
						Oakoasis	2.87
						Ramona Grasslands	59.43
3.6.1	*Quercus agrifolia* Alliance	*Quercus agrifolia-Artemisia californica* Association	Coast Live Oak-Coastal Sagebrush Forests and Woodlands	71160	Coast Live Oak Woodland	El Monte	20.26
						Sycamore Canyon	14.69
3.6.2	*Quercus agrifolia* Alliance	*Quercus agrifolia-Quercus* (*berberidifolia*, ×*acutidens*) Association	Coast Live Oak-Scrub Oak Forests and Woodlands	71160	Coast Live Oak Woodland	Oakoasis	2.66

VCM Code	VCM Alliance	VCM Association	VCM Common Name	Modified Holland Code	Modified Holland Classification	Preserve	Total
3.6.4	*Quercus agrifolia* Alliance	*Quercus agrifolia-Toxicodendron diversilobum*-Grass Association	Coast Live Oak-Poison Oak-Grass Forests and Woodlands	71160	Coast Live Oak Woodland	Boulder Oaks	24.94
						Oakoasis	1.50
3.7	*Quercus engelmannii* Alliance	Alliance Only	Englemann Oak Forests and Woodlands	71180	Engelmann Oak Woodland	Ramona Grasslands	10.38
3.7.2	*Quercus engelmannii* Alliance	*Quercus engelmannii-Quercus agrifolia-Toxicodendron diversilobum*-Grass Association	Engelmann Oak-Coast Live Oak-Poison Oak-Grass Forests and Woodlands	71180	Engelmann Oak Woodland	Boulder Oaks	71.72
						El Capitan	52.52
Land Cover/Unvegetated[a] Subtotal							*330.73*
N/A	N/A	N/A	N/A	18000	General Agriculture	Lusardi Creek	1.52
						Ramona Grasslands	29.35
						Sycamore Canyon	1.17
N/A	N/A	N/A	N/A	11000	Disturbed Habitat	Boulder Oaks	17.34
						Del Dios Highlands	10.36
						El Capitan	14.87
						El Monte	0.88
						Lakeside Linkage	5.76
						Lusardi Creek	5.41
						Oakoasis	4.57
						Ramona Grasslands	24.87
						Stelzer	7.44
						Sycamore Canyon	33.02
N/A	N/A	N/A	N/A	64100	Open Water	Ramona Grasslands	1.27
						Boulder Oaks	3.49

VCM Code	VCM Alliance	VCM Association	VCM Common Name	Modified Holland Code	Modified Holland Classification	Preserve	Total
N/A	N/A	N/A	N/A	12000	Urban/Developed	Boulder Oaks	4.70
						Del Dios Highlands	22.49
						El Monte	29.26
						Lakeside Linkage	42.09
						Lusardi Creek	1.32
						Oakoasis	21.84
						Ramona Grasslands	31.09
						Stelzer	7.88
						Sycamore Canyon	4.30
N/A	N/A	N/A	N/A	13200	Non-Vegetated Channel, Floodway, Lakeshore Fringe	Ramona Grasslands	4.46
Total							**13,603.56**

[a] The Vegetation Classification Manual does not classify land cover types/unvegetated habitats such as that found in the Oberbauer-modified Holland classification system: agriculture, disturbed habitat, non-vegetated channel, open water, and urban/developed.

4.1.1 Herbaceous Wetland

4.1.1.1 *Anemopsis californica-Juncus arcticus* Association (5.2.1)

The yerba mansa (*Anemopsis californica*) alliance is dominated by yerba mansa, which is a clonal stoloniferous wetland species with compound flowers subtended by white petal-like bracts. It forms small stands and is restricted to saline or alkaline areas. The yerba mansa – Baltic rush (*Juncus arcticus*) association, is composed of these two species as either dominants or codominants in the herbaceous layer with other herbaceous species including western ragweed (*Ambrosia psilostachya*) and salt grass (*Distichlis spicata*). This association is equivalent to the cismontane alkaline marsh (52310) vegetation community in the modified Holland classification system. Approximately 16.09 acres of this herbaceous wetland vegetation type are found in the alkaline grasslands of the Ramona Grasslands Preserve.

4.1.1.2 *Typha domingensis* Association (5.30.1)

The southern cattail association (*Typha domingensis*) is found in freshwater and brackish marshes throughout San Diego County. The southern cattail association is dominated by this species and usually comprises dense colonies forming uniform stands. Many other wetland plant species may be present in the riparian vegetation type but are not associated as fully aquatic emergent wetland plant species. Associated riparian species include western ragweed, mule-fat (*Baccharis salicifolia*), and salt grass. This association is equivalent to the coastal and valley freshwater marsh (52410) vegetation community in the modified Holland classification system. Approximately 0.10 acre of this herbaceous wetland vegetation type is found within the Boulder Oaks Preserve.

4.1.1.3 *Schoenoplectus americanus* Association (5.35.1)

The American bulrush (*Schoenoplectus americanus*) association occurs in many wetlands throughout the western United States. Most stands in California are associated with inland wetlands adjacent to alkali playas and seeps, but they also occur in coastal brackish marshes. The American bulrush association is dominated by this species and usually is composed of dense colonies forming uniform stands. Many other wetland plant species may be present in the riparian vegetation type but are not associated as fully aquatic emergent wetland plant species. Associated riparian species include western ragweed, mule-fat, salt grass, and willow (*Salix* spp.). This association is equivalent to the coastal and valley freshwater marsh (52410) vegetation community in the modified Holland classification system. Approximately 11.32 acres of this herbaceous wetland vegetation type are found in the alkaline grasslands of the Ramona Grasslands Preserve.

4.1.2 Upland Herbaceous Vegetation

4.1.2.1 Mediterranean California Naturalized Annual and Perennial Grassland Semi-Natural Stands (5.21)

Mediterranean California Naturalized Annual and Perennial Grassland Semi-Natural Stands is a vegetation community that occurs at the Group level, which is hierarchically above association. This classification is used where there is no clear dominant nonnative species, but all are codominant to

subdominant. Some species typically found in this Group are red brome (*Bromus madritensis* ssp. *rubens*), red-stem filaree (*Erodium cicutarium*), and ripgut grass (*Bromus diandrus*). This vegetation type is equivalent to the non-native grassland (42200) vegetation community in the modified Holland classification system. This upland herbaceous vegetation type is widespread throughout the CMP Preserves, covering approximately 1,646.29 acres.

4.1.2.2 *Selaginella bigelovii* Alliance (5.32)

The Bigelow spike-moss (*Sellaginella bigelovii*) alliance is characteristic of large rock outcrops in much of San Diego County. It typically occurs on gently to moderately sloping slabs of rock and, over time, may form thick mats of intertwined roots and rhizomes. These mats catch soil and dust and build up enough soil to supply substrate for other herbaceous species. These stands are visible on outcrops at a distance and often show up as dark mats with emergent drying grass stems and scattered shrubs. This association is equivalent to the Diegan coastal sage scrub (32500) vegetation community in the modified Holland classification system. Approximately 0.78 acre of Bigelow's spike-moss alliance occurs within El Capitan Preserve.

4.1.2.3 *Avena* (*barbata*, *fatua*) Semi-Natural Stands (5.5)

Avena (*barbata*, *fatua*) Semi-Natural Stands are strongly dominated by nonnative wild oat (*Avena* spp.) and are common in waste places, rangelands, openings in woodlands, and type-converted chaparral or coastal scrub throughout cismontane California. Wild oat (*A. barbata* or *A. fatua*) is dominant or codominant in the herbaceous layer. Emergent trees and shrubs may be present at low cover. This vegetation type is equivalent to the non-native grassland (42200) vegetation community in the modified Holland classification system. Approximately 13.22 acres of this vegetation community occur within El Capitan Preserve, El Monte Regional Park, and Lusardi Creek Preserve.

4.1.2.4 *Bromus* (*diandrus, hordeaceus*)-*Brachypodium distachyon* Semi-Natural Stands (5.8)

Throughout cismontane California nonnative bromes and related "false" bromes have become abundant and tend to dominate strongly in areas where the natural ecology of vegetation has been altered by high fire frequency, repeated soil disturbance, and/or intensive grazing. Depending on the setting, many stands with ripgut grass, soft chess (*Bromus hordeaceus*), or false brome (*Brachypodium distachyon*) are dominant or codominant with other nonnatives in the herbaceous layer. Sometimes emergent trees and shrubs may be present at low cover. This vegetation community can invade heavy clay soils, such as those preferred by San Diego thornmint. This vegetation type is equivalent to the non-native grassland (42200) vegetation community in the modified Holland classification system. Approximately 5.16 acres of this vegetation community occur within El Monte Regional Park and Sycamore Canyon/Goodan Ranch Preserve.

4.1.2.5 *Bromus rubens*-*Schismus* (*arabicus, barbatus*) Semi-Natural Stands (5.9)

Red brome (*Bromus rubens*) and Mediterranean-grass (*Schismus barbatus*) have become significant components of the winter and early spring annual flora in parts of southern California, and they both have the capacity to prevent native ephemerals from sprouting through competitive interactions.

This vegetation type is equivalent to the non-native grassland (42200) vegetation community in the modified Holland classification system. Approximately 104.70 acres of this vegetation community occur within the Sycamore/Goodan Ranch Preserve, which are largely dominated by red brome.

4.1.2.6 *Deinandra fasciculata* Association (5.13.1)

Fascicled tarplant (*Deinandra fasciculata*) is a late-flowering summer annual that germinates in the spring, and blooms and fruits after many of the spring annuals have gone to seed. Fascicled tarplant occurs most often with sparse to trace cover in herb-dominated openings within many shrub-dominated vegetation types. As an association it can occur as a codominant or conspicuous species in the herbaceous layer in a complex mosaic of shrublands with grassland and vernal pool associations. This association is equivalent to the wildflower field (42300) vegetation community in the modified Holland classification system. Approximately 18.72 acres of this vegetation community occur within the recently burned areas of Lusardi Creek Preserve.

4.1.2.7 *Distichlis spicata*-Annual Grasses Association (5.14.1)

Salt grass (*Distichlis spicata*) forms stands in inland alkaline settings such as around playa edges, as well as in upper coastal salt marshes. Salt grass is dominant in the herbaceous canopy, and nonnative annual grasses occur usually as subdominant cover. Common associated plants include western ragweed, Italian rye grass (*Festuca perennis*), and African brass-buttons (*Cotula coronopifolia*). This association is equivalent to the valley sacaton grassland (42120) vegetation community in the modified Holland classification system. Approximately 59.5 acres of this vegetation type occur within alkaline areas of the Boulder Oaks Preserve and Ramona Grasslands Preserve.

4.1.2.8 *Nassella pulchra* Association (5.24.1)

Purple needlegrass (*Nassella pulchra*), the state grass of California, is a widespread bunchgrass that is representative of many native herbaceous stands in coastal San Diego County. Purple needlegrass is codominant to sparse in the herbaceous canopy of grasslands, grassland-shrubland complexes, or oak woodland. This type is often associated with vernal pool complexes. Associated herbs include fascicled tarplant, soap plant (*Chlorogalum* spp.), gum plant (*Grindelia camporum*), osmadenia (*Osmadenia tenella*), brodiaea (*Brodiaea* spp.), blue dicks (*Dichelostemma capitatum*), and blue-eyed grass (*Sisyrinchium bellum*). Nonnative annual grasses and broadleaf plant species including bromes and tocalote (*Centaurea melitensis*) often subdominant. This association is equivalent to the native grassland (42100) vegetation community in the modified Holland classification system. Approximately 1.70 acres of this vegetation type occur within the Ramona Grasslands Preserve and Sycamore Canyon/Goodan Ranch Preserve.

4.1.2.9 *Brassica nigra* and Other Mustards Seminatural Stands (5.7.1)

Black mustard (*Brassica nigra*) (and/or other nonnative mustards, including *B. rapa*, *B. tournefortii*, *Hirschfeldia incana*, or *Raphanus sativus*) are dominant often as a continuous herbaceous canopy in the herbaceous layer. Black mustard can invade intact vegetation communities as well as areas where the soil has been disturbed. This vegetation type is equivalent to the non-native grassland: broadleaf-dominated (42210) vegetation community in the modified Holland classification system.

Approximately 4.94 acres of this vegetation type occur within the Lusardi Creek Preserve and Sycamore Canyon/Goodan Ranch Preserve.

4.1.3 Drought-Deciduous Shrublands

4.1.3.1 *Artemisia californica* Association (4.6.1)

The coastal sagebrush (*Artemisia californica*) association is widespread from the San Francisco Bay Area south to northwestern Baja California. Throughout the range of this association, coastal sagebrush is dominant or codominant in the shrub canopy. The shrub canopy is intermittent to continuous. Subdominant shrubs, depending on location, may include chamise *(Adenostoma fasciculatum),* coyote brush *(Baccharis pilularis),* California encelia *(Encelia* californica), California buckwheat (*Eriogonum fasciculatum*), chaparral candle (*Hesperoyucca whipplei*), goldenbush (*Isocoma menziesii*), deerweed (*Acmispon glaber*), laurel sumac (*Malosma laurina*), coast prickly-pear (*Opuntia littoralis*), white sage (*Salvia apiana*), and black sage (*S. mellifera*). This vegetation type tends to occur on moderately steep to very steep southerly facing slopes. This association is equivalent to the Diegan coastal sage scrub: coastal form (32510) vegetation community in the modified Holland classification system. Approximately 39.26 acres of this vegetation type occur within the Lusardi Creek Preserve, Ramona Grasslands Preserve, and Sycamore Canyon/Goodan Ranch Preserve.

4.1.3.2 *Artemisia californica-Eriogonum fasciculatum* Alliance (4.7)

This alliance is found in drier and more exposed southerly facing slopes, and is equivalent to the Diegan coastal sage scrub (32500) vegetation community of the modified Holland classification system. The alliance is characterized by coastal sagebrush and California buckwheat as codominants in the shrub canopy. Approximately 765.75 acres of this vegetation type mapped at the alliance level only occur within the Lakeside Linkage Preserve, Lusardi Creek Preserve, and Ramona Grasslands Preserve. Two associations of this alliance occurring within the preserves are described below, and are not included in the 765.75 acres.

4.1.3.3 *Artemisia californica-Eriogonum fasciculatum-Malosma laurina* Association (4.7.1)

In this association, coastal sagebrush, California buckwheat, and laurel sumac are codominant with a relatively open shrub canopy. Many other subdominant shrub species include lemonadeberry, California encelia, white sage, San Diego sunflower (*Bahiopsis laciniata*), sawtooth goldenbush (*Hazardia squarrosa*), coast spice-bush (*Cneoridium dumosum*), California brickellbush (*Brickellia californica*), San Diego monkey flower (*Mimulus aurantiacus*), and spiny redberry (*Rhamnus crocea*). Herb cover is usually open and with high species diversity. This association is equivalent to the Diegan coastal sage scrub (32500) vegetation community in the modified Holland classification system. Approximately 1,162.02 acres of this vegetation association occur within the El Capitan Preserve, El Monte Regional Park, Lakeside Linkage Preserve, Lusardi Creek Preserve, Oakoasis Preserve, Ramona Grasslands Preserve, Stelzer Regional Park, and Sycamore Canyon/Goodan Ranch Preserve.

4.1.3.4 *Artemisia californica-Eriogonum fasciculatum-Opuntia littoralis/Dudleya* (*edulis*) Association (4.7.2)

Coastal sagebrush and California buckwheat are codominant in this association, having a relatively open canopy with coast prickly-pear and/or ladies' fingers (*Dudleya edulis*) present in the understory. This association occurs on exposed southwestern facing slopes. Subdominant shrub species include lemonadeberry, San Diego sunflower, California box-thorn (*Lycium californicum*), and coast cholla (*Cylindropuntia prolifera*). The herbaceous understory is well-developed and includes chalk dudleya (*D. pulverulenta*), lance-leaf dudleya (*D. lanceolata*), San Diego barrel cactus (*Ferocactus viridescens*), ashy spike-moss (*Selaginella cinerascens*), and coastal wishbone plant (*Mirabilis laevis*). This association is equivalent to the maritime succulent scrub (32400) vegetation community in the modified Holland classification system. Approximately 49.33 acres of this vegetation association occur within the Lakeside Linkage Preserve and Lusardi Creek Preserve.

4.1.3.5 *Artemisia californica-Salvia mellifera* Association (4.8.1)

This association is generally found on moderate-to-steep, low-elevation slopes, with coastal sagebrush and black sage occurring as codominants in a relatively open shrub layer. Common subdominant shrubs include California encelia, lemonade berry, and poison oak (*Toxicodendron diversilobum*). This association is equivalent to the Diegan coastal sage scrub (32500) vegetation community in the modified Holland classification system. Approximately 2.75 acres of this vegetation association occur within the Lakeside Linkage Preserve and Lusardi Creek Preserve.

4.1.3.6 *Bahiopsis laciniata-Artemisia californica-Eriogonum fasciculatum* Association (4.13.1)

San Diego sunflower is a distinctive drought-deciduous shrub endemic to San Diego County and adjacent Baja California. San Diego sunflower stands occur commonly in the southwestern portion of the County. They occupy hot, southerly facing slopes generally a few miles inland from the ocean. This association is characterized by San Diego sunflower, coastal sagebrush, and California buckwheat occurring as dominant to subdominant in a closed to open shrub canopy. Herbaceous cover is diverse largely in openings and can include dudleya, coast cholla, and chaparral candle. This association is equivalent to the Diegan coastal sage scrub (32500) vegetation community in the modified Holland classification system. Approximately 52.79 acres of this association occur within the El Capitan Preserve, Lakeside Linkage Preserve, and Stelzer Regional Park.

4.1.3.7 *Eriogonum fasciculatum* Alliance – Alliance Only (4.23)

The California buckwheat alliance is widespread from the San Francisco Bay Area south to northwestern Baja California. Stands thrive on rocky sites and in shallow soils, and they establish after fire, flood, or grazing-related disturbances. Throughout the range of this alliance, California buckwheat is dominant or codominant in the shrub canopy, which is intermittent to continuous. This alliance is equivalent to the Diegan coastal sage scrub (32500) vegetation community in the modified Holland classification system. Approximately 12.17 acres of this vegetation type mapped at the alliance level only occur within the Ramona Grasslands Preserve. Two associations of this alliance occurring within the El Monte Regional Park, Ramona Grasslands Preserve, and Sycamore Canyon/Goodan Ranch Preserve are described below, and are not included in the 12.17 acres.

4.1.3.8 *Eriogonum fasciculatum-Salvia apiana* Association (4.24.1)

The California buckwheat-white sage association is limited to southern California and adjacent Baja California, Mexico. California buckwheat and white sage are codominant species in an open shrub canopy. This association occurs on xeric sites and is more frequent on steep inland slopes than near the coast. This association is equivalent to the Diegan coastal sage scrub (32500) vegetation community in the modified Holland classification system. Approximately 31.83 acres of this association occur within the Ramona Grasslands Preserve and Sycamore Canyon/Goodan Ranch Preserve.

4.1.3.9 *Eriogonum fasciculatum-Salvia columbariae-Mirabilis laevis* Provisional Association (4.23.2)

California buckwheat forms an open canopy, with chia (*Salvia columbariae*) and coast wishbone plant comprising a subdominant herbaceous understory. Other subdominants shrubs include laurel sumac, coastal sagebrush, chaparral candle, deerweed, coast spice bush, black sage, and white sage. This association often occurs on stable xeric sites or as an early transitional stage of disturbance such as fire. This association is equivalent to the Diegan coastal sage scrub (32500) vegetation community in the modified Holland classification system. Approximately 0.68 acre of this association occurs within El Monte Regional Park.

4.1.3.10 *Isocoma menziesii* Provisional Association (4.29.1)

Goldenbush typically forms stands on sandy soils in association with herbs and grasses. Most of these stands are the result of recent or frequent disturbance from fire and/or flooding. Goldenbush is dominant in open stands, often with a codominant herbaceous canopy of nonnative grasses and herbs. Associated wetland species in the herbaceous layer include western ragweed and Italian rye grass. This association occupies transitional areas between upland and both freshwater and brackish vegetation that is widespread in coastal areas. This association is equivalent to the coastal scrub (32000) vegetation community in the modified Holland classification system. Approximately 3.02 acres of this association occur within Lusardi Creek Preserve.

4.1.3.11 *Salvia apiana-Artemisia californica* Association (4.43.2)

The white sage-coastal sagebrush association occurs on hot, exposed southerly facing slopes. This association can occur as a mix of chaparral and coastal sage scrub in mature stable shrub communities or as an early transitional stage of other shrublands in response to fire or other disturbance. White sage and coastal sagebrush occur as codominants in an open shrub canopy. Associated subdominant shrubs include sawtooth goldenbush, chaparral candle, spiny redberry, California buckwheat, and laurel sumac. This association is equivalent to the Diegan coastal sage scrub (32500) vegetation community in the modified Holland classification system. Approximately 15.78 acres of this association occur in the El Capitan Preserve, Ramona Grasslands Preserve, and Sycamore Canyon/Goodan Ranch Preserve.

4.1.3.12 *Salvia mellifera* Alliance – Alliance Only (4.44)

This alliance is characterized by black sage as dominant or codominant in the shrub canopy with several other codominant to subdominant shrub species occurring, including chamise, coastal sagebrush, laurel sumac, chaparral candle, and chaparral bushmallow (*Malacothamnus fasciculatus*). This alliance is equivalent to the Diegan coastal sage scrub (32500) vegetation community in the modified Holland classification system. Approximately 69.11 acres of this vegetation type mapped at the alliance level only occur within the Sycamore Canyon/Goodan Ranch Preserve. Two associations of this alliance occurring within the Del Dios Highlands Preserve and Sycamore Canyon/Goodan Ranch Preserve are described below, and are not included in the 69.11 acres.

4.1.3.13 *Salvia mellifera-Eriogonum fasciculatum* Association (4.44.1)

This association is scattered in exposed, xeric locations with black sage and California buckwheat occurring as codominants in an open shrub canopy. Associated shrubs include coyote coastal sagebrush, laurel sumac, coast cholla, and lemonadeberry. This association is equivalent to the Diegan coastal sage scrub (32500) vegetation community in the modified Holland classification system. Approximately 31.64 acres of this association occur in the Del Dios Highlands Preserve and Sycamore Canyon/Goodan Ranch Preserve.

4.1.3.14 *Salvia mellifera-Malosma laurina* Association (4.44.2)

This association occurs on less exposed, westerly facing slopes with black sage and laurel sumac occurring as codominants in an open, two-tiered, shrub canopy. Common subdominant shrubs include coastal sagebrush, California buckwheat, lemonade berry, and Ramona-lilac (*Ceanothus tomentosus*). This association is equivalent to the Diegan coastal sage scrub (32500) vegetation community in the modified Holland classification system. Approximately 83.13 acres of this association occur in the Sycamore Canyon/Goodan Ranch Preserve.

4.1.4 Evergreen Shrublands

4.1.4.1 *Adenostoma fasciculatum* Alliance – Alliance Only (4.1)

The chamise alliance is one of the most widespread alliances in California, covering hundreds of thousands of acres from Shasta County south to northern Baja California, Mexico. This alliance is composed of chamise being dominant in the shrub canopy and several associated shrub species including Eastwood manzanita (*Arctostaphylos glandulosa* ssp. *glandulosa*), lilac (*Ceanothus* spp.), California buckwheat, chaparral candle, toyon (*Heteromeles arbutifolia*), scrub oak (*Quercus* spp.), white sage, and black sage. This association is equivalent to the chamise chaparral (37200) vegetation community in the modified Holland classification system. Approximately 579.83 acres of this alliance mapped at the alliance level only occur within the Del Dios Highlands Preserve, Lusardi Creek Preserve, Oakoasis Preserve, Ramona Grasslands Preserve, and Sycamore Canyon/Goodan Ranch Preserve. Two associations of this alliance occurring within the Boulder Oaks Preserve, El Capitan Preserve, Lusardi Creek Preserve, Oakoasis Preserve, Ramona Grasslands Preserve, and Sycamore Canyon/Goodan Ranch Preserve are described below, and are not included in the 579.83 acres.

4.1.4.2 *Adenostoma fasciculatum-Ceanothus tomentosus* Association (4.1.4)

This association is composed of Ramona-lilac and chamise as the dominant shrubs, forming mostly continuous cover. Other shrubs species occurring as codominants include laurel sumac, scrub oak, manzanita (*Arctostaphylos* spp.), sugar bush (*Rhus ovata*) and Lakeside ceanothus (*Ceanothus cyaneus*), chaparral whitethorn (*C. leucodermis*), and cup-leaf-lilac (*C. perplexans*). This association is equivalent to the southern mixed chaparral (37120) vegetation community in the modified Holland classification system. Approximately 1,314.88 acres of this association occur within the Boulder Oaks Preserve, El Capitan Preserve, Oakoasis Preserve, and Sycamore Canyon/Goodan Ranch Preserve.

4.1.4.3 *Adenostoma fasciculatum*-(*Eriogonum fasciculatum, Artemisia californica, Salvia mellifera*) Association (4.1.2)

This association is characterized by chamise occurring as dominant with other shrubs occurring as subdominants; together, these species form either a continuous or more often open canopy cover. This association is a mix of chaparral and coastal sage scrub. It occurs both as a mature, stable shrub community or an early transitional stage of other shrublands in response to disturbance. Subdominant shrubs most commonly include coastal sagebrush, California buckwheat, coast spice bush, sawtooth goldenbush, black sage, laurel sumac, scrub oak, Ramona-lilac, and Eastwood manzanita. This association is equivalent to the coastal sage-chaparral transition (37G00) vegetation community in the modified Holland classification system. Approximately 1,696.46 acres of this association occur in the El Capitan Preserve, Lusardi Creek Preserve, Ramona Grasslands Preserve, and Sycamore Canyon/Goodan Ranch Preserve.

4.1.4.4 *Adenostoma fasciculatum-Xylococcus bicolor* Association (4.2.1)

The chamise–mission manzanita (*Xylococcus bicolor*) association occurs in the cismontane foothills south of the Transverse Range and is mostly confined to San Diego County and northern Baja California, Mexico. This association is characterized with chamise and mission manzanita as the dominant shrubs forming a continuous cover. Associated shrubs include laurel sumac, black sage, coast spice-bush, lemonadeberry, sugar bush, chaparral candle, Mojave yucca (*Yucca schidigera*), and scrub oak. This association is equivalent to the southern mixed chaparral (37120) vegetation community in the modified Holland classification system. Approximately 138.5 acres of this association occur within the Lusardi Creek and Sycamore Canyon/Goodan Ranch Preserve.

4.1.4.5 *Adenostoma fasciculatum-Xylococcus bicolor-Ceanothus tomentosus* Association (4.2.2)

This association is characterized by chamise, mission manzanita, and Ramona-lilac occurring as codominant shrubs and forming an open to continuous canopy. Many other codominant shrubs may also be present, including laurel sumac, chaparral whitethorn, sugar bush, toyon, and holly-leaf redberry (*Rhamnus ilicifolia*). California buckwheat and coastal sagebrush may be present in transitional areas. This association is equivalent to the southern mixed chaparral (37120) vegetation community in the modified Holland classification system. Approximately 1,524.62

acres of this association occur within the Boulder Oaks Preserve, El Capitan Preserve, and Sycamore Canyon/Goodan Ranch Preserve.

4.1.4.6 *Adenostoma fasciculatum-Xylococcus bicolor-Ceanothus verrucosus* Association (4.2.4)

The chamise–mission manzanita–wart-stem lilac (*Ceanothus verrucosus*) association is confined to coastal mesas and foothills of San Diego County, including Black Mountain and San Marcos. This association is composed of chamise, mission manzanita, and wart-stem-lilac occurring as codominant shrubs, forming a continuous canopy. Common associated shrubs include scrub oak, black sage, lemonadeberry, coast spice bush, and chaparral candle. Sensitive plant species associated with this association include Del Mar manzanita (*Arctostaphylos glandulosa* ssp. *crassifolia*), Encinitas baccharis, and summer-holly (*Comarostaphylis diversifolia* ssp. *diversifolia*). This association is equivalent to the southern maritime chaparral (37C30) vegetation community in the modified Holland classification system. Approximately 290.07 acres of this association occur within the Del Dios Highlands Preserve.

4.1.4.7 *Adenostoma fasciculatum-Xylococcus bicolor-Quercus* (*berberidifolia, ×acutidens*) Association (4.2.6)

The chamise-mission manzanita-scrub oak association is characterized by these shrub species occurring as codominants, often with an open canopy. Other subdominant shrubs include Ramona-lilac, chaparral whitethorn, toyon, mountain-mahogany (*Cercocarpus betuloides* var. *betuloides*), California buckwheat, and laurel sumac. The herbaceous understory is often sparse except after fires. This association is equivalent to the southern mixed chaparral (37120) vegetation community in the modified Holland classification system. Approximately 940.39 acres of this association occur within the El Capitan Preserve, Oakoasis Preserve, and Ramona Grasslands Preserve.

4.1.4.8 *Arctostaphylos glandulosa-Adenostoma fasciculatum* Association (4.4.1)

The Eastwood manzanita-chamise association is usually restricted to upper slopes and ridges, with these species occurring as codominant shrubs, most often as continuous canopies. Other subdominant associates include scrub oak, Ramona-lilac, chaparral whitethorn, mission manzanita, toyon, sugar bush, and mountain-mahogany. This association is equivalent to the southern mixed chaparral (37120) vegetation community in the modified Holland classification system. Approximately 238.17 acres of this association occur within the Boulder Oaks Preserve and Del Dios Highlands Preserve.

4.1.4.9 *Ceanothus leucodermis* Association (4.16.1)

The chaparral whitethorn association is generally found at moderate to high elevations in early post-fire areas, where this species resprouts and seeds readily after fires. This association is characterized by chaparral whitethorn being dominant in the relatively open shrub canopy, with low cover of other subdominant shrubs including chamise, laurel sumac, mission manzanita,

Ramona-lilac, white sage, and California buckwheat. This association is equivalent to the southern mixed chaparral (37120) vegetation community in the modified Holland classification system. Approximately 63.07 acres of this association occur within Boulder Oaks Preserve.

4.1.4.10 *Ceanothus tomentosus* Association (4.18.1)

The Ramona-lilac association readily recruits into post-fire areas, forming continuous stands with relatively low cover of other shrubs. Common associated shrubs include scrub oak, mountain-mahogany, toyon, poison oak, and bush poppy (*Dendromecon rigida*). This association is equivalent to the southern mixed chaparral (37120) vegetation community in the modified Holland classification system. Approximately 488.46 acres of this association occur within the Boulder Oaks Preserve, Oakoasis Preserve, and Sycamore Canyon/Goodan Ranch Preserve.

4.1.4.11 *Ceanothus verrucosus* Association (4.19.1)

Wart-stem-lilac is restricted to San Diego County and adjacent northwestern Baja California. This association occurs primarily on coastal mesas and foothills in western San Diego County. The wart-stem-lilac association is characterized by this species being dominant in the shrub layer and forming a continuous canopy with other associated shrubs, including lemonadeberry, laurel sumac, coast spice bush, mission manzanita, and Ramona-lilac. Sensitive plant species associated with this association include Del Mar manzanita, Encinitas baccharis, and summer-holly. This association is equivalent to the southern maritime chaparral (37C30) vegetation community in the modified Holland classification system. Approximately 405.27 acres of this association occur within the Del Dios Highlands Preserve.

4.1.4.12 *Malosma laurina-Lotus scoparius* Association (4.35.1)

Laurel sumac is a large evergreen, shrub that occurs along the coast from Santa Barbara County south into northwestern Baja California. The shrub is a consummate resprouter, and can resprout from its deep rootcrown multiple times in short succession following fires. This association is composed of laurel sumac and deerweed occurring as codominants in relatively open stands. Herbaceous cover and diversity is high, occurring in openings and stimulated by fire. This association is often the result of post-fire regeneration, occurring as a transitional vegetation type while longer lived shrub species regain dominance. This association is equivalent to the coastal scrub (32000) vegetation community in the modified Holland classification system. Approximately 80.77 acres of this association occur within the Del Dios Highlands Preserve, El Capitan Preserve, Lusardi Creek Preserve, Ramona Grasslands Preserve, Stelzer Regional Park, and Sycamore Canyon/Goodan Ranch Preserve.

4.1.4.13 *Rhus integrifolia* Association (4.42.1)

This association is strongly dominated by lemonadeberry, which casts dense shade and creates heavy litter build-up. As a result, species diversity is relatively low. Lemonadeberry is dominant often as continuous shrub cover. Herbaceous cover is usually low and is primarily in openings. This association is equivalent to the Diegan coastal sage scrub (32500) vegetation community in the modified Holland classification system. Approximately 28.18 acres of this association occur within the Lusardi Creek Preserve.

4.1.4.14 *Quercus* (*berberidifolia, ×acutidens)* Association (4.37.1)

The scrub oak association is potentially comprised of scrub oak (*Quercus berberidifolia*) and Torrey's scrub oak (Quercus ×acutidens), a hybrid between desert scrub oak (*Quercus cornelius-mulleri*) and Engelmann oak (*Quercus engelmannii*). Due to taxonomic uncertainty, these two scrub oak species are included within the same association. This association is characterized with scrub oaks being dominant in the shrub canopy, usually with continuous cover and often as small inclusions within other shrublands. Subdominant shrub species include mountain mahogany, chamise Eastwood manzanita, mission manzanita, chaparral whitethorn, and Ramona-lilac. Herbaceous diversity and cover is relatively low, mostly occurring in openings and increasing in response to fire. This association is equivalent to the scrub oak chaparral (37900) vegetation community in the modified Holland classification system. Approximately 108.96 acres of this association occur within Del Dios Highlands, El Capitan Preserve, Ramona Grasslands, and Sycamore Canyon/Goodan Ranch Preserve.

4.1.4.15 *Quercus* (*berberidifolia, ×acutidens*)-*Adenostoma fasciculatum* Association (4.38.1)

This association tends to occupy mid- to upper slope positions and is transitional between xeric and mesic conditions, Scrub oaks and chamise are codominant, usually as a continuous shrub canopy. Associated shrubs include mountain mahogany, Eastwood manzanita, mission manzanita, chaparral whitethorn, and Ramona-lilac. Herbaceous diversity and cover is relatively low, mostly occurring in openings and increasing in response to fire. This association is equivalent to the scrub oak chaparral (37900) vegetation community in the modified Holland classification system. Approximately 438.91 acres of this association occur within Boulder Oaks Preserve, El Capitan Preserve, Oakoasis Preserve, Ramona Grasslands Preserve, and Sycamore Canyon/Goodan Ranch Preserve.

4.1.5 Riparian Shrublands

4.1.5.1 *Baccharis salicifolia* Association (4.11.1)

The mule-fat (*Baccharis salicifolia*) association occurs in both seasonally or intermittently flooded habitats such as canyon bottoms, floodplains, lake margins, and stream channels. This association is an open riparian scrub that is most often transitional to more fully developed riparian woodlands. Mule-fat is the dominant species in the shrub canopy. Subdominant shrubs may include goldenbush, poison oak, and coyote brush (*Baccharis pilularis*). Emergent wetland trees may include western sycamore (*Platanus racemosa*), western cottonwood (*Populus fremontii*), and willow (*Salix* spp.). This association is equivalent to the mule-fat scrub (63310) vegetation community in the modified Holland classification system. Approximately 18.10 acres of this association occur within the Ramona Grasslands Preserve.

4.1.6 Riparian Forests and Woodlands

4.1.6.1 *Platanus racemosa* Alliance – Alliance Only (3.4)

Western sycamore is a long-lived, stump sprouting, riparian tree that occurs along intermittent stream channels. This alliance is characterized by regularly occurring western sycamore along with

other codominant trees including coast live oak (*Quercius agrifolia*), western cottonwood, white alder (*Alnus rhombifolia*), Goodding's black willow (*Salix gooddingii*), red willow (*S. laevigata*), and arroyo willow (*S. lasiolepis*). This alliance is equivalent to the southern riparian woodland (62500) vegetation community in the modified Holland classification system. Approximately 0.73 acre of this alliance mapped at the alliance level only occurs within the Ramona Grasslands Preserve and Sycamore Canyon/Goodan Ranch Preserve. One association of this alliance occurring within the El Capitan Preserve, Stelzer Regional Park, Ramona Grasslands Preserve, and Sycamore Canyon/Goodan Ranch Preserve is described below, and is not included in the 0.73 acre.

4.1.6.2 *Platanus racemosa-Quercus agrifolia* Association (3.4.3)

Western sycamore and coast live oak are codominant in a continuous to open tree canopy; subdominants may include western cottonwood and willow. Associated subdominant riparian shrubs include mule-fat, black elderberry (*Sambucus nigra* ssp. *caerulea*), poison oak, southern California wild grape (*Vitis girdiana*), California rose (*Rosa californica*), and California blackberry (*Rubus ursinus*). This association is equivalent to the southern riparian forest (61300) vegetation community in the modified Holland classification system. Approximately 57.13 acres of this association occur within El Capitan Preserve, Stelzer Regional Park, and Sycamore Canyon/Goodan Ranch Preserve.

4.1.6.3 *Quercus agrifolia* Alliance – Alliance Only (3.6)

The coast live oak alliance may either be found in mesic uplands or riparian or semi-riparian areas. When in riparian areas this alliance may be classified as a riparian woodland or forest. The alliance is characterized with coast live oak as the dominant or codominant species in an open to continuous tree canopy. Other tree species may include western sycamore, California walnut (*Juglans californica*), arroyo willow, and Engelmann oak. This alliance is equivalent to the southern coast live oak riparian forest (61310) vegetation community in the modified Holland classification system. Approximately 31.10 acres of this alliance mapped at the alliance level only occur within the Ramona Grasslands Preserve. Two associations of this alliance occurring within the Boulder Oaks Preserve, Del Dios Highlands Preserve, El Capitan Preserve, El Monte Regional Park, Oakoasis Preserve, Ramona Grasslands Preserve, Stelzer Regional Park, and Sycamore Canyon/Goodan Ranch Preserve are described below, and are not included in the 31.10 acres.

4.1.6.4 *Quercus agrifolia-Salix lasiolepis* Association (3.6.3)

Coast live oak is dominant in an open to closed tree canopy with arroyo willow typically dominating the shrub canopy. Subdominant trees may include western sycamore, western cottonwood, red willow, and Goodding's black willow. Associated shrubs include black elderberry, mule-fat, coyote brush, and southern California wild grape. This association is equivalent to the southern coast live oak riparian forest (61310) vegetation community in the modified Holland classification system. Approximately 20.63 acres of this association occur within the Oakoasis Preserve and Ramona Grasslands Preserve.

4.1.6.5 *Quercus agrifolia-Toxicodendron diversilobum*-Grass Association (3.6.4)

Coast live oak is dominant in the tree canopy, and poison oak is subdominant in the shrub canopy, with an understory of native herbaceous and ruderal species. Subdominant shrubs include black elderberry, coyote brush, and Palmer's sagewort (*Artemisia palmeri*). This association can occur in both upland habitats and along intermittent streams, and, when in riparian areas may be classified as a riparian woodland or forest. This association is equivalent to the southern coast live oak riparian forest (61310) vegetation community in the modified Holland classification system. Approximately 252.31 acres of this association occur within the Boulder Oaks Preserve, Del Dios Highlands Preserve, El Capitan Preserve, El Monte Regional Park, Oakoasis Preserve, Ramona Grasslands Preserve, Stelzer Regional Park, and Sycamore Canyon/Goodan Ranch Preserve.

4.1.6.6 *Salix gooddingii* Association (3.8.1)

Goodding's black willow is a common riparian tree, occurring along riparian corridors at low elevations. This association is composed of Goodding's black willow dominant in an open to closed tree canopy with other trees, including red willow, arroyo willow, and western sycamore. Associated shrubs include mule-fat, coyote brush, and arrow weed (*Pluchea sericea*). Herbaceous plants may include western ragweed, Douglas mugwort (*Artemisia douglasiana*), yerba mansa, and salt grass. This association is equivalent to the southern riparian woodland (62500) vegetation community in the modified Holland classification system. Approximately 16.28 acres of this association occur within the Del Dios Highlands Preserve and Ramona Grasslands Preserve.

4.1.6.7 *Salix laevigata* Association (3.9.1)

Red willow is a widespread riparian tree, occurring regularly along foothill streams and in low-gradient riparian areas. Red willow is dominant in an open tree canopy with other tree species, including Goodding's black willow, arroyo willow, western sycamore, and western cottonwood. Associated shrubs may include mule-fat, coyote brush, poison oak, and Palmer's sagewort. This association is equivalent to the southern riparian woodland (62500) vegetation community in the modified Holland classification system. Approximately 0.57 acre of this association occurs within the Del Dios Highlands Preserve.

4.1.6.8 *Salix lasiolepis* Association (3.10.0)

Arroyo willow is one of the most abundant riparian willow species in California, occupying intermittently flooded areas. This association is characterized by arroyo willow dominant in the shrub canopy often with subdominants, including mule-fat, coyote brush, sand bar willow (*Salix exigua*), and the occasional black willow and/or red willow as emergent trees. This association is equivalent to the southern arroyo willow riparian forest (61320) vegetation community in the modified Holland classification system. Approximately 23.42 acres of this association occur within the Boulder Oaks Preserve, Lusardi Creek Preserve, and Ramona Grasslands Preserve.

4.1.7 Upland Forests and Woodlands

4.1.7.1 *Eucalyptus* (*globulus*, *camaldulensis*) Semi-Natural Stands (3.2)

Several species of eucalyptus have been introduced to California from Australia. The two most common species that form semi-natural stands in San Diego County are blue gum (*E. globulus*) and river red gum (*E. camaldulensis*), although other subdominant eucalyptus trees may be present. These eucalyptus species form an open to continuous tree canopy, with very low species diversity, often precluding establishment of native species. This vegetation type is equivalent to the eucalyptus woodland (79100) vegetation community in the modified Holland classification system. Approximately 38.25 acres of these semi-natural stands occur within the Del Dios Highlands Preserve, Lakeside Linkage Preserve, Lusardi Creek Preserve, Ramona Grasslands Preserve, and Stelzer Regional Park.

4.1.7.2 *Quercus agrifolia* Alliance – Alliance Only (3.6)

The coast live oak alliance may either be found in mesic uplands or riparian or semi-riparian areas. This association can occur in both upland habitats and along intermittent streams. When in upland areas this alliance may be classified as an upland woodland or forest. The alliance is characterized with coast live oak as the dominant or codominant species in an open to continuous tree canopy. Other tree species may include western sycamore, California walnut, arroyo willow, and/or Engelmann oak. This alliance is equivalent to the coast live oak woodland (71160) vegetation community in the modified Holland classification system. Approximately 70.53 acres of this alliance mapped at the alliance level only occur within the El Capitan Preserve, Oakoasis, and Ramona Grasslands Preserve. Three associations of this alliance occurring within the Boulder Oaks Preserve, El Monte Regional Park, Oakoasis, and Sycamore Canyon/Goodan Ranch Preserve are described below, and are not included in the 70.53 acres.

4.1.7.3 *Quercus agrifolia-Artemisia californica* Association (3.6.1)

Coast live oak is the dominant species in an open tree canopy, while coastal sagebrush is dominant in an open shrub canopy. Subdominant shrubs include a variety of chaparral and coastal sage species, such as Ramona-lilac, chamise, California buckwheat, and toyon. This association is equivalent to the coast live oak woodland (71160) vegetation community in the modified Holland classification system. Approximately 34.95 acres of this association occur within El Monte Regional Park and Sycamore Canyon/Goodan Ranch Preserve.

4.1.7.4 *Quercus agrifolia-Quercus* (*berberidifolia, ×acutidens*) Association (3.6.2)

This association is typical of mesic slopes where coast live oak is not associated with riparian areas. Coast live oak is dominant in an open tree canopy with scrub oak dominant in the shrub canopy. Subdominant shrubs include Ramona-lilac, hairy-lilac (*Ceanothus oliganthus*), toyon, mountain mahogany, sugar bush, California buckwheat, laurel sumac, and many other chaparral species. This association is equivalent to the coast live oak woodland (71160) vegetation community in the modified Holland classification system. Approximately 27.6 acres of this association occur within Boulder Oaks Preserve and Oakoasis Preserve.

4.1.7.5 *Quercus agrifolia-Toxicodendron diversilobum*-Grass Association (3.6.4)

Coast live oak is dominant in the tree canopy, and poison oak is subdominant in the shrub canopy, with an understory of native herbaceous and ruderal species. Subdominant shrubs include black elderberry, coastal sagebrush, California buckwheat, and coyote brush. This association can occur in both upland habitats and along intermittent streams. When in upland areas this association may be classified as an upland woodland or forest. This association is equivalent to the coast live oak woodland (71160) vegetation community in the modified Holland classification system. Approximately 1.50 acres of this association occur within the Oakoasis Preserve.

4.1.7.6 *Quercus engelmannii* Alliance – Alliance Only (3.7)

Engelmann oak is endemic to south coastal California and adjacent Baja California Norte, Mexico. This alliance is characterized with Engelmann oak dominant or codominant in the tree canopy with California walnut and coast live oak sometimes present as associates. The shrub layer is sparse to open and the herbaceous layer is sparse and often dominated by grass species. This association is equivalent to the Engelmann oak woodland (71180) vegetation community in the modified Holland classification system. Approximately 10.38 acres of this alliance mapped at the alliance level only occur within the Ramona Grasslands Preserve. One association of this alliance occurring within the Boulder Oaks Preserve and El Capitan Preserve is described below, and is not included in the 10.38 acres.

4.1.7.7 *Quercus engelmannii-Quercus agrifolia-Toxicodendron diversilobum*-Grass Association (3.7.2)

Engelmann oak and coast live oak are codominants in the tree canopy, with poison oak present in the shrub canopy, and grasses and other herbs dominant in the understory. Subdominant shrubs include many coastal sage scrub species including black sage, white sage, coastal sagebrush, and laurel sumac. The herbaceous understory is often dominated by nonnative ruderal plants. This association is equivalent to the Englemann oak woodland (71180) vegetation community in the modified Holland classification system. Approximately124.24 acres of this association occur within the Boulder Oaks Preserve and El Capitan Preserve.

4.1.8 Land Cover/Unvegetated

4.1.8.1 General Agriculture (18000)

General agriculture consists of areas that support an active or fallow agricultural operation. Approximately 32.04 acres of general agriculture occur within the Lusardi Creek Preserve, Ramona Grasslands Preserve, and Sycamore Canyon/Goodan Ranch Preserve.

4.1.8.2 Disturbed Habitat (11000)

Areas of bare ground and ruderal vegetation are typically classified as disturbed habitat. Disturbed habitat within the Preserves consists of dirt roads and multi-use trails. Approximately 124.52 acres of disturbed habitat occur throughout all 10 CMP Preserves.

4.1.8.3 Open Water (64100)

Open water is an open source of water not under cover of any vegetation. Approximately 4.76 acres of open water occur within Boulder Oaks Preserve and Ramona Grasslands Preserve.

4.1.8.4 Non-Vegetated Channel (13200)

Stream channels lacking vegetation due to variable water levels were classified as n on-vegetated channels. Approximately 4.46 acres of non-vegetated channel occur within Ramona Grasslands Preserve.

4.1.8.5 Urban/Developed (12000)

Developed land typically consists of existing paved roads, buildings, ornamental plantings, and other infrastructure. Approximately 164.97 acres of urban/developed land occur within Boulder Oaks Preserve, Del Dios Highlands Preserve, El Monte Regional Park, Lakeside Linkage Preserve, Lusardi Creek Preserve, Oakoasis Preserve, Ramona Grasslands Preserve, Stelzer Regional Park, and Sycamore Canyon/Goodan Ranch Preserve.

4.2 Habitat Condition and Threats Assessment

A total of 13 habitat condition and threats assessment points and/or polygons were documented within 8 of the 10 CMP Preserves as described below and summarized in Table 4.

4.2.1 Del Dios Highlands Preserve

4.2.1.1 Erosion

An area of active erosion was detected in the southeastern portion of the Del Dios Highlands Preserve, just north of Mount Israel Road (Figure 8C). The erosion is being caused by run-off from a drainage pipe, which was installed during construction of an old access road. The water from the drain pipe is creating deep erosional gullies on a steep north-facing slope, within an approximately 50-meter area. The erosion is happening within a large extant population of Encinitas baccharis and if left untreated has the potential to cause major impacts on this population.

4.2.2 El Capitan Preserve

4.2.2.1 Erosion

An erosion channel was detected in the northwestern area of the El Capitan Preserve (Figure 11C). The erosion is being caused by run-off from the main trail leading up to El Capitan Peak. The erosion could potentially degrade the habitat of an extant population of Lakeside ceanothus that occurs to the south.

4.2.3 Lakeside Linkage Preserve

4.2.3.1 Dumping/Trash

An area of trash and debris was detected in the northeastern portion of the easternmost parcel of the Lakeside Linkage Preserve (Figure 17B). The area is littered with domestic trash (e.g., beer cans and food wrappers) and contains a campfire ring. The area covers approximately 50 meters and has degraded the surrounding Diegan coastal sage scrub habitat.

4.2.3.2 Erosion

An area of active erosion was detected in the central portion of the westernmost parcel of the Lakeside Linkage Preserve (Figure 17A). The erosion appears to be caused by run-off emanating from a parcel immediately adjacent to the Preserve. The erosional feature covers approximately 25 meters and is degrading the surrounding Diegan coastal sage scrub habitat.

4.2.3.3 Illegal Trail

An illegal trail network was detected traversing a large portion of the easternmost parcel of the Lakeside Linkage Preserve (Figure 17B). The illegal trail network appears to have been constructed for mountain bike/BMX riding. The trail has degraded the surrounding Diegan coastal sage scrub habitat, much of which is dominated by San Diego sunflower.

4.2.3.4 Off Road Vehicle Activity

Off Road Vehicle (ORV) activity was detected within the southern portion of the central parcel of the Lakeside Linkage Preserve (Figure 17A) and in the southern portion of the westernmost parcel of the Lakeside Linkage Preserve (Figure 17A). The ORV disturbance covers approximately 5.5 acres and is severely degrading the Diegan coastal sage scrub habitat.

An additional, highly localized area of ORV activity occurs in the northern portion of the central parcel of the Preserve (Figure 17A). Within this area, digging to make ORV/bicycle jumps has occurred, creating small excavated areas within the Diegan coastal sage scrub.

4.2.4 Lusardi Creek Preserve

4.2.4.1 Vegetation Clearing

An area of cleared vegetation was detected within the northern portion of the Lusardi Creek Preserve (Figure 20A). This area occupies approximately 1 acre and was cleared of vegetation to assist in containment of the Bernardo Fire in May 2014. The area of cleared vegetation has degraded the chaparral-coastal sage scrub vegetation and has also negatively impacted the California adolphia (*Adolphia californica*) population surrounding the cleared area.

4.2.5 Oakoasis Preserve

4.2.5.1 Feral Pig Activity

A highly localized area of rooting damage was observed adjacent to the hiking trail detected in the central northern portion of the Oakoasis Preserve (Figure 23B). The rooting damage could potentially be from feral pig activity, although no other sign of feral pig presence was observed.

4.2.6 Ramona Grasslands Preserve

4.2.6.1 Illegal Trail

A potential illegal trail was detected along the far western boundary of the Ramona Grasslands Preserve (Figure 26E). The trail emanates from a parcel adjacent to the Preserve and traverses through an area of scrub oak chaparral. The trail may potentially connect to a larger network of illegal trails, although none were detected.

4.2.7 Stelzer Regional Park

4.2.7.1 Gopher Activity

Gopher activity and nonnative grasses and forbs were detected within an extant population of Lakeside ceanothus in the northwestern corner of the park (Figure 29A). A high level of mortality is occurring within the Lakeside ceanothus population, and the presence of gophers and nonnative grasses and forbs may be contributing factors.

4.2.8 Sycamore Canyon/Goodan Ranch Preserve

4.2.8.1 Illegal trail

An illegal trail was detected in the southcentral portion of the Preserve that traverses a large population of willowy monardella. The illegal trail starts at the main parking lot of the Preserve (approximately 1.25 mile south of State Route 67) and proceeds south beyond the Preserve boundary (Figures 32D, 32E, and 32G).

A second illegal trail was detected along the far southwestern border of the Preserve (Figure 32F). The trail starts southwest of the Preserve and climbs a steep south-facing slope and terminates at the junction of an old firebreak. The illegal trail can potentially cause erosion along the steep slope and degrade the surrounding chamise chaparral habitat.

4.2.8.2 Erosion

An approximate 0.25-acre area of erosion/excavation was detected in the northwestern portion of the Preserve (Figure 32C). The area appears to be an historical area of excavation, which is largely devoid of vegetation and is contributing to erosion in the immediate vicinity.

4.2.8.3 Off Road Vehicle Activity

ORV activity was detected along the far southwestern edge of the Preserve (Figure 32F). The ORV activity traverses an old firebreak and occupies an area of approximately 0.5 acre.

Table 4. Stressors Identified within the CMP Preserves[a]

Preserve	Disturbance Stressor	Severity	Extent Within Preserve
Del Dios Highlands Preserve	Erosion	3. May cause significant impacts on species or habitat within the next 2 years	3. Within an approximately 26- to 50-meter area
El Capitan Preserve	Erosion	2. May cause significant impacts on species or habitat, but not within the next 2 years	3. Within an approximately 26- to 50-meter area
Lakeside Linkage Preserve	Dumping/trash	1. May cause minor impacts on species or populations in the immediate or long term	3. Within an approximately 26- to 50-meter area
Lakeside Linkage Preserve	Erosion	1. May cause minor impacts on species or populations in the immediate or long term	3. Within an approximately 26-50-meter area
Lakeside Linkage Preserve	Illegal trail	1. May cause minor impacts on species or populations in the immediate or long term	4. Within an area greater than 50 meters
Lakeside Linkage Preserve	ORV activity	3. May cause significant impacts on species or habitat within the next 2 years	4. Within an area greater than 50 meters
Lusardi Creek Preserve	Vegetation clearing	1. May cause minor impacts on species or populations in the immediate or long term	4. Within an area greater than 50 meters
Oakoasis Preserve	Feral pig activity	0. Unknown	1. Highly localized (e.g., one plant, clump, burrow, nest, etc.)
Ramona Grasslands Preserve	Illegal trail	1. May cause minor impacts on species or populations in the immediate or long term	4. Within an area greater than 50 meters
Stelzer Regional Park	Gopher activity	3. May cause significant impacts on species or habitat within the next 2 years	4. Within an area greater than 50 meters
Sycamore Canyon Preserve	Illegal trail	3. May cause significant impacts on species or habitat within the next 2 years	4. Within an area greater than 50 meters
Sycamore Canyon Preserve	Erosion	1. May cause minor impacts on species or populations in the immediate or long term	2. Within an approximately 25-meter area
Sycamore Canyon Preserve	ORV activity	0. Unknown	4. Within an area greater than 50 meters

[a] See Table 5 - Potential Disturbances/Stressors Checklist for Severity and Extent within Preserve classifications.

4.3 Invasive Plant Surveys

The introduction of foreign invasive species into native habitats is becoming more common, and further expansion of human activities into areas away from urban and suburban centers will amplify this effect. Today, it is almost impossible to find any lowland areas in California that do not support a collection of plant species brought from elsewhere.

The general effect of invasive species is that they out-compete native species. This can occur directly through the taking up of space that was formerly occupied by native plants, but can also occur due to a variety of indirect, competitive effects of the presence of invasive species. Competition can be keen between invasive and native species for scarce water resources, soil nutrients, or even sunlight. Other species may use chemicals (i.e., allelopathy) to prevent germination of native plants. With a decrease in native plant diversity, there is an associated decrease in native animal diversity, particularly endemic invertebrates. Thus, it becomes important to control or eliminate nonnative invasive plant species from natural areas to maintain natural biodiversity and the support systems for native fauna.

Of the 36 target invasive plant species described in Section 3.3, *Invasive Plant Surveys*, 16 were detected within the CMP Preserves. Of these, 8—giant reed (*Arundo donax*), pampas grass (*Cortaderia* sp.), artichoke thistle (*Cynara cardunculus*), eucalyptus, fennel (*Foeniculum vulgare*), wallaby grass (*Rytidosperma caespitosum*), salt cedar, and milk thistle (*Silybum marianum*)—have been determined to be "focus species," those for which a concerted effort should be made to monitor and control/eliminate them. Note that only those populations of eucalyptus with high potential to negatively impact rare plant populations are included in the focus species list. The populations of these 8 species within the CMP Preserves are described below.

Invasive plant populations observed within the CMP Preserves are summarized in Table 5 and illustrated in Appendix A as follows: Boulder Oaks—Figure 5F; Del Dios Highlands—Figures 8B–8D; El Capitan—Figure 11D; El Monte Regional Park—Figure 14A; Lakeside Linkage—Figures 17A–17B; Lusardi Creek—Figure 20A; Oakoasis—Figures 23A–23B; Ramona Grasslands—Figures 26A, 26C, 26E–26G, and 26K; Stelzer Regional Park—Figures 29A; and Sycamore Canyon—Figures 32A, 32C, and 32D.

4.3.1 Del Dios Highlands Preserve

One occurrence of pampas grass was detected in the southern central portion of the Preserve within an old access road (Figure 8D).

An area of eucalyptus covering approximately 14 acres within southern maritime chaparral was detected in the northeastern area of the Preserve (Figure 8B). This occurrence is of concern because it has the potential to impact several rare plant populations, including San Diego sagewort, Encinitas baccharis, wart-stem-lilac, and summer holly.

One occurrence of fennel was detected in the southcentral portion of the Preserve, immediately south of a large Encinitas baccharis population (Figure 8C).

4.3.2 Lusardi Creek Preserve

An approximately 0.1-acre area of giant reed was observed within southern willow riparian forest near the southwestern edge of the Preserve.

An approximately 0.1-acre area of fennel was observed adjacent to an access road along the southwestern edge of the Preserve (Figure 20A).

Wallaby grass was detected within coastal sage scrub, scattered over an area of approximately 0.3 acre in the northeastern portion of the Preserve (Figure 20A). This species is only known from three other locations in San Diego County, and populations appear to be expanding around Lusardi Creek

Preserve (Baldwin et al. 2012). Controlling populations of this species may prohibit it from becoming widespread.

Milk thistle was found scattered in three different locations within southern willow riparian forest, covering approximately 0.1 acre in the southwestern portion of the Preserve (Figure 20A).

4.3.3 Ramona Grasslands Preserve

Giant reed was observed in a drainage in the far northwestern corner of the Preserve (Figure 26A).

Pampas grass was observed in drainages along the western edge and along the northeastern edge of the Preserve (Figure 26E and 26F).

Several individuals of tamarisk were observed scattered throughout the Preserve in drainages in nine different locations covering approximately 0.5 acre (Figures 26E and 26F).

4.3.4 Stelzer Regional Park

One occurrence of fennel was observed within the drainage, south of Wildcat Canyon Road, in the central portion of the Preserve (Figure 29B).

4.3.5 Sycamore Canyon/Goodan Ranch Preserve

One individual of artichoke thistle was detected in a drainage in the northwestern portion of the Preserve (Figure 32C).

In the northcentral portion of the Preserve there are two eucalyptus trees within the San Diego thornmint population (Figure 32A). The eucalyptus trees have the potential to further invade and negatively impact the San Diego thornmint population.

Table 6. Nonnative Invasive Plant Species Observed in the CMP Preserves

Scientific Name	Common Name	Regional Priority	Recommended Action[a]	Cal-IPC Rating[b]	Preserve
Ailanthus altissima	tree-of-heaven	N/A	N/A	Moderate	Lakeside Linkage
Arundo donax	giant reed	Very High	Fund management	High	Lusardi Creek, Ramona Grasslands
Cortaderia sp.	pampas grass	High	Fund management	High	Del Dios, Ramona Grasslands
Cynara cardunculus	artichoke thistle	Very High	Coordinate; Fund trial	Moderate	Sycamore Canyon/ Goodan Ranch
Eucalyptus sp.	eucalyptus	N/A	N/A	Limited	Del Dios, Lakeside Linkage, Ramona Grasslands, Sycamore Canyon/Goodan Ranch,
Foeniculum vulgare	sweet fennel	Very High	Fund management	High	Del Dios, Lusardi Creek, Stelzer Regional Park
Melinis repens ssp. *repens*	natal grass	N/A	N/A	N/A	Boulder Oaks, Oakoasis, Ramona Grasslands

Scientific Name	Common Name	Regional Priority	Recommended Action[a]	Cal-IPC Rating[b]	Preserve
Nicotiana glauca	tree tobacco	N/A	N/A	Moderate	El Capitan, El Monte Regional Park, Lusardi Creek, Stelzer Regional Park
Oncosiphon piluliferum	stinknet	Medium	Additional data	N/A	Ramona Grasslands
Pennisetum setaceum	African fountain grass	N/A	N/A	Moderate	Del Dios, El Capitan, El Monte Regional Park, Lakeside Linkage, Oakoasis, Stelzer Regional Park, Sycamore Canyon/ Goodan Ranch
Phoenix canariensis	Canary Island date palm	N/A	N/A	Limited	Lusardi Creek
Ricinus communis	castor bean	N/A	N/A	Limited	Lusardi Creek, Stelzer Regional Park
Rytidosperma caespitosum	wallaby grass	N/A	N/A	N/A	Lusardi Creek
Silybum marianum	milk thistle	High	Additional data	Limited	Lusardi Creek
Tamarix sp.	tamarisk	N/A	N/A	High	Ramona Grasslands
Washingtonia robusta	Mexican fan palm	N/A	N/A	Moderate	Ramona Grasslands

[a] Recommended Actions:

Additional data = additional distribution/abundance data are needed to assess impacts and/or management feasibility.

Coordinate = facilitate coordinated management of species between multiple entities and/or management units.

Fund trial = test the ability of multiple entities to effectively implement management across a management unit.

Fund management = fund management of species.

Monitor = monitor established control programs to ensure species is being managed effectively.

Surveillance = watch for occurrences of species region-wide (early detection).

[b] California Invasive Plant Council (Cal-IPC) Ratings are based on overall impact on the ecosystem, invasiveness, and distribution.

4.4 Sensitive Plant Species Observed

The following section discusses previously unreported sensitive plant species populations or population locations that differed from previous mapping observed within the CMP Preserves. All sensitive plant species detected were previously known from other locations within the preserves in which they were detected. A sensitive plant species is one listed by federal or state agencies as threatened or endangered; listed on CRPR list 1, 2, 3, or 4; or included on the County's Sensitive Plant list (Group A, B, C, or D Listed Plants).

Ten sensitive plant species were detected on the Preserve in 2015, including Palmer's sagewort, California adolphia, Encinitas baccharis, Lakeside ceanothus, southern tarplant (*Centromadia parryi* ssp. *australis*), San Diego barrel cactus, graceful tarplant (*Holocarpha virgata* ssp. *elongata*), willowy monardella, Engelmann oak, ashy spike-moss (*Selaginella cinerascens*), and rush chaparral-star (*Xanthisma junceum*) (Table 6).

Table 7. Sensitive Plant Species Observed in the CMP Preserves

Scientific Name	Common Name	Special Status[a]	San Diego County Special Status List[b]	Regional MSCP Covered Species	Family	Preserve
Adolphia californica	California adolphia	CRPR 2B.1	San Diego County List B	--	Rhamnaceae - Buckthorn family	Lusardi Creek
Artemisia palmeri	San Diego sagewort	CRPR 4.2	San Diego County List D	--	Asteraceae - Sunflower family	Ramona Grasslands
Baccharis vanessae	Encinitas baccharis	FT, SE, CRPR 1B.1	San Diego County List A	Narrow Endemic	Asteraceae - Sunflower family	Del Dios Highlands
Ceanothus cyaneus	Lakeside ceanothus	CRPR 1B.2	San Diego County List A	Narrow Endemic	Rhamnaceae - Buckthorn family	El Capitan, Oakoasis
Centromadia parryi ssp. *australis*	Southern tarplant	CRPR 1B.1	San Diego County List A	--	Asteraceae - Sunflower family	Ramona Grasslands
Ferocactus viridescens	San Diego barrel cactus	CRPR 2B.1	San Diego County List B	Covered	Cactaceae - Cactus family	Lusardi Creek
Holocarpha virgata ssp. *elongata*	Graceful tarplant	CRPR 4.2	San Diego County List D	--	Asteraceae - Sunflower family	Ramona Grasslands, Sycamore Canyon/Goodan Ranch
Monardella viminea	Willowy monardella	FE, SE, CRPR 1B.1	San Diego County List A	Narrow Endemic	Lamiaceae - Mint family	Sycamore Canyon/Goodan Ranch
Quercus engelmannii	Engelmann oak	CRPR 4.2	San Diego County List D	--	Fagaceae - Oak family	Oakoasis
Selaginella cinerascens	Ashy spike-moss	CRPR 4.1	San Diego County List D	--	Selaginellaceae - Spike-moss family	Lusardi Creek
Xanthisma junceum	Rush-like bristleweed	CRPR 4.3	San Diego County List D	--	Asteraceae - Sunflower family	Ramona Grasslands

[a] Status:
Federal
FE - Listed as endangered under the federal Endangered Species Act.
FT - Listed as threatened under the federal Endangered Species Act.
FC – Candidate for listing under the federal Endangered Species Act.
State
SE - Listed as endangered under the California Endangered Species Act.
ST – Listed as threatened under California Endangered Species Act.
SR – Listed as rare under California Endangered Species Act.
CA Rare Plant Rank (CRPR) – Formerly known as CNPS List
1A. Presumed extirpated in California, and either rare or extinct elsewhere
1B. Rare, Threatened, or Endangered in California and elsewhere
2A. Presumed extirpated in California, more common elsewhere
2B. Rare, Threatened, or Endangered in California, more common elsewhere
3. Plants for which we more information is needed - Review list
4. Plants of limited distribution - Watch list
Threat Ranks
.1 - Seriously endangered in California
.2 – Fairly endangered in California
.3 – Not very endangered in California

[b] San Diego County List

Scientific Name	Common Name	Special Status[a]	San Diego County Special Status List[b]	Regional MSCP Covered Species	Family	Preserve
Plants						
A – Rare, threatened or endangered in California and elsewhere						
B – Rare, threatened or endangered in California but more common elsewhere						
C – Maybe quite rare, but more information is needed to determine their status						
D – Limited distribution and are uncommon but not presently rare or endangered						

4.4.1 California Adolphia (*Adolphia californica*)

CRPR List 2B.1, San Diego County List B

California adolphia is a short, spiny shrub that occurs within Diegan coastal sage scrub and occasionally on the periphery of chaparral habitat.

4.4.1.2 Lusardi Creek Preserve

Approximately 50 individuals of California adolphia were detected within areas of coastal-chaparral transition near the northwestern corner of the Preserve (Figure 20A).

4.4.2 Palmer's Sagewort (*Artemisia palmeri*)

CRPR List 4.2, San Diego County List D

Palmer's sagewort is a deciduous shrub typically found along creeks and drainages near the coast and inland within mesic chaparral conditions (Reiser 2001).

4.4.2.2 Ramona Grasslands Preserve

Palmer's sagewort was found scattered along a drainage near the northwestern section of the Preserve (Figures 26A and 26E).

4.4.3 Encinitas Baccharis (*Baccharis vanessae*)

Federally Threatened, State Endangered, CRPR List 1B.1, San Diego County List A, MSCP Narrow Endemic

Encinitas baccharis is a dioecious shrub with inconspicuous white flowers, typically occurring within mature, but relatively low-growing chaparral (Reiser 2001).

4.4.3.2 Del Dios Highlands Preserve

One individual of Encinitas baccharis was detected in an old access road, in the southwestern corner of the Preserve, north of Mount Israel Road (Figure 8C), approximately 25 feet south from previously mapped populations.

4.4.4 Lakeside ceanothus (*Ceanothus cyaneus*)

CRPR List 1B.2, San Diego County List A, MSCP Narrow Endemic

Lakeside ceanothus is a shrub with purple to off-blue flowers that typically occurs in chaparral, often favoring dense stands of chamise chaparral.

4.4.4.2 El Capitan Preserve

Two populations of Lakeside ceanothus were detected within rocky, southern mixed chaparral in the Preserve. One population of approximately 67 individuals occurs in the northwestern corner of the Preserve (Figure 11C), approximately 1,000 feet southwest of previously mapped populations. The second population of approximately 100 individuals occurs in the southwestern corner of the Preserve (Figure 11G), immediately south of previously mapped populations.

4.4.4.3 Oakoasis Preserve

Two individuals of Lakeside ceanothus were detected within rocky, southern mixed chaparral in the central-southern area of the Preserve (Figure 23A).

4.4.5 Southern Tarplant (*Centromadia parryi* ssp. *australis*)

CRPR List 1B.1, San Diego County List A

Southern tarplant is a late-season flowering, annual herb with yellow flowers, typically occurring in alkaline areas within mesic valley and foothill grasslands (Reiser 2001).

4.4.5.1 Ramona Grasslands Preserve

Approximately 500 individuals of southern tarplant were detected within areas of alkaline grassland in the central-southern area of the Preserve (Figure 26J).

4.4.6 San Diego Barrel Cactus (*Ferocactus viridescens*)

CRPR List 4.2, San Diego County List A, MSCP Covered Species

San Diego barrel cactus is a perennial stem succulent, which typically grows among cobbles, at the crest of slopes, within Diegan coastal sage scrub (Reiser 2001).

4.4.6.2 Lusardi Creek Preserve

Three individuals of San Diego Barrel Cactus were found within open, cobbly areas of Diegan coastal sage scrub in the northwestern area of the Preserve (Figure 20A).

4.4.7 Graceful Tarplant (*Holocarpha virgata* ssp. *elongata*)

CRPR List 4.2, San Diego County List D

Graceful tarplant is an annual herb that is typically found within annual and perennial grasslands but can occur within coastal sage scrub and chaparral (Reiser 2001).

4.4.7.2 Ramona Grasslands Preserve

Two populations of graceful tarplant were detected within grasslands in the Preserve. One population of approximately 300 individuals occurs in the southwestern area of the Preserve (Figure 26J), and the second population of approximately 200 individuals occurs in the central-western area of the Preserve (Figure 26E).

4.4.7.3 Sycamore Canyon/Goodan Ranch Preserve

Two populations of graceful tarplant totaling approximately 500 individuals were detected within grasslands in the southwestern area of the Preserve (Figure 32C).

4.4.8 Willowy Monardella (*Monardella viminea*)

Federally Endangered, State Endangered, CRPR List 1B.1, San Diego County List A, MSCP Narrow Endemic

Willowy monardella is an aromatic, much branched subshrub, which typically occurs in cobbly seasonal drainages or intermittent creeks, with limited cover by large shrubs and trees. The populations of willowy monardella in southern San Diego County were recently (2003) recognized as a new species and are now considered to be Jennifer's monardella (*Monardella stoneana*). Consequently, this taxonomic change reduces the overall distributional range of willowy monardella and reduces the number of known occurrences.

4.4.8.2 Sycamore Canyon/Goodan Ranch Preserve

Approximately 441 individuals of willowy monardella were detected within a seasonal drainage in the southern portion of the Preserve (Figures 32D and 32G). This includes the boundaries of previously mapped willowy monardella in this Preserve. The previously known occurrences of willowy monardella in the western portion of the Preserve were not relocated and are believed to have been extirpated.

4.4.9 Engelmann Oak (*Quercus engelmannii*)

CRPR List 4.2, San Diego County List D

Engelmann oak is a tree that produces acorns from inconspicuous flowers. It is typically found growing in grasslands, but it may also occur as a shrubby element within chaparral.

4.4.9.2 Oakoasis Preserve

Two individuals of Engelmann oak were detected within southern coast live oak riparian forest in the central-southern area of the Preserve (Figure 23B).

4.4.10 Ashy Spike-moss (*Selaginella cinerascens*)

CRPR List 4.1, San Diego County List D

Ashy spike-moss is a creeping spike simple herb typically found in undisturbed chaparral and Diegan coastal sage scrub (Reiser 2001). This species is found on exposed rock outcrops and open soils in the southern half of the Preserve.

4.4.10.2 Lusardi Creek Preserve

Ashy spike-moss was detected in an open area of Diegan coastal sage scrub in the northwestern area of the Preserve (Figure 20A).

4.4.11 Rush Chaparral-Star (*Xanthisma junceum*)

CNPS List 4.3, San Diego County List D

Rush chaparral-star is a perennial herb associated with low-growing chamise chaparral and Diegan sage scrub communities, which prefers exposed locales with rocky substrates (Reiser 2001).

4.4.11.2 Ramona Grasslands Preserve

Two populations of rush chaparral-star were detected in exposed areas of coastal sage-chaparral transition within the Preserve. One population of approximately 200 individuals occurs in the northwestern area of the Preserve (Figure 26A), and the second population of approximately 65 individuals occurs in the northeastern area of the Preserve (Figure 26B).

4.5 Rare Plant Monitoring

Ten sensitive plant monitoring plots were established within the CMP Preserves in 2015. Three monitoring plots for Encinitas baccharis were established within the Del Dios Highlands Preserve. Six monitoring plots for Lakeside ceanothus were established within four of the CMP Preserves; two within Boulder Oaks Preserve, two within El Capitan Preserve, one within Oakoasis Preserve, and one within Stelzer Regional Park. One monitoring plot for willowy monardella was established in Sycamore Canyon/Goodan Ranch Preserve. Descriptions of the monitoring plots are provided below and summarized in Table 7. Datasheets and photos are provided in Appendix D.

Table 8. Sensitive Plant Monitoring Summary Results

Species	Preserve	Plot #	Center Point Coordinates	Population		Native		Nonnative		Management Recommendations
				# Individuals	% Cover	# Species	% Cover	# Species	% Cover	
Baccharis vanessae	Del Dios Highlands	DD201501	E 488075.009 N 3658452.248	7	1	11	35	2	2	Install water diversion feature to stop erosion and continue monitoring
		DD201502	E 488142.805 N 3658472.454	5	1	11	51	1	1	Monitor erosion
		DD201503	E 488032.669 N 3658465.004	31	3	7	53	2	2	Monitor erosion
Ceanothus cyaneus	Boulder Oaks	BO201501	E 506845.084 N 3645997.769	26	5	8	29	2	15	None
		BO201502	E 506959.552 N 3645905.282	27	5	9	41	2	6	None
	El Capitan	EC201501	E 514279.436 N 3641648.088	51	2	9	26	1	1	Monitor invasion of *Pennisetum setaceum*
		EC201502	E 511938.316 N 3641388.67	74	7	9	22	1	5	Monitor erosion channel from road at edge of plot
	Oakoasis	OO201501	E 509720.921 N 3641853.726	7	1	16	28	3	6	Control nonnative grasses – *Melinis repens* ssp. *repens*
	Stelzer Regional Park	STZ201501	E 508350.411 N 3638427.609	39	4	12	39	6	54	Control gophers and nonnative grasses and forbs
Monardella viminea	Sycamore Canyon	SYC201501	E 502411.602 N 3642217.501	56	3	9	17	7	8	Manage nonnative grasses and forbs. Continue to keep illegal trail closed. Add more trail barriers.

4.5.1 Encinitas Baccharis

4.5.1.1 Del Dios Highlands Preserve

All three of the Encinitas baccharis monitoring plots were established within the known occurrence in the southeastern portion of the Preserve, north of Mount Israel Road (Figures 8C and 8D). The current/maximum extent of the occurrence is composed of approximately 250 Encinitas baccharis individuals and covers an area of 2.8 acres. The threats assessment conducted in the current/maximum extent and 10-meter buffer of the occurrence detected erosion occurring in the southern portion of the current/maximum extent (Figure 8C). Water runoff from the existing dirt road is creating erosion gullies within the Encinitas baccharis occurrence. Currently there is a drain pipe that funnels runoff water directly into the occurrence.

Monitoring Plot Number DD201501

Monitoring plot DD201501 was established in the central-southern portion of the current extent of the Encinitas baccharis occurrence, within an area of southern maritime chaparral (*Ceanothus verrucosus* Association) (Figure 8C). Center point coordinates of the plot are E 488075.009, N 3658452.248. Within the plot, seven Encinitas bacchris plants were detected—four vegetative, two female, and one male plant. Total vegetative cover in the plot was 37 percent, with 35 percent native cover and 2 percent nonnative cover.

Monitoring Plot Number DD201502

Monitoring plot DD201502 was established in the southeastern portion of the current extent of the Encinitas baccharis occurrence, within an area of southern maritime chaparral (*Ceanothus verrucosus* Association) (Figure 8D). Center point coordinates of the plot are E 488142.805, N 3658472.454. Within the plot, five Encinitas bacchris plants were detected—three vegetative, one female, and one male plant. Total vegetative cover in the plot was 52 percent with 51 percent native cover and 1 percent nonnative cover.

Monitoring Plot Number DD201503

Monitoring plot DD201503 was established in the southeastern portion of the current extent of the Encinitas baccharis occurrence, within an area of southern maritime chaparral (*Ceanothus verrucosus* Association) (Figure 8C). Center point coordinates of the plot are E 488032.669, N 3658465.004. Within the plot a total of 31 Encinitas bacchris plants were detected—21 vegetative, 6 female, and 4 male plants. Total vegetative cover in the plot was 55 percent, with 53 percent native cover and 2 percent nonnative cover.

4.5.2 Lakeside Ceanothus

4.5.2.1 Boulder Oaks Preserve

Both of the Lakeside ceanothus monitoring plots were established within the known occurrence in the southwestern portion of the Preserve (Figures 5E and 5F). The current/maximum extent of the

occurrence is composed of approximately 600 Lakeside ceanothus individuals and covers an area of 206 acres. The threats assessment conducted in the current/maximum extent and 10-meter buffer of the occurrence did not detect any threats or disturbances to the occurrence.

Monitoring Plot Number BO201501

Monitoring plot BO201501 was established in the northeastern section of the current extent of the Lakeside ceanothus occurrence, within an area of southern mixed chaparral (*Adenostoma fasciculatum-Xylococcus bicolor-Ceanothus tomentosus* Association) (Figure 5E). Center point coordinates of the plot are E 506845.084, N 3645997.769. Within the plot, 26 Lakeside ceanothus plants were detected—22 vegetative and 4 dead plants. Total vegetative cover in the plot was 44 percent, with 29 percent native cover and 15 percent nonnative cover.

Monitoring Plot Number BO201502

Monitoring plot BO201502 was established in the southeastern section of the current extent of the Lakeside ceanothus occurrence, within an area of southern mixed chaparral (*Adenostoma fasciculatum-Xylococcus bicolor-Ceanothus tomentosus* Association) (Figure 5F). Center point coordinates of the plot are E 506959.552, N 3645905.282. Within the plot, 27 Lakeside ceanothus plants were detected—23 vegetative and 4 dead plants. Total vegetative cover in the plot was 47 percent, with 41 percent native cover and 6 percent nonnative cover.

4.5.2.2 El Capitan Preserve

Lakeside ceanothus monitoring plot EC201501 was established within the known occurrence in the northeastern section of the Preserve (Figure 11E). The current/maximum extent of the occurrence is composed of approximately 400 Lakeside ceanothus individuals and covers an area of 67 acres. The threats assessment conducted in the current/maximum extent and 10-meter buffer of the occurrence did not detect any threats or disturbances to the occurrence.

Lakeside ceanothus monitoring plot EC201502 was established within a newly discovered occurrence in the northwestern section of the Preserve (Figure 11C). The current/maximum extent of the occurrence is composed of approximately 150 Lakeside ceanothus individuals and covers an area of 3 acres. The threats assessment conducted in the current/maximum extent and 10-meter buffer of the occurrence detected an erosional channel emanating from the access road along the western edge of the monitoring plot (Figure 11C).

Monitoring Plot Number EC201501

Monitoring plot EC201501 was established in the southern section of the current extent of the Lakeside ceanothus occurrence, within an area of coastal sage-chaparral transition (*Adenostoma fasciculatum*-[*Eriogonum fasciculatum*, *Artemisia californica*, *Salvia mellifera* Association]) (Figure 11E). Center point coordinates of the plot are E 514279.436, N 3641648.088. Within the plot, 51 Lakeside ceanothus plants were detected—32 vegetative and 19 dead plants. Total vegetative cover in the plot was 27 percent, with 26 percent native cover and 1 percent nonnative cover.

Monitoring Plot Number EC201502

Monitoring plot EC201502 was established in the southern section of the current extent of the Lakeside ceanothus occurrence, within an area of southern mixed chaparral (*Adenostoma fasciculatum-Xylococcus bicolor-Quercus* [*berberidifolia*, x*acutidens*] Association) (Figure 11C). Center point coordinates of the plot are E 511938.316, N 3641388.67. Within the plot, 74 Lakeside ceanothus plants were detected—28 vegetative and 46 dead plants. Total vegetative cover in the plot was 27 percent, with 22 percent native cover and 5 percent nonnative cover.

4.5.2.3 Oakoasis Preserve

Lakeside ceanothus monitoring plot OO201501 was established within the known occurrence in the central-southern section of the Preserve (Figures 23A and 23B). The current/maximum extent of the occurrence is composed of approximately 225 Lakeside ceanothus individuals and covers an area of 13.55 acres. The threats assessment conducted in the current/maximum extent and 10-meter buffer of the occurrence detected the presence of natal grass (*Melinis repens* ssp. *repens*), a perennial nonnative grass.

Monitoring Plot Number OO201501

Monitoring plot OO201501 was established in the southern section of the current extent of the Lakeside ceanothus occurrence, within an area of southern mixed chaparral (*Adenostoma fasciculatum-Ceanothus tomentosus* Association) (Figure 23B). Center point coordinates of the plot are E 509720.921, N 3641853.726. Within the plot, seven Lakeside ceanothus plants were detected—six vegetative and one dead plant. Total vegetative cover in the plot was 34 percent, with 28 percent native cover and 6 percent nonnative cover.

4.5.2.4 Stelzer Regional Park

Lakeside ceanothus monitoring plot STZ201501 was established within the known occurrence in the northeastern section of the Preserve (Figure 29A). The current/maximum extent of the occurrence is composed of approximately 135 Lakeside ceanothus individuals and covers an area of 7.98 acres. The threats assessment conducted in the current/maximum extent and 10-meter buffer of the occurrence detected the presence of several gopher burrows and areas dominated by nonnative annual grasses and forbs (Figure 29A).

Monitoring Plot Number STZ201501

Monitoring plot STZ201501 was established in the southern section of the current extent of the Lakeside ceanothus occurrence, within an area of Diegan coastal sage scrub (*Artemisia californica-Eriogonum fasciculatum-Malosma laurina* Association) (Figure 29A). Center point coordinates of the plot are E 508350.411, N 3638427.609. Within the plot, 39 Lakeside ceanothus plants were detected—10 vegetative and 29 dead plants. Total vegetative cover in the plot was 93 percent, with 39 percent native cover and 54 percent nonnative cover.

4.5.3 Willowy Monardella

4.5.3.1 Sycamore Canyon/Goodan Ranch Preserve

Willowy monardella monitoring plot SYC201501 was established within the known occurrence in the southern section of the Preserve (Figures 32D and 32G). The current/maximum extent of the occurrence is composed of approximately 441 willowy monardella individuals and covers an area of 0.77 acre. The threats assessment conducted in the current/maximum extent and 10-meter buffer of the occurrence detected the presence of an illegal trail traversing the occurrence (Figures 32D, 32E, and 32G).

Monitoring Plot Number SYC201501

Monitoring plot SYC201501 was established in the northern section of the current extent of the willowy monardella occurrence, within an area of coastal sage scrub (*Malosma laurina-Lotus scoparius* Association) (Figure 32D). Center point coordinates of the plot are E 502411.602, N 3642217.501. Within the plot, 28 willowy monardella patches were detected. From the calculations outlined in Rebman and Dossey (2006), 56 willowy monardella plants were estimated—45 flowering, 8 flowering and fruiting, and 3 dead plants. A total of 49 adult, 4 mature, and 3 juvenile plants were detected. Total vegetative cover in the plot was 25 percent, with 17 percent native cover and 8 percent nonnative cover.

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Chapter 5
Discussion and CMP Management and Monitoring Recommendations

This chapter presents surveillance-level and resource-specific monitoring and adaptive management recommendations as outlined in the CMP for the habitat types documented within the CMP Preserves and for the resource-specific monitoring conducted in 2015.

5.1 CMP Surveillance Level Goals and Objectives

5.1.1 Monitoring Objectives

Conduct regular patrols, habitat condition assessments, threats assessments, and presence/absence surveys throughout the County's preserve system at the appropriate frequency (quarterly, annually, every five years, or as needed) as described in the preserve-specific RMPs.

5.1.2 Management Objectives

Quarterly, or more often as needed, conduct stewardship-level activities to protect biological resources throughout the County's preserve system, including installing and mending fences and signs, controlling small infestations of invasive species where feasible, closing unauthorized trails, conducting trail maintenance, ensuring that recreation is compatible with conservation, and interfacing with the public.

5.1.2.1 Vegetation

As previously discussed, the CMP Preserves contain 65 vegetation associations/alliances, including; 3 herbaceous wetland types, 9 upland herbaceous types, 14 drought-deciduous shrublands, 15 evergreen shrublands, 1 riparian shrubland, 8 riparian forest and woodlands, 7 upland forest and woodlands, and 5 land cover/unvegetated types.

Adaptive Management Recommendations

The current mapping effort should be used as a base map for future vegetation mapping efforts to document changes in habitat. The current map is the first comprehensive vegetation map verified in the field to include both VCM and the modified Holland classification system all in one mapping layer and can be easily updated using either classification system.

Monitor expansion of nonnative vegetation types, such as *Bromus* (*diandrus*, *hordeaceus*)-*Brachypodium distachyon* Semi-Natural Stands, *Brassica nigra* and Other Mustards Seminatural Stands, and *Eucalyptus* (*globulus*, *camaldulensis*) Semi-Natural Stands, especially those adjacent to sensitive plant populations.

5.1.2.2 Threats Assessment

As discussed in Section 4.2, *Habitat Condition and Threats Assessment*, several threats/disturbances were identified in the Preserves, including dumping/trash, erosion, illegal trails, and ORV activity.

Adaptive Management Recommendations

Litter/Trash Removal

Management of the CMP Preserves should include implementation of a litter and trash removal program. The purpose of this program would be to ensure that contaminants do not negatively affect the conserved resources within the CMP Preserves.

Erosion

Erosion can result in significant detrimental effects on sensitive resources within the CMP Preserves by causing soil instability and habitat degradation, and by potentially displacing sensitive biological resources. Appropriate erosion control measures should be installed where appropriate to minimize impacts on sensitive biological resources.

Illegal Trails and Illegal Off-Road Activity

Manage public access within each Preserve to ensure protection of biological resources. Illegal trails and off-road activities can result in a significant detrimental effect on the conserved resources within the CMP Preserves by reducing air quality, causing soil erosion and sedimentation into local waters, creating noise pollution, and causing habitat degradation. Disturbance from off-road vehicles can also disrupt breeding activities. For these reasons, off-road vehicle use is not compatible in Preserve areas. The fences and gates within the CMP Preserves should be maintained to prevent illegal access. Trail barriers and additional fencing and signage should be installed where appropriate to deter illegal activities within the CMP Preserves.

Restoration Opportunities

The areas of cleared vegetation, erosion, illegal trails and off-road activity, and nonnative habitats identified in this report provide opportunities for habitat restoration within the CMP Preserves. The goal of habitat restoration is to reestablish or enhance the biological functions and values of habitat that has been degraded by either human or natural causes. Restoration methods range from active revegetation, which recreates habitat, to passive management. For Preserve lands, restoration is typically not required; however, in some cases, if resources are available, active restoration may assist the recovery of an area that has been disturbed and is showing difficulty in recovering. The need for restoration activities will be determined based on the results of habitat monitoring and trail maintenance activities. Any proposed restoration activity should utilize current, accepted techniques and avoid or minimize impacts on sensitive species or native habitats. Additionally, revegetation activities should use only local, native plant seed or container stock plants that have been propagated from plant material from the San Diego watershed.

5.1.2.3 Invasive Nonnative Species Control

Invasive nonnative plant species control is primarily monitored and implemented at the vegetation community level. Table 5 in Section 4.3, *Invasive Plant Surveys*, detailed the 16 invasive plant species that were observed within the Preserves during the current survey effort. Most of the plants are not currently occupying the Preserves in a manner that would be significantly detrimental to the conserved habitats on site. Target invasive plants identified for control within the CMP Preserves include the following.

- Giant Reed
- Pampas Grass
- Artichoke Thistle
- Eucalyptus
- Fennel
- Wallaby grass
- Tamarisk
- Milk Thistle

When invasive nonnative plant control is implemented within a preserve, the CMP requires that the following measures be followed.

- Base the priority for removal on a species' biology, the immediate need of a specific area, and where removal could increase habitat available for covered species.
- Avoid removal activities during the reproductive seasons of sensitive species and reduce impacts on sensitive species or native habitats.
- Use an integrated pest management approach, that is, use the least biologically intrusive control methods, at the most appropriate period of the growth cycle to achieve the desired goals.
- Consider both mechanical and chemical methods of control. Only herbicides compatible with biological goals should be used. Only licensed pest control advisers are permitted to make specific pest control recommendations.
- Properly dispose of all exotic plant materials that are removed from Preserve lands (e.g., in offsite facilities).
- Revegetate exotic weed removal areas with species appropriate to biological goals, as appropriate.
- Identify where active revegetation (as opposed to passive recruitment) will be necessary.

5.2 CMP Resource-Specific Monitoring Goals and Objectives

5.2.1 Encinitas Baccharis (*Baccharis vanessae*)

5.2.1.1 Monitoring Objective

By the end of 2015, conduct a baseline population assessment in three selected locations on the Del Dios Highlands Preserve to determine the mapped perimeter, abundance, distribution of male and female plants (dioecy), and age class of Encinitas baccharis. Collect covariate data on vegetation composition and cover, soils, invasive plants, and other threats. Ensure consistency in data collection across the Management Strategic Plan Area (MSPA) by using rare plant monitoring protocols and forms developed by SDMMP. Conduct monitoring every other year for 5 years.

Results

The first year of the monitoring objective of establishing three monitoring plots following the rare plant monitoring protocols and forms developed by SDMMP has been completed.

5.2.1.2 Management Objectives

Maintain 30 acres of habitat on Del Dios Highlands Preserve to support the Encinitas baccharis population. Maintain <20% ground cover of invasive species in the vicinity of the Encinitas baccharis population. Implement appropriate management actions to protect the Del Dios population of Encinitas baccharis, as indicated by the monitoring results (i.e., inspect and manage the species), annually for 5 years, beginning in spring 2016. Management actions could include invasive species control, access control, and pre-fire management.

Results

Currently, the Encinitas baccharis habitat within the Del Dios Highlands Preserve appears to be intact, with relatively low weed cover. The three monitoring plots had an average ground cover of 1.6 percent of invasive species, well below the 20 percent threshold.

Adaptive Management Recommendations

All three of the Encinitas baccharis monitoring plots were established within the known occurrence in the southeastern portion of the Preserve, north of Mount Israel Road. The threats assessment conducted detected erosion occurring in the southern portion of the current/maximum extent. Water runoff from existing dirt road is creating erosion gullies within the Encinitas baccharis occurrence. A drainpipe or drain sluice constructed down the slope would help prevent the erosion of this population.

5.2.2 Lakeside ceanothus (*Ceanothus cyaneus*)

5.2.2.1 Monitoring Objective

During the blooming period of 2016 (April–June), conduct a baseline population and threats assessment at a total of six locations on the Boulder Oaks, Oakoasis, and El Capitan Preserves. Ensure consistency in data collection across the MSPA by using rare plant monitoring protocols and forms developed by SDMMP. Using the information collected, identify or refine appropriate management actions.

Results

The first year of the monitoring objective of establishing six monitoring plots following the rare plant monitoring protocols and forms developed by SDMMP has been completed.

5.2.2.2 Management Objectives

Conduct routine management within the Boulder Oaks, El Capitan, Oakoasis, and Stelzer Regional Park Preserves, as indicated by the monitoring results, annually for 5 years, beginning in spring 2016.

Results

Currently, the Lakeside ceanothus populations within the Boulder Oaks, El Capitan, and Oakoasis Preserves appear to be doing well, with a relatively low level of stressors and/or disturbances. However, the Lakeside ceanothus population within Stelzer Regional Park is suffering from a high level of mortality, with very low recruitment, and appears to be slowly dying off. There is a very high groundcover of nonnative grasses and forbs (54 percent) within the population and significant ground disturbance from gophers.

Adaptive Management Recommendations

El Capitan Preserve

Monitor/control erosion from the main trail within the Preserve. Large populations of Lakeside ceanothus occur adjacent to this trail and may be negatively impacted. One area of erosion was detected adjacent to monitoring plot EC201502.

Manage public access near Lakeside ceanothus populations. Monitor for illegal trails traversing Lakeside ceanothus populations.

Oakoasis Preserve

Manage public access near Lakeside ceanothus populations. Monitor for illegal trails traversing Lakeside ceanothus populations.

Stelzer Regional Park

Monitor/control nonnative grasses and forbs and gopher population.

5.2.3 Willowy Monardella (*Monardella viminea*)

5.2.3.1 Monitoring Objective

Monitor willowy monardella populations on Sycamore Canyon/Goodan Ranch Preserve annually for 5 years to evaluate the response of monardella populations to focused management actions. Collect covariate data on vegetation composition and cover, soils, invasive plants, and other threats. Ensure consistency in data collection across the MSPA by using rare plant monitoring protocols and forms developed by SDMMP. Using the information collected, determine if specific threats are having a detrimental effect on the species, and identify or refine appropriate management actions.

Results

One monitoring plot was established following the rare plant monitoring protocols and forms developed by SDMMP in the southern population of the preserve. The western population appears to have been extirpated.

5.2.3.2 Management Objectives

Implement focused management for target populations on Sycamore Canyon/Goodan Ranch Preserve by the end of 2015. Maintain less than 10 percent cover of nonnative species and thatch around plants in high intensive weed management areas (i.e., hand-weeded) and maintain less than 20 percent cover of invasive weed in the spaces between high intensive management areas in management areas.

Results

Currently, the extant willowy monardella population within the Preserve appears to be doing well. However, very little seedling recruitment was observed within the population. Nonnative invasive species cover was 8 percent within the monitoring plot, slightly below the 10 percent threshold. No erosional issues were detected within the population. An illegal trail was detected traversing the population. The trail does have barriers to impede travel but there is recent evidence of illegal OHV activity. The illegal trail starts at the main parking lot of the Preserve (approximately 1.25 mile south of State Route 67) and proceeds south beyond preserve boundary.

Adaptive Management Recommendations

Monitor/control nonnative species to ensure low cover throughout the population.

Conduct dethatching activities throughout the population to encourage seedling establishment.

To deter illegal trail use, install restrictive signage and fencing at the parking lot and at the southern Preserve boundary.

Chapter 6
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Appendix A
Figures

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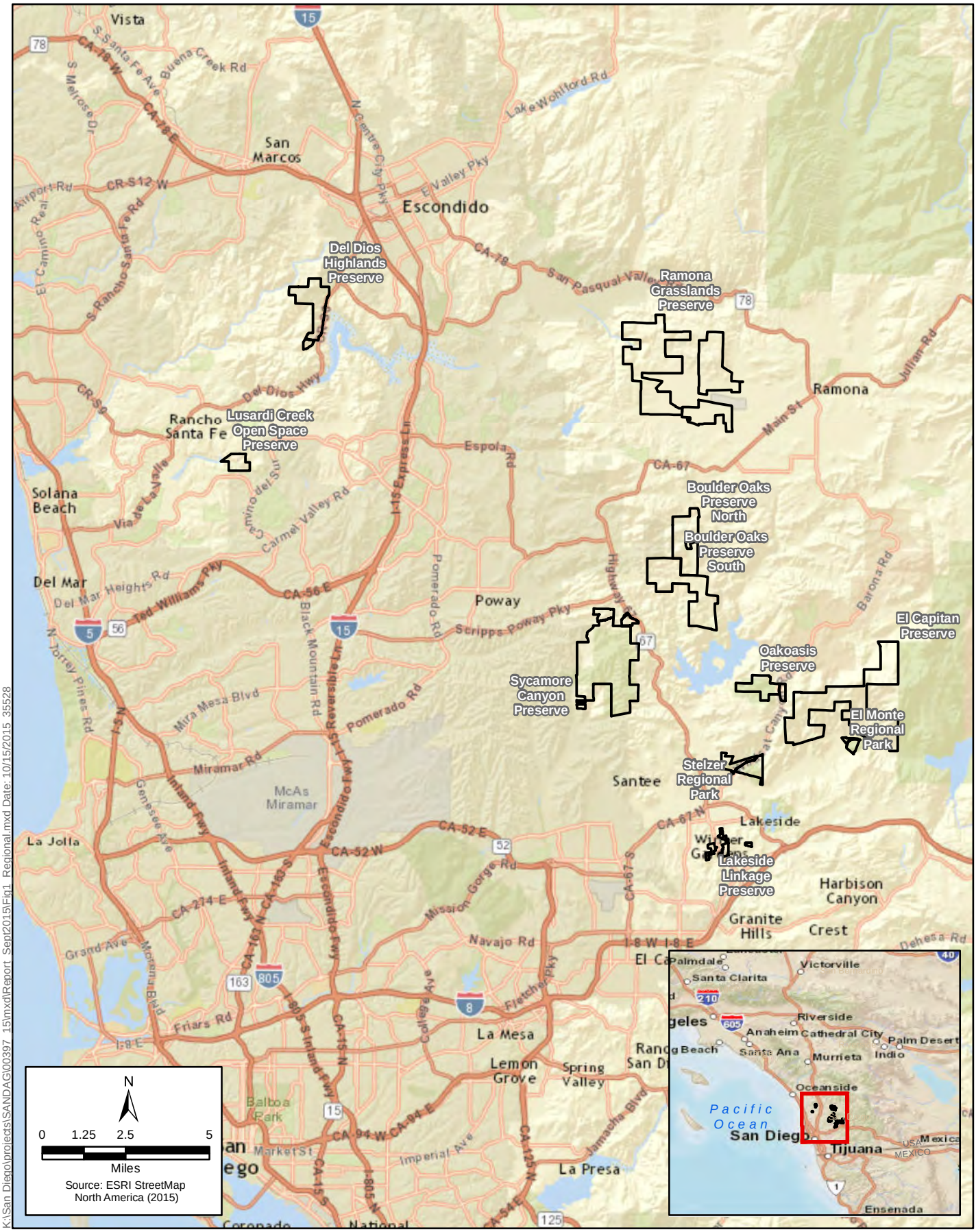

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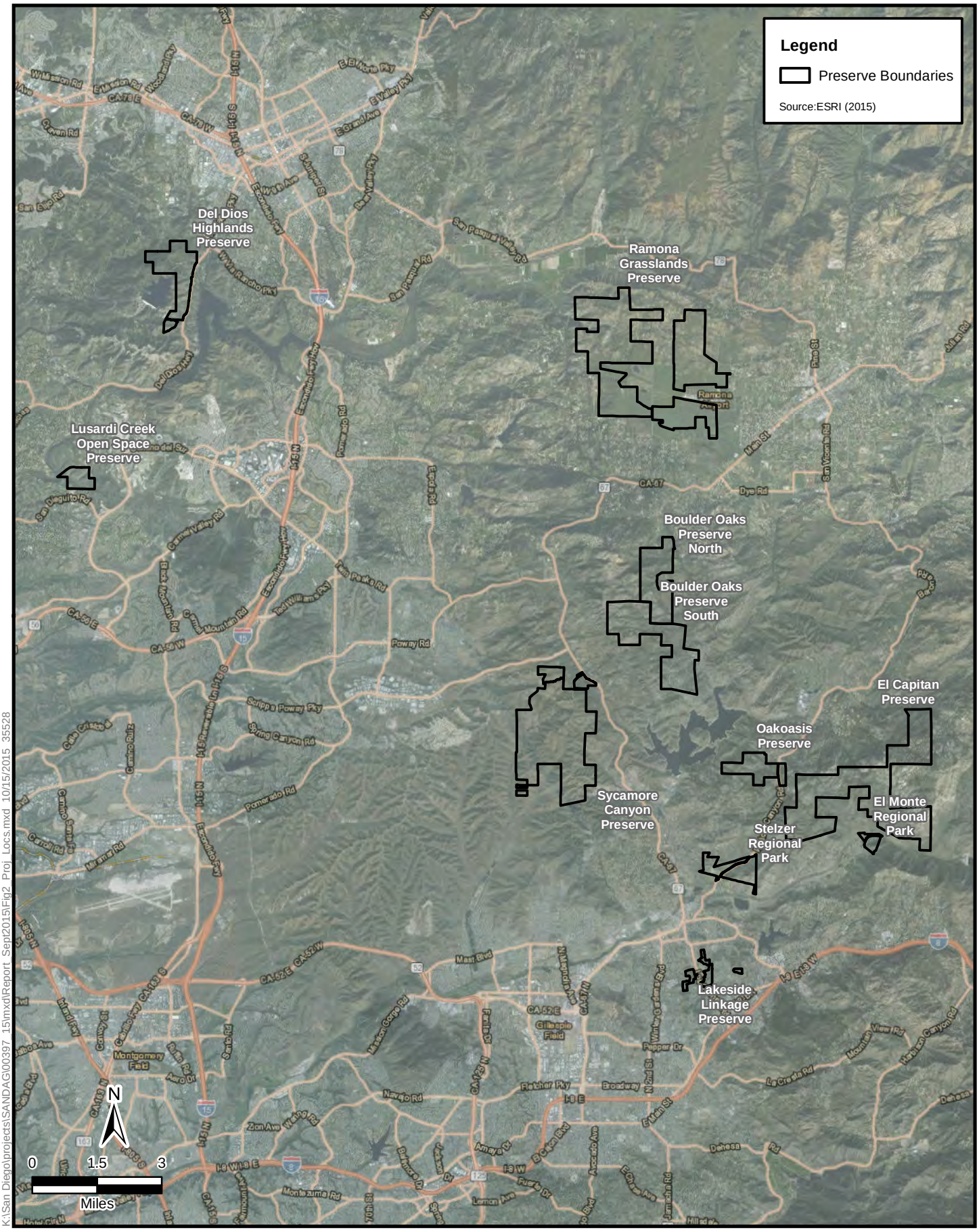
Appendix A Figure 1
Regional Location
CMP Plant Surveys



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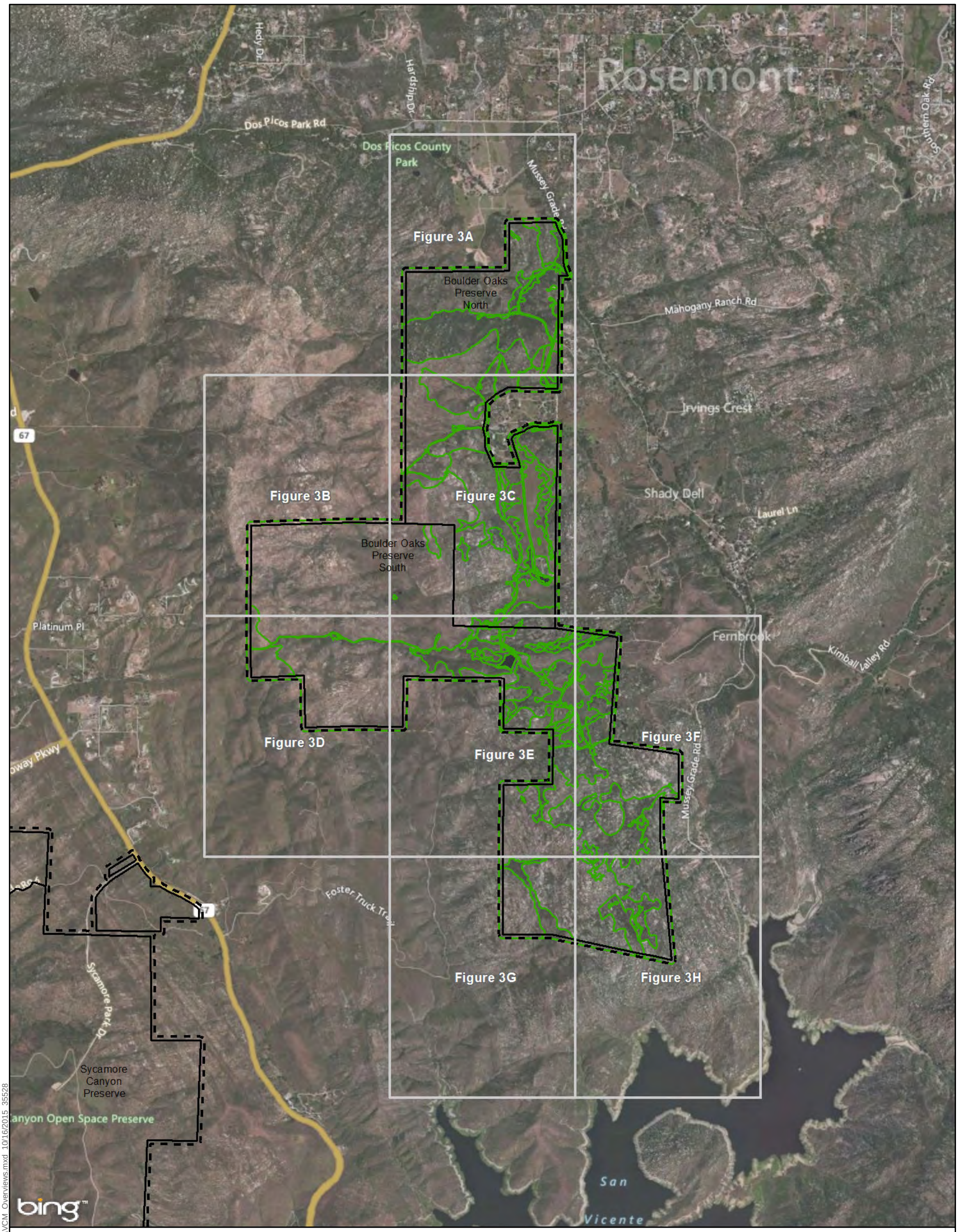
Appendix A Figure 2
Project Location Map
CMP Plant Surveys



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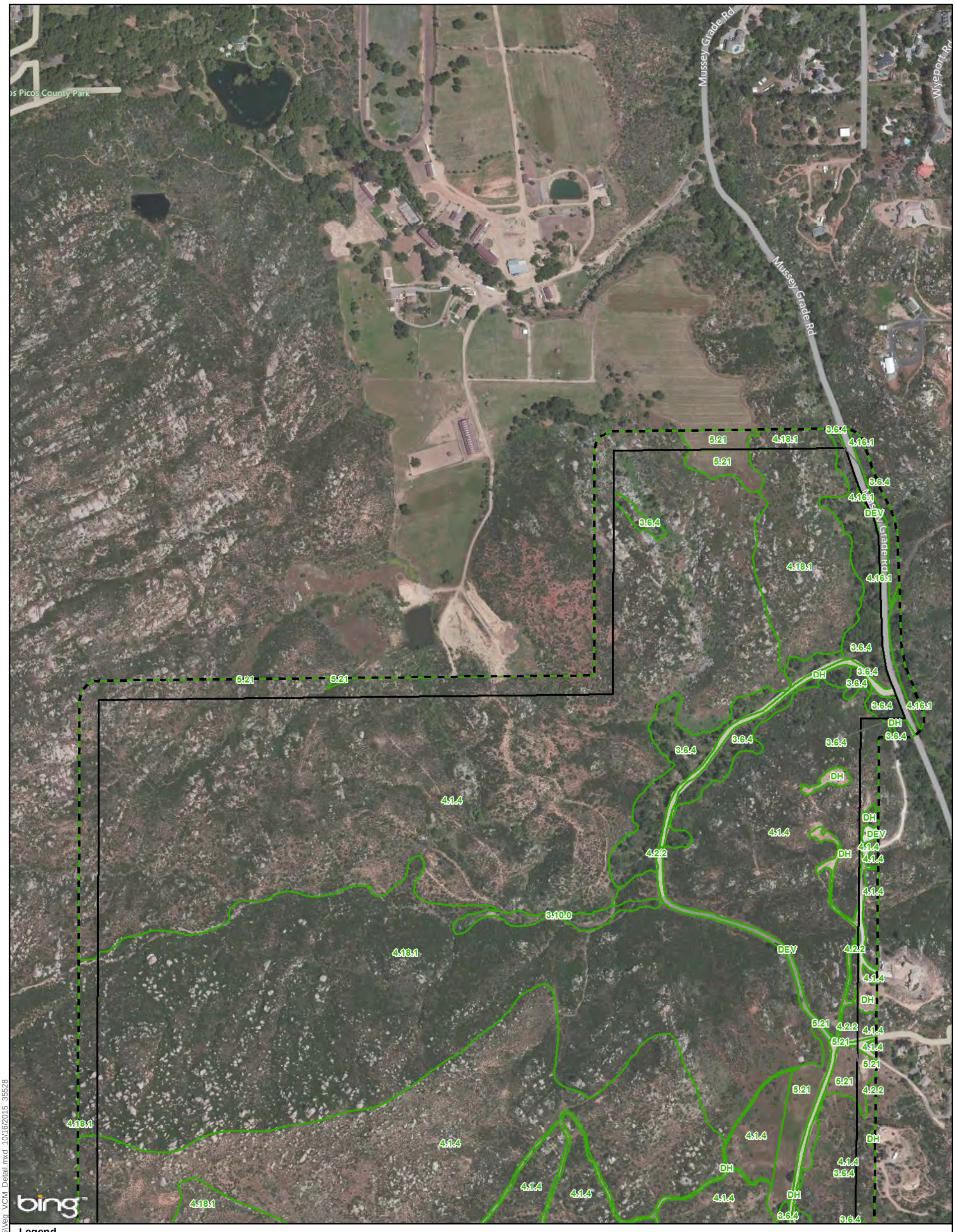
Appendix A Figure 3 Overview
Vegetation Communities/Habitats (Vegetation Classification Manual)
Boulder Oaks Preserve



Legend

- Preserve Boundaries
- Preserve Boundaries 100-foot Buffer
- Vegetation

Vegetation Key per Classification Manual

- 3.10.0, Salix lasiolepis Association
- 3.6.4, Quercus agrifolia-Toxicodendron diversilobum-Grass Association
- 4.1.4, Adenostoma fasciculatum-Ceanothus tomentosus Association
- 4.16.1, Ceanothus leucodermis Association
- 4.18.1, Ceanothus tomentosus Association
- 4.2.2, Adenostoma fasciculatum-Xylococcus bicolor-Ceanothus tomentosus Association
- 5.21, Mediterranean California Naturalized Annual and Perennial Grassland Semi-Natural Stands
- DEV, Developed
- DH, Disturbed Habitat

0 250 500 Feet

N

Source: Vegetation-ICFI, 2015; Imagery-BING, 2015.

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Appendix A Figure 3A
Vegetation Communities/Habitats (Vegetation Classification Manual)
Boulder Oaks Preserve

Legend

- Preserve Boundaries
- Preserve Boundaries 100-foot Buffer
- Vegetation

4.1.4, Adenostoma fasciculatum-Ceanothus tomentosus Association

Vegetation Key per Classification Manual

0 250 500 Feet

N

Source: Vegetation-ICFI, 2015; Imagery-BING, 2015.

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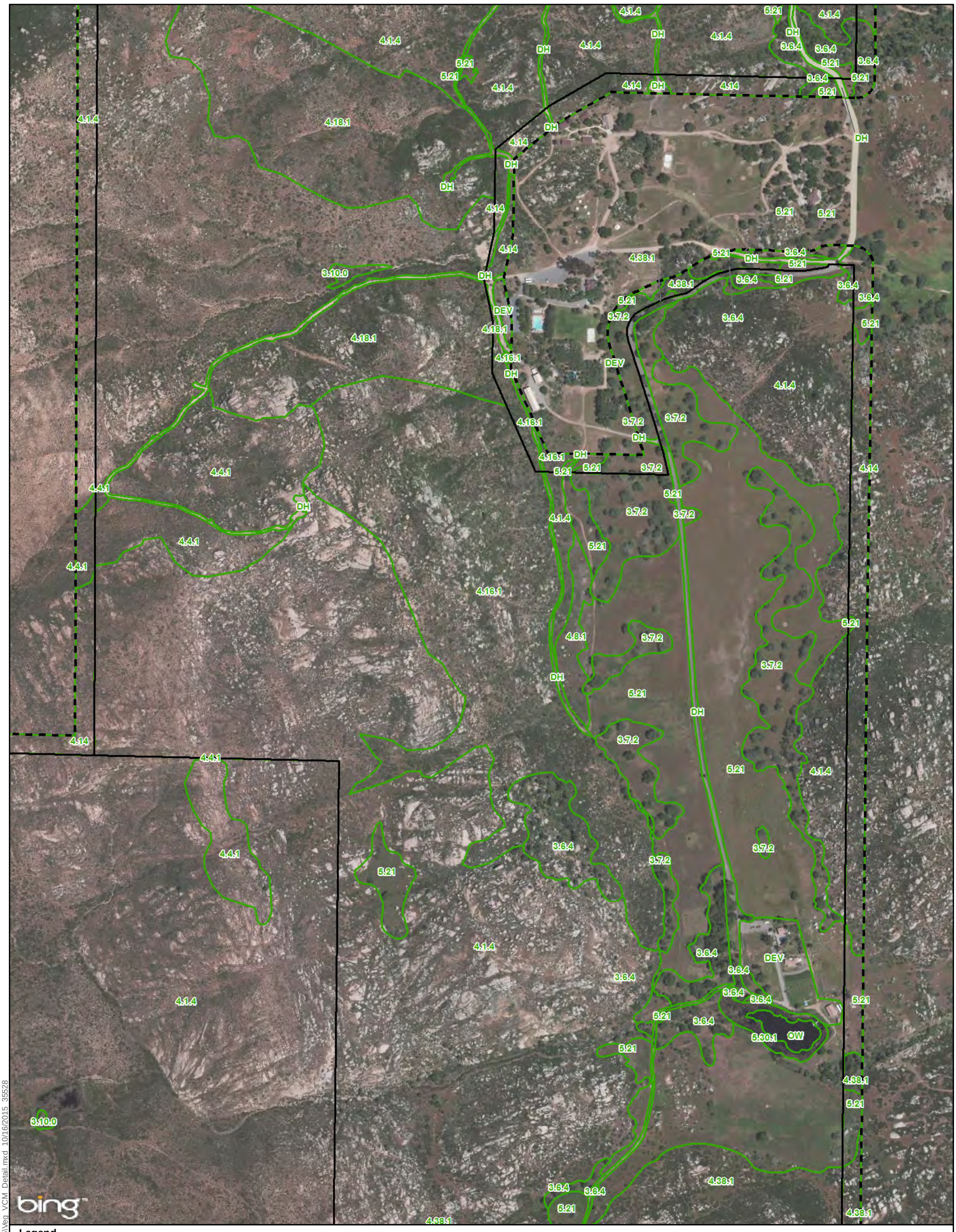
Appendix A Figure 3B
Vegetation Communities/Habitats (Vegetation Classification Manual)
Boulder Oaks Preserve



Legend

- Preserve Boundaries
- Preserve Boundaries 100-foot Buffer
- Vegetation

Vegetation Key per Classification Manual

- 3.10.0, Salix lasiolepis Association
- 3.6.4, Quercus agrifolia-Toxicodendron diversilobum-Grass Association
- 3.7.2, Quercus engelmannii-Quercus agrifolia-Toxicodendron diversilobum-Grass Association
- 4.1.4, Adenostoma fasciculatum-Ceanothus tomentosus Association
- 4.16.1, Ceanothus leucodermis Association
- 4.18.1, Ceanothus tomentosus Association
- 4.38.1, Quercus (berberidifolia; ×acutidens)-Adenostoma fasciculatum Association
- 4.4.1, Arctostaphylos glandulosa-Adenostoma fasciculatum Association
- 4.8.1, Artemisia californica-Salvia mellifera Assocation
- 5.21, Mediterranean California Naturalized Annual and Perennial Grassland Semi-Natural Stands
- 5.30.1, Schoenoplectus americanus Association
- DEV, Developed
- DH, Disturbed Habitat
- OW, Open Water

0 250 500 Feet

N

Source: Vegetation-ICFI, 2015; Imagery-BING, 2015.

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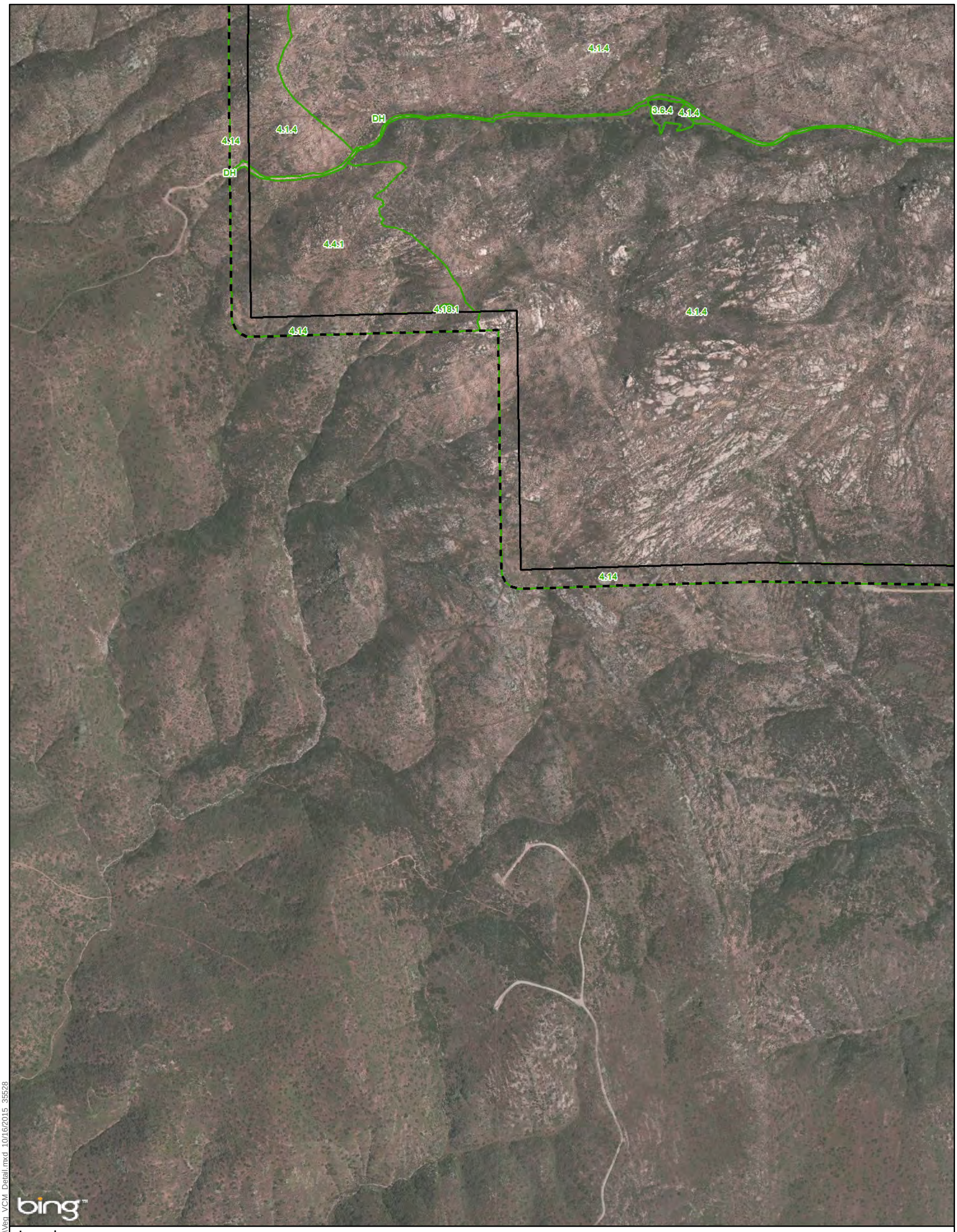
Appendix A Figure 3C
Vegetation Communities/Habitats (Vegetation Classification Manual)
Boulder Oaks Preserve



Legend

Preserve Boundaries

Preserve Boundaries 100-foot Buffer

Vegetation

Vegetation Key per Classification Manual

3.6.4, Quercus agrifolia-Toxicodendron diversilobum-Grass Association

4.1.4, Adenostoma fasciculatum-Ceanothus tomentosus Association

4.18.1, Ceanothus tomentosus Association

4.4.1, Arctostaphylos glandulosa-Adenostoma fasciculatum Association

DH, Disturbed Habitat

0 250 500 Feet

N

Source: Vegetation-ICFI, 2015; Imagery-BING, 2015.

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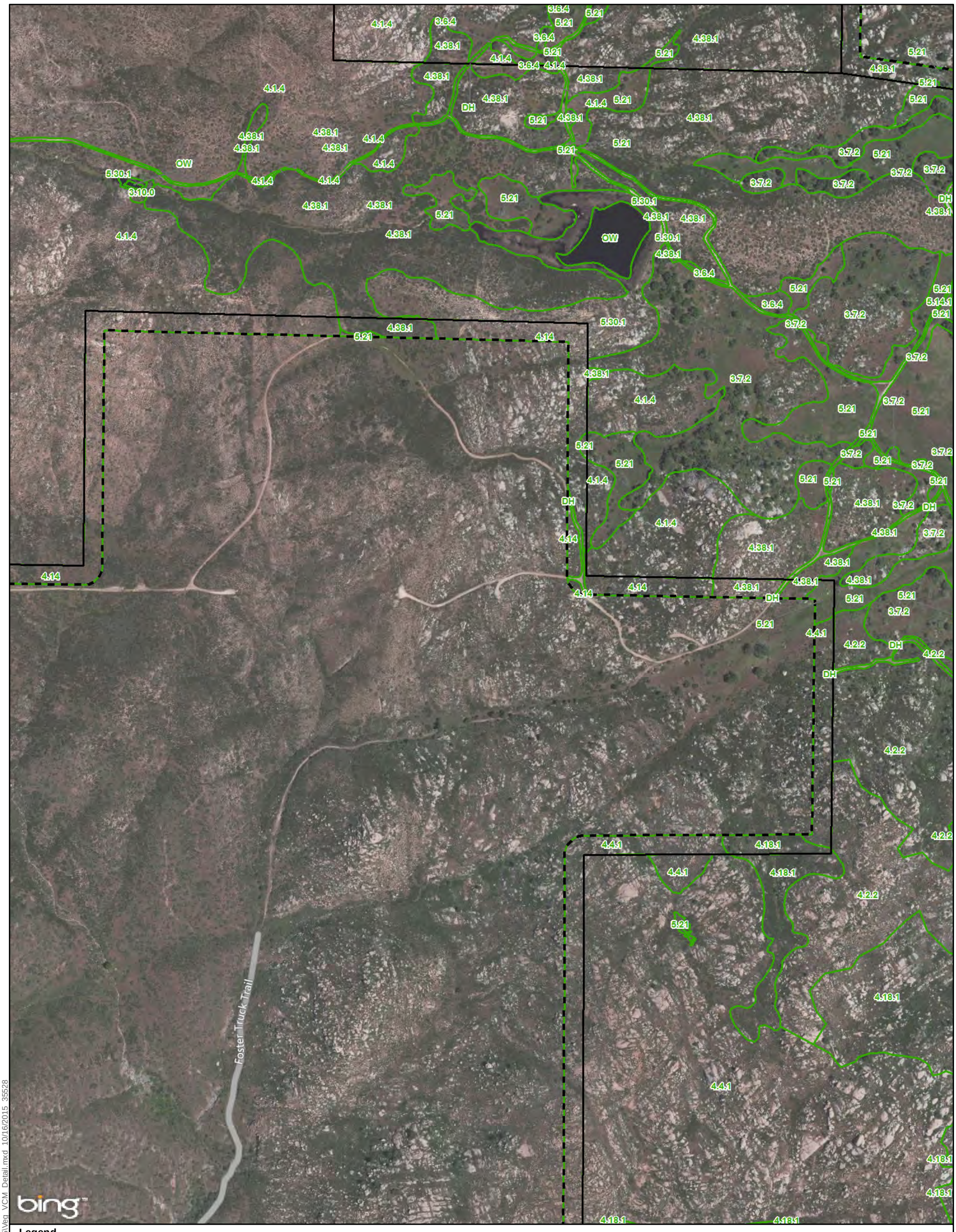
Appendix A Figure 3D
Vegetation Communities/Habitats (Vegetation Classification Manual)
Boulder Oaks Preserve



Legend

Preserve Boundaries

Preserve Boundaries 100-foot Buffer

Vegetation

Vegetation Key per Classification Manual

3.10.0, Salix lasiolepis Association

3.6.4, Quercus agrifolia-Toxicodendron diversilobum-Grass Association

3.7.2, Quercus engelmannii-Quercus agrifolia-Toxicodendron diversilobum-Grass Association

4.1.4, Adenostoma fasciculatum-Ceanothus tomentosus Association

4.18.1, Ceanothus tomentosus Association

4.2.2, Adenostoma fasciculatum-Xylococcus bicolor-Ceanothus tomentosus Association

4.38.1, Quercus (berberidifolia; ×acutidens)-Adenostoma fasciculatum Association

4.4.1, Arctostaphylos glandulosa-Adenostoma fasciculatum Association

5.14.1, Distichlis spicata-Annual Grasses Association

5.21, Mediterranean California Naturalized Annual and Perennial Grassland Semi-Natural Stands

5.30.1, Schoenoplectus americanus Association

DH, Disturbed Habitat

OW, Open Water

0 250 500 Feet

N

Source: Vegetation-ICFI, 2015; Imagery-BING, 2015.

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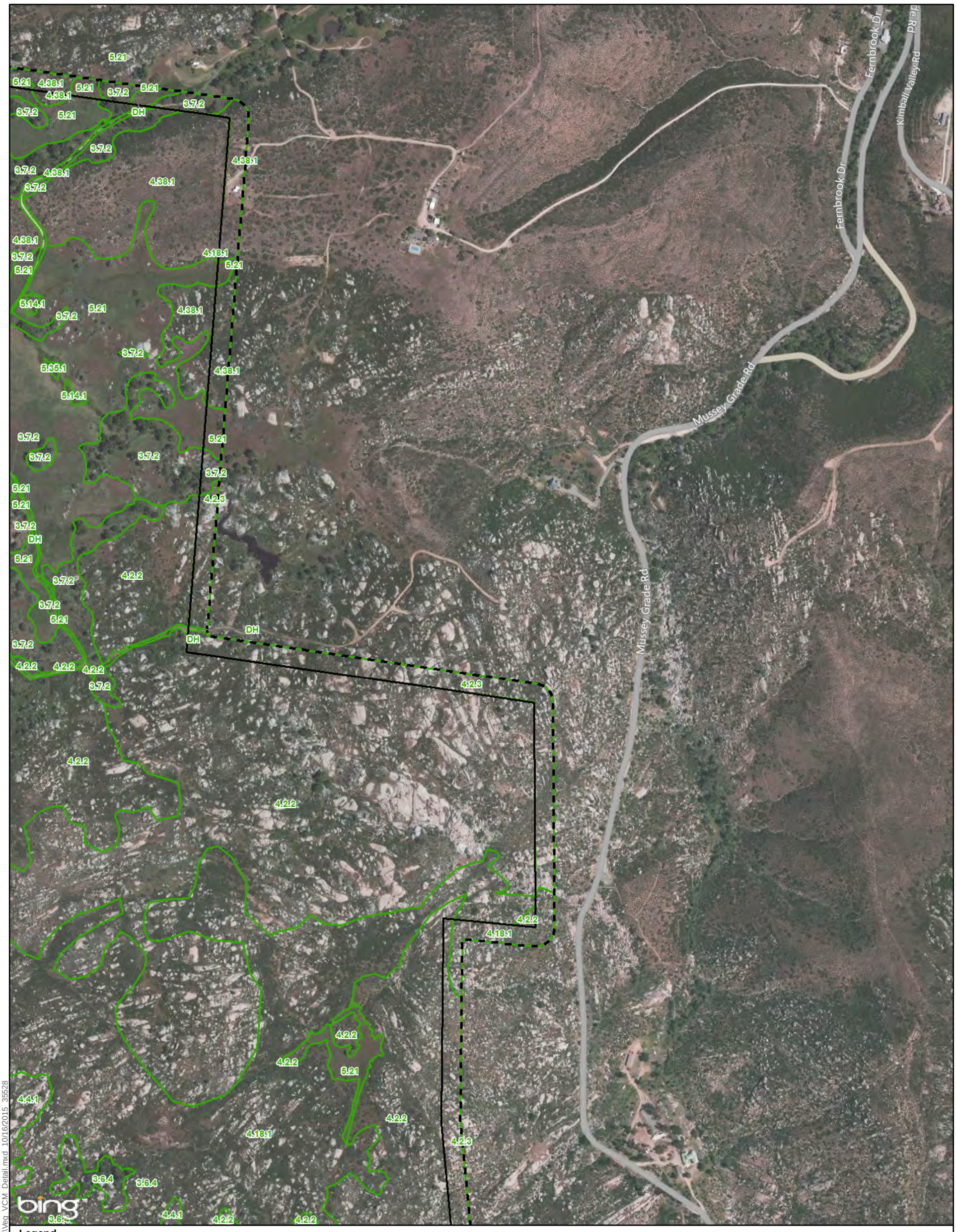
Appendix A Figure 3E
Vegetation Communities/Habitats (Vegetation Classification Manual)
Boulder Oaks Preserve



Legend

- Preserve Boundaries
- Preserve Boundaries 100-foot Buffer
- Vegetation

Vegetation Key per Classification Manual

- 3.6.4, Quercus agrifolia-Toxicodendron diversilobum-Grass Association
- 3.7.2, Quercus engelmannii-Quercus agrifolia-Toxicodendron diversilobum-Grass Association
- 4.18.1, Ceanothus tomentosus Association
- 4.2.2, Adenostoma fasciculatum-Xylococcus bicolor-Ceanothus tomentosus Association
- 4.38.1, Quercus (berberidifolia; ×acutidens)-Adenostoma fasciculatum Association
- 4.4.1, Arctostaphylos glandulosa-Adenostoma fasciculatum Association
- 5.14.1, Distichlis spicata-Annual Grasses Association
- 5.21, Mediterranean California Naturalized Annual and Perennial Grassland Semi-Natural Stands
- 5.35.1, Typha domingensis Association Association
- DH, Disturbed Habitat

0 250 500 Feet

N

Source: Vegetation-ICFI, 2015; Imagery-BING, 2015.

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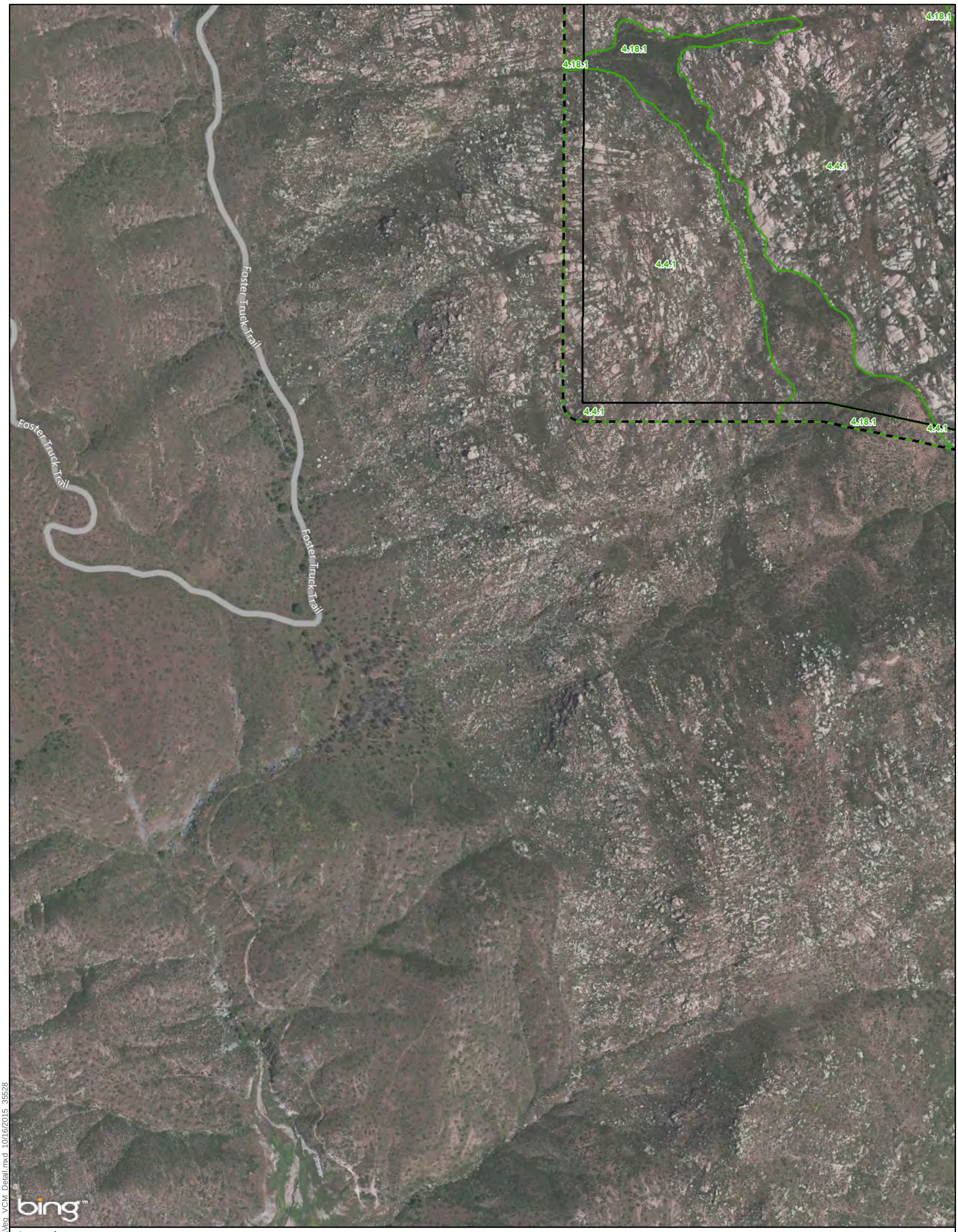
Appendix A Figure 3F
Vegetation Communities/Habitats (Vegetation Classification Manual)
Boulder Oaks Preserve



Legend

- Preserve Boundaries
- Preserve Boundaries 100-foot Buffer
- Vegetation

Vegetation Key per Classification Manual

4.18.1, Ceanothus tomentosus Association

4.4.1, Arctostaphylos glandulosa-Adenostoma fasciculatum Association

0 250 500 Feet

N

Source: Vegetation-ICFI, 2015; Imagery-BING, 2015.

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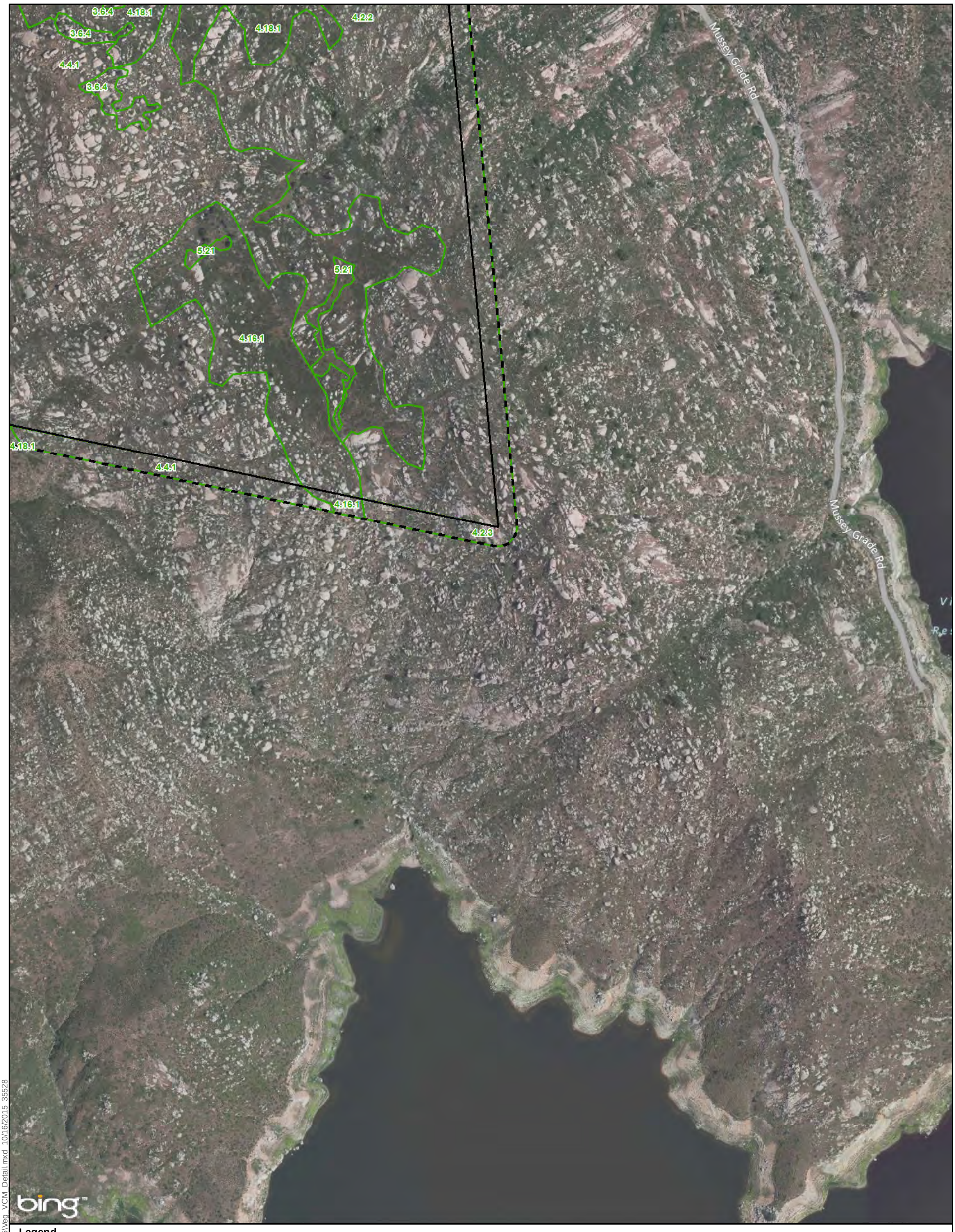
Appendix A Figure 3G
Vegetation Communities/Habitats (Vegetation Classification Manual)
Boulder Oaks Preserve



Legend

Preserve Boundaries

Preserve Boundaries 100-foot Buffer

Vegetation

Vegetation Key per Classification Manual

3.6.4, Quercus agrifolia-Toxicodendron diversilobum-Grass Association

4.16.1, Ceanothus leucodermis Association

4.18.1, Ceanothus tomentosus Association

4.2.2, Adenostoma fasciculatum-Xylococcus bicolor-Ceanothus tomentosus Association

4.4.1, Arctostaphylos glandulosa-Adenostoma fasciculatum Association

5.21, Mediterranean California Naturalized Annual and Perennial Grassland Semi-Natural Stands

0 250 500 Feet

N

Source: Vegetation-ICFI, 2015; Imagery-BING, 2015.

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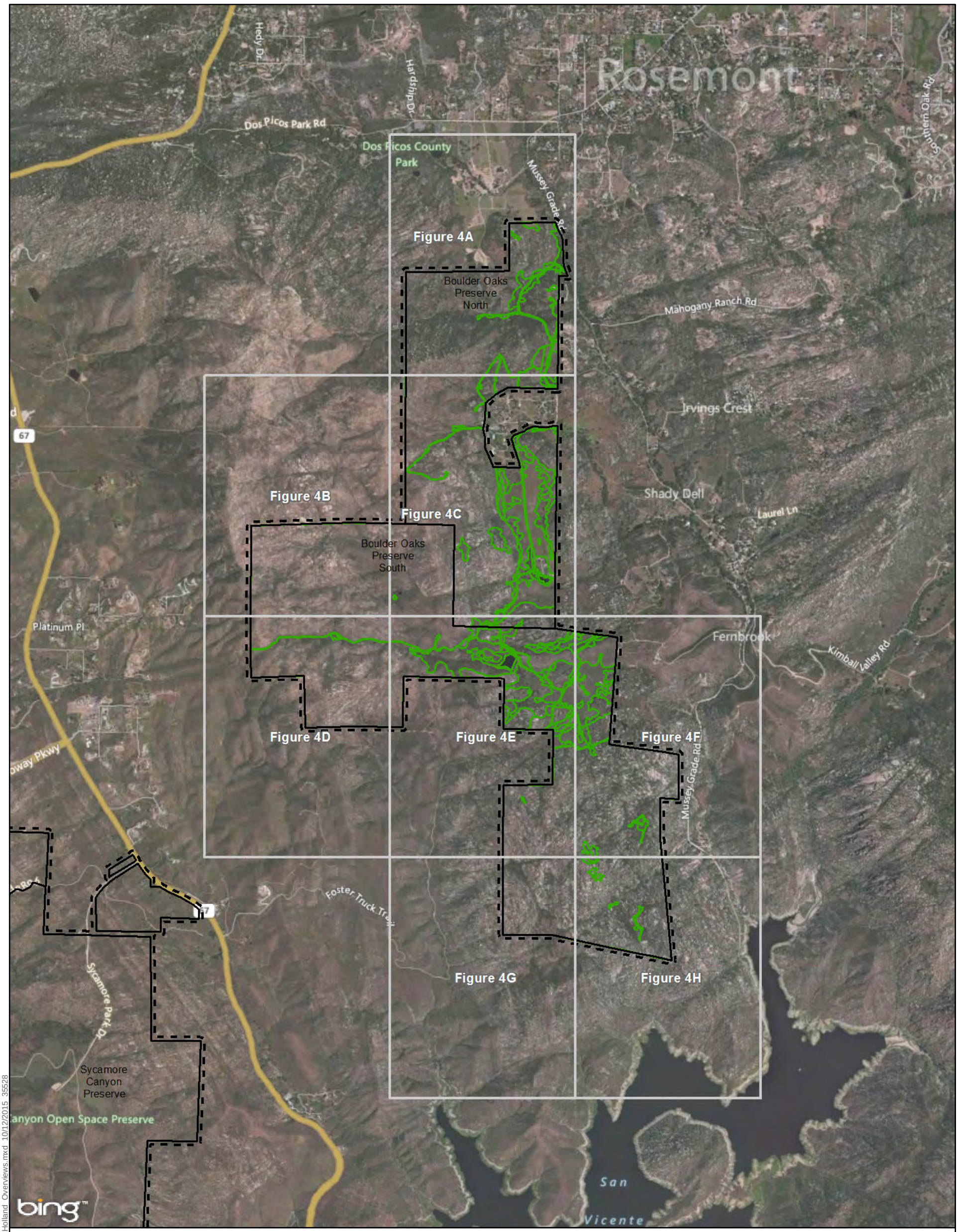
Appendix A Figure 3H
Vegetation Communities/Habitats (Vegetation Classification Manual)
Boulder Oaks Preserve



Legend

- Preserve Boundaries
- Preserve Boundaries 100-foot Buffer
- Vegetation

0 1,250 2,500 Feet

N

Source: Vegetation-ICFI, 2015; Imagery-BING, 2015.

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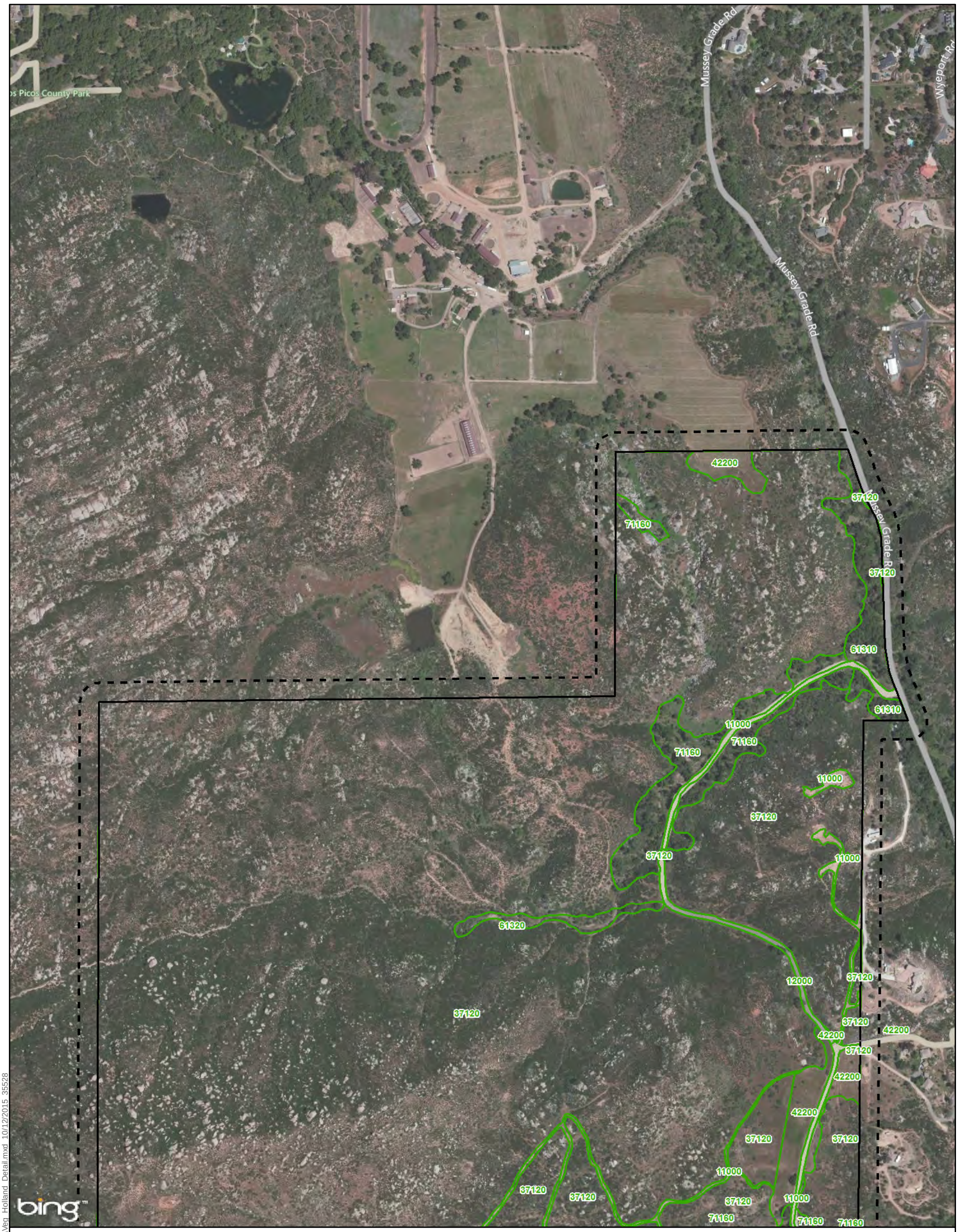
Appendix A Figure 4 Overview
Vegetation Communities/Habitats (Modified Holland Code)
Boulder Oaks Preserve



Legend

- Preserve Boundaries
- Preserve Boundaries 100-foot Buffer
- Vegetation

Vegetation Key per Classification Manual

- 11000 - Disturbed Habitat
- 12000 - Urban/Developed
- 37120 - Southern Mixed Chaparral
- 42200 - Non-native Grassland
- 61310 - Southern Coast Live Oak Riparian Forest
- 61320 - Southern Arroyo Willow Riparian Forest
- 71160 - Coast Live Oak Woodland

0 250 500 Feet

N

Source: Vegetation-ICFI, 2015; Imagery-BING, 2015.

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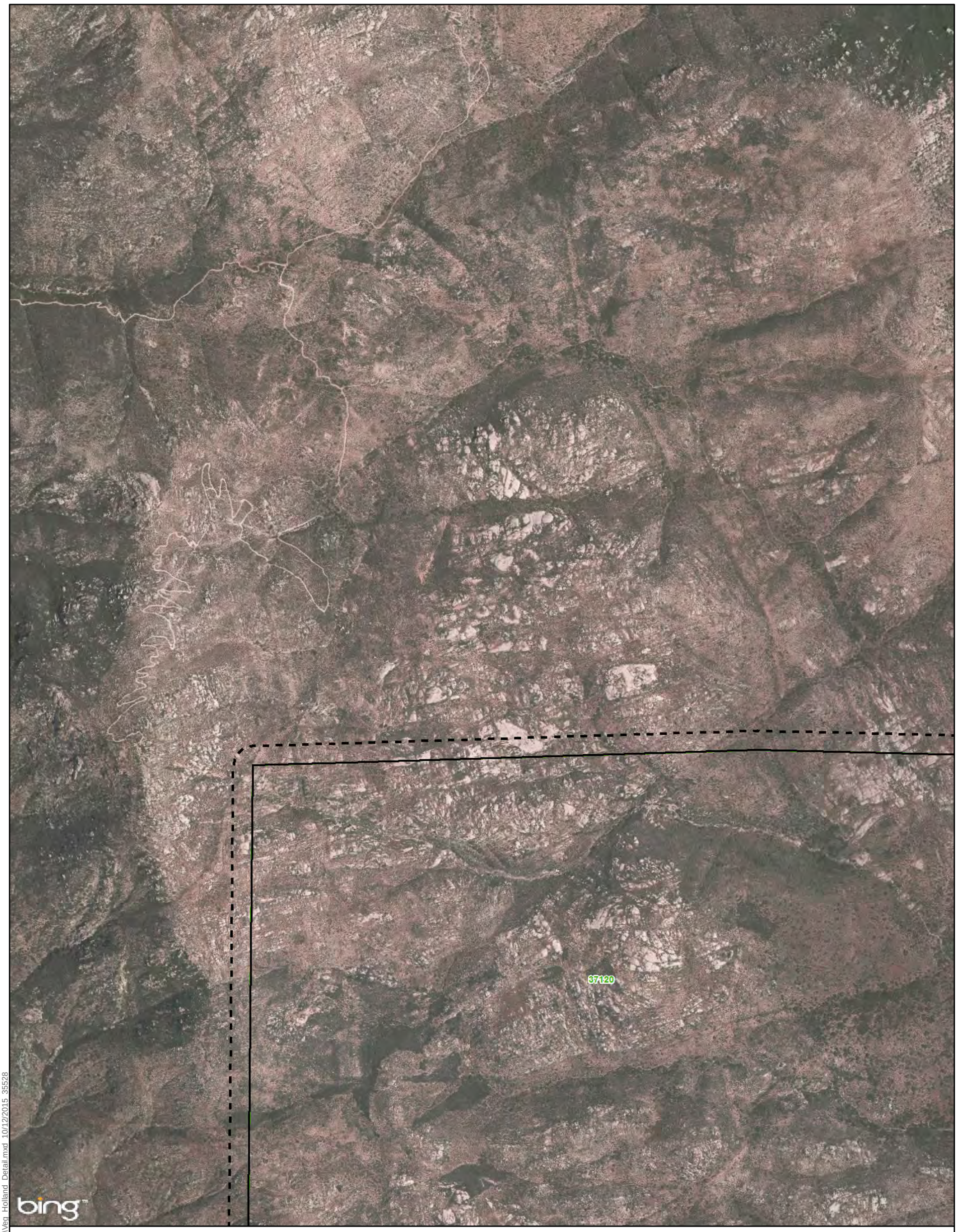
Appendix A Figure 4A
Vegetation Communities/Habitats (Modified Holland Code)
Boulder Oaks Preserve



Legend

Preserve Boundaries

Preserve Boundaries 100-foot Buffer

Vegetation

37120 - Southern Mixed Chaparral

Vegetation Key per Classification Manual

0 250 500 Feet

N

Source: Vegetation-ICFI, 2015; Imagery-BING, 2015.

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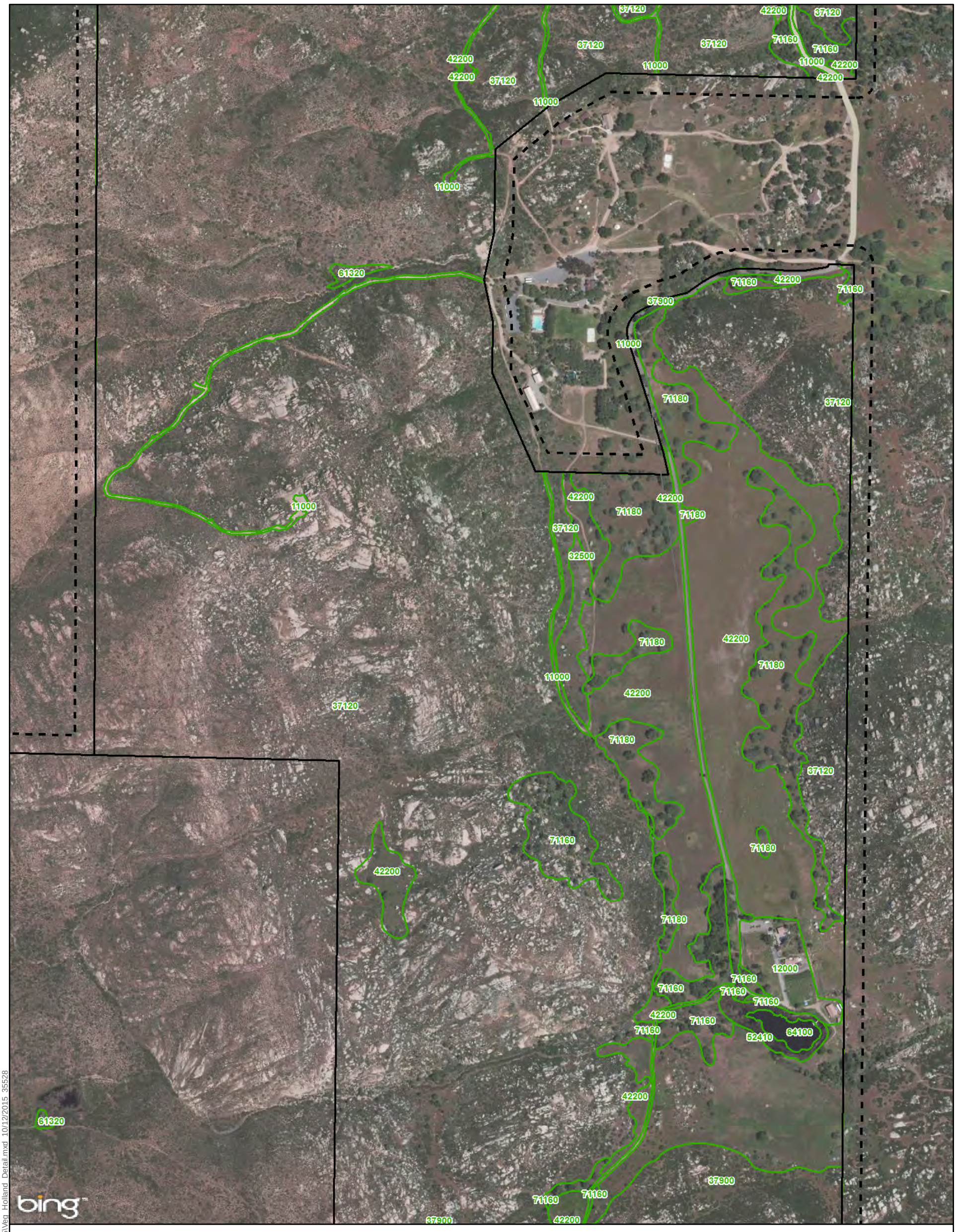
Appendix A Figure 4B
Vegetation Communities/Habitats (Modified Holland Code)
Boulder Oaks Preserve



Legend

- Preserve Boundaries
- Preserve Boundaries 100-foot Buffer
- Vegetation

Vegetation Key per Classification Manual

- 11000 - Disturbed Habitat
- 12000 - Urban/Developed
- 32500 - Diegan Coastal Sage Scrub
- 37120 - Southern Mixed Chaparral
- 37900 - Scrub Oak Chaparral
- 42200 - Non-native Grassland
- 52410 - Coastal and Valley Freshwater Marsh
- 61320 - Southern Arroyo Willow Riparian Forest
- 64100 - Open Water
- 71160 - Coast Live Oak Woodland
- 71180 - Engelmann Oak Woodland

0 250 500 Feet

N

Source: Vegetation-ICFI, 2015; Imagery-BING, 2015.

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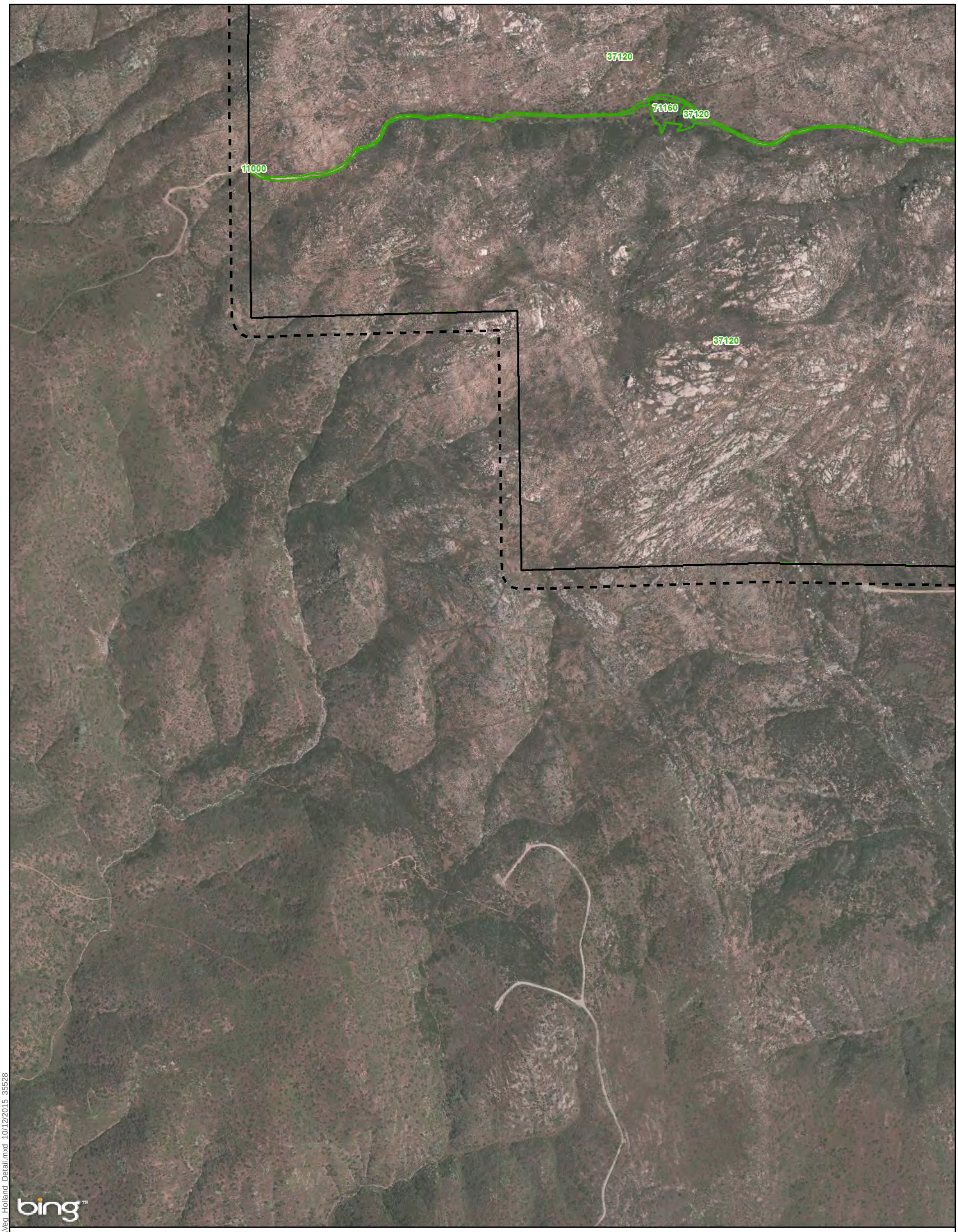
Appendix A Figure 4C
Vegetation Communities/Habitats (Modified Holland Code)
Boulder Oaks Preserve



Legend

- Preserve Boundaries
- Preserve Boundaries 100-foot Buffer
- Vegetation

11000 - Disturbed Habitat
37120 - Southern Mixed Chaparral
71160 - Coast Live Oak Woodland

Vegetation Key per Classification Manual

0 250 500 Feet

N

Source: Vegetation-ICFI, 2015; Imagery-BING, 2015.

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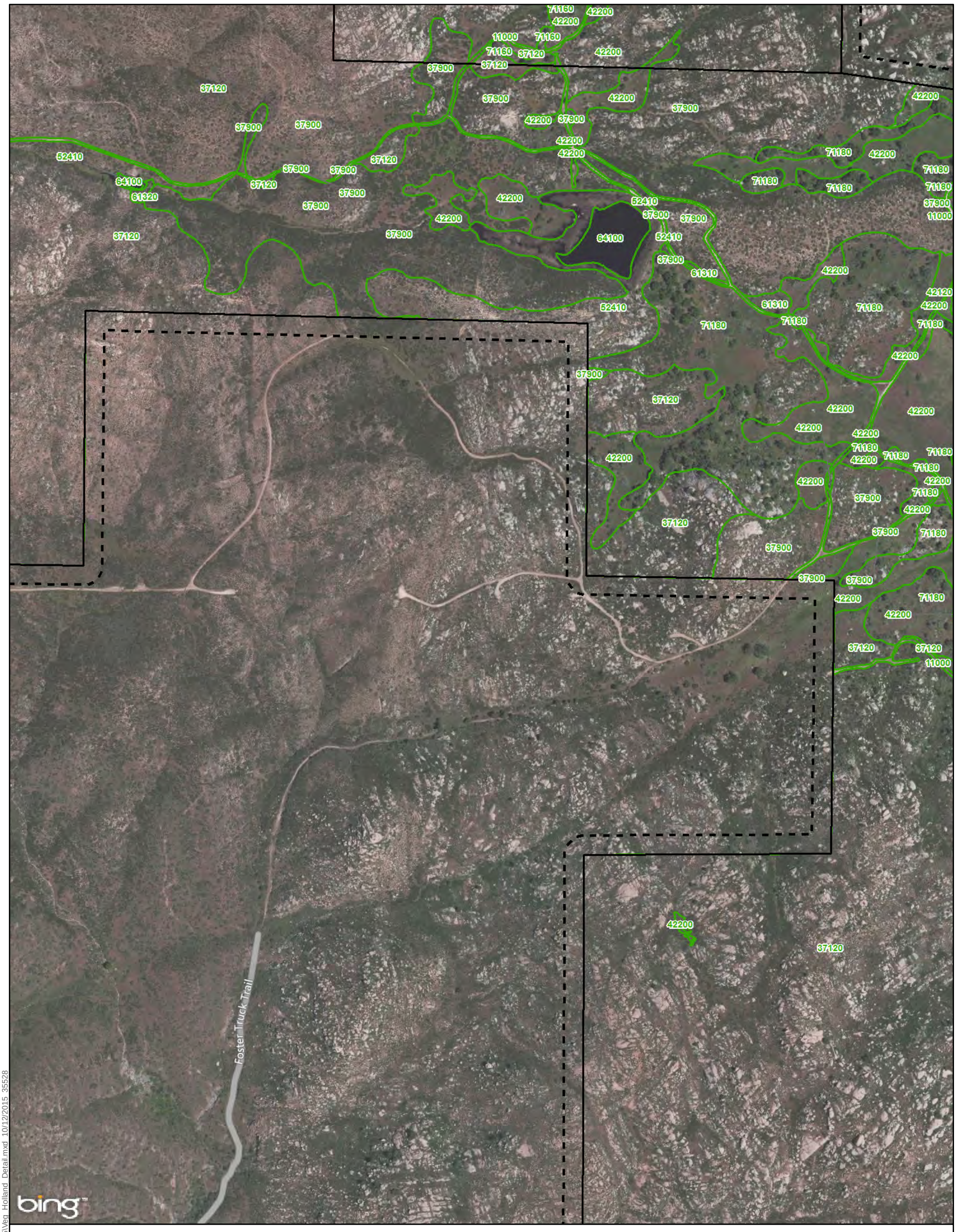
Appendix A Figure 4D
Vegetation Communities/Habitats (Modified Holland Code)
Boulder Oaks Preserve



Legend

- Preserve Boundaries
- Preserve Boundaries 100-foot Buffer
- Vegetation

Vegetation Key per Classification Manual

- 11000 - Disturbed Habitat
- 37120 - Southern Mixed Chaparral
- 37900 - Scrub Oak Chaparral
- 42120 - Valley Sacaton Grassland
- 42200 - Non-native Grassland
- 52410 - Coastal and Valley Freshwater Marsh
- 61310 - Southern Coast Live Oak Riparian Forest
- 61320 - Southern Arroyo Willow Riparian Forest
- 64100 - Open Water
- 71160 - Coast Live Oak Woodland
- 71180 - Engelmann Oak Woodland

0 250 500 Feet

N

Source: Vegetation-ICFI, 2015; Imagery-BING, 2015.

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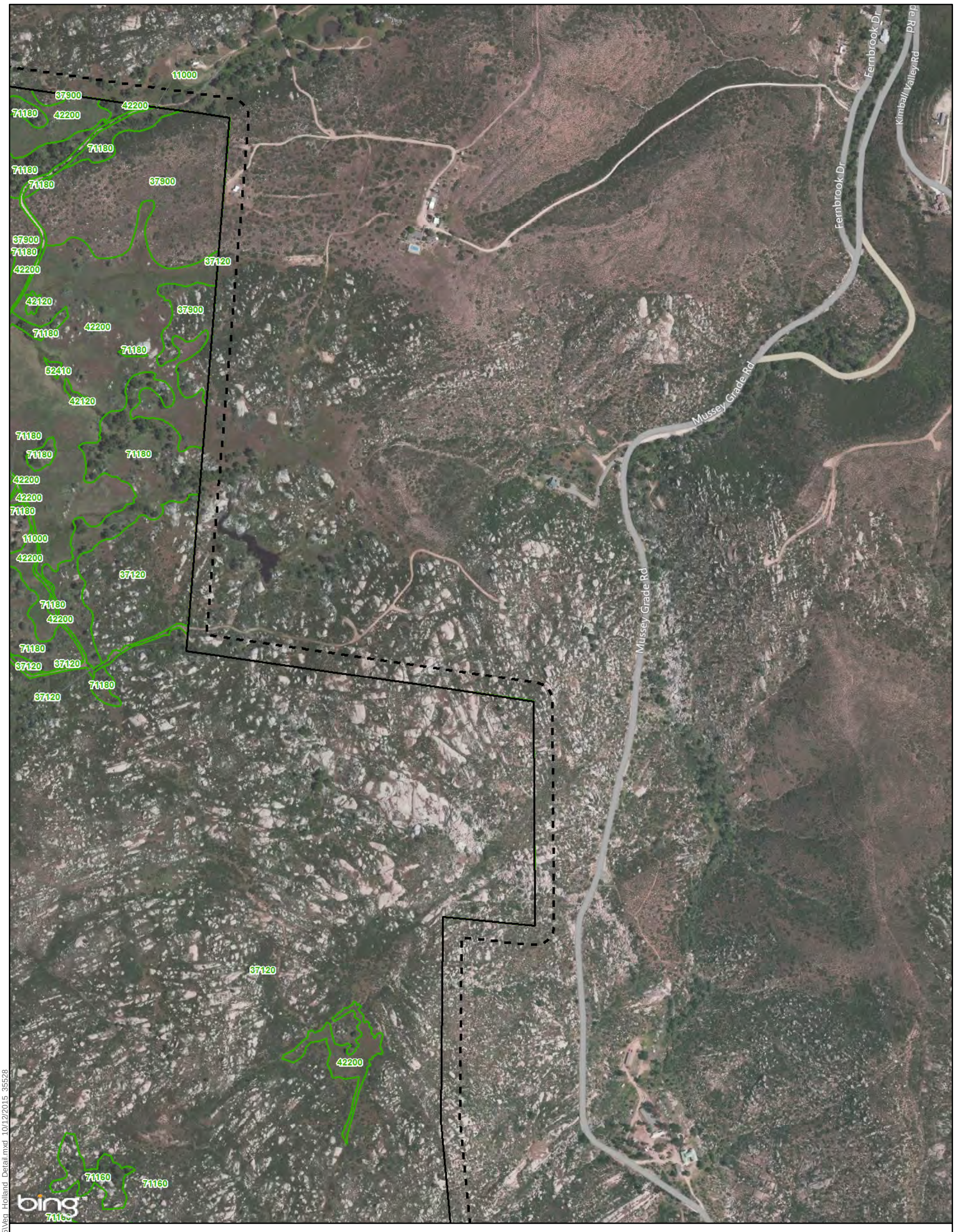
Appendix A Figure 4E
Vegetation Communities/Habitats (Modified Holland Code)
Boulder Oaks Preserve



Legend

- Preserve Boundaries
- Preserve Boundaries 100-foot Buffer
- Vegetation

Vegetation Key per Classification Manual

- 11000 - Disturbed Habitat
- 37120 - Southern Mixed Chaparral
- 37900 - Scrub Oak Chaparral
- 42120 - Valley Sacaton Grassland
- 42200 - Non-native Grassland
- 52410 - Coastal and Valley Freshwater Marsh
- 71160 - Coast Live Oak Woodland
- 71180 - Engelmann Oak Woodland

0 250 500 Feet

N

Source: Vegetation-ICFI, 2015; Imagery-BING, 2015.

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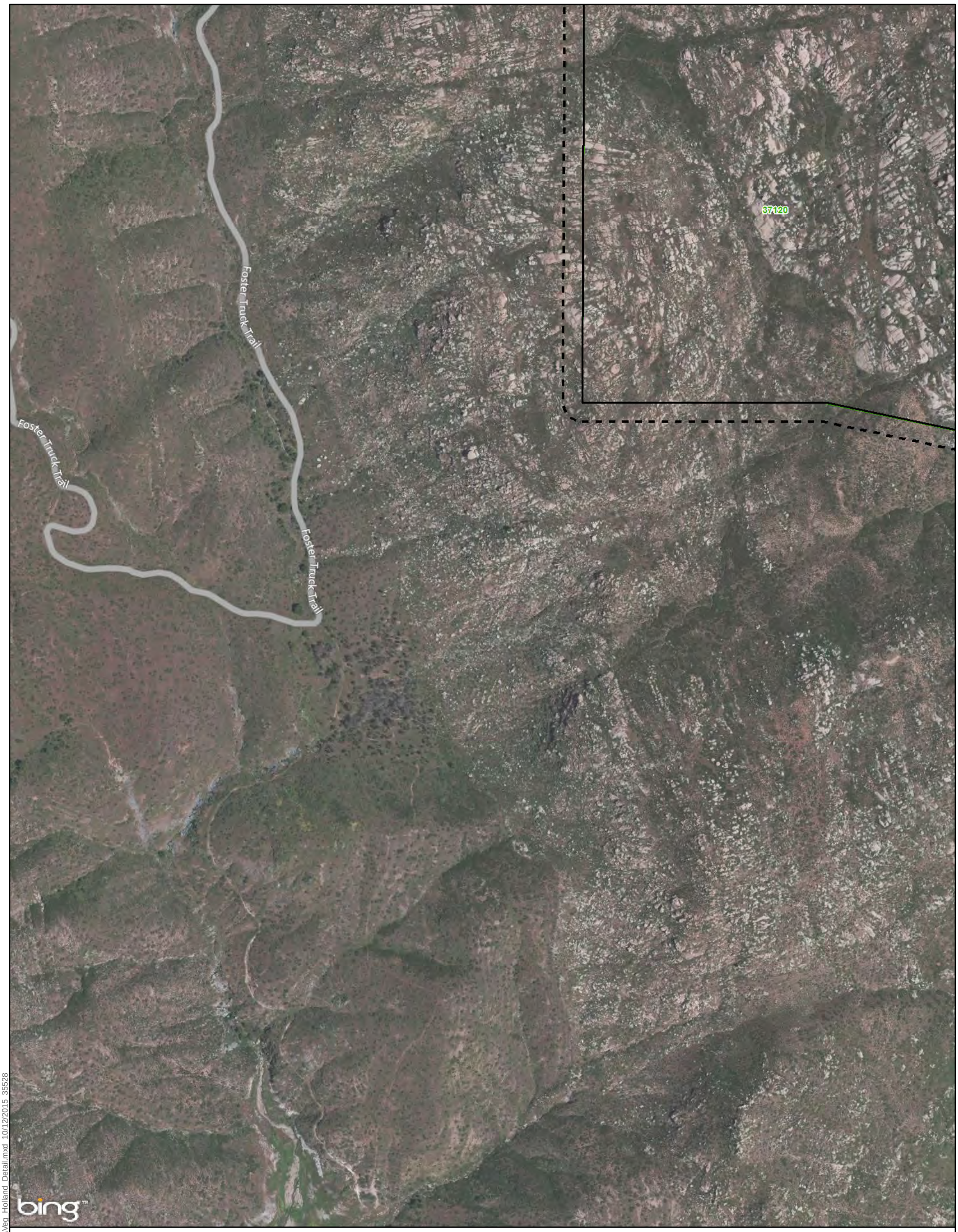
Appendix A Figure 4F
Vegetation Communities/Habitats (Modified Holland Code)
Boulder Oaks Preserve



Legend

Preserve Boundaries

Preserve Boundaries 100-foot Buffer

Vegetation

37120 - Southern Mixed Chaparral

Vegetation Key per Classification Manual

0 250 500 Feet

N

Source: Vegetation-ICFI, 2015; Imagery-BING, 2015.

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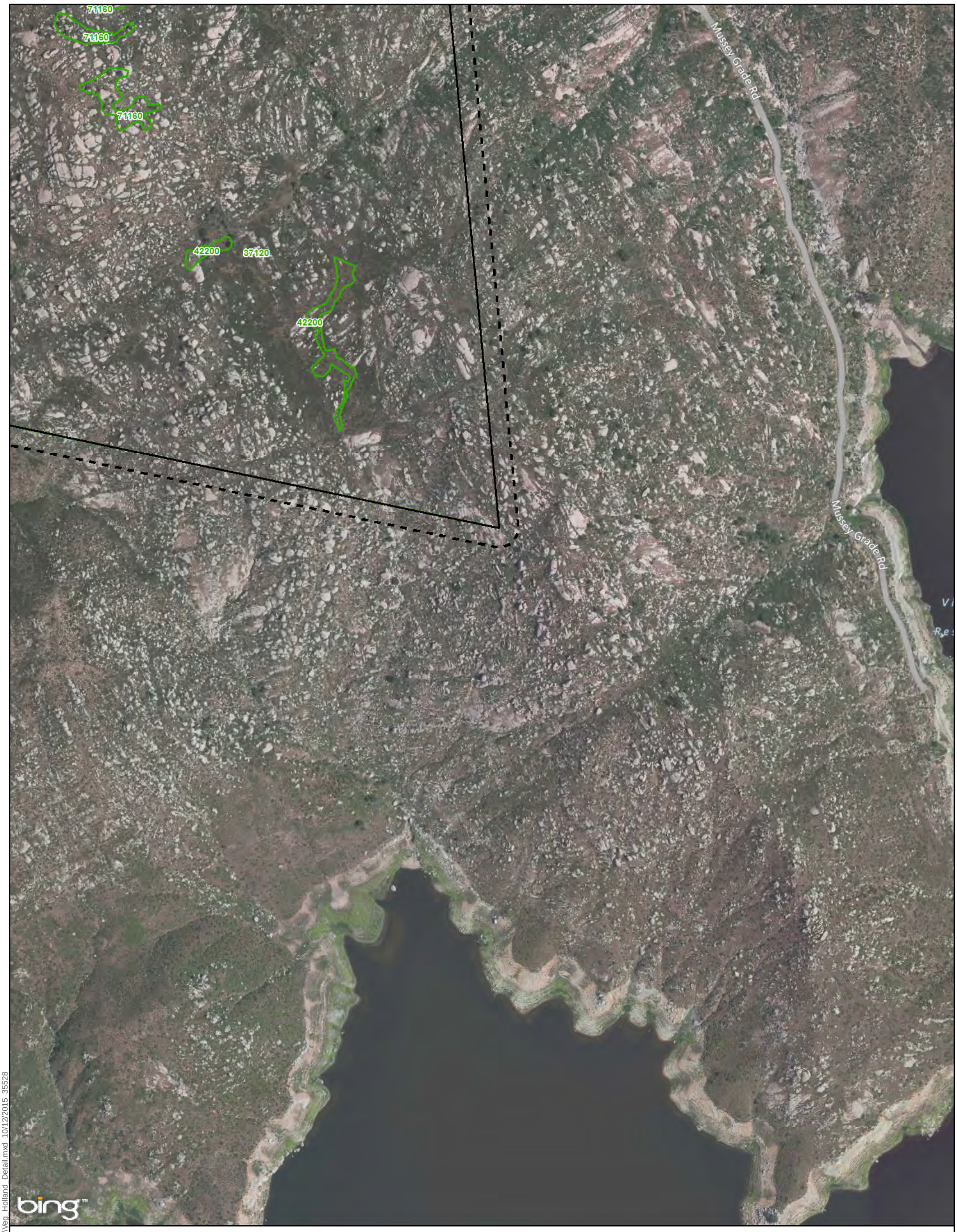
Appendix A Figure 4G
Vegetation Communities/Habitats (Modified Holland Code)
Boulder Oaks Preserve



Legend

- Preserve Boundaries
- Preserve Boundaries 100-foot Buffer
- Vegetation

37120 - Southern Mixed Chaparral
42200 - Non-native Grassland
71160 - Coast Live Oak Woodland

Vegetation Key per Classification Manual

0 250 500 Feet

N

Source: Vegetation-ICFI, 2015; Imagery-BING, 2015.

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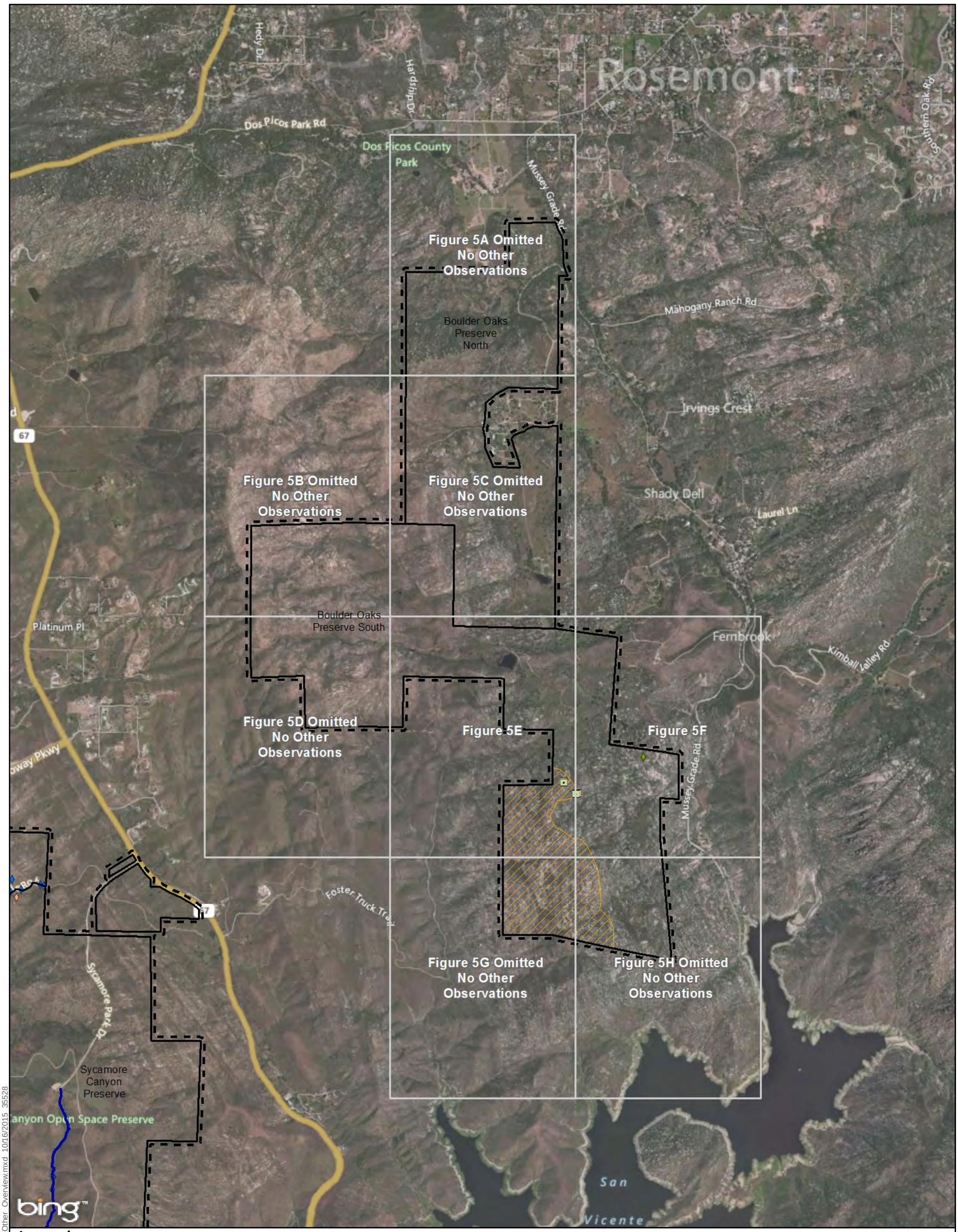
Appendix A Figure 4H
Vegetation Communities/Habitats (Modified Holland Code)
Boulder Oaks Preserve



Legend

- Preserve Boundaries
- Preserve Boundaries 100-foot Buffer

Rare Plants

- Monitoring Plot Center Point
- Monitoring Plot Photo Point

Monitoring Plot Maximum Extent

- Lakeside Ceanothus *(Ceanothus cyaneus)* Maximum Extent

Invasive Plants

- Eucalyptus *(Eucalyptus sp.)*
- Natal Grass *(Melinis repens ssp. repens)*
- African Fountain Grass *(Pennisetum setaceum)*
- Illegal Trail

0 1,300 2,600 Feet

N

Source: Vegetation-ICFI, 2015; Imagery-BING, 2015.

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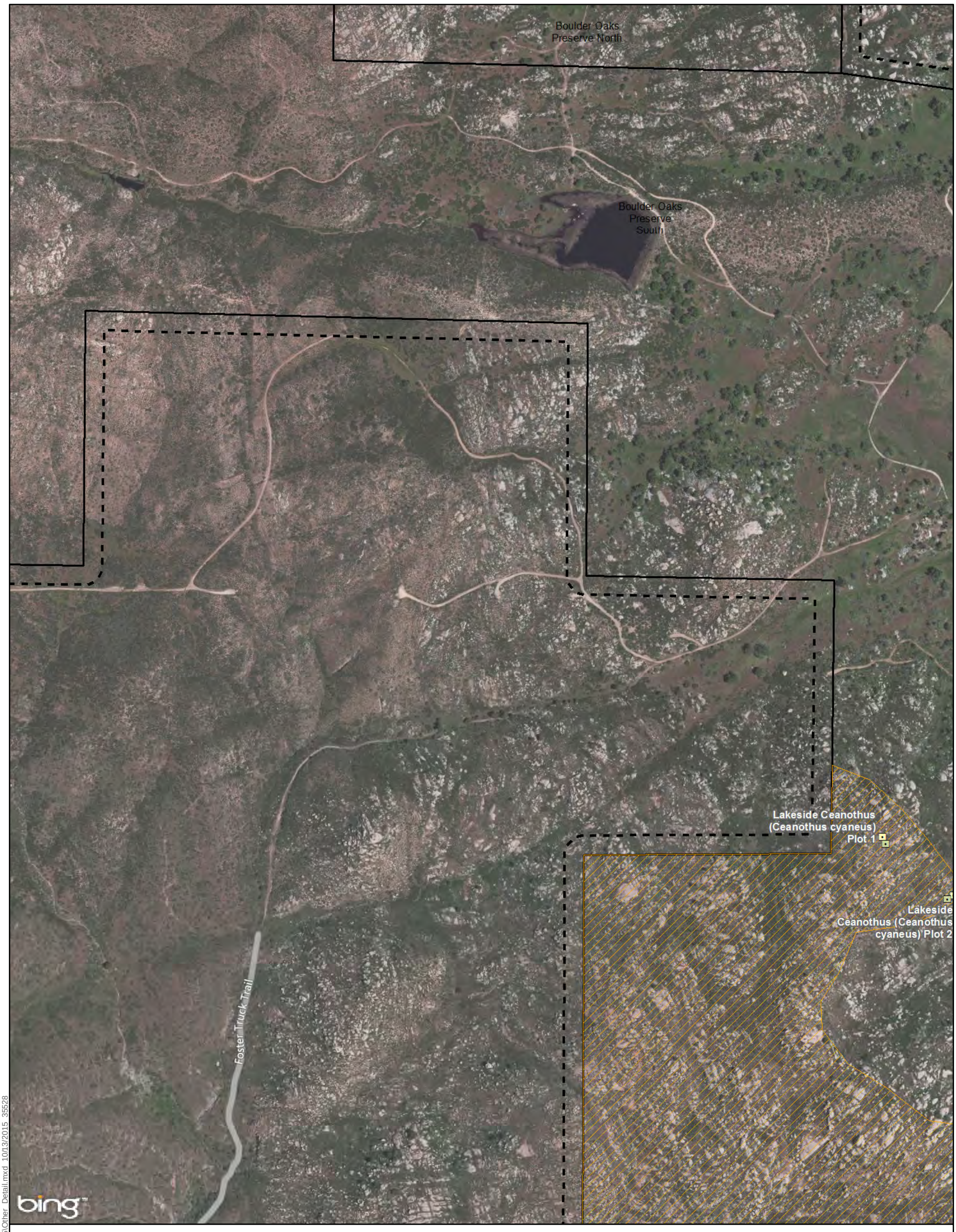
Appendix A Figure 5 Overview
Habitat Stressors, Plant Observations, and Monitoring Plot Locations
Boulder Oaks Preserve



Legend

- Preserve Boundaries
- Preserve Boundaries 100-foot Buffer

Rare Plant Monitoring

- Monitoring Plot Center Point
- Monitoring Plot Photo Point

Monitoring Plot Maximum Extent

- Lakeside Ceanothus *(Ceanothus cyaneus)* Maximum Extent

0 250 500 Feet

N

Source: Vegetation-ICFI, 2015; Imagery-BING, 2015.

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Appendix A Figure 5E
Habitat Stressors, Plant Observations, and Monitoring Plot Locations
Boulder Oaks Preserve

Legend

- Preserve Boundaries
- Preserve Boundaries 100-foot Buffer

Rare Plant Monitoring

- Monitoring Plot Center Point
- Monitoring Plot Photo Point

Monitoring Plot Maximum Extent

- Lakeside Ceanothus *(Ceanothus cyaneus)* Maximum Extent

Invasive Plants

- Natal Grass *(Melinis repens ssp. repens)*

0 250 500 Feet

N

Source: Vegetation-ICFI, 2015; Imagery-BING, 2015.

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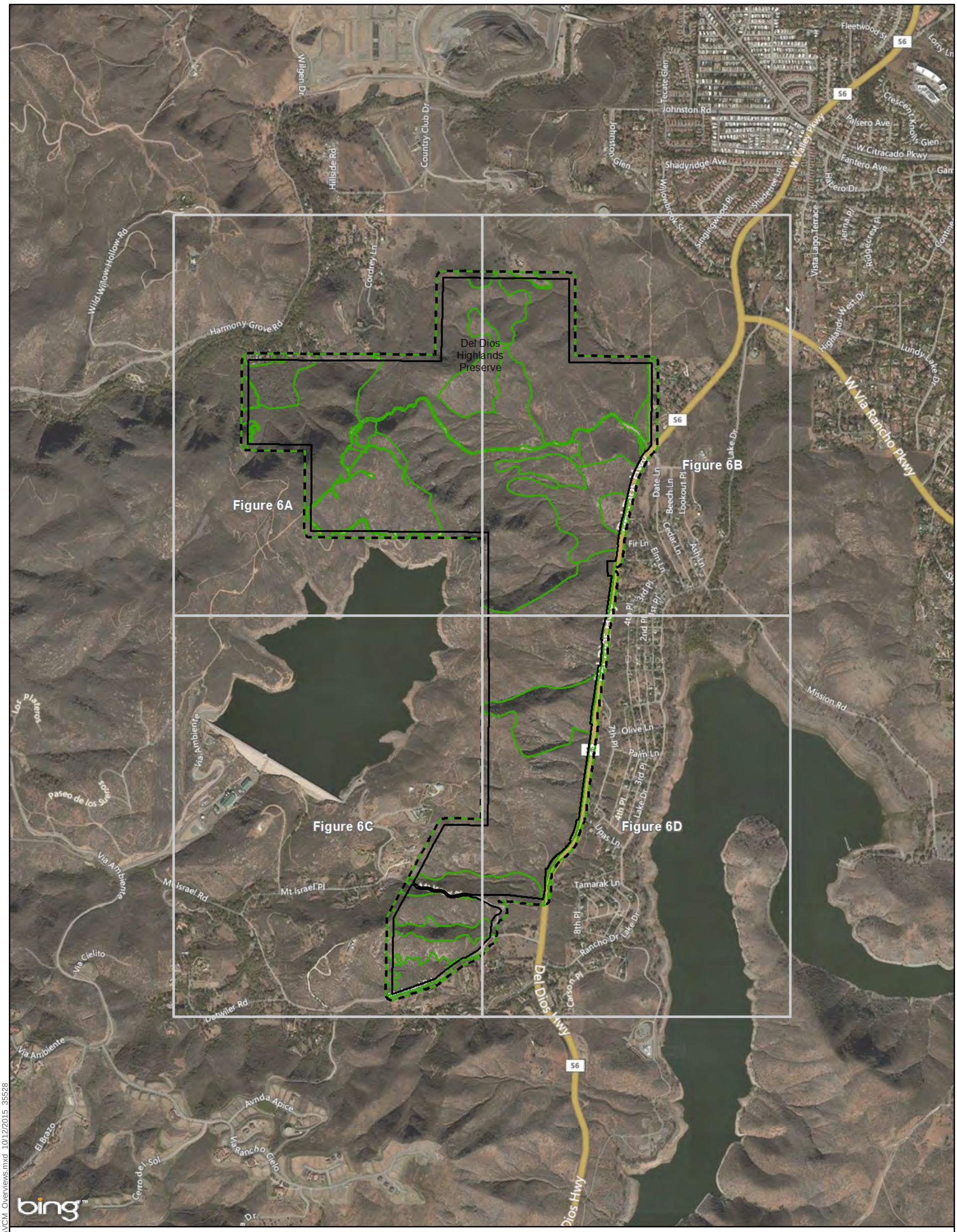
Appendix A Figure 5F
Habitat Stressors, Plant Observations, and Monitoring Plot Locations
Boulder Oaks Preserve



Legend

- Preserve Boundaries
- Preserve Boundaries 100-foot Buffer
- Vegetation

0 750 1,500 Feet

N

Source: Vegetation-ICFI, 2015; Imagery-BING, 2015.

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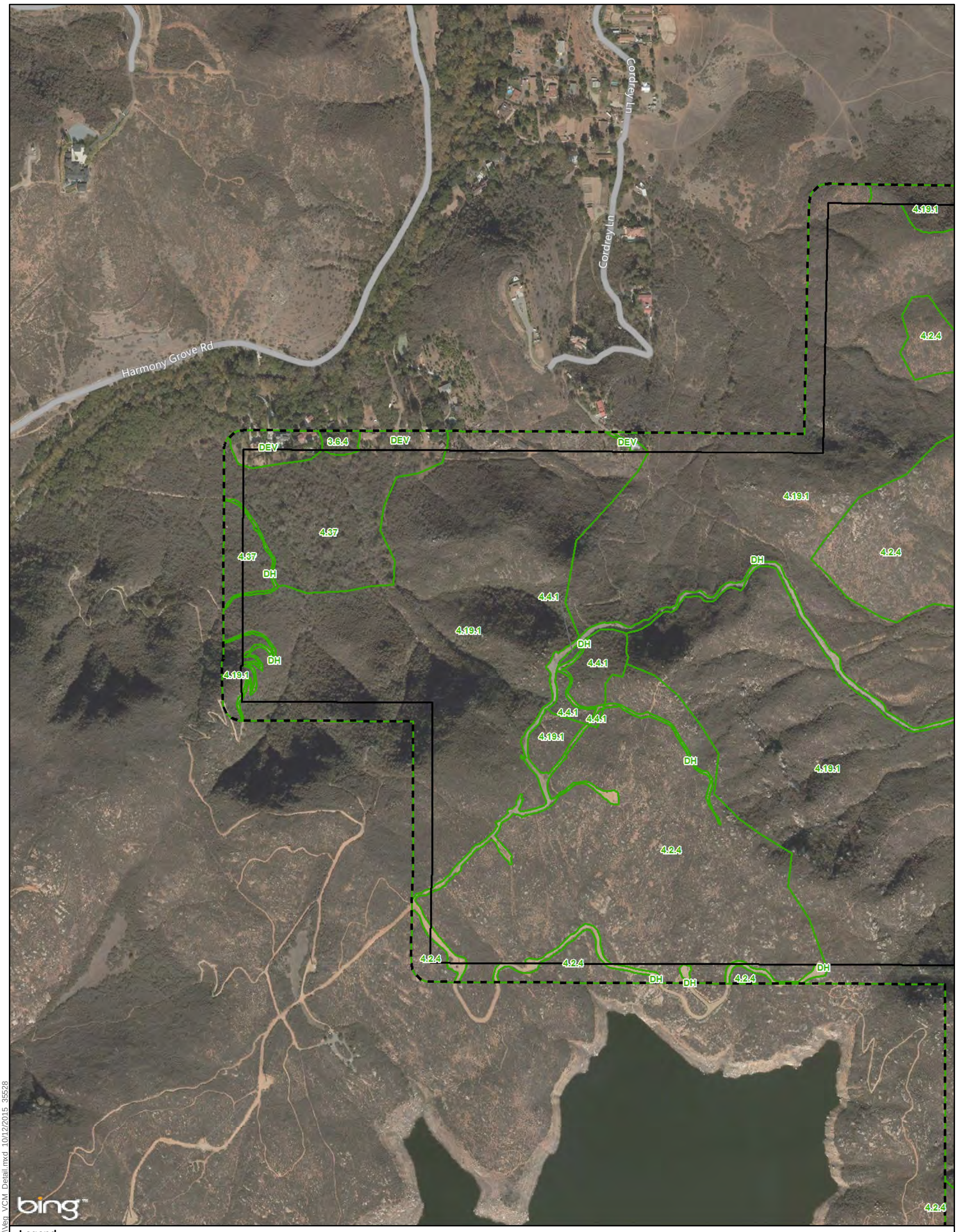
Appendix A Figure 6 Overview
Vegetation Communities/Habitats (Vegetation Classification Manual)
Del Dios Highlands Preserve



Legend

Preserve Boundaries

Preserve Boundaries 100-foot Buffer

Vegetation

Vegetation Key per Classification Manual

3.6.4, Quercus agrifolia-Toxicodendron diversilobum-Grass Association

4.19.1, Ceanothus verrucosus Association

4.2.4, Adenostoma fasciculatum-Xylococcus bicolor-Ceanothus verrucosus Association

4.4.1, Arctostaphylos glandulosa-Adenostoma fasciculatum Association

DEV, Developed

DH, Disturbed Habitat

0 250 500 Feet

N

Source: Vegetation-ICFI, 2015; Imagery-BING, 2015.

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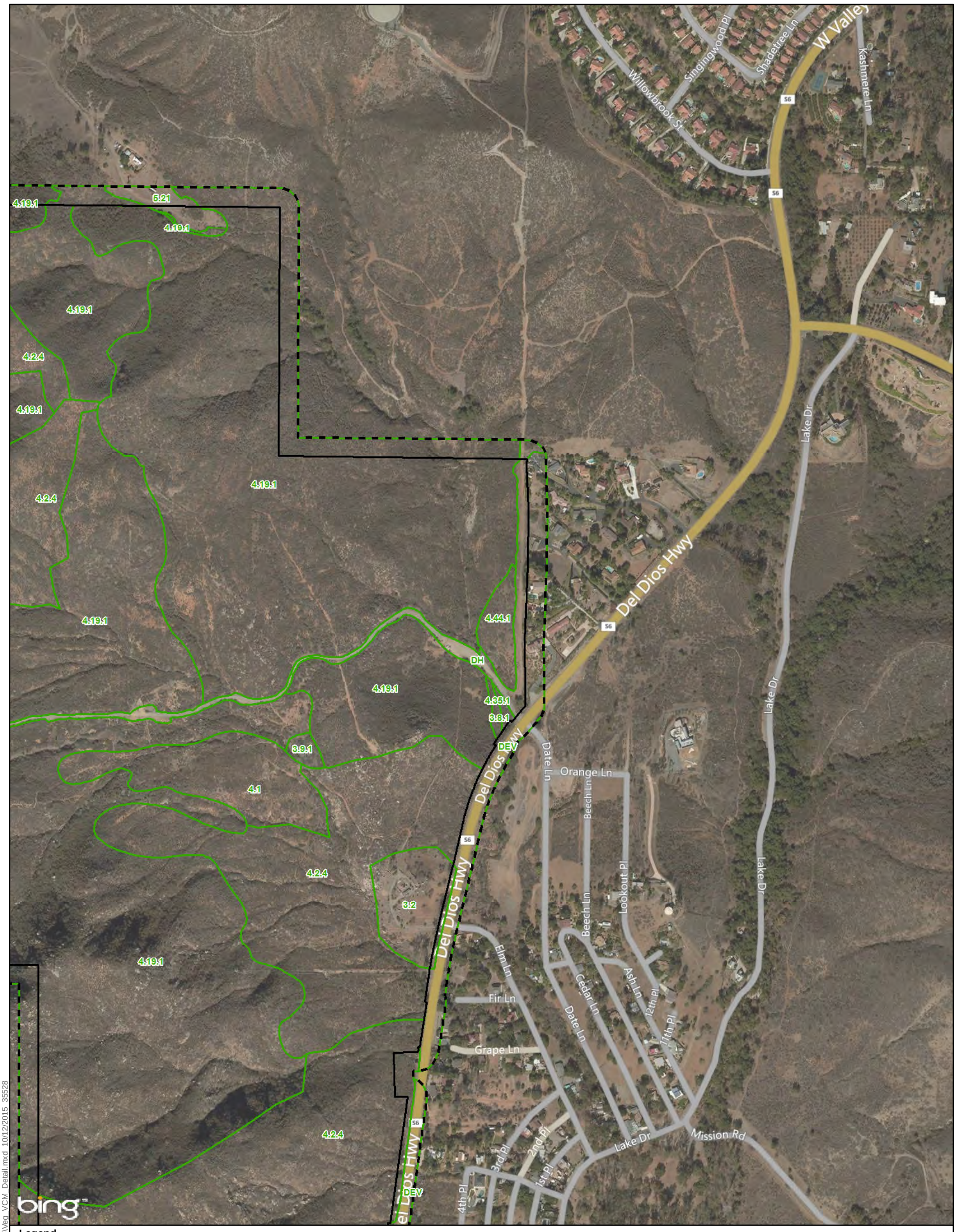
Appendix A Figure 6A
Vegetation Communities/Habitats (Vegetation Classification Manual)
Del Dios Highlands Preserve



Legend

- Preserve Boundaries
- Preserve Boundaries 100-foot Buffer
- Vegetation

Vegetation Key per Classification Manual

- 3.2, Eucalyptus (globulus; camaldulensis) Semi-Natural Stands
- 3.8.1, Salix gooddingii Association
- 3.9.1, Salix laevigata Association
- 4.1, Adenostoma fasciculatum Alliance
- 4.19.1, Ceanothus verrucosus Association
- 4.2.4, Adenostoma fasciculatum-Xylococcus bicolor-Ceanothus verrucosus Association
- 4.35.1, Malosma laurina-Lotus scoparius Association
- 4.44.1, Salvia mellifera-Eriogonum fasciculatum Association
- 5.21, Mediterranean California Naturalized Annual and Perennial Grassland Semi-Natural Stands
- DEV, Developed
- DH, Disturbed Habitat

0 250 500 Feet

N

Source: Vegetation-ICFI, 2015; Imagery-BING, 2015.

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Appendix A Figure 6B
Vegetation Communities/Habitats (Vegetation Classification Manual)
Del Dios Highlands Preserve

Legend

Preserve Boundaries	3.2, Eucalyptus (globulus; camaldulensis) Semi-Natural Stands
Preserve Boundaries 100-foot Buffer	4.19.1, Ceanothus verrucosus Association
Vegetation	4.2.4, Adenostoma fasciculatum-Xylococcus bicolor-Ceanothus verrucosus Association
Vegetation Key per Classification Manual	DEV, Developed

0 250 500 Feet

N

Source: Vegetation-ICFI, 2015; Imagery-BING, 2015.

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Appendix A Figure 6C
Vegetation Communities/Habitats (Vegetation Classification Manual)
Del Dios Highlands Preserve

Legend

Preserve Boundaries	3.2, Eucalyptus (globulus; camaldulensis) Semi-Natural Stands
Preserve Boundaries 100-foot Buffer	4.19.1, Ceanothus verrucosus Association
Vegetation	4.2.4, Adenostoma fasciculatum-Xylococcus bicolor-Ceanothus verrucosus Association
Vegetation Key per Classification Manual	DEV, Developed

0 250 500 Feet

N

Source: Vegetation-ICFI, 2015; Imagery-BING, 2015.

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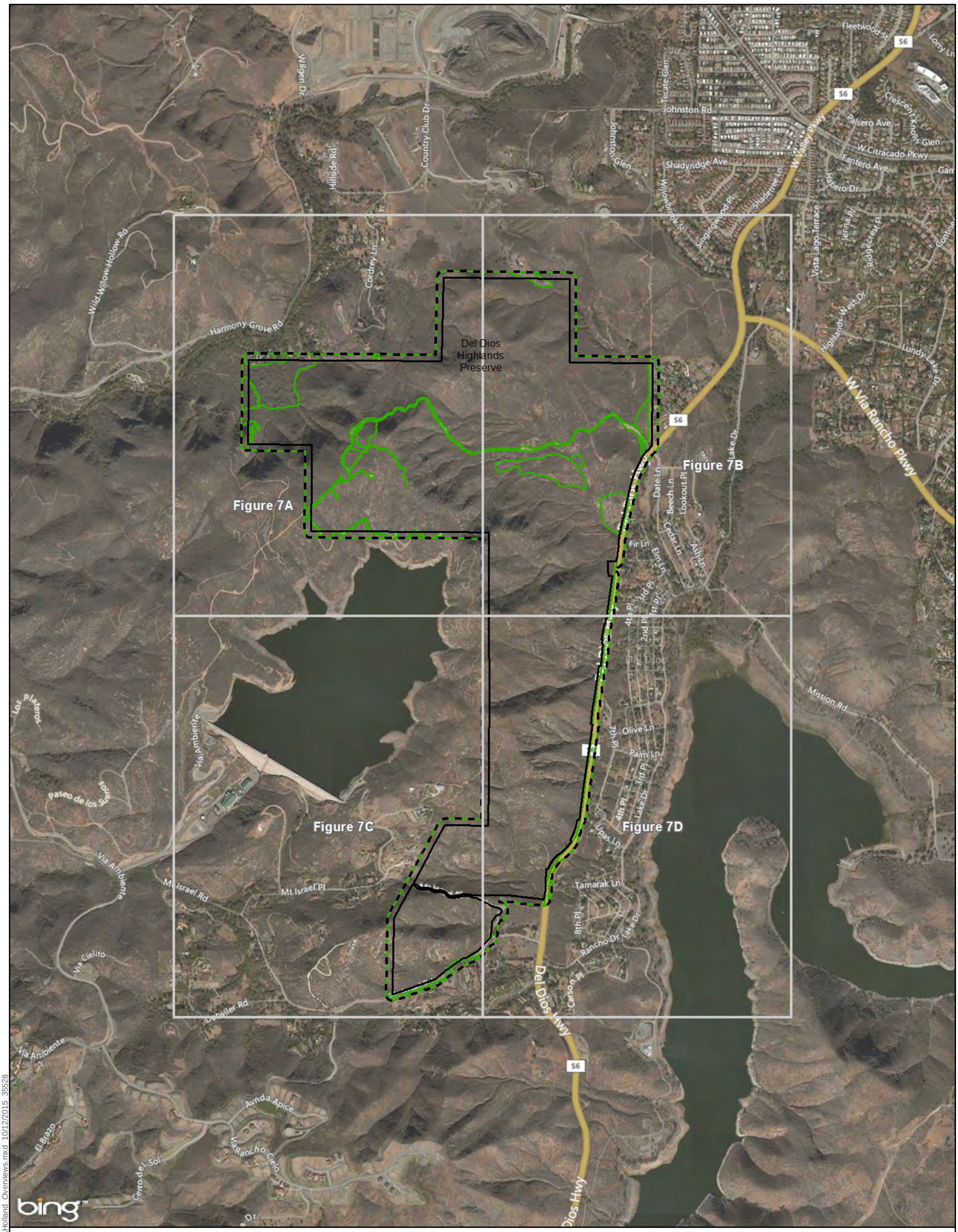
Appendix A Figure 6D
Vegetation Communities/Habitats (Vegetation Classification Manual)
Del Dios Highlands Preserve



Legend

- Preserve Boundaries
- Preserve Boundaries 100-foot Buffer
- Vegetation

0 750 1,500 Feet

N

Source: Vegetation-ICFI, 2015; Imagery-BING, 2015.

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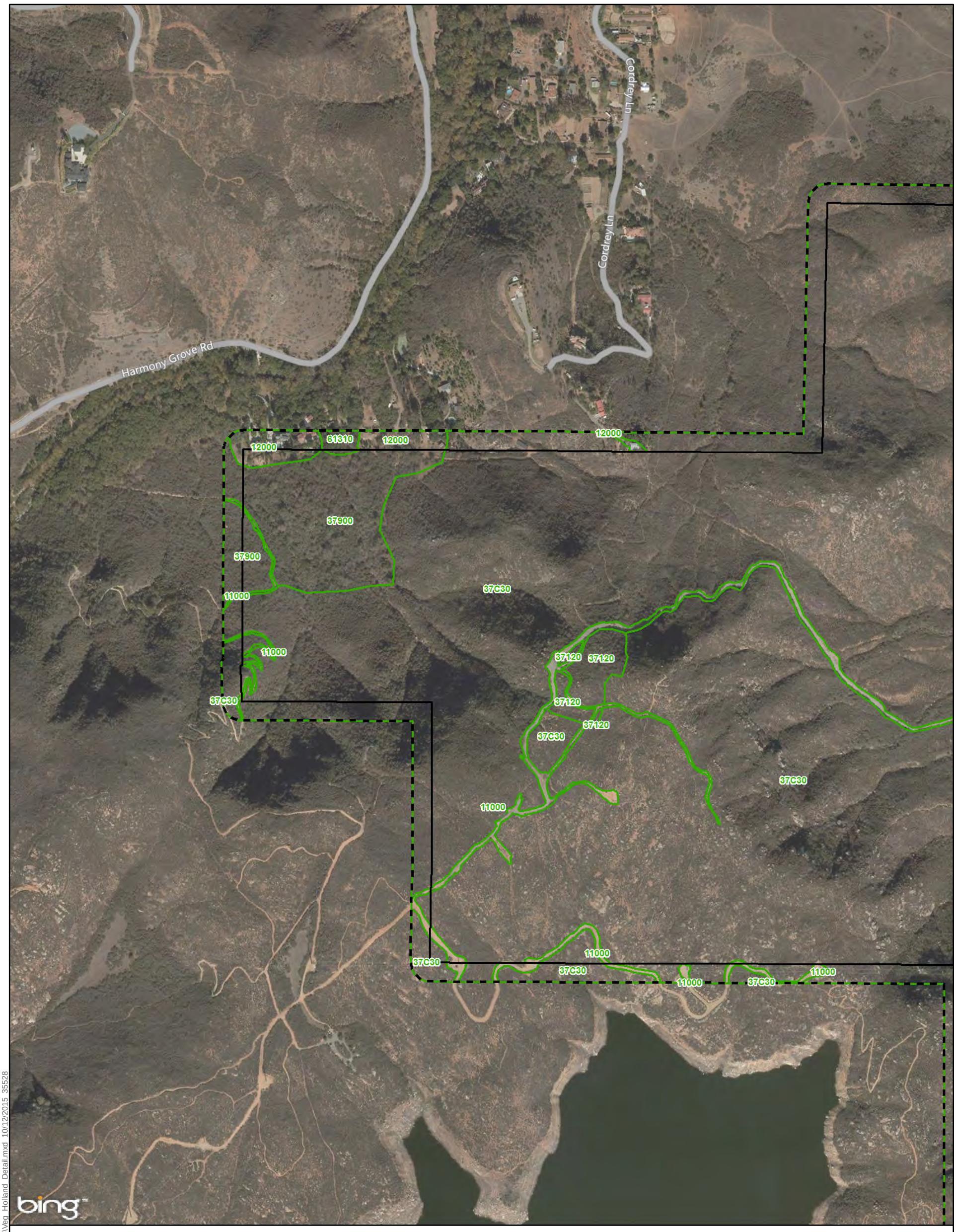
Appendix A Figure 7 Overview
Vegetation Communities/Habitats (Modified Holland Code)
Del Dios Highlands Preserve



Legend

- Preserve Boundaries
- Preserve Boundaries 100-foot Buffer
- Vegetation

Vegetation Key per Classification Manual

- 11000 - Disturbed Habitat
- 12000 - Urban/Developed
- 37120 - Southern Mixed Chaparral
- 37900 - Scrub Oak Chaparral
- 37C30 - Southern Maritime Chaparral
- 61310 - Southern Coast Live Oak Riparian Forest

0 250 500 Feet

N

Source: Vegetation-ICFI, 2015; Imagery-BING, 2015.

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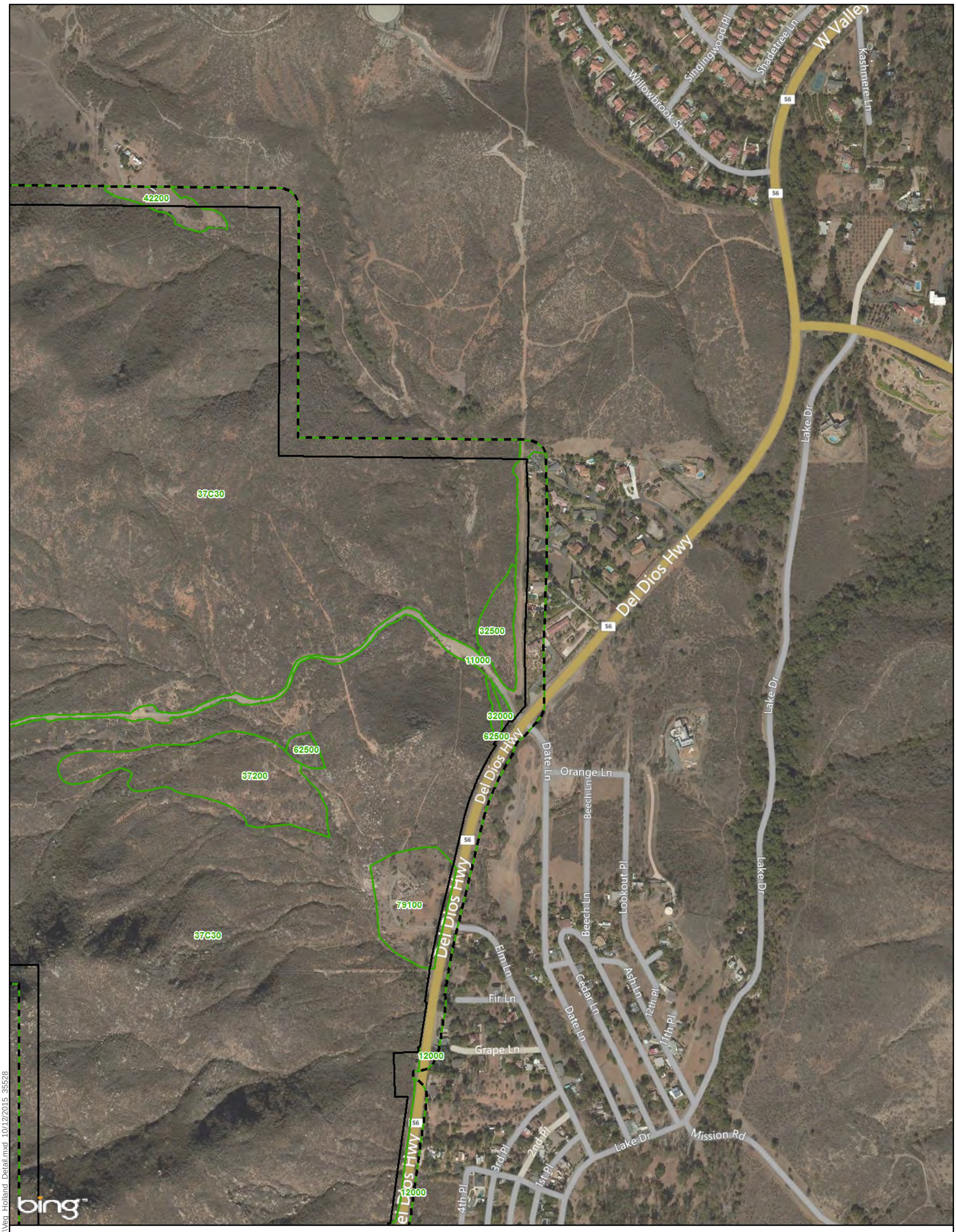
Appendix A Figure 7A
Vegetation Communities/Habitats (Modified Holland Code)
Del Dios Highlands Preserve



Legend

- Preserve Boundaries
- Preserve Boundaries 100-foot Buffer
- Vegetation

Vegetation Key per Classification Manual

- 11000 - Disturbed Habitat
- 12000 - Urban/Developed
- 32000 - Coastal Scrub
- 32500 - Diegan Coastal Sage Scrub
- 37200 - Chamise Chaparral
- 37C30 - Southern Maritime Chaparral
- 42200 - Non-Native Grassland
- 62500 - Southern Riparian Woodland
- 79100 - Eucalyptus Woodland

0 250 500 Feet

N

Source: Vegetation-ICFI, 2015; Imagery-BING, 2015.

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Appendix A Figure 7B
Vegetation Communities/Habitats (Modified Holland Code)
Del Dios Highlands Preserve

Legend

Preserve Boundaries	12000 - Urban/Developed
Preserve Boundaries 100-foot Buffer	37C30 - Southern Maritime Chaparral
Vegetation	79100 - Eucalyptus Woodland

Vegetation Key per Classification Manual

0 250 500 Feet

N

Source: Vegetation-ICFI, 2015; Imagery-BING, 2015.

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Appendix A Figure 7C
Vegetation Communities/Habitats (Modified Holland Code)
Del Dios Highlands Preserve

Legend

Preserve Boundaries	12000 - Urban/Developed
Preserve Boundaries 100-foot Buffer	37C30 - Southern Maritime Chaparral
Vegetation	79100 - Eucalyptus Woodland

Vegetation Key per Classification Manual

0 250 500 Feet

N

Source: Vegetation-ICFI, 2015; Imagery-BING, 2015.

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Appendix A Figure 7D
Vegetation Communities/Habitats (Modified Holland Code)
Del Dios Highlands Preserve

Legend

- Preserve Boundaries
- Preserve Boundaries 100-foot Buffer

Rare Plants

- Monitoring Plot Center Point
- Monitoring Plot Photo Point

Rare Plants

- Encinitas Baccharis *(Baccharis vanessae)*

Monitoring Plot Maximum Extent

- Encinitas Baccharis *(Baccharis vanessae)* Maximum Extent

Invasive Plants

- Pampas Grass *(Cortaderia sp.)*
- Eucalyptus *(Eucalyptus sp.)*
- Sweet Fennel *(Foeniculum vulgare)*
- African Fountain Grass *(Pennisetum setaceum)*

Invasive Plants

- Eucalyptus *(Eucalyptus sp.)*

Disturbance Stressor

- Erosion

0 750 1,500 Feet

N

Source: Vegetation-ICFI, 2015; Imagery-BING, 2015.

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Appendix A Figure 8 Overview
Habitat Stressors, Plant Observations, and Monitoring Plot Locations
Del Dios Highlands Preserve

Legend

- Preserve Boundaries
- Preserve Boundaries 100-foot Buffer

Invasive Plants

- Eucalyptus *(Eucalyptus sp.)*

Invasive Plants

- Eucalyptus *(Eucalyptus sp.)*

0 250 500 Feet

N

Source: Vegetation-ICFI, 2015; Imagery-BING, 2015.

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Appendix A Figure 8B
Habitat Stressors, Plant Observations, and Monitoring Plot Locations
Del Dios Highlands Preserve

Legend

Preserve Boundaries
Preserve Boundaries 100-foot Buffer

Rare Plants

Encinitas Baccharis *(Baccharis vanessae)*

Rare Plant Monitoring

Monitoring Plot Center Point
Monitoring Plot Photo Point

Monitoring Plot Maximum Extent

Encinitas Baccharis *(Baccharis vanessae)* Maximum Extent

Invasive Plants

Eucalyptus *(Eucalyptus sp.)*
Sweet Fennel *(Foeniculum vulgare)*

Disturbance Stressor

Erosion

0 250 500 Feet

N

Source: Vegetation-ICFI, 2015; Imagery-BING, 2015.

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Appendix A Figure 8C
Habitat Stressors, Plant Observations, and Monitoring Plot Locations
Del Dios Highlands Preserve

Legend

- Preserve Boundaries
- Preserve Boundaries 100-foot Buffer

Rare Plants

- Encinitas Baccharis *(Baccharis vanessae)*

Rare Plant Monitoring

- Monitoring Plot Center Point
- Monitoring Plot Photo Point

Monitoring Plot Maximum Extent

- Encinitas Baccharis *(Baccharis vanessae)* Maximum Extent

Invasive Plants

- Pampas Grass *(Cortaderia sp.)*
- African Fountain Grass *(Pennisetum setaceum)*

0 250 500 Feet

N

Source: Vegetation-ICFI, 2015; Imagery-BING, 2015.

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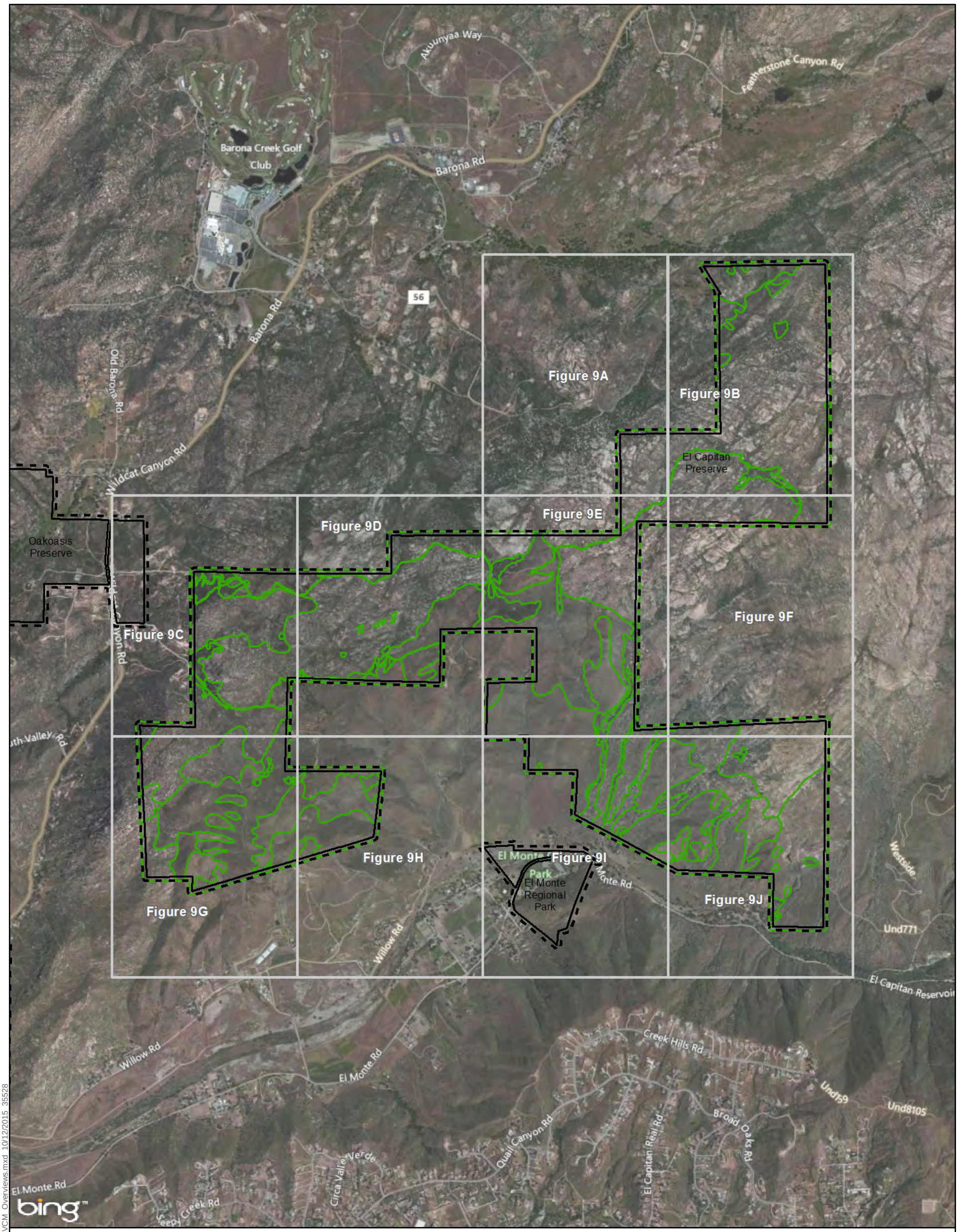
Appendix A Figure 8D
Habitat Stressors, Plant Observations, and Monitoring Plot Locations
Del Dios Highlands Preserve



Legend

- Preserve Boundaries
- Preserve Boundaries 100-foot Buffer
- Vegetation

0 1,300 2,600 Feet

N

Source: Vegetation-ICFI, 2015; Imagery-BING, 2015.

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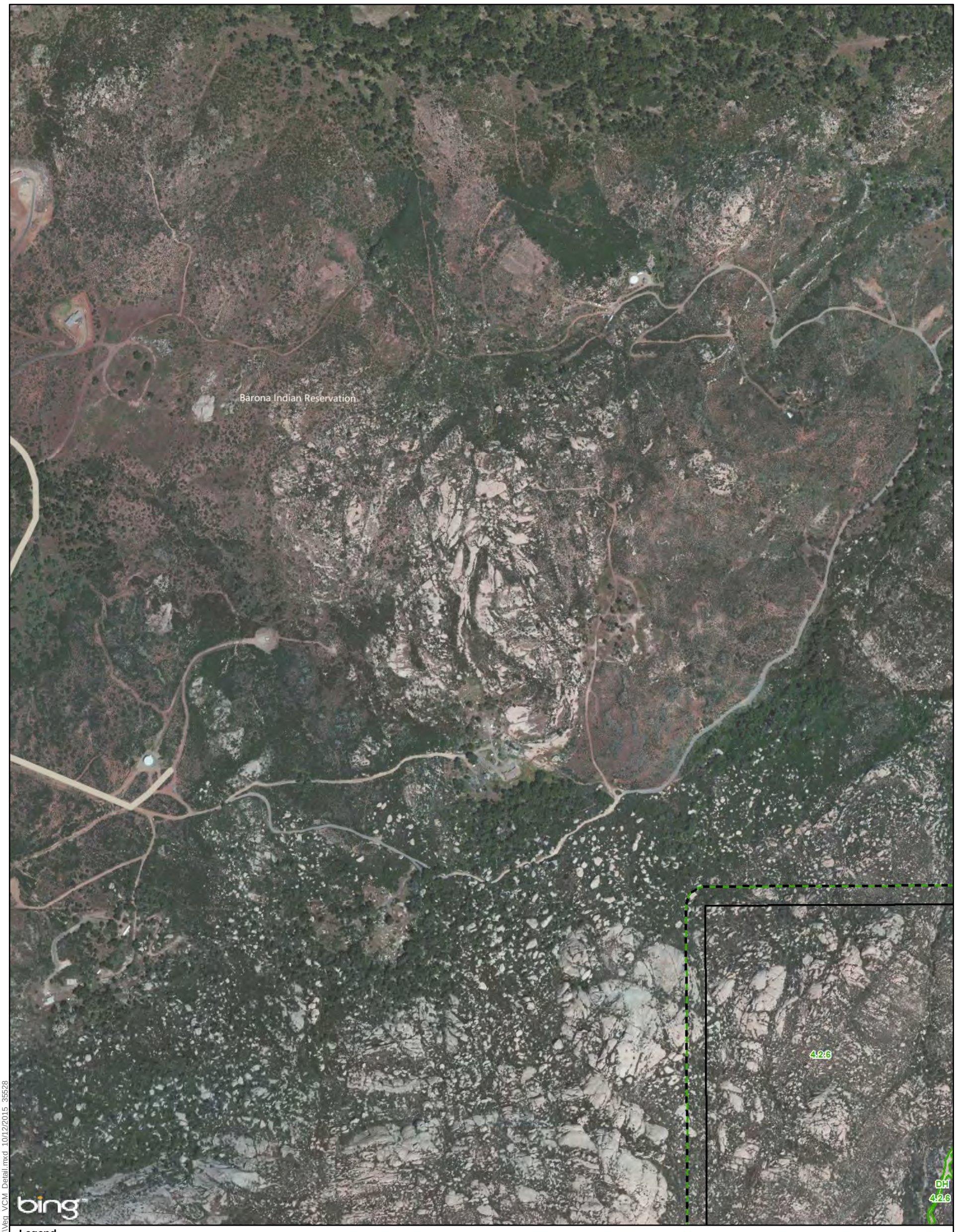
Appendix A Figure 9 Overview
Vegetation Communities/Habitats (Vegetation Classification Manual)
El Capitan Preserve



Legend

- Preserve Boundaries
- Preserve Boundaries 100-foot Buffer
- Vegetation

Vegetation Key per Classification Manual

4.2.6, Adenostoma fasciculatum-Xylococcus bicolor-Quercus (berberidifolia; ×acutidens) Association

DH, Disturbed Habitat

0 250 500 Feet

N

Source: Vegetation-ICFI, 2015; Imagery-BING, 2015.

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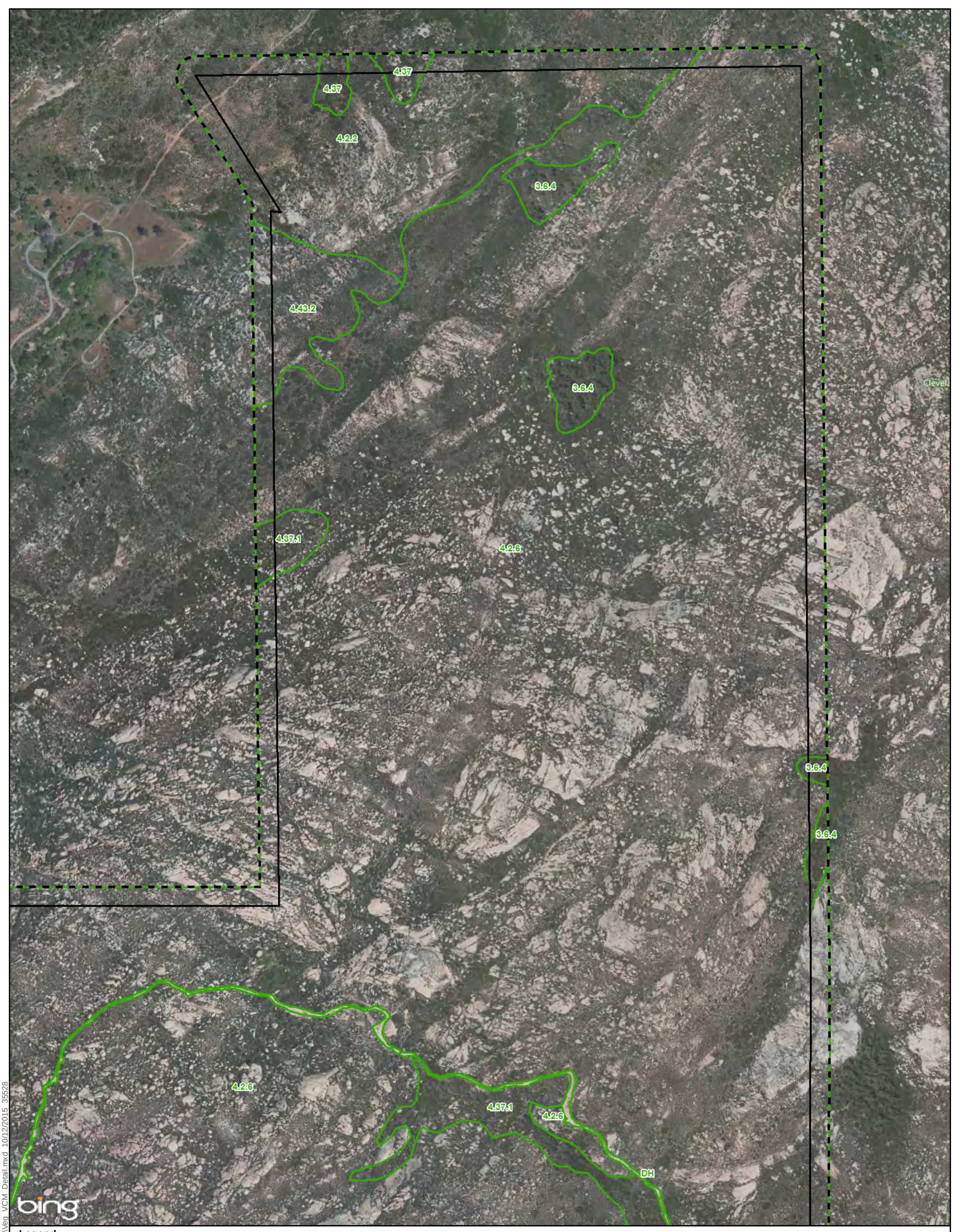
Appendix A Figure 9A
Vegetation Communities/Habitats (Vegetation Classification Manual)
El Capitan Preserve



Legend

- Preserve Boundaries
- Preserve Boundaries 100-foot Buffer
- Vegetation

Vegetation Key per Classification Manual

3.6.4, Quercus agrifolia-Toxicodendron diversilobum-Grass Association
4.2.2, Adenostoma fasciculatum-Xylococcus bicolor-Ceanothus tomentosus Association
4.2.6, Adenostoma fasciculatum-Xylococcus bicolor-Quercus (berberidifolia; ×acutidens) Association
4.37.1, Quercus (berberidifolia; ×acutidens) Association
4.43.2, Salvia apiana-Artemisia californica Association
DH, Disturbed Habitat

0 250 500 Feet

N

Source: Vegetation-ICFI, 2015; Imagery-BING, 2015.

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Appendix A Figure 9B
Vegetation Communities/Habitats (Vegetation Classification Manual)
El Capitan Preserve

Legend

- Preserve Boundaries
- Preserve Boundaries 100-foot Buffer
- Vegetation

Vegetation Key per Classification Manual

- 3.6.4, Quercus agrifolia-Toxicodendron diversilobum-Grass Association
- 4.1, Adenostoma fasciculatum Alliance
- 4.1.2, Adenostoma fasciculatum-(Eriogonum fasciculatum; Artemisia californica; Salvia mellifera) Association
- 4.1.4, Adenostoma fasciculatum-Ceanothus tomentosus Association
- 4.18.1, Ceanothus tomentosus Association
- 4.2.2, Adenostoma fasciculatum-Xylococcus bicolor-Ceanothus tomentosus Association
- 4.2.6, Adenostoma fasciculatum-Xylococcus bicolor-Quercus (berberidifolia; ×acutidens) Association
- 4.38.1, Quercus (berberidifolia; ×acutidens)-Adenostoma fasciculatum Association
- 4.7.1, Artemisia californica-Eriogonum fasciculatum-Malosma laurina Association
- DEV, Developed
- DH, Disturbed Habitat

0 250 500 Feet

N

Source: Vegetation-ICFI, 2015; Imagery-BING, 2015.

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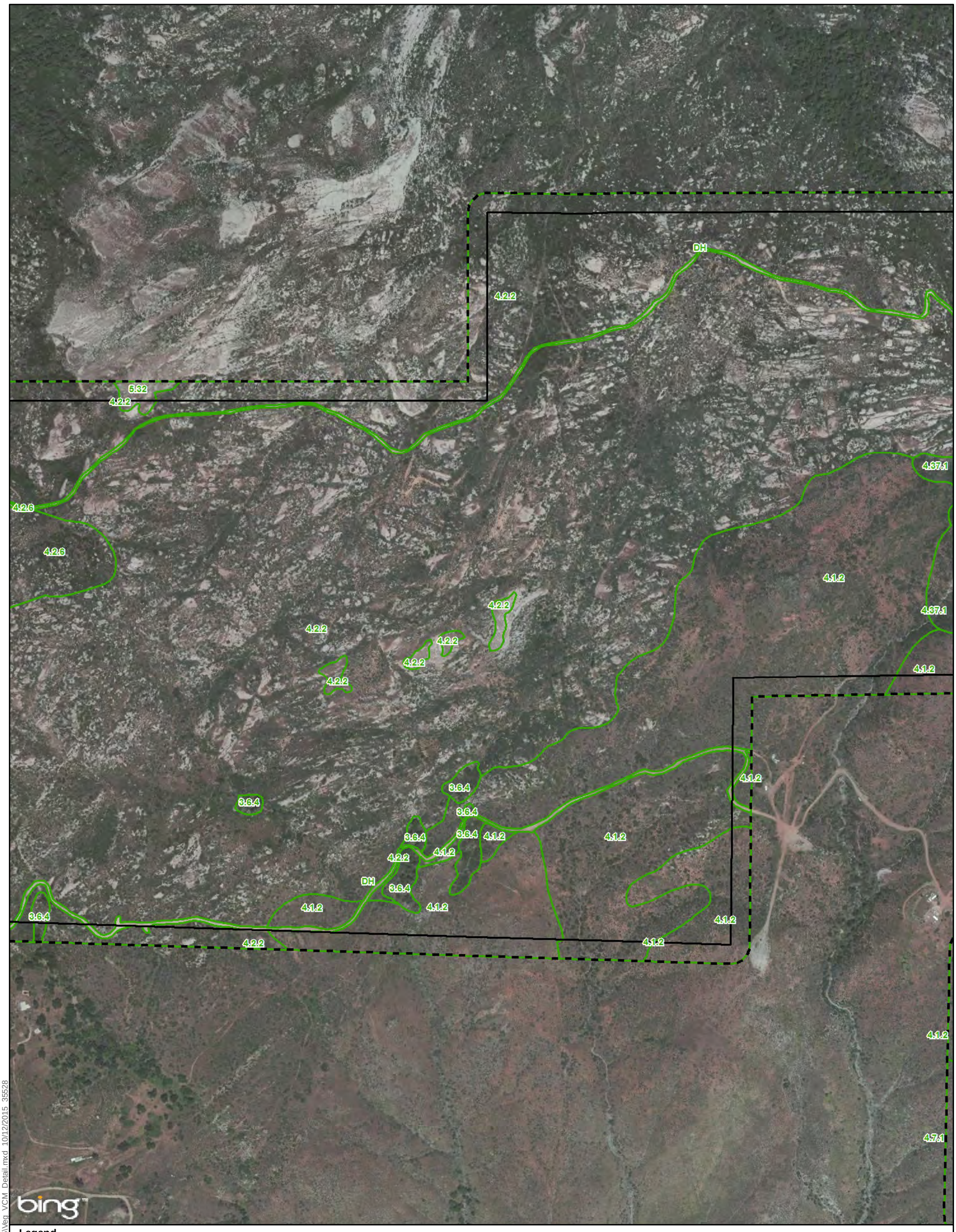
Appendix A Figure 9C
Vegetation Communities/Habitats (Vegetation Classification Manual)
El Capitan Preserve



Legend

- Preserve Boundaries
- Preserve Boundaries 100-foot Buffer
- Vegetation

Vegetation Key per Classification Manual

- 3.6.4, Quercus agrifolia-Toxicodendron diversilobum-Grass Association
- 4.1.2, Adenostoma fasciculatum-(Eriogonum fasciculatum; Artemisia californica; Salvia mellifera) Association
- 4.2.2, Adenostoma fasciculatum-Xylococcus bicolor-Ceanothus tomentosus Association
- 4.2.6, Adenostoma fasciculatum-Xylococcus bicolor-Quercus (berberidifolia; ×acutidens) Association
- 4.37.1, Quercus (berberidifolia; ×acutidens) Association
- 4.7.1, Artemisia californica-Eriogonum fasciculatum-Malosma laurina Association
- 5.32, Selaginella bigelovii Alliance
- DH, Disturbed Habitat

0 250 500 Feet

N

Source: Vegetation-ICFI, 2015; Imagery-BING, 2015.

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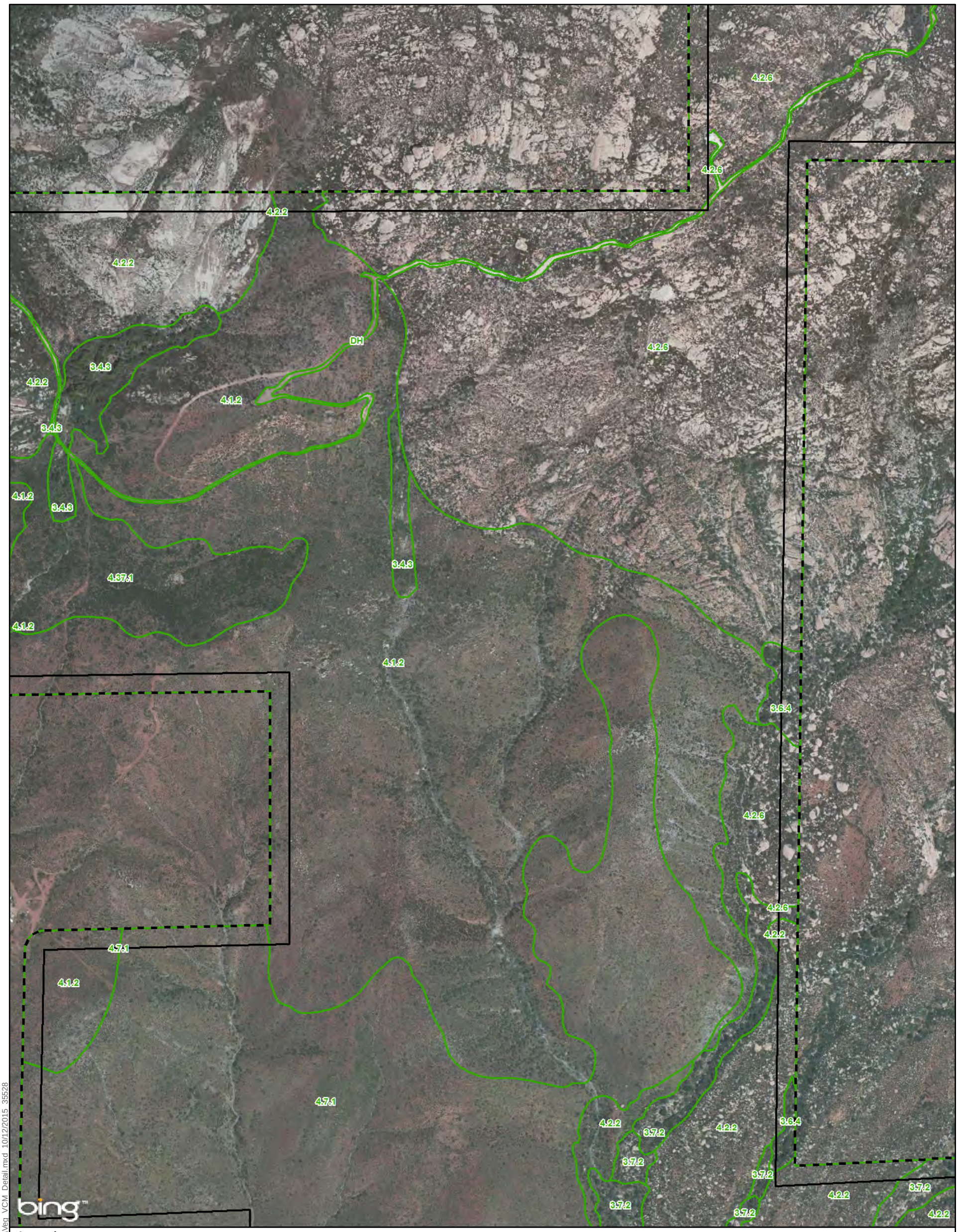
Appendix A Figure 9D
Vegetation Communities/Habitats (Vegetation Classification Manual)
El Capitan Preserve



Legend

- Preserve Boundaries
- Preserve Boundaries 100-foot Buffer
- Vegetation

Vegetation Key per Classification Manual

- 3.4.3, Platanus racemosa-Quercus agrifolia Association
- 3.6.4, Quercus agrifolia-Toxicodendron diversilobum-Grass Association
- 3.7.2, Quercus engelmannii-Quercus agrifolia-Toxicodendron diversilobum-Grass Association
- 4.1.2, Adenostoma fasciculatum-(Eriogonum fasciculatum; Artemisia californica; Salvia mellifera) Association
- 4.2.2, Adenostoma fasciculatum-Xylococcus bicolor-Ceanothus tomentosus Association
- 4.2.6, Adenostoma fasciculatum-Xylococcus bicolor-Quercus (berberidifolia; ×acutidens) Association
- 4.37.1, Quercus (berberidifolia; ×acutidens) Association
- 4.7.1, Artemisia californica-Eriogonum fasciculatum-Malosma laurina Association
- DH, Disturbed Habitat

0 250 500 Feet

N

Source: Vegetation-ICFI, 2015; Imagery-BING, 2015.

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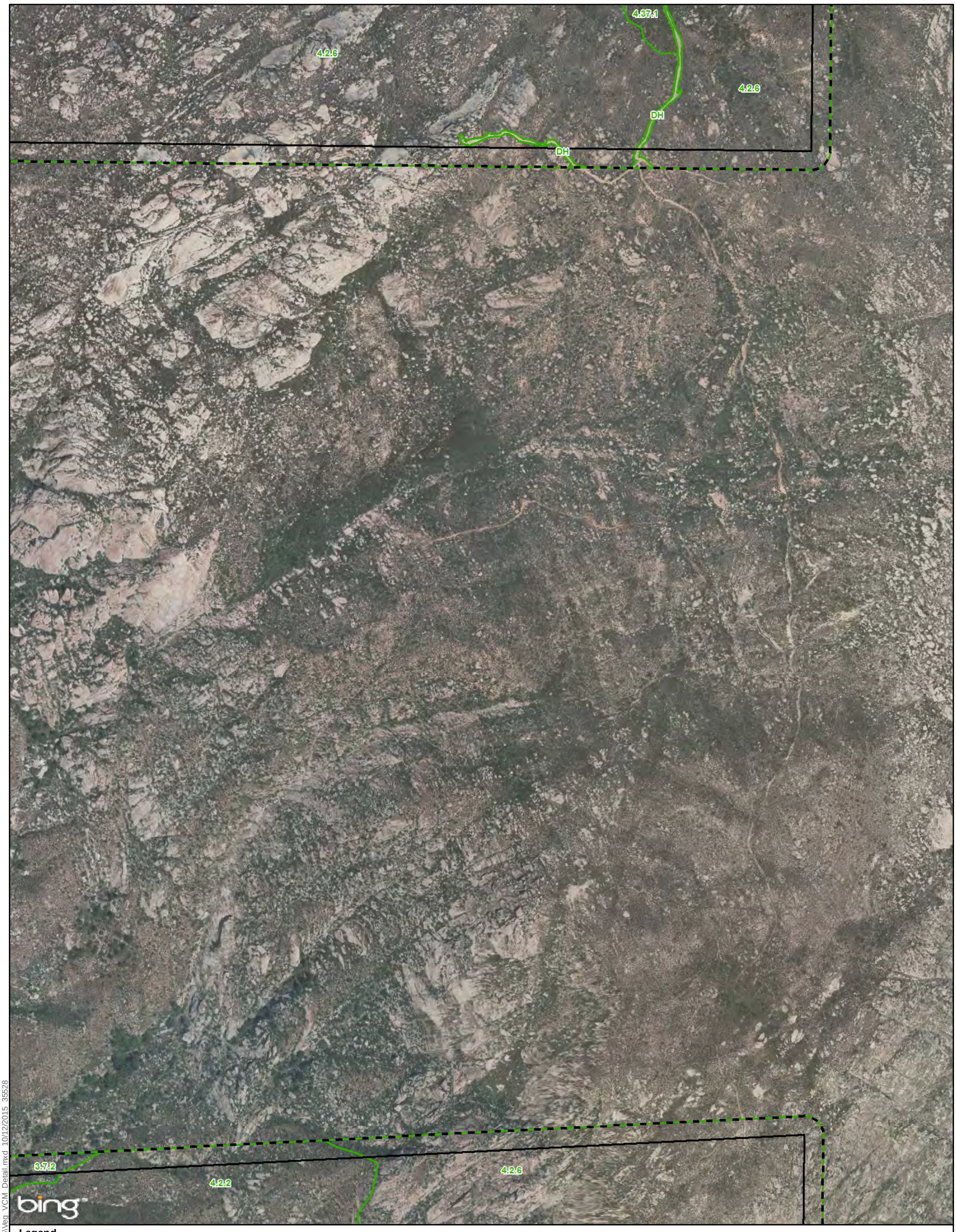
Appendix A Figure 9E
Vegetation Communities/Habitats (Vegetation Classification Manual)
El Capitan Preserve



Legend

- Preserve Boundaries
- Preserve Boundaries 100-foot Buffer
- Vegetation

Vegetation Key per Classification Manual

3.7.2, Quercus engelmannii-Quercus agrifolia-Toxicodendron diversilobum-Grass Association

4.2.2, Adenostoma fasciculatum-Xylococcus bicolor-Ceanothus tomentosus Association

4.2.6, Adenostoma fasciculatum-Xylococcus bicolor-Quercus (berberidifolia; ×acutidens) Association

4.37.1, Quercus (berberidifolia; ×acutidens) Association

DH, Disturbed Habitat

0 250 500 Feet

N

Source: Vegetation-ICFI, 2015; Imagery-BING, 2015.

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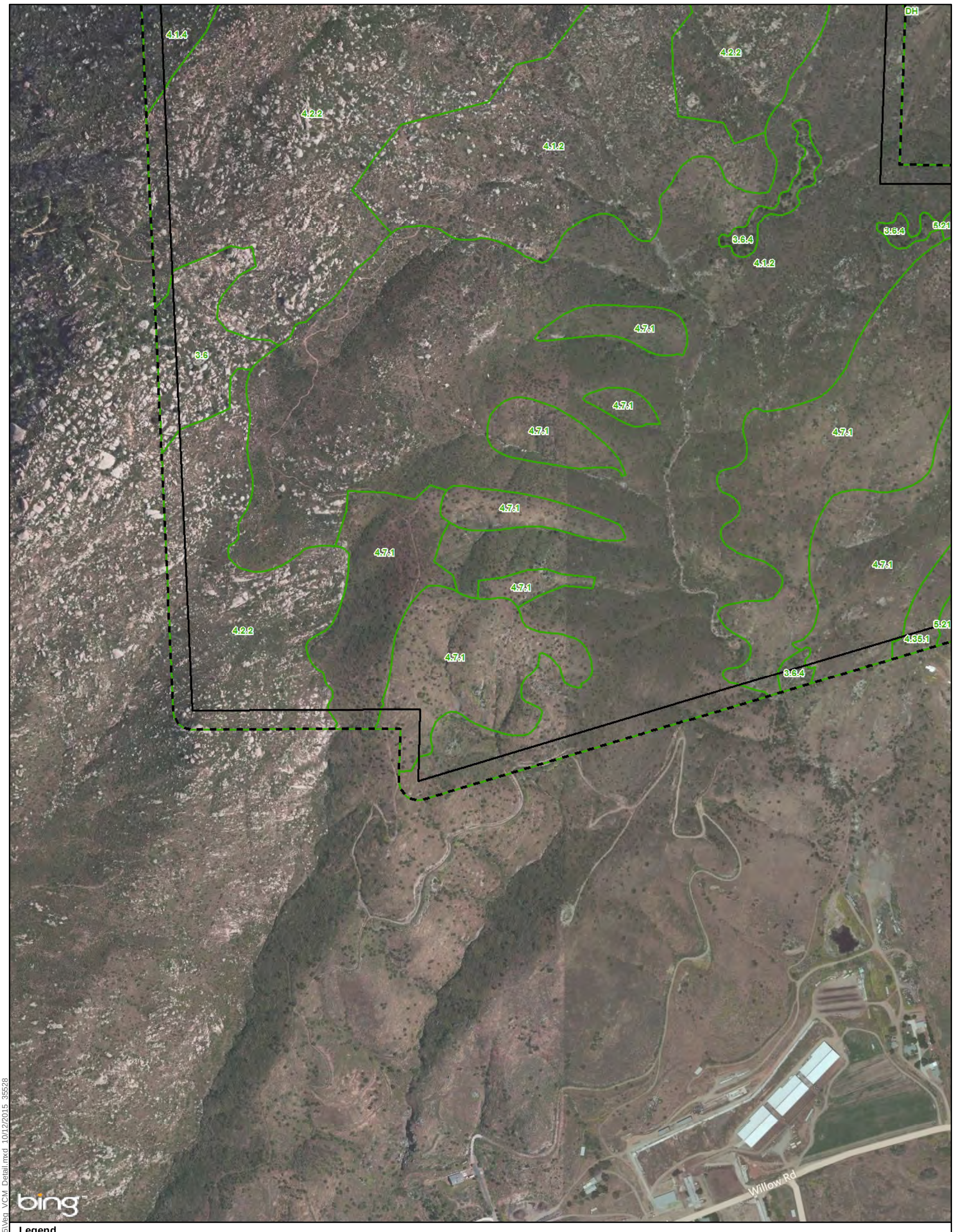
Appendix A Figure 9F
Vegetation Communities/Habitats (Vegetation Classification Manual)
El Capitan Preserve



Legend

Preserve Boundaries

Preserve Boundaries 100-foot Buffer

Vegetation

Vegetation Key per Classification Manual

3.6, Quercus agrifolia Alliance

3.6.4, Quercus agrifolia-Toxicodendron diversilobum-Grass Association

4.1.2, Adenostoma fasciculatum-(Eriogonum fasciculatum; Artemisia californica; Salvia mellifera) Association

4.1.4, Adenostoma fasciculatum-Ceanothus tomentosus Association

4.2.2, Adenostoma fasciculatum-Xylococcus bicolor-Ceanothus tomentosus Association

4.35.1, Malosma laurina-Lotus scoparius Association

4.7.1, Artemisia californica-Eriogonum fasciculatum-Malosma laurina Association

5.21, Mediterranean California Naturalized Annual and Perennial Grassland Semi-Natural Stands

DH, Disturbed Habitat

0 250 500 Feet

N

Source: Vegetation-ICFI, 2015; Imagery-BING, 2015.

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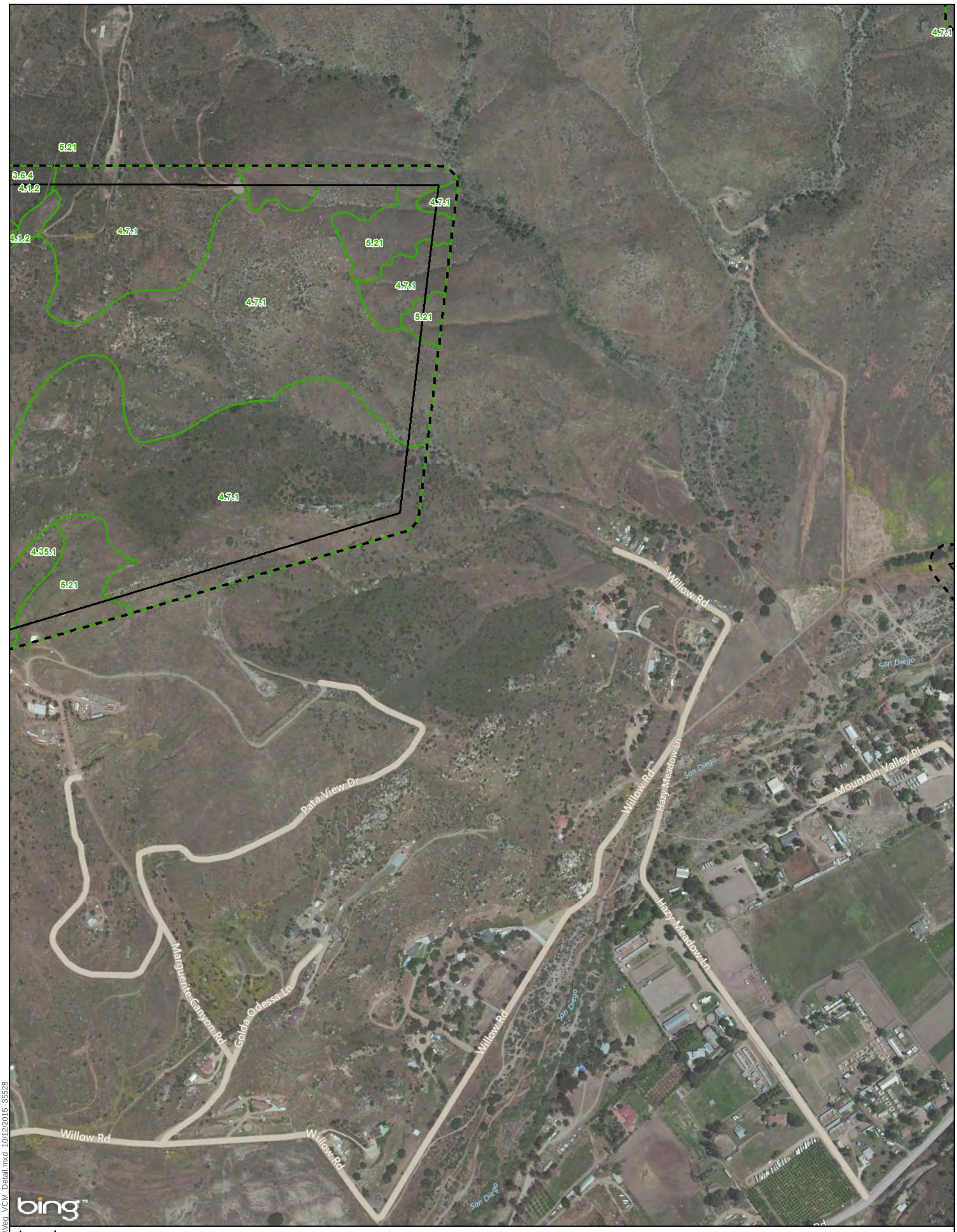
Appendix A Figure 9G
Vegetation Communities/Habitats (Vegetation Classification Manual)
El Capitan Preserve



Legend

Preserve Boundaries

Preserve Boundaries 100-foot Buffer

Vegetation

Vegetation Key per Classification Manual

3.6.4, Quercus agrifolia-Toxicodendron diversilobum-Grass Association

4.1.2, Adenostoma fasciculatum-(Eriogonum fasciculatum; Artemisia californica; Salvia mellifera) Association

4.35.1, Malosma laurina-Lotus scoparius Association

4.7.1, Artemisia californica-Eriogonum fasciculatum-Malosma laurina Association

5.21, Mediterranean California Naturalized Annual and Perennial Grassland Semi-Natural Stands

5.8, Bromus (diandrus; hordeaceus)-Brachypodium distachyon Semi-Natural Stands

0 250 500 Feet

N

Source: Vegetation-ICFI, 2015; Imagery-BING, 2015.

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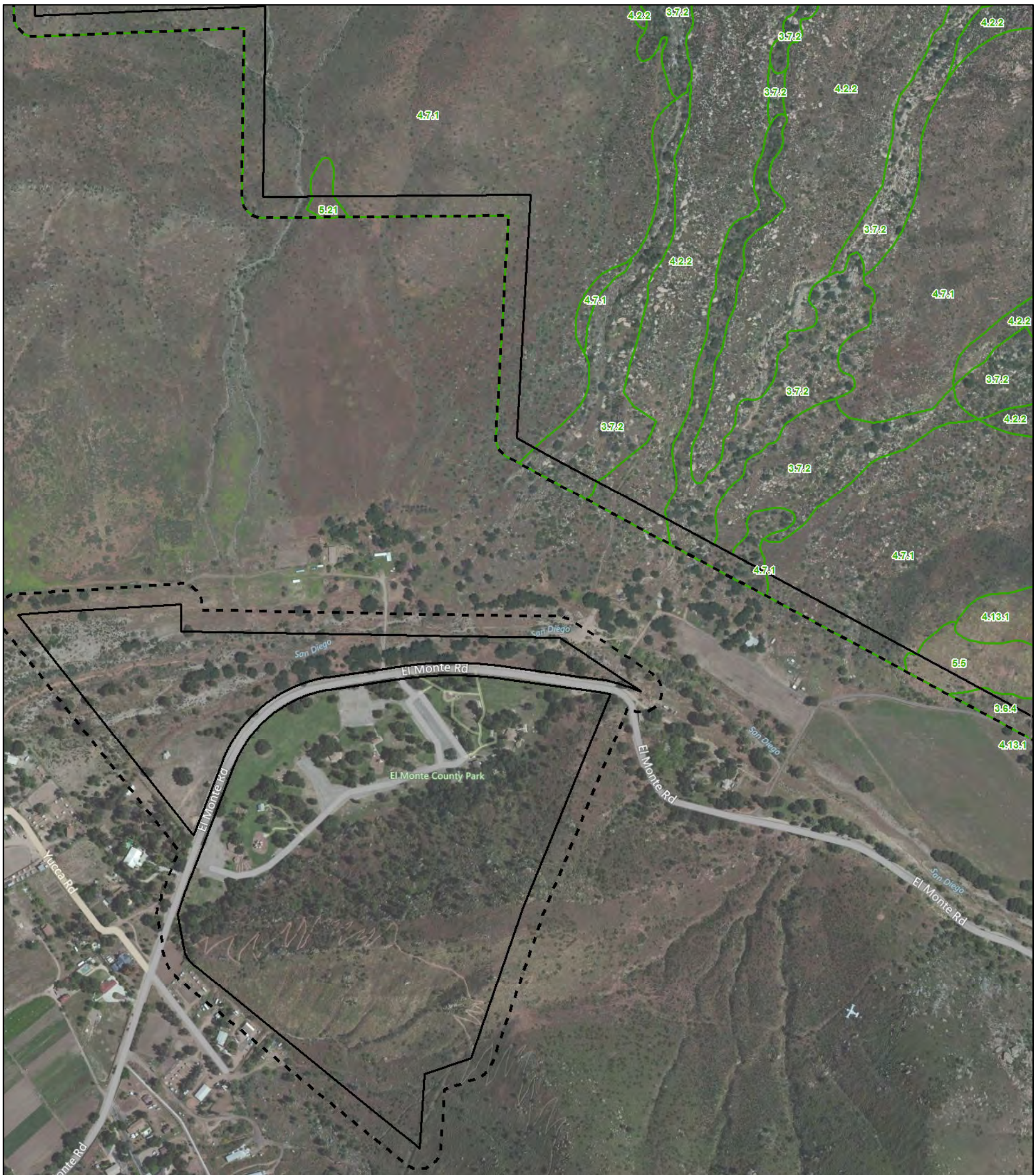
Appendix A Figure 9H
Vegetation Communities/Habitats (Vegetation Classification Manual)
El Capitan Preserve



Legend

- Preserve Boundaries
- Preserve Boundaries 100-foot Buffer
- Vegetation

Vegetation Key per Classification Manual

- 3.6.1, Quercus agrifolia-Artemisia californica Association
- 3.6.4, Quercus agrifolia-Toxicodendron diversilobum-Grass Association
- 3.7.2, Quercus engelmannii-Quercus agrifolia-Toxicodendron diversilobum-Grass Association
- 4.13.1, Bahiopsis laciniata-Artemisia californica-Eriogonum fasciculatum Association
- 4.2.2, Adenostoma fasciculatum-Xylococcus bicolor-Ceanothus tomentosus Association
- 4.23.2, Eriogonum fasciculatum-Salvia columbariae-Mirabilis laevis Provisional Association
- 4.7.1, Artemisia californica-Eriogonum fasciculatum-Malosma laurina Association
- 5.21, Mediterranean California Naturalized Annual and Perennial Grassland Semi-Natural Stands
- 5.5, Avena (barbata; fatua) Semi-Natural Stands
- 5.8, Bromus (diandrus; hordeaceus)-Brachypodium distachyon Semi-Natural Stands
- DEV, Developed
- DH, Disturbed Habitat

0 250 500 Feet

N

Source: Vegetation-ICFI, 2015; Imagery-BING, 2015.

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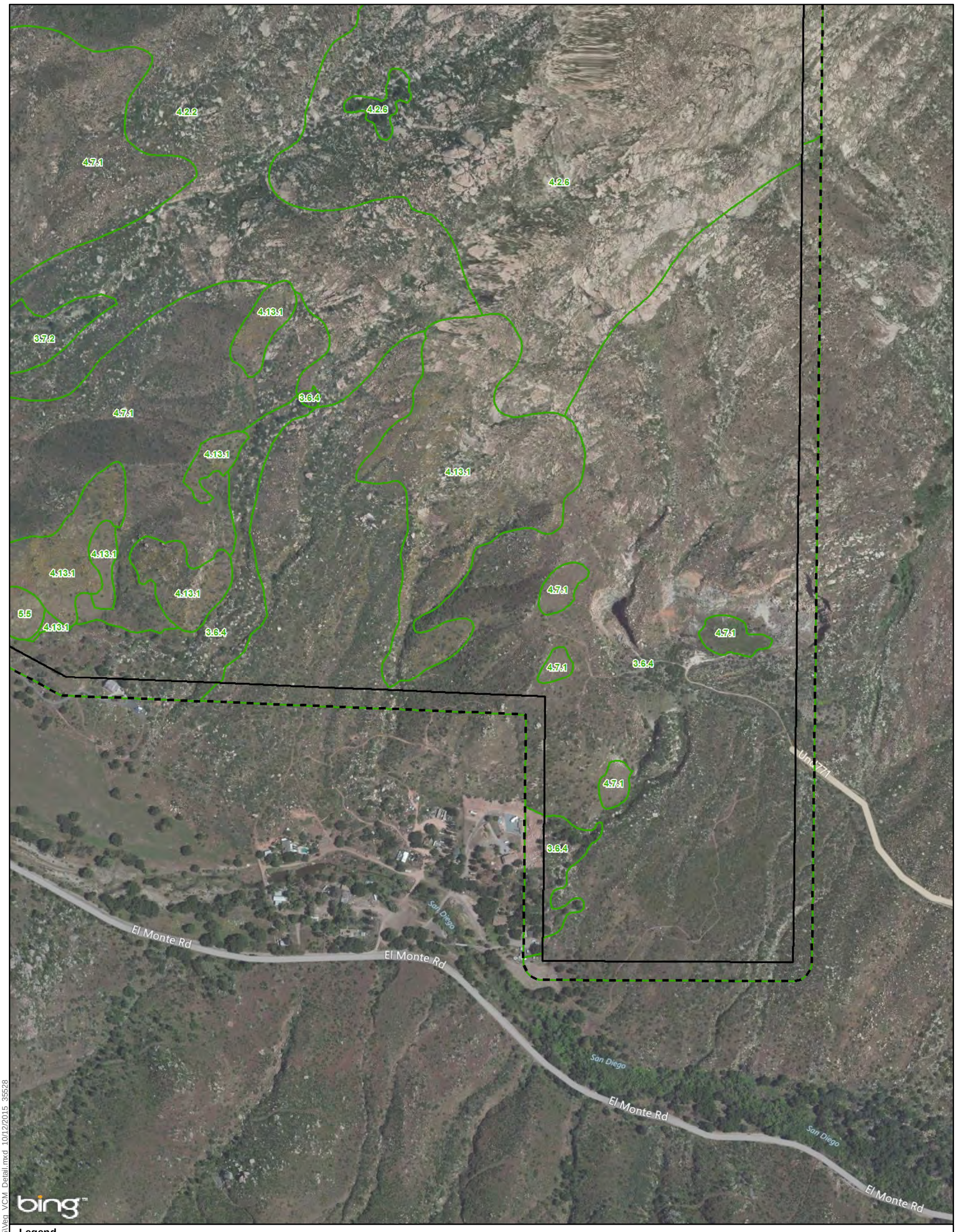
Appendix A Figure 9I
Vegetation Communities/Habitats (Vegetation Classification Manual)
El Capitan Preserve



Legend

- Preserve Boundaries
- Preserve Boundaries 100-foot Buffer
- Vegetation

Vegetation Key per Classification Manual

- 3.6.4, Quercus agrifolia-Toxicodendron diversilobum-Grass Association
- 3.7.2, Quercus engelmannii-Quercus agrifolia-Toxicodendron diversilobum-Grass Association
- 4.13.1, Bahiopsis laciniata-Artemisia californica-Eriogonum fasciculatum Association
- 4.2.2, Adenostoma fasciculatum-Xylococcus bicolor-Ceanothus tomentosus Association
- 4.2.6, Adenostoma fasciculatum-Xylococcus bicolor-Quercus (berberidifolia; ×acutidens) Association
- 4.7.1, Artemisia californica-Eriogonum fasciculatum-Malosma laurina Association
- 5.5, Avena (barbata; fatua) Semi-Natural Stands

0 250 500 Feet

N

Source: Vegetation-ICFI, 2015; Imagery-BING, 2015.

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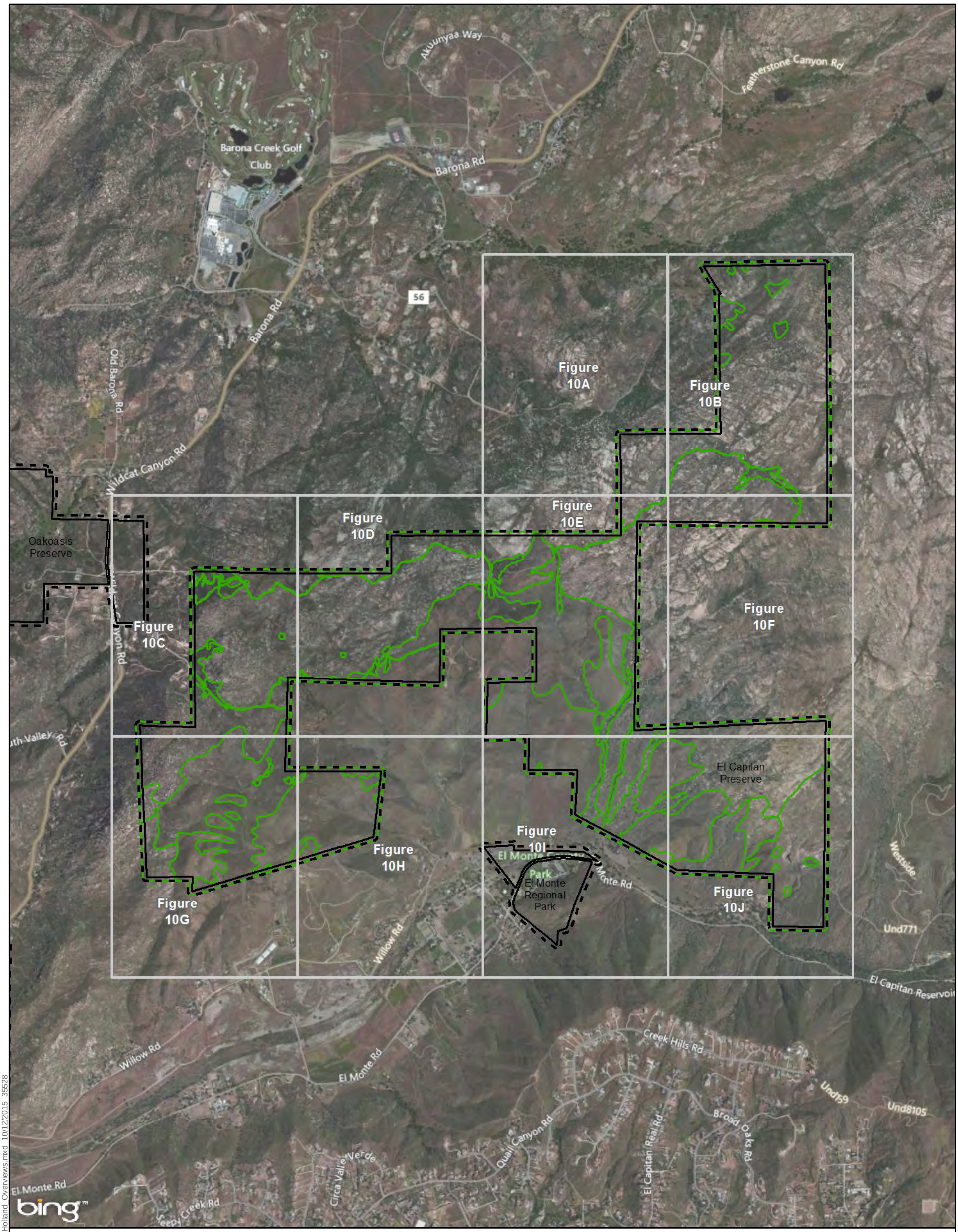
Appendix A Figure 9J
Vegetation Communities/Habitats (Vegetation Classification Manual)
El Capitan Preserve



Legend

- Preserve Boundaries
- Preserve Boundaries 100-foot Buffer
- Vegetation

0 1,300 2,600 Feet

N

Source: Vegetation-ICFI, 2015; Imagery-BING, 2015.

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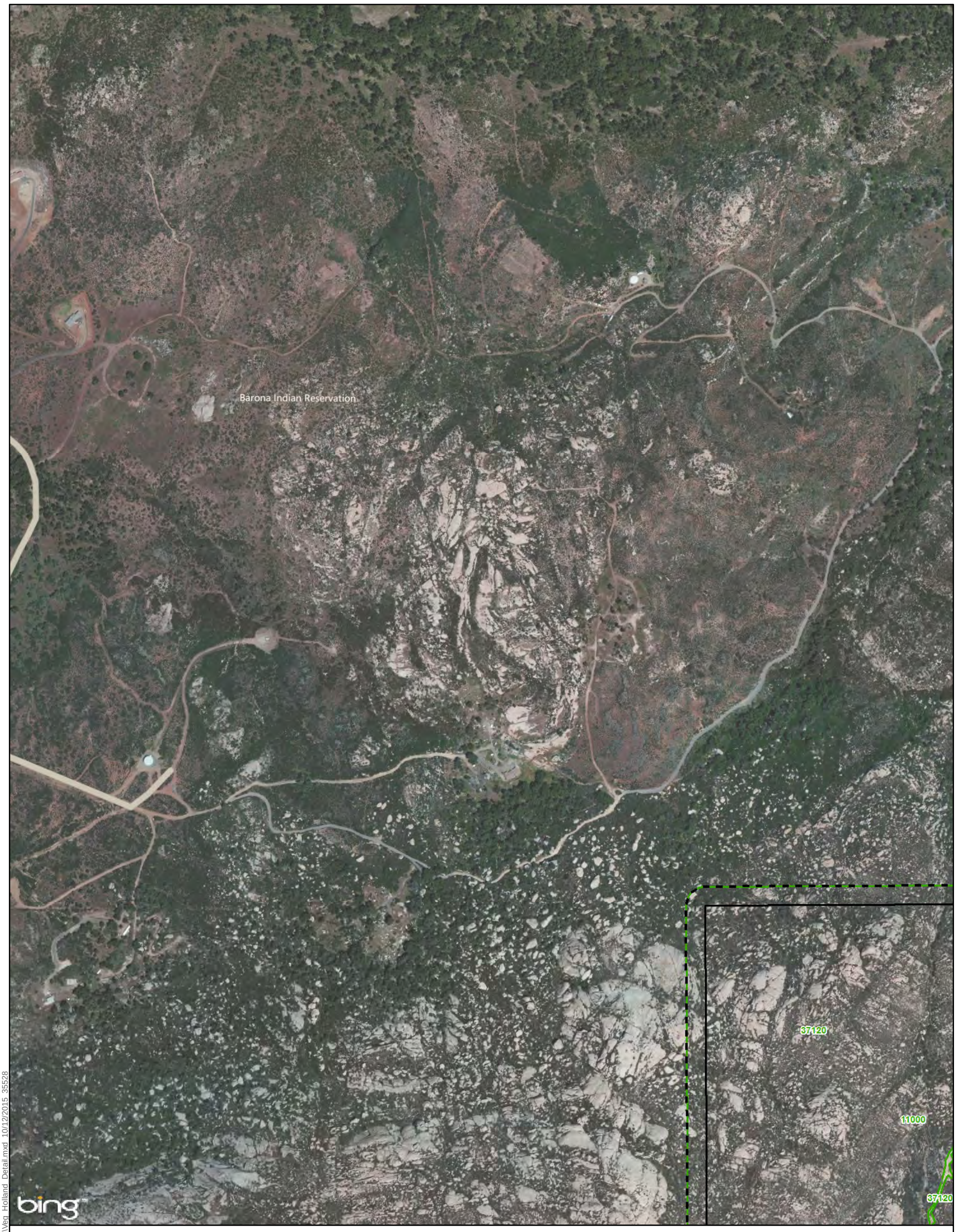
Appendix A Figure 10 Overview
Vegetation Communities/Habitats (Modified Holland Code)
El Capitan Preserve



Legend

- Preserve Boundaries
- Preserve Boundaries 100-foot Buffer
- Vegetation

Vegetation Key per Classification Manual

11000 - Disturbed Habitat

37120 - Southern Mixed Chaparral

0 250 500 Feet

N

Source: Vegetation-ICFI, 2015; Imagery-BING, 2015.

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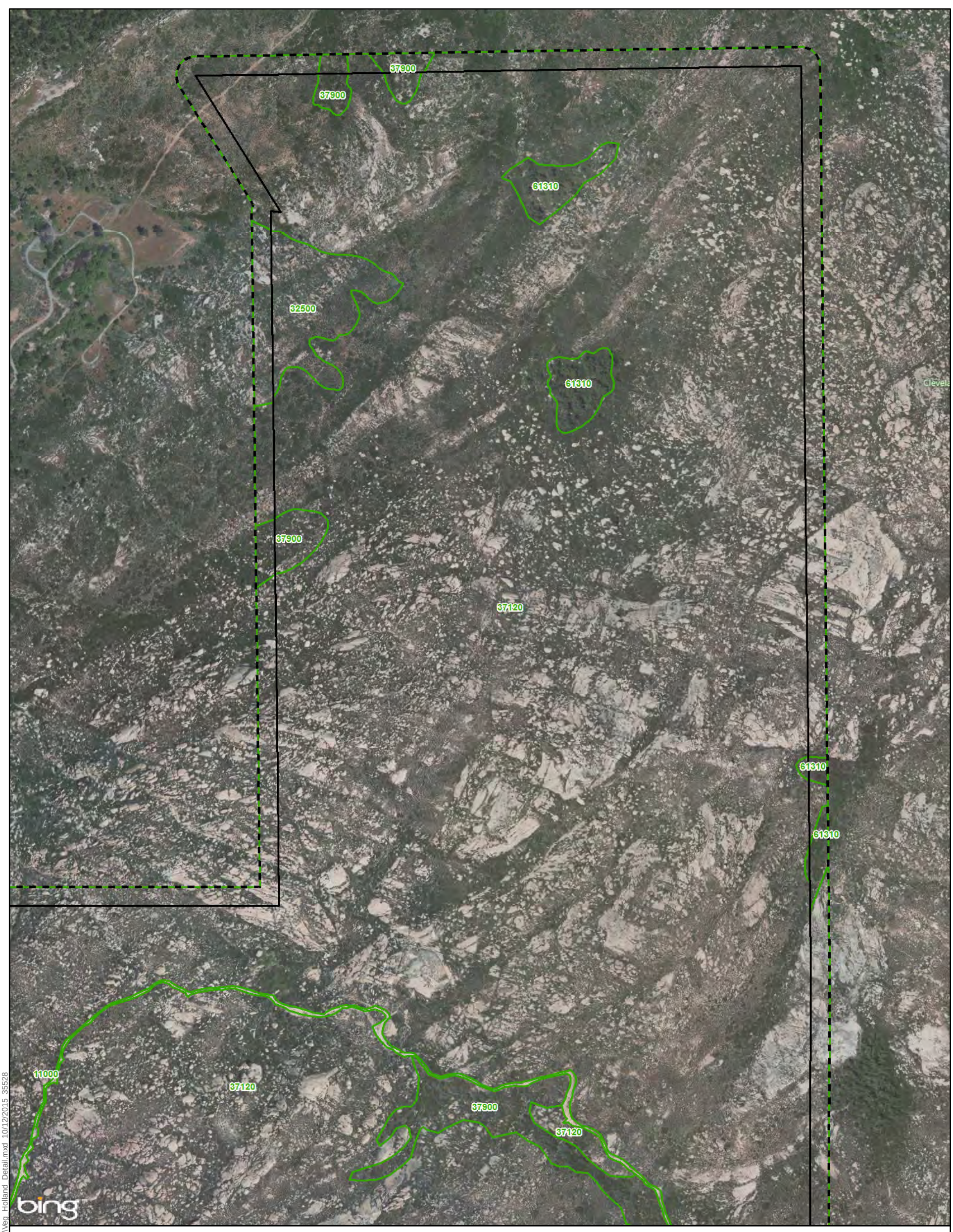
Appendix A Figure 10A
Vegetation Communities/Habitats (Modified Holland Code)
El Capitan Preserve



Legend

- Preserve Boundaries
- Preserve Boundaries 100-foot Buffer
- Vegetation

Vegetation Key per Classification Manual

11000 - Disturbed Habitat
32500 - Diegan Coastal Sage Scrub
37120 - Southern Mixed Chaparral
37900 - Scrub Oak Chaparral
61310 - Southern Coast Live Oak Riparian Forest

0 250 500 Feet

N

Source: Vegetation-ICFI, 2015; Imagery-BING, 2015.

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Appendix A Figure 10B
Vegetation Communities/Habitats (Modified Holland Code)
El Capitan Preserve

Legend

- Preserve Boundaries
- Preserve Boundaries 100-foot Buffer
- Vegetation

Vegetation Key per Classification Manual

- 11000 - Disturbed Habitat
- 12000 - Urban/Developed
- 32500 - Diegan Coastal Sage Scrub
- 37120 - Southern Mixed Chaparral
- 37200 - Chamise Chaparral
- 37900 - Scrub Oak Chaparral
- 37C30 - Coastal Sage-Chaparral Transition
- 61310 - Southern Coast Live Oak Riparian Forest

0 250 500 Feet

N

Source: Vegetation-ICFI, 2015; Imagery-BING, 2015.

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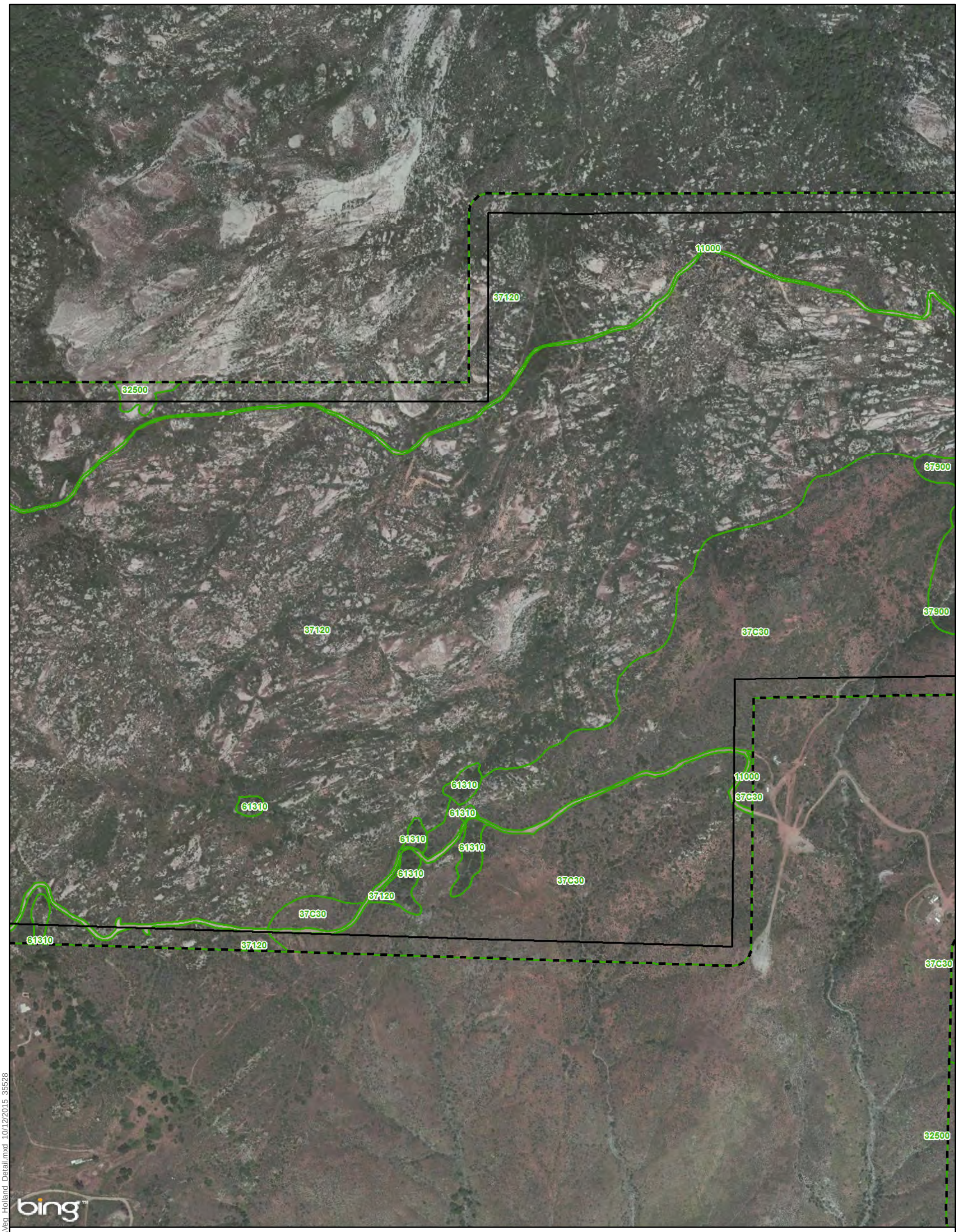
Appendix A Figure 10C
Vegetation Communities/Habitats (Modified Holland Code)
El Capitan Preserve



Legend

- Preserve Boundaries
- Preserve Boundaries 100-foot Buffer
- Vegetation

Vegetation Key per Classification Manual

- 11000 - Disturbed Habitat
- 32500 - Diegan Coastal Sage Scrub
- 37120 - Southern Mixed Chaparral
- 37900 - Scrub Oak Chaparral
- 37C30 - Coastal Sage-Chaparral Transition
- 61310 - Southern Coast Live Oak Riparian Forest

0 250 500 Feet

N

Source: Vegetation-ICFI, 2015; Imagery-BING, 2015.

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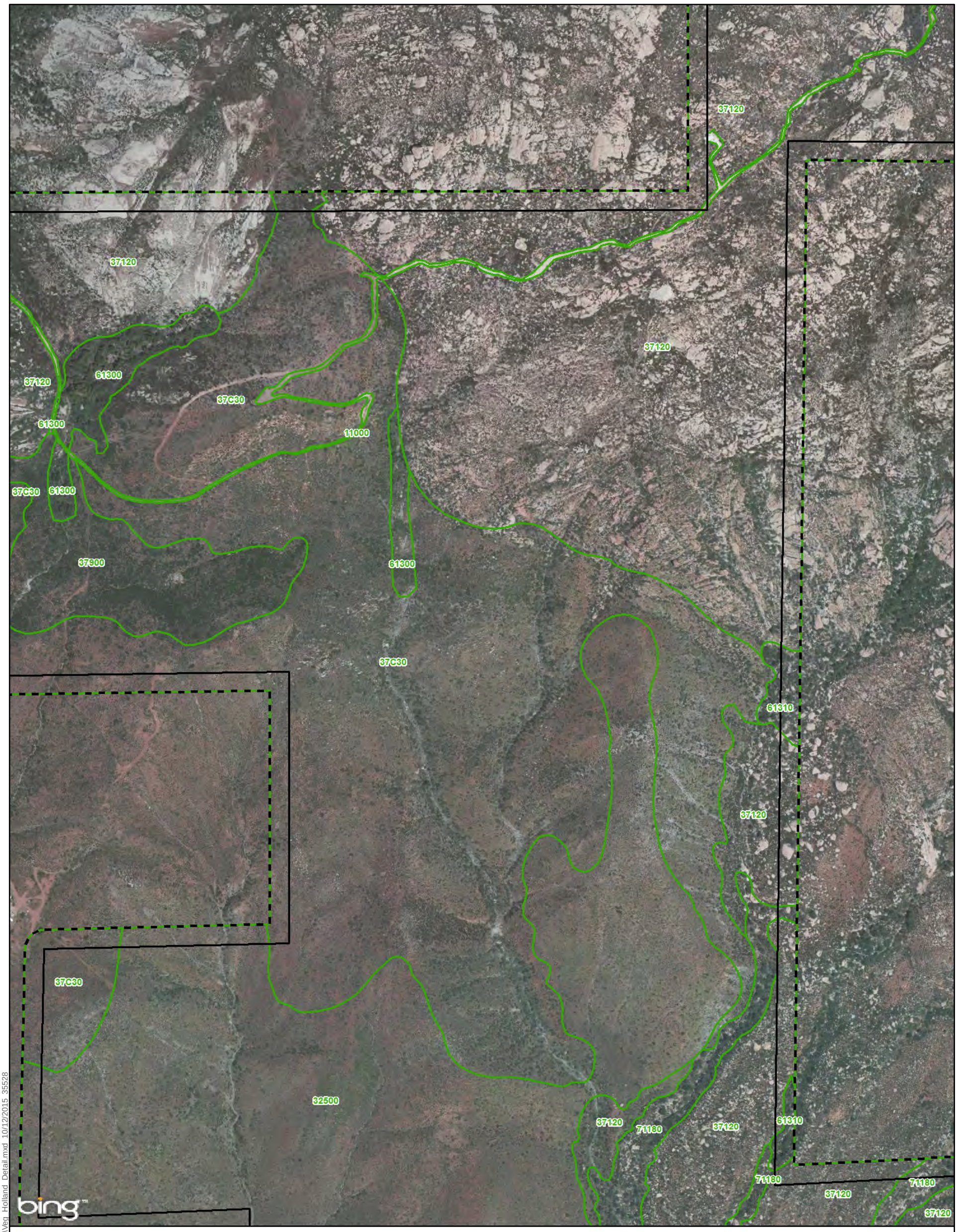
Appendix A Figure 10D
Vegetation Communities/Habitats (Modified Holland Code)
El Capitan Preserve



Legend

- Preserve Boundaries
- Preserve Boundaries 100-foot Buffer
- Vegetation

Vegetation Key per Classification Manual

- 11000 - Disturbed Habitat
- 32500 - Diegan Coastal Sage Scrub
- 37120 - Southern Mixed Chaparral
- 37900 - Scrub Oak Chaparral
- 37C30 - Coastal Sage-Chaparral Transition
- 61300 - Southern Riparian Forest
- 61310 - Southern Coast Live Oak Riparian Forest
- 71180 - Engelmann Oak Woodland

0 250 500 Feet

N

Source: Vegetation-ICFI, 2015; Imagery-BING, 2015.

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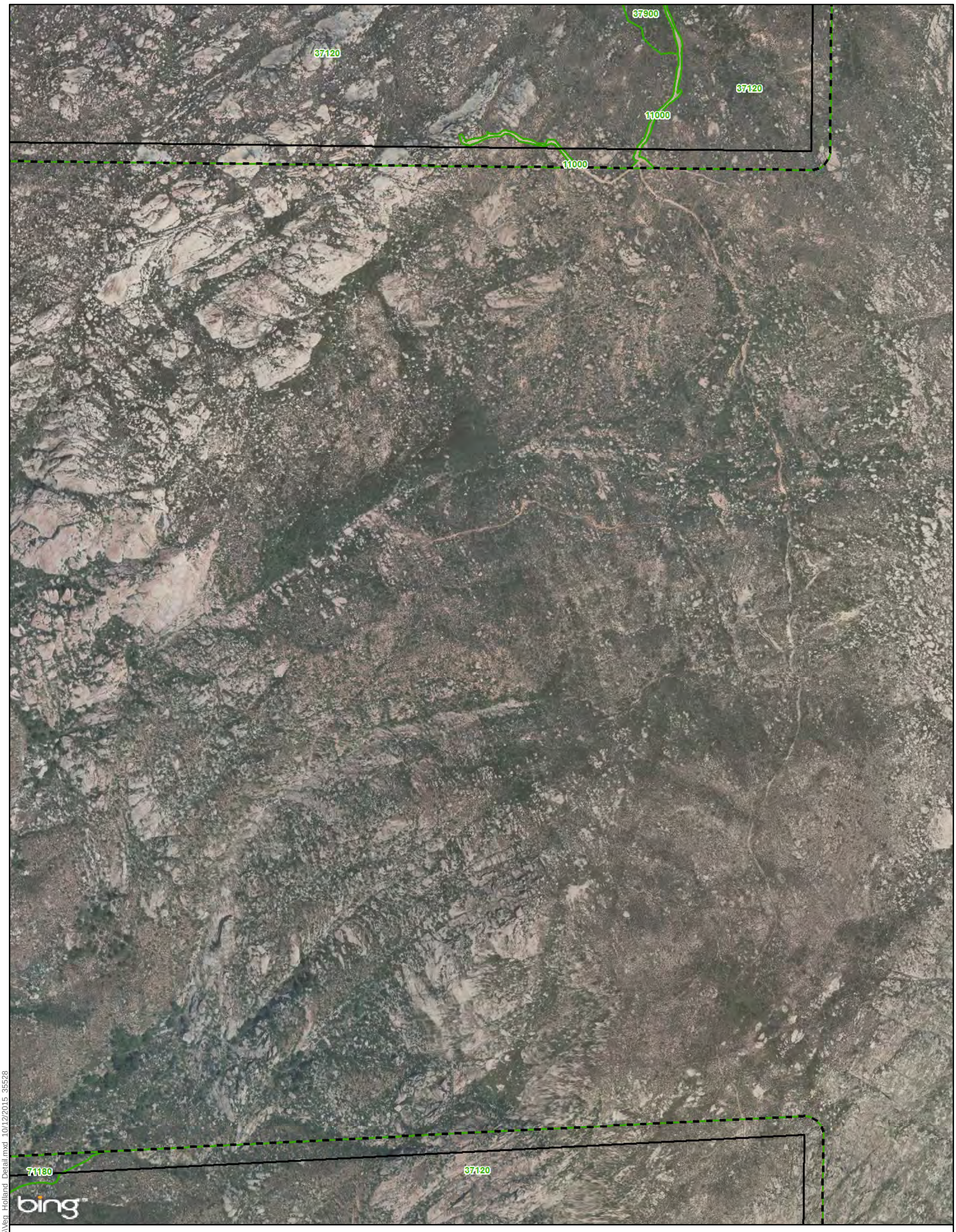
Appendix A Figure 10E
Vegetation Communities/Habitats (Modified Holland Code)
El Capitan Preserve



Legend

- Preserve Boundaries
- Preserve Boundaries 100-foot Buffer
- Vegetation

Vegetation Key per Classification Manual

11000 - Disturbed Habitat
37120 - Southern Mixed Chaparral
37900 - Scrub Oak Chaparral
71180 - Engelmann Oak Woodland

0 250 500 Feet

N

Source: Vegetation-ICFI, 2015; Imagery-BING, 2015.

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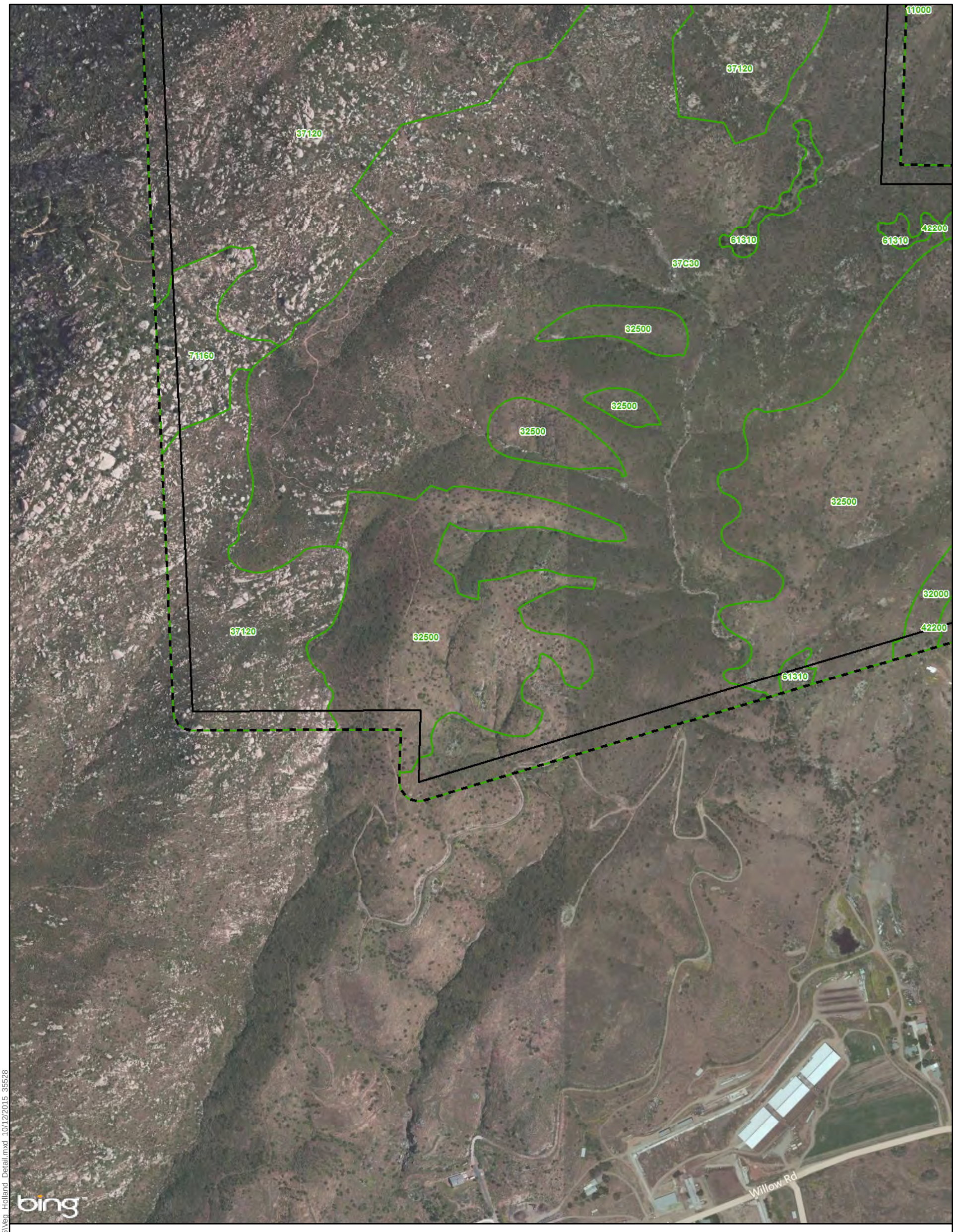
Appendix A Figure 10F
Vegetation Communities/Habitats (Modified Holland Code)
El Capitan Preserve



Legend

- Preserve Boundaries
- Preserve Boundaries 100-foot Buffer
- Vegetation

Vegetation Key per Classification Manual

- 11000 - Disturbed Habitat
- 32000 - Coastal Scrub
- 32500 - Diegan Coastal Sage Scrub
- 37120 - Southern Mixed Chaparral
- 37C30 - Coastal Sage-Chaparral Transition
- 42200 - Non-Native Grassland
- 61310 - Southern Coast Live Oak Riparian Forest
- 71160 - Coast Live Oak Woodland

0 250 500 Feet

N

Source: Vegetation-ICFI, 2015; Imagery-BING, 2015.

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Appendix A Figure 10G
Vegetation Communities/Habitats (Modified Holland Code)
El Capitan Preserve

Legend

- Preserve Boundaries
- Preserve Boundaries 100-foot Buffer
- Vegetation

Vegetation Key per Classification Manual

32000 - Coastal Scrub
32500 - Diegan Coastal Sage Scrub
37C30 - Coastal Sage-Chaparral Transition
42200 - Non-Native Grassland
61310 - Southern Coast Live Oak Riparian Forest

0 250 500 Feet

N

Source: Vegetation-ICFI, 2015; Imagery-BING, 2015.

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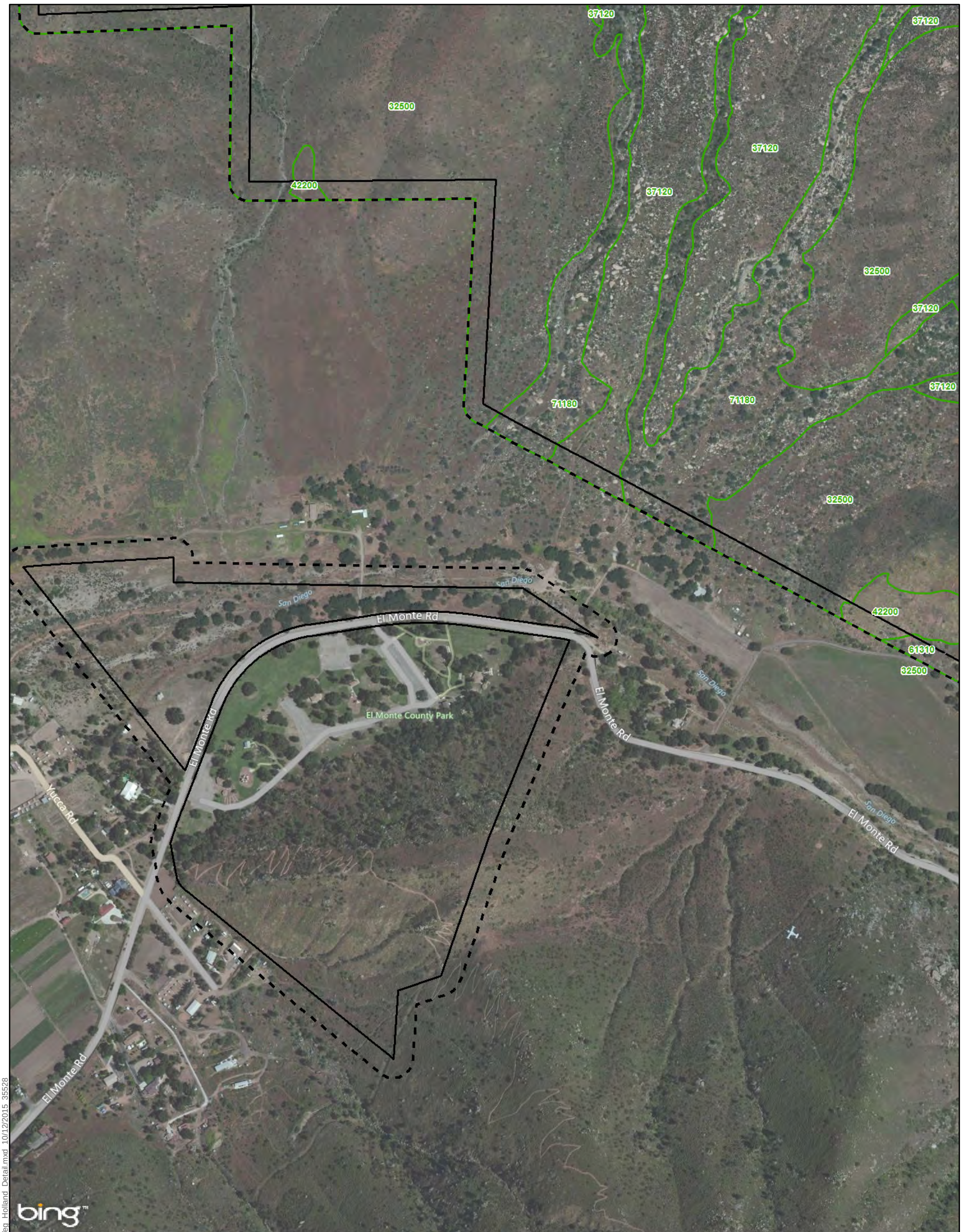
Appendix A Figure 10H
Vegetation Communities/Habitats (Modified Holland Code)
El Capitan Preserve



Legend

- Preserve Boundaries
- Preserve Boundaries 100-foot Buffer
- Vegetation

Vegetation Key per Classification Manual

- 11000 - Disturbed Habitat
- 12000 - Urban/Developed
- 32500 - Diegan Coastal Sage Scrub
- 37120 - Southern Mixed Chaparral
- 42200 - Non-Native Grassland
- 61310 - Southern Coast Live Oak Riparian Forest
- 71160 - Coast Live Oak Woodland
- 71180 - Engelmann Oak Woodland

0 250 500 Feet

N

Source: Vegetation-ICFI, 2015; Imagery-BING, 2015.

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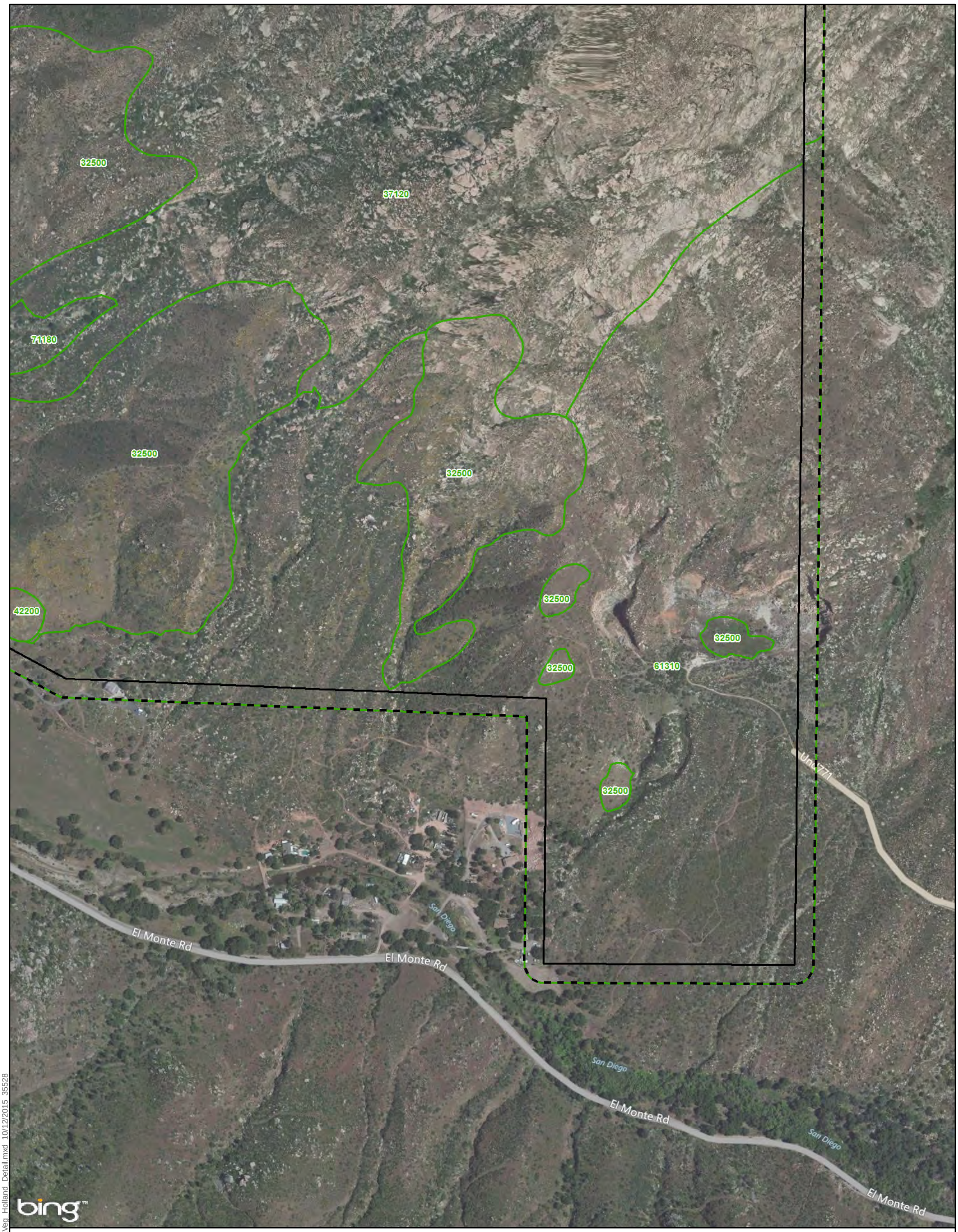
Appendix A Figure 10I
Vegetation Communities/Habitats (Modified Holland Code)
El Capitan Preserve



Legend

- Preserve Boundaries
- Preserve Boundaries 100-foot Buffer
- Vegetation

Vegetation Key per Classification Manual

32500 - Diegan Coastal Sage Scrub
37120 - Southern Mixed Chaparral
42200 - Non-Native Grassland
61310 - Southern Coast Live Oak Riparian Forest
71180 - Engelmann Oak Woodland

0 250 500 Feet

N

Source: Vegetation-ICFI, 2015; Imagery-BING, 2015.

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Appendix A Figure 10J
Vegetation Communities/Habitats (Modified Holland Code)
El Capitan Preserve

Figure 11A Omitted
No Other
Observations

Figure 11B Omitted
No Other
Observations

Figure
11C

Figure
11D

Figure
11E

Figure 11F Omitted
No Other
Observations

Figure
11G

Figure 11H Omitted
No Other
Observations

Figure 11I Omitted
No Other
Observations

Figure 11J Omitted
No Other
Observations

Barona Creek Golf Club
Akuunyaa Way
Featherstone Canyon Rd
Barona Rd
56
Old Barona Rd
Wildcat Canyon Rd
Oakoasis Preserve
El Capitan Preserve
El Monte Regional Park
Willow Rd
El Monte Rd
Creek Hills Rd
Und759
Und8105
Broad Oaks Rd
El Capitan Real Rd
Quail Canyon Rd
Circa Valle Verde
Seepy Creek Rd
Und771
El Capitan Reservoir
Westside
bing™

Legend

- Preserve Boundaries
- Preserve Boundaries 100-foot Buffer

Rare Plants

- Monitoring Plot Center Point
- Monitoring Plot Photo Point

Monitoring Plot Maximum Extent

- Lakeside Ceanothus *(Ceanothus cyaneus)* Maximum Extent

Rare Plants Areas

- Lakeside Ceanothus *(Ceanothus cyaneus)*

Invasive Plants

- Tree Tobacco *(Nicotiana glauca)*
- African Fountain Grass *(Pennisetum setaceum)*

Invasive Plants

- African Fountain Grass *(Pennisetum setaceum)*

Disturbance Stressor

- Erosion

0 1,300 2,600 Feet

N

Source: Vegetation-ICFI, 2015; Imagery-BING, 2015.

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Appendix A Figure 11 Overview
Habitat Stressors, Plant Observations, and Monitoring Plot Locations
El Capitan Preserve

Legend

- Preserve Boundaries
- Preserve Boundaries 100-foot Buffer

Rare Plant Monitoring

- Monitoring Plot Center Point
- Monitoring Plot Photo Point

Monitoring Plot Maximum Extent

- Lakeside Ceanothus *(Ceanothus cyaneus)* Maximum Extent

Rare Plants Areas

- Lakeside Ceanothus *(Ceanothus cyaneus)*

Invasive Plants

- Tree Tobacco *(Nicotiana glauca)*

Disturbance Stressor

- Erosion

0 250 500 Feet

N

Source: Vegetation-ICFI, 2015; Imagery-BING, 2015.

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Appendix A Figure 11C
Habitat Stressors, Plant Observations, and Monitoring Plot Locations
El Capitan Preserve

El Capitan Preserve

bing

Legend

Preserve Boundaries

Preserve Boundaries 100-foot Buffer

Invasive Plants

African Fountain Grass *(Pennisetum setaceum)*

0 250 500 Feet

N

Source: Vegetation-ICFI, 2015; Imagery-BING, 2015.

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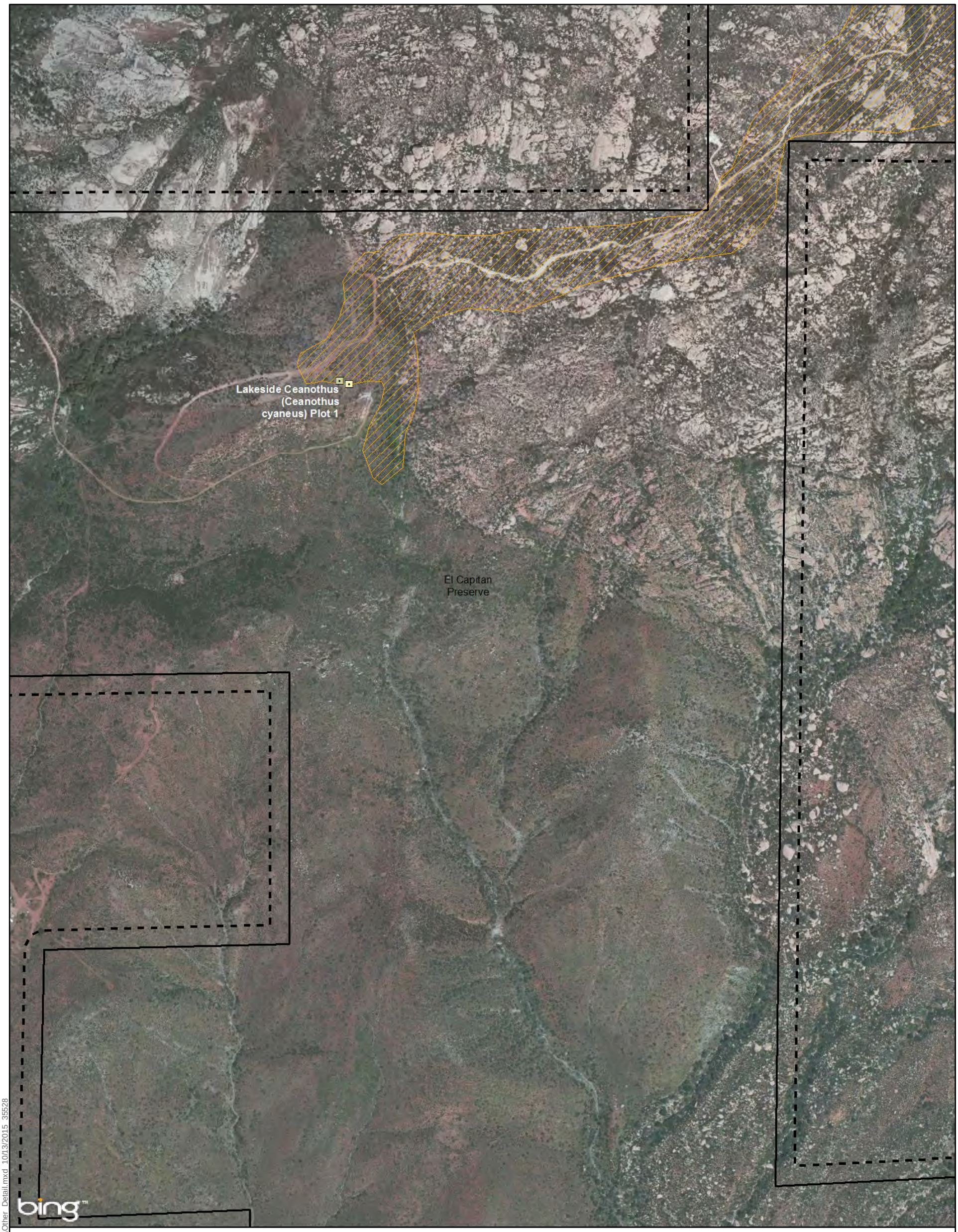
Appendix A Figure 11D
Habitat Stressors, Plant Observations, and Monitoring Plot Locations
El Capitan Preserve



Legend

- Preserve Boundaries
- Preserve Boundaries 100-foot Buffer

Rare Plant Monitoring

- Monitoring Plot Center Point
- Monitoring Plot Photo Point

Monitoring Plot Maximum Extent

- Lakeside Ceanothus *(Ceanothus cyaneus)* Maximum Extent

0 250 500 Feet

N

Source: Vegetation-ICFI, 2015; Imagery-BING, 2015.

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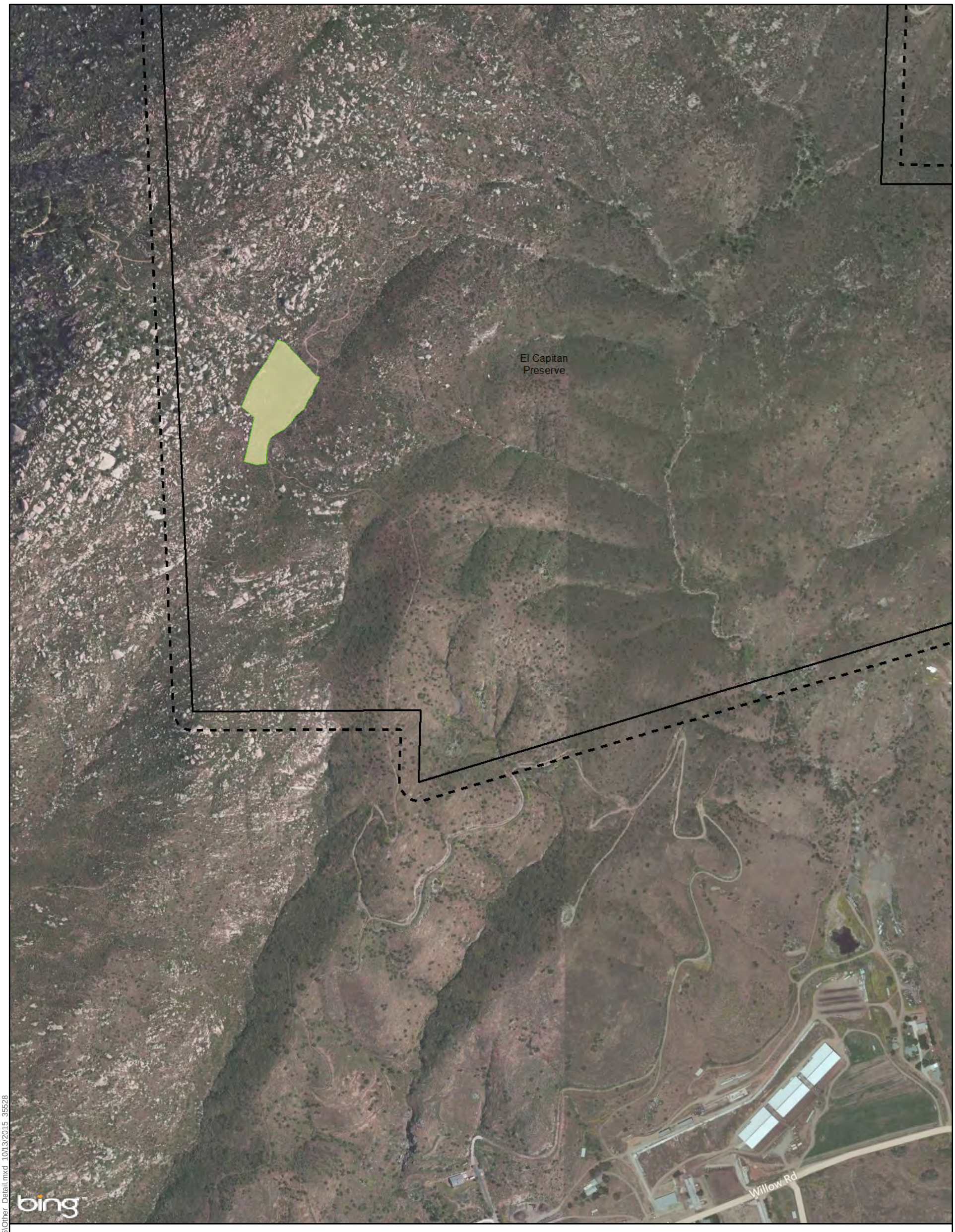
Appendix A Figure 11E
Habitat Stressors, Plant Observations, and Monitoring Plot Locations
El Capitan Preserve



Legend

Preserve Boundaries

Preserve Boundaries 100-foot Buffer

Rare Plants Areas

Lakeside Ceanothus *(Ceanothus cyaneus)*

0 250 500 Feet

N

Source: Vegetation-ICFI, 2015; Imagery-BING, 2015.

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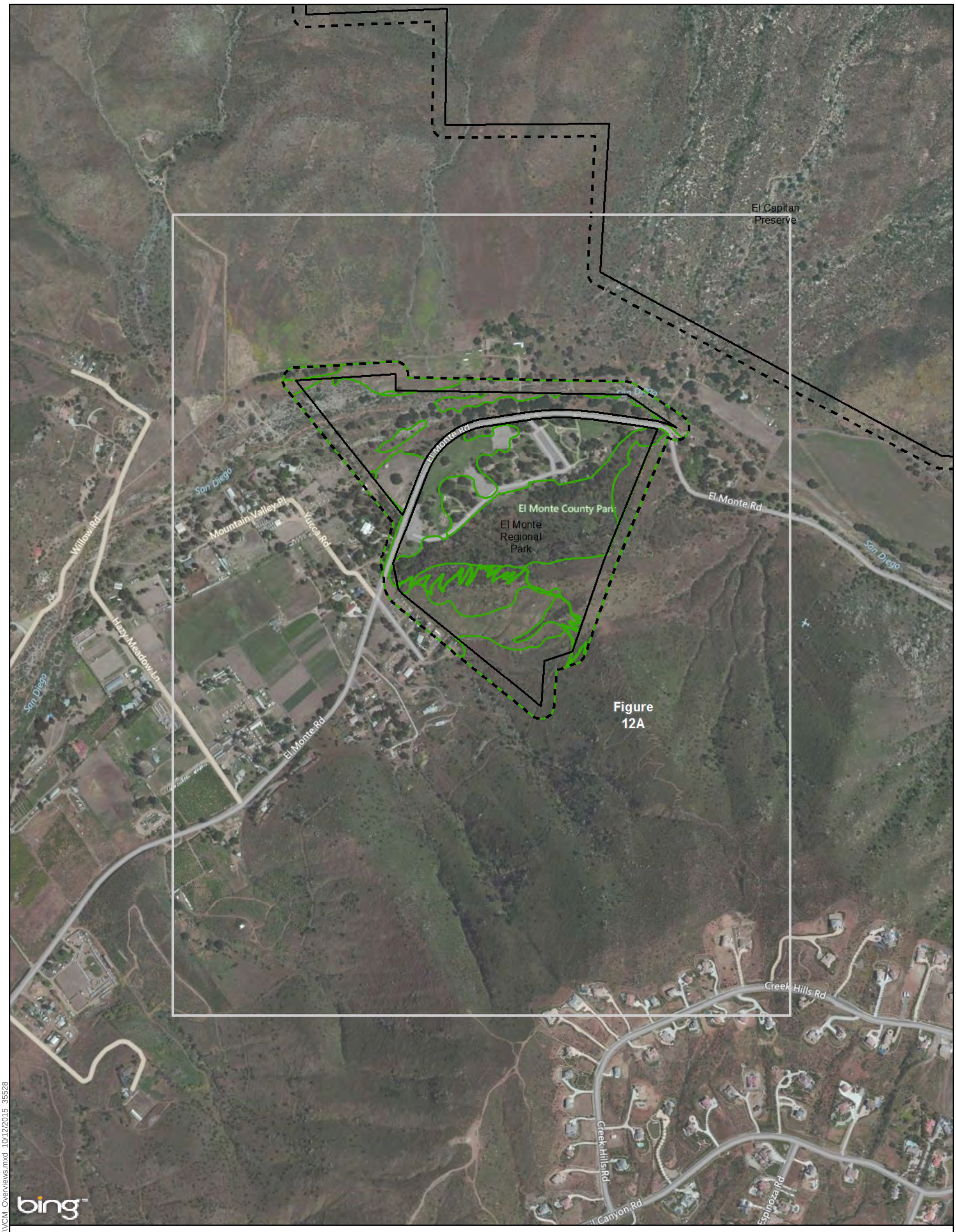
Appendix A Figure 11G
Habitat Stressors, Plant Observations, and Monitoring Plot Locations
El Capitan Preserve



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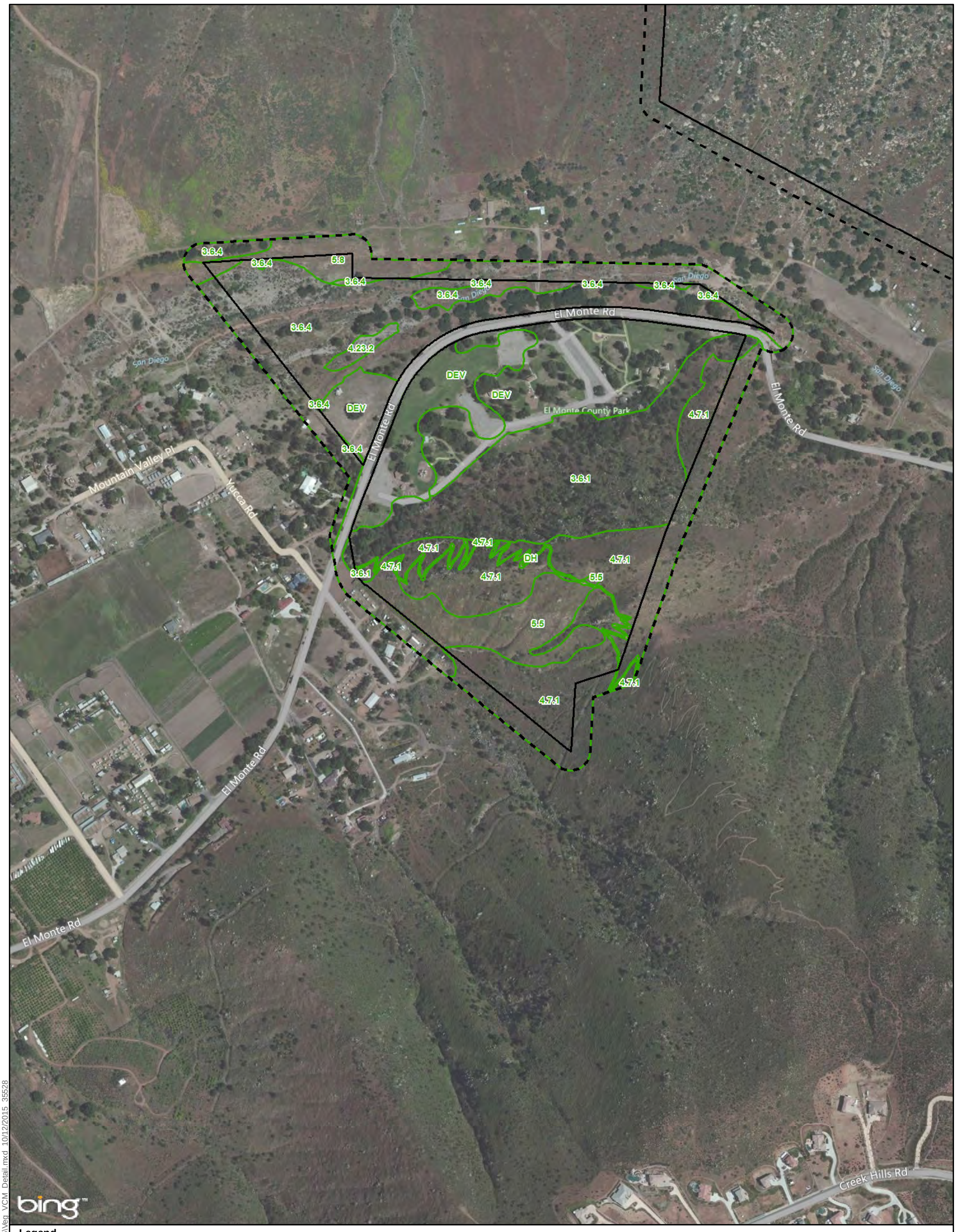
Appendix A Figure 12 Overview
Vegetation Communities/Habitats (Vegetation Classification Manual)
El Monte Regional Park



Legend

Preserve Boundaries

Preserve Boundaries 100-foot Buffer

Vegetation

Vegetation Key per Classification Manual

3.6.1, Quercus agrifolia-Artemisia californica Association

3.6.4, Quercus agrifolia-Toxicodendron diversilobum-Grass Association

3.7.2, Quercus engelmannii-Quercus agrifolia-Toxicodendron diversilobum-Grass Association

4.2.2, Adenostoma fasciculatum-Xylococcus bicolor-Ceanothus tomentosus Association

4.23.2, Eriogonum fasciculatum-Salvia columbariae-Mirabilis laevis Provisional Association

4.7.1, Artemisia californica-Eriogonum fasciculatum-Malosma laurina Association

5.5, Avena (barbata; fatua) Semi-Natural Stands

5.8, Bromus (diandrus; hordeaceus)-Brachypodium distachyon Semi-Natural Stands

DEV, Developed

DH, Disturbed Habitat

0 250 500 Feet

N

Source: Vegetation-ICFI, 2015; Imagery-BING, 2015.

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Appendix A Figure 12A
Vegetation Communities/Habitats (Vegetation Classification Manual)
El Monte Regional Park

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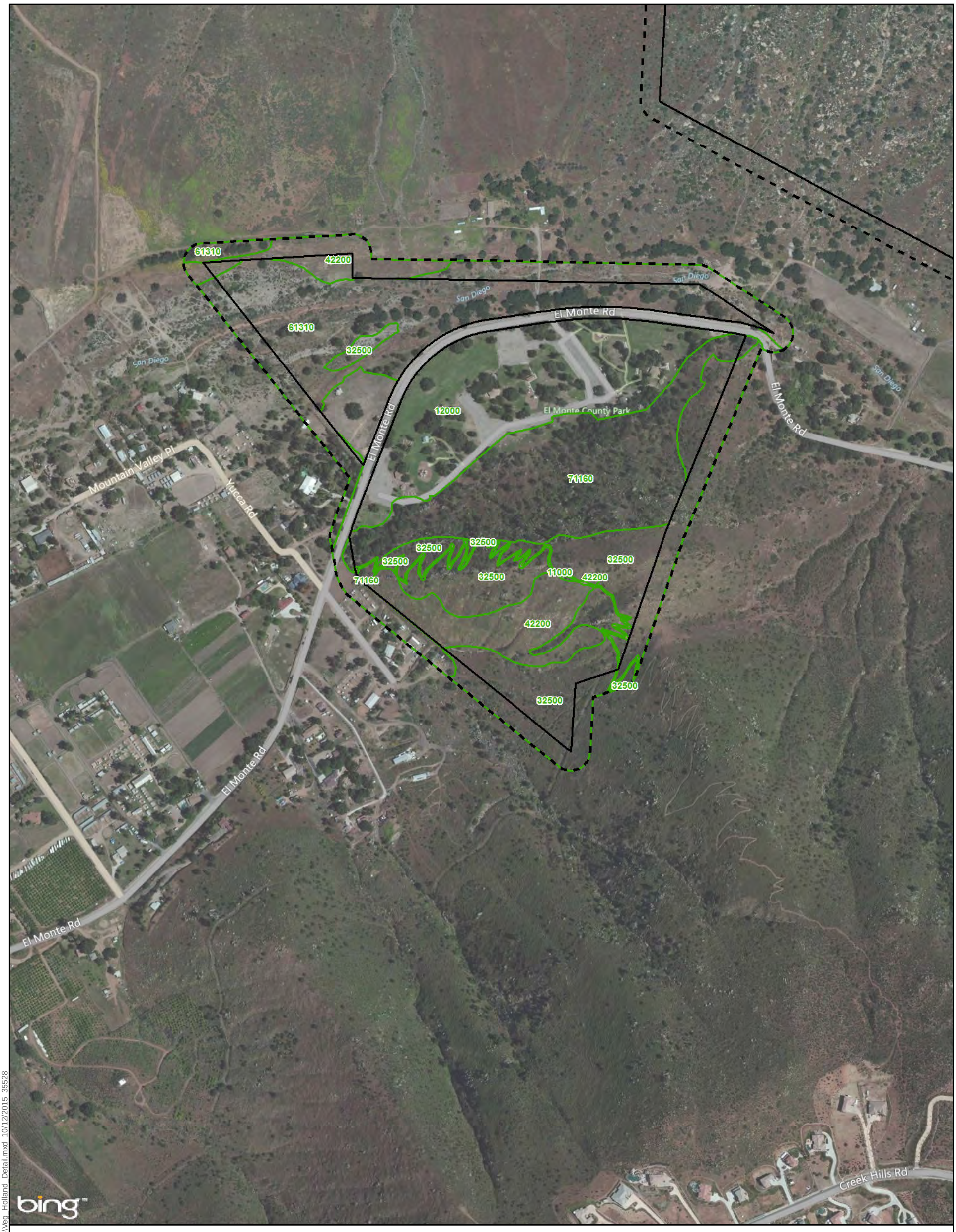
Appendix A Figure 13 Overview
Vegetation Communities/Habitats (Modified Holland Code)
El Monte Regional Park



Legend

Preserve Boundaries	32500 - Diegan Coastal Sage Scrub
Preserve Boundaries 100-foot Buffer	37120 - Southern Mixed Chaparral
Vegetation	42200 - Non-Native Grassland
Vegetation Key per Classification Manual	61310 - Southern Coast Live Oak Riparian Forest
11000 - Disturbed Habitat	71160 - Coast Live Oak Woodland
12000 - Urban/Developed	71180 - Engelmann Oak Woodland

0 250 500 Feet

N

Source: Vegetation-ICFI, 2015; Imagery-BING, 2015.

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Appendix A Figure 13A
Vegetation Communities/Habitats (Modified Holland Code)
El Monte Regional Park

Legend

- Preserve Boundaries
- Preserve Boundaries 100-foot Buffer

Invasive Plants

- Tree Tobacco *(Nicotiana glauca)*
- African Fountain Grass *(Pennisetum setaceum)*

0 387.5 775 Feet

N

Source: Vegetation-ICFI, 2015; Imagery-BING, 2015.

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Appendix A Figure 14 Overview
Habitat Stressors, Plant Observations, and Monitoring Plot Locations
El Monte Regional Park

Legend

Preserve Boundaries

Preserve Boundaries 100-foot Buffer

Invasive Plants

Tree Tobacco *(Nicotiana glauca)*

African Fountain Grass *(Pennisetum setaceum)*

0 250 500 Feet

N

Source: Vegetation-ICFI, 2015; Imagery-BING, 2015.

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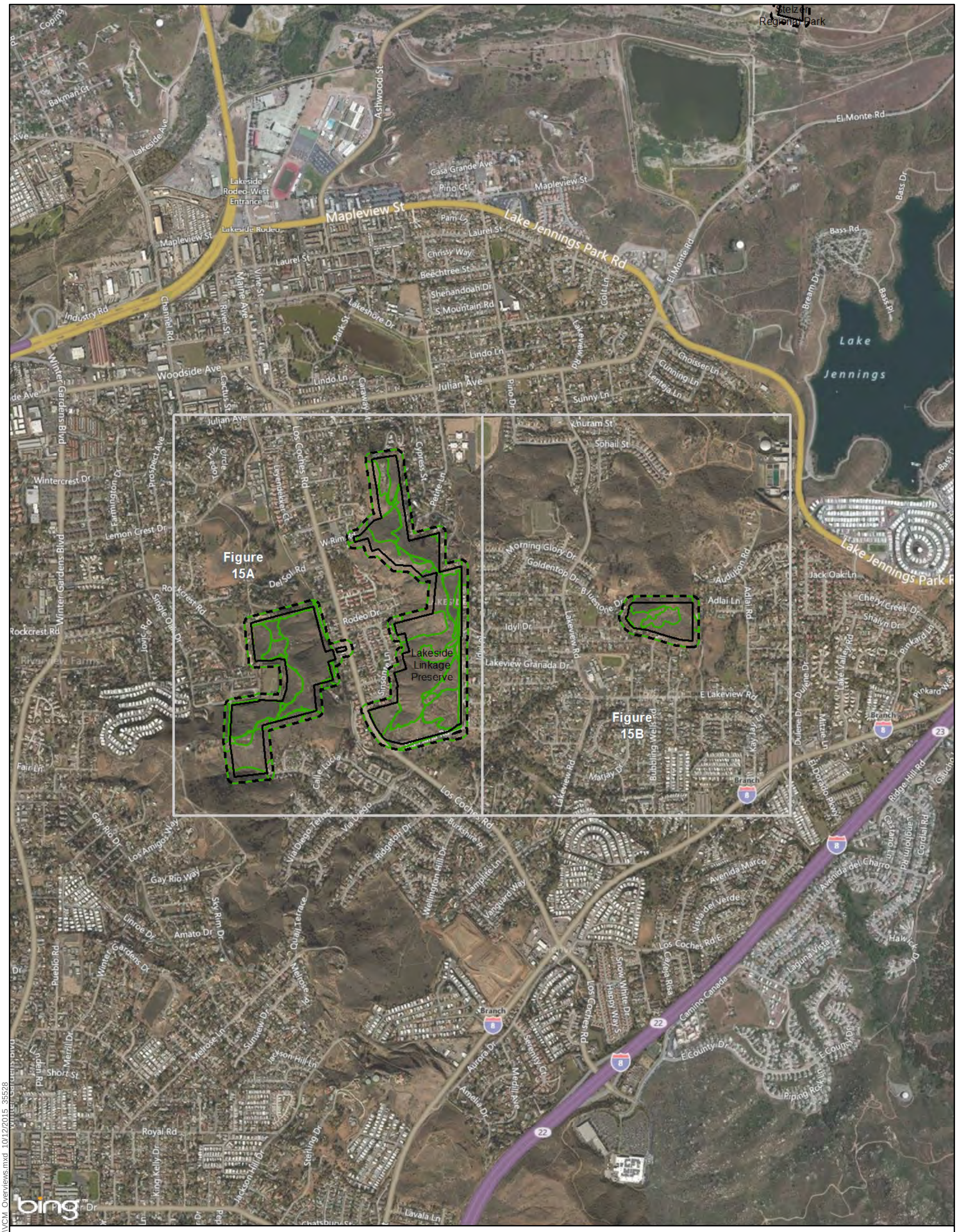
Appendix A Figure 14A
Habitat Stressors, Plant Observations, and Monitoring Plot Locations
El Monte Regional Park



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Appendix A Figure 15 Overview
Vegetation Communities/Habitats (Vegetation Classification Manual)
Lakeside Linkage Preserve

Legend

- Preserve Boundaries
- Preserve Boundaries 100-foot Buffer
- Vegetation

Vegetation Key per Classification Manual

- 3.2, Eucalyptus (globulus; camaldulensis) Semi-Natural Stands
- 4.13.1, Bahiopsis laciniata-Artemisia californica-Eriogonum fasciculatum Association
- 4.7, Artemisia californica-Eriogonum fasciculatum Alliance
- 4.7.1, Artemisia californica-Eriogonum fasciculatum-Malosma laurina Association
- 4.7.2, Artemisia californica-Eriogonum fasciculatum-Opuntia littoralis/Dudleya (edulis) Association
- 5.21, Mediterranean California Naturalized Annual and Perennial Grassland Semi-Natural Stands
- DEV, Developed
- DH, Disturbed Habitat

0 250 500 Feet

N

Source: Vegetation-ICFI, 2015; Imagery-BING, 2015.

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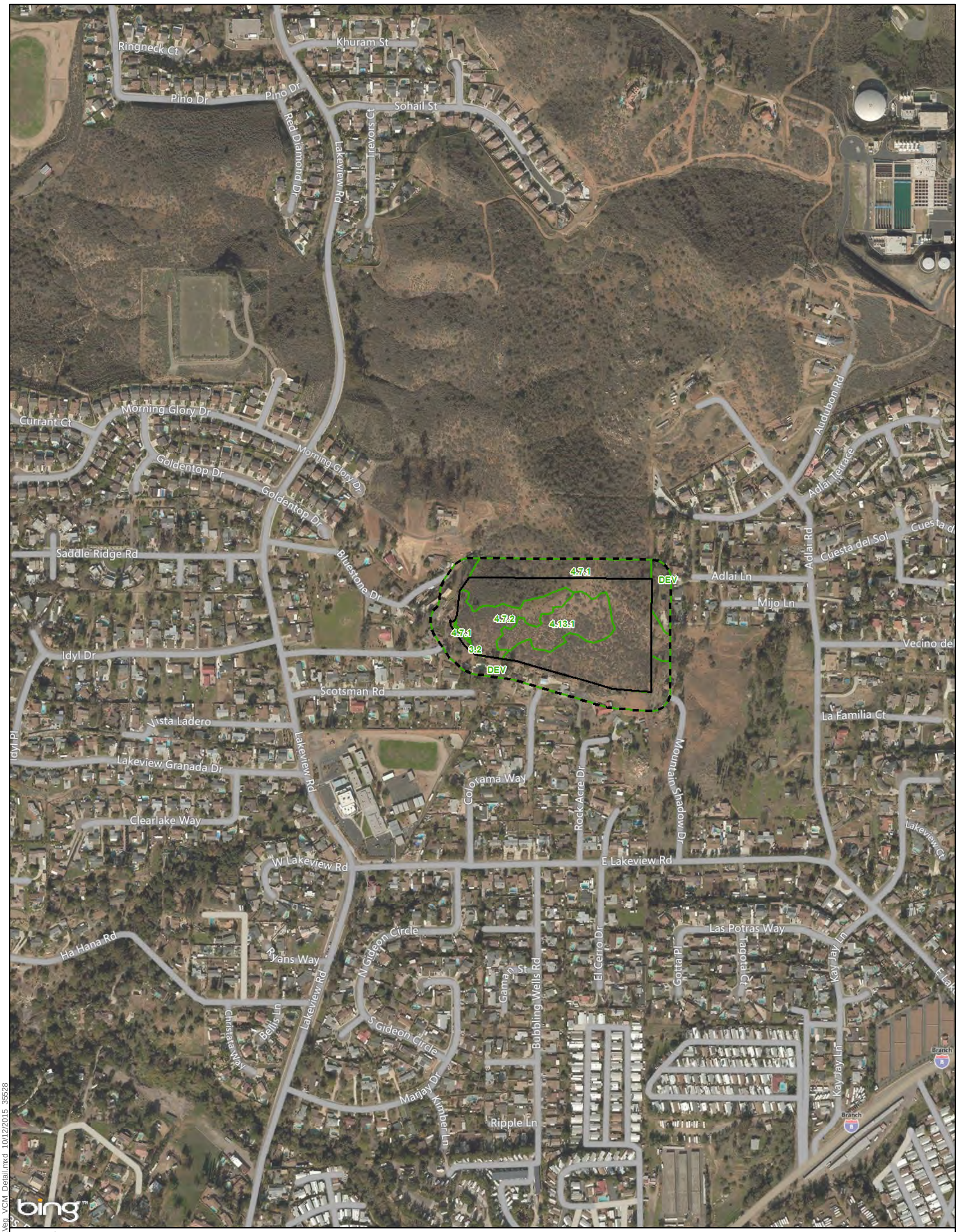
Appendix A Figure 15A
Vegetation Communities/Habitats (Vegetation Classification Manual)
Lakeside Linkage Preserve



Legend

Preserve Boundaries

Preserve Boundaries 100-foot Buffer

Vegetation

Vegetation Key per Classification Manual

3.2, Eucalyptus (globulus; camaldulensis) Semi-Natural Stands

4.13.1, Bahiopsis laciniata-Artemisia californica-Eriogonum fasciculatum Association

4.7.1, Artemisia californica-Eriogonum fasciculatum-Malosma laurina Association

4.7.2, Artemisia californica-Eriogonum fasciculatum-Opuntia littoralis/Dudleya (edulis) Association

DEV, Developed

0 250 500 Feet

N

Source: Vegetation-ICFI, 2015; Imagery-BING, 2015.

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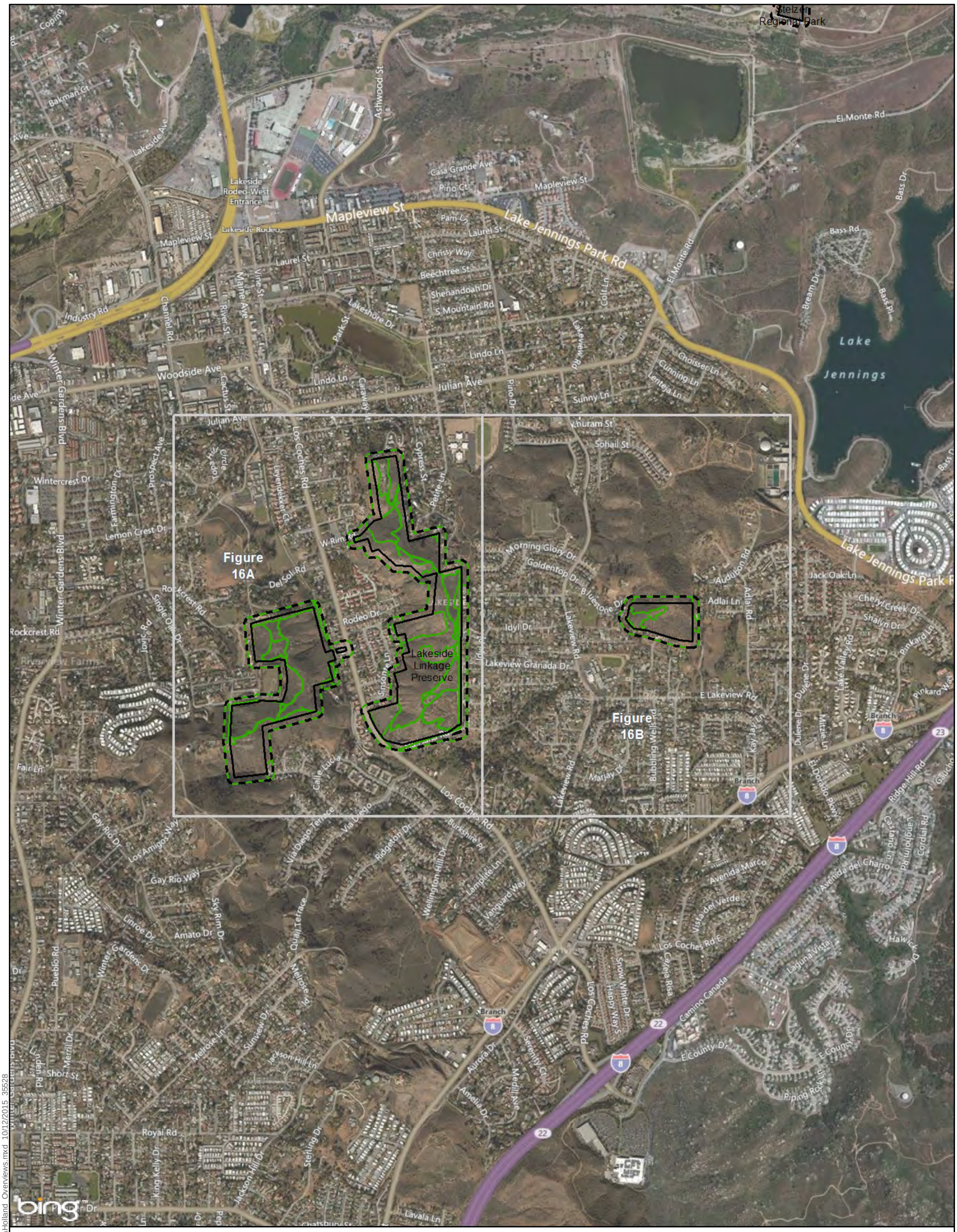
Appendix A Figure 15B
Vegetation Communities/Habitats (Vegetation Classification Manual)
Lakeside Linkage Preserve



Legend

- Preserve Boundaries
- Preserve Boundaries 100-foot Buffer
- Vegetation

0 750 1,500 Feet

N

Source: Vegetation-ICFI, 2015; Imagery-BING, 2015.

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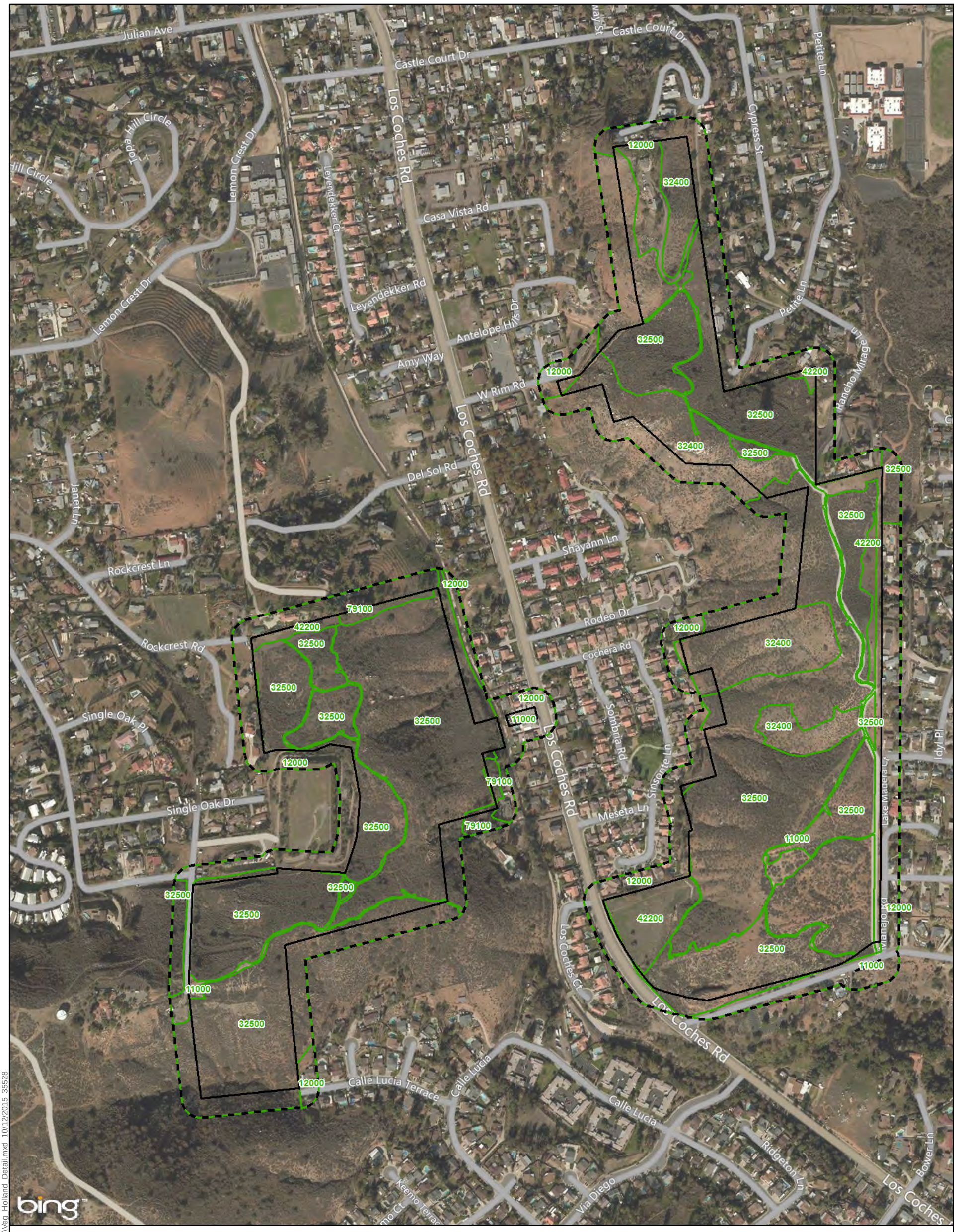
Appendix A Figure 16 Overview
Vegetation Communities/Habitats (Modified Holland Code)
Lakeside Linkage Preserve



Legend

Preserve Boundaries	12000 - Urban/Developed
Preserve Boundaries 100-foot Buffer	32400 - Maritime Succulent Scrub
Vegetation	32500 - Diegan Coastal Sage Scrub
Vegetation Key per Classification Manual	42200 - Non-Native Grassland
11000 - Disturbed Habitat	79100 - Eucalyptus Woodland

0 250 500 Feet

N

Source: Vegetation-ICFI, 2015; Imagery-BING, 2015.

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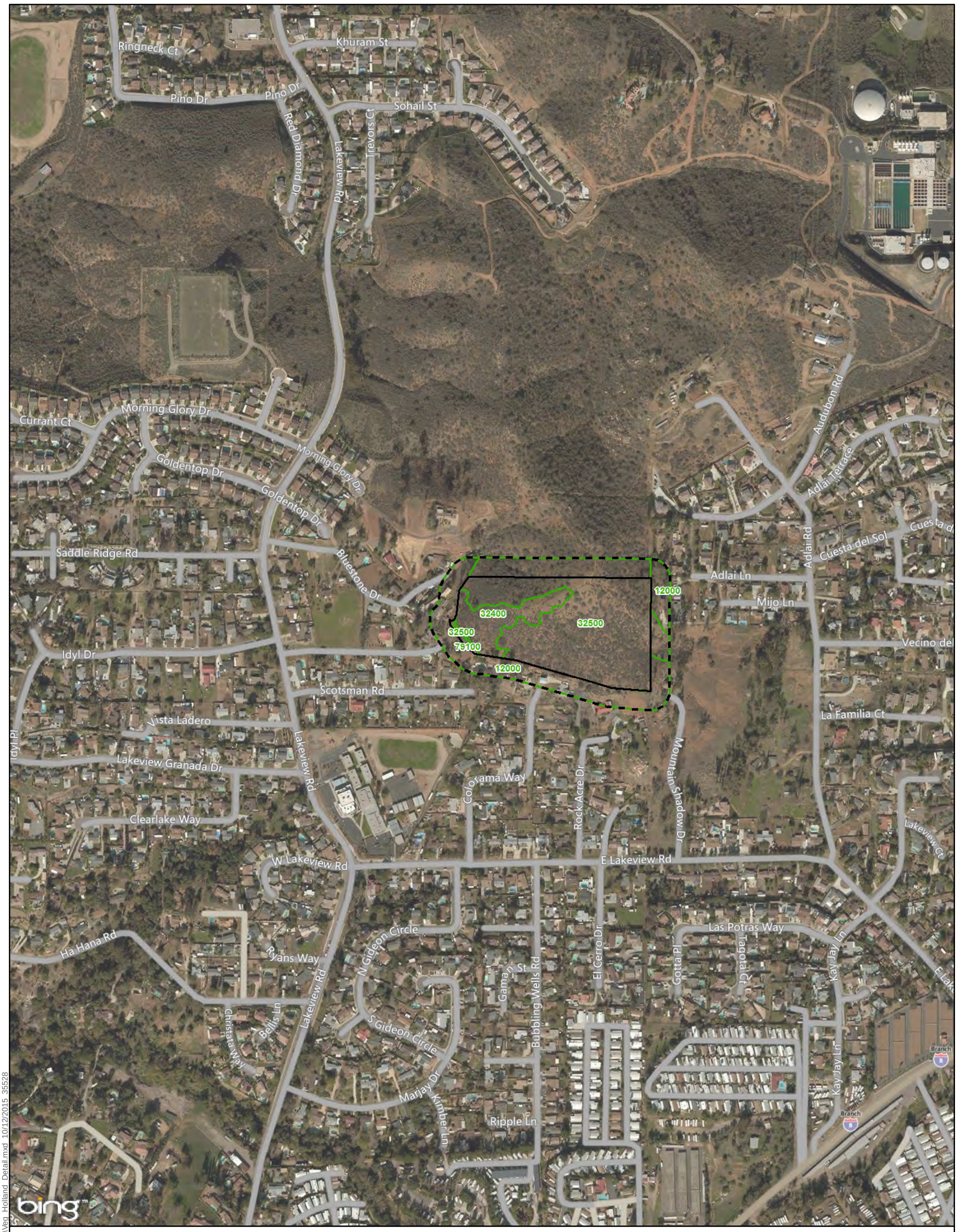
Appendix A Figure 16A
Vegetation Communities/Habitats (Modified Holland Code)
Lakeside Linkage Preserve



Legend

Preserve Boundaries	12000 - Urban/Developed
Preserve Boundaries 100-foot Buffer	32400 - Maritime Succulent Scrub
Vegetation	32500 - Diegan Coastal Sage Scrub
Vegetation Key per Classification Manual	79100 - Eucalyptus Woodland

0 250 500 Feet

N

Source: Vegetation-ICFI, 2015; Imagery-BING, 2015.

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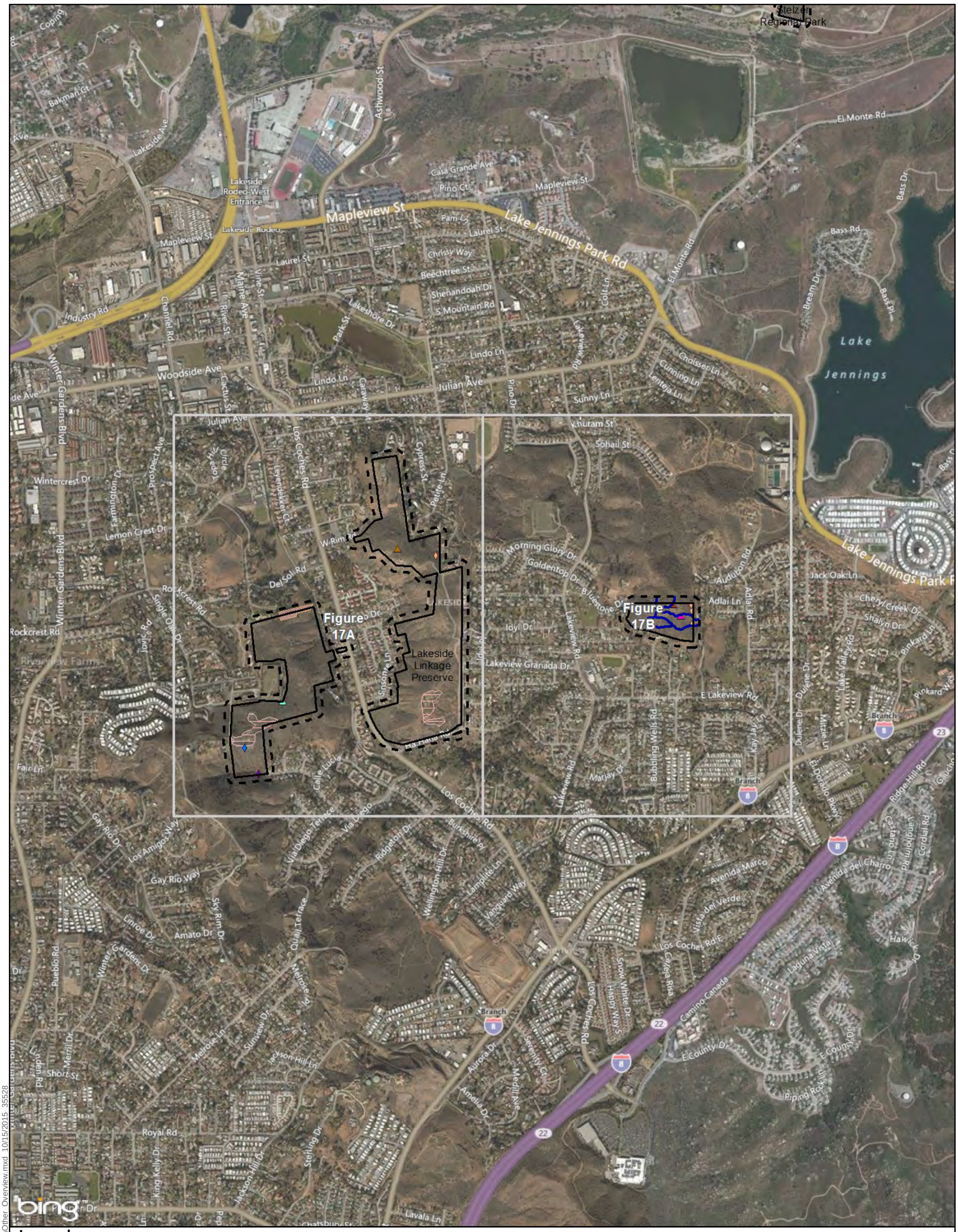
Appendix A Figure 16B
Vegetation Communities/Habitats (Modified Holland Code)
Lakeside Linkage Preserve



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Appendix A Figure 17 Overview
Habitat Stressors, Plant Observations, and Monitoring Plot Locations
Lakeside Linkage Preserve

Legend

Preserve Boundaries

Preserve Boundaries 100-foot Buffer

Invasive Plants

Tree-Of-Heaven *(Ailanthus altissima)*

Eucalyptus *(Eucalyptus sp.)*

African Fountain Grass *(Pennisetum setaceum)*

Invasive Plants

Eucalyptus *(Eucalyptus sp.)*

Disturbance Stressor

Erosion

ORV Activity

Disturbance Stressor

Off Road Vehicles

0 250 500 Feet

N

Source: Vegetation-ICFI, 2015; Imagery-BING, 2015.

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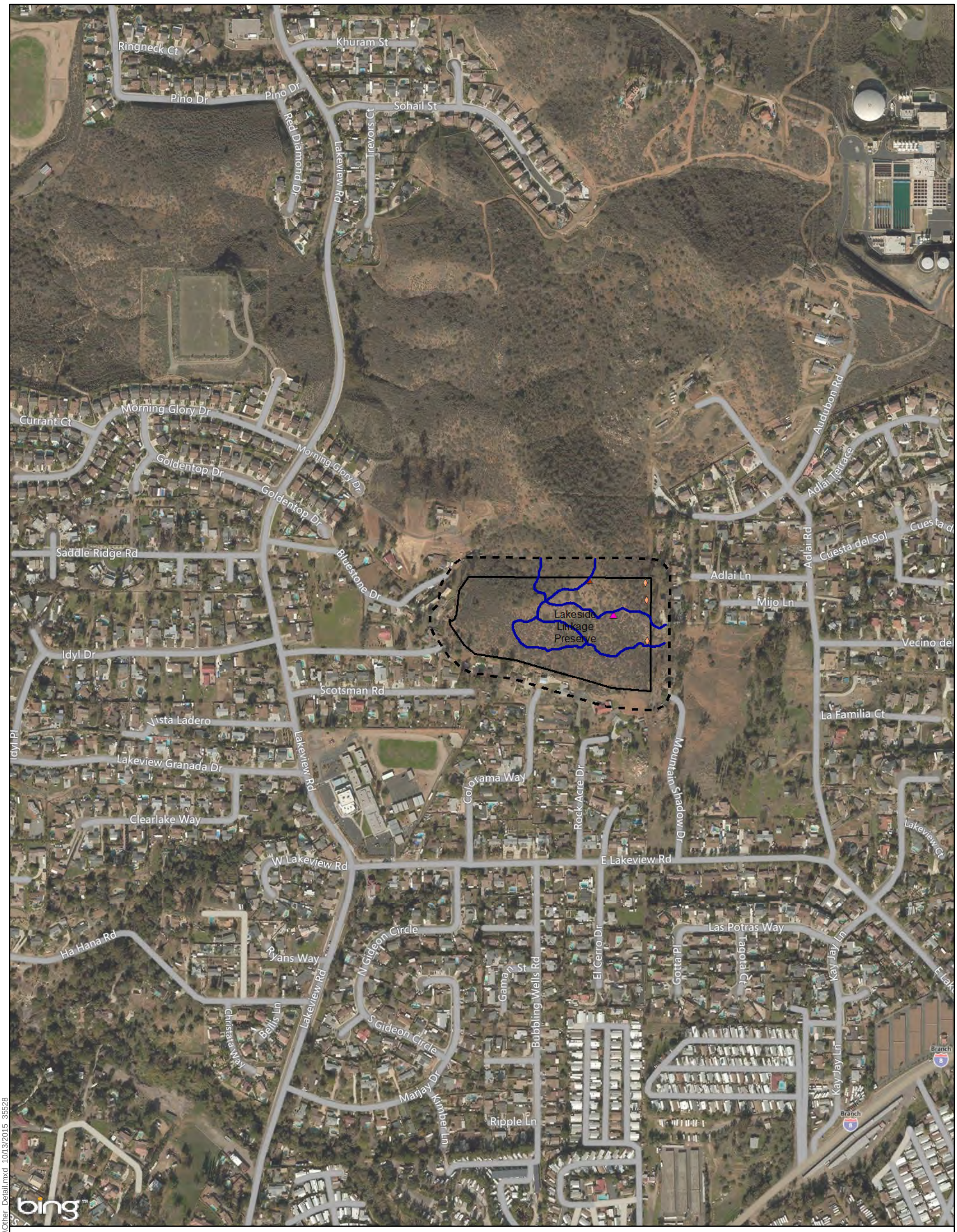
Appendix A Figure 17A
Habitat Stressors, Plant Observations, and Monitoring Plot Locations
Lakeside Linkage Preserve



Legend

- Preserve Boundaries
- Preserve Boundaries 100-foot Buffer

Invasive Plants

- Eucalyptus *(Eucalyptus sp.)*

Disturbance Stressor

- Dumping/Trash
- Illegal Trail
- Illegal Trail

0 250 500 Feet

N

Source: Vegetation-ICFI, 2015; Imagery-BING, 2015.

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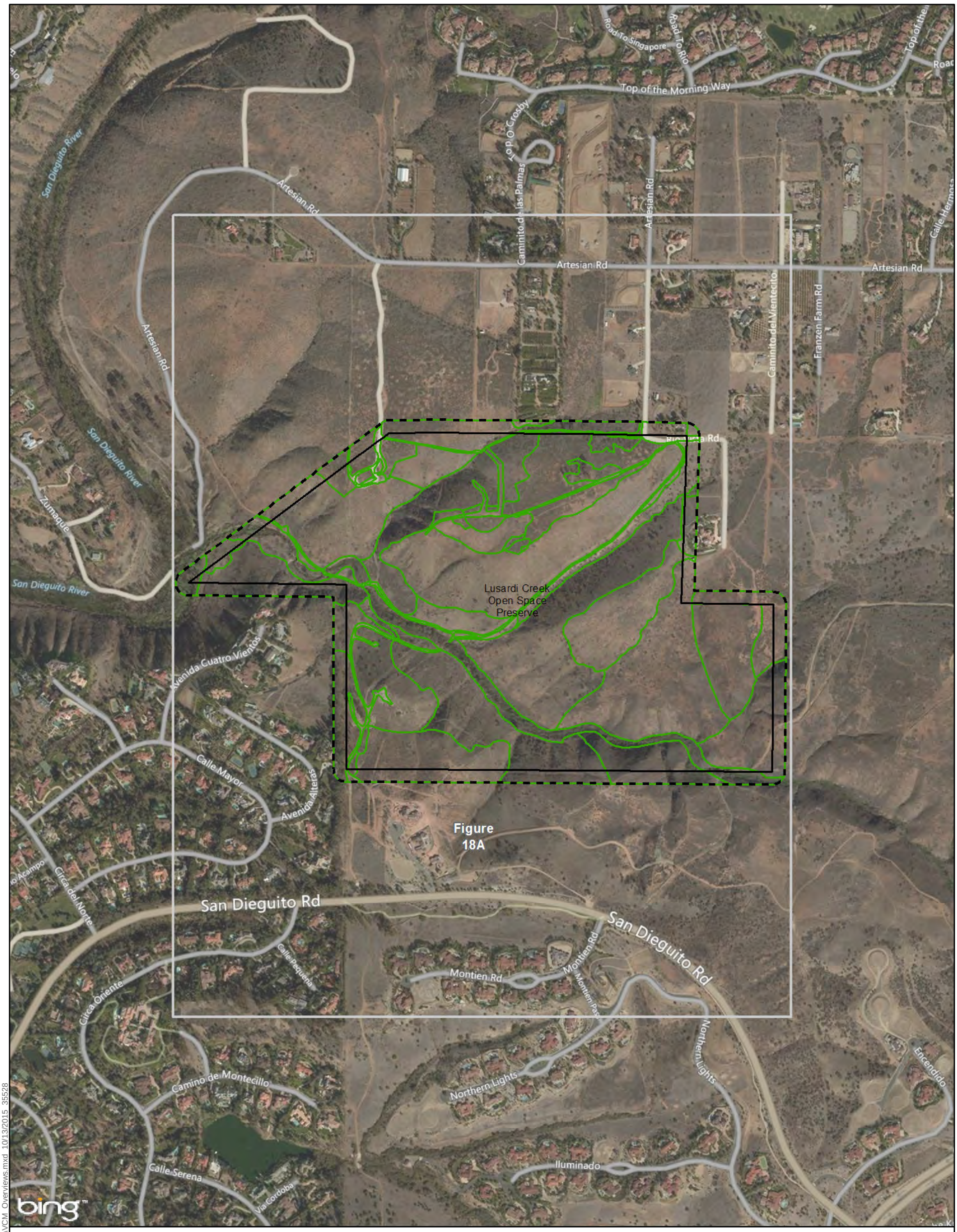
Appendix A Figure 17B
Habitat Stressors, Plant Observations, and Monitoring Plot Locations
Lakeside Linkage Preserve



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Appendix A Figure 18 Overview
Vegetation Communities/Habitats (Vegetation Classification Manual)
Lusardi Creek Open Space Preserve

Legend

Preserve Boundaries

Preserve Boundaries 100-foot Buffer

Vegetation Key per Classification Manual

3.10.0, Salix lasiolepis Association

3.2, Eucalyptus (globulus; camaldulensis) Semi-Natural Stands

4.1, Adenostoma fasciculatum Alliance

4.1.2, Adenostoma fasciculatum-(Eriogonum fasciculatum; Artemisia californica; Salvia mellifera) Association

4.2.1, Adenostoma fasciculatum-Xylococcus bicolor Association

4.29.1, Isocoma menziesii Provisional Association

4.35.1, Malosma laurina-Lotus scoparius Association

4.42.1, Rhus integrifolia Association

4.7, Artemisia californica-Eriogonum fasciculatum Alliance

4.7.1, Artemisia californica-Eriogonum fasciculatum-Malosma laurina Association

4.7.2, Artemisia californica-Eriogonum fasciculatum-Opuntia littoralis/Dudleya (edulis) Association

4.8.1, Artemisia californica-Salvia mellifera Assocation

5.13.1, Deinandra fasciculata Association

5.21, Mediterranean California Naturalized Annual and Perennial Grassland Semi-Natural Stands

5.5, Avena (barbata; fatua) Semi-Natural Stands

5.7.1, Brassica nigra and Other Mustards Seminatural Stands

AGR, Agriculture

DEV, Developed

DH, Disturbed Habitat

0 250 500 Feet

N

Source: Vegetation-ICFI, 2015; Imagery-BING, 2015.

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Appendix A Figure 18A
Vegetation Communities/Habitats (Vegetation Classification Manual)
Lusardi Creek Open Space Preserve

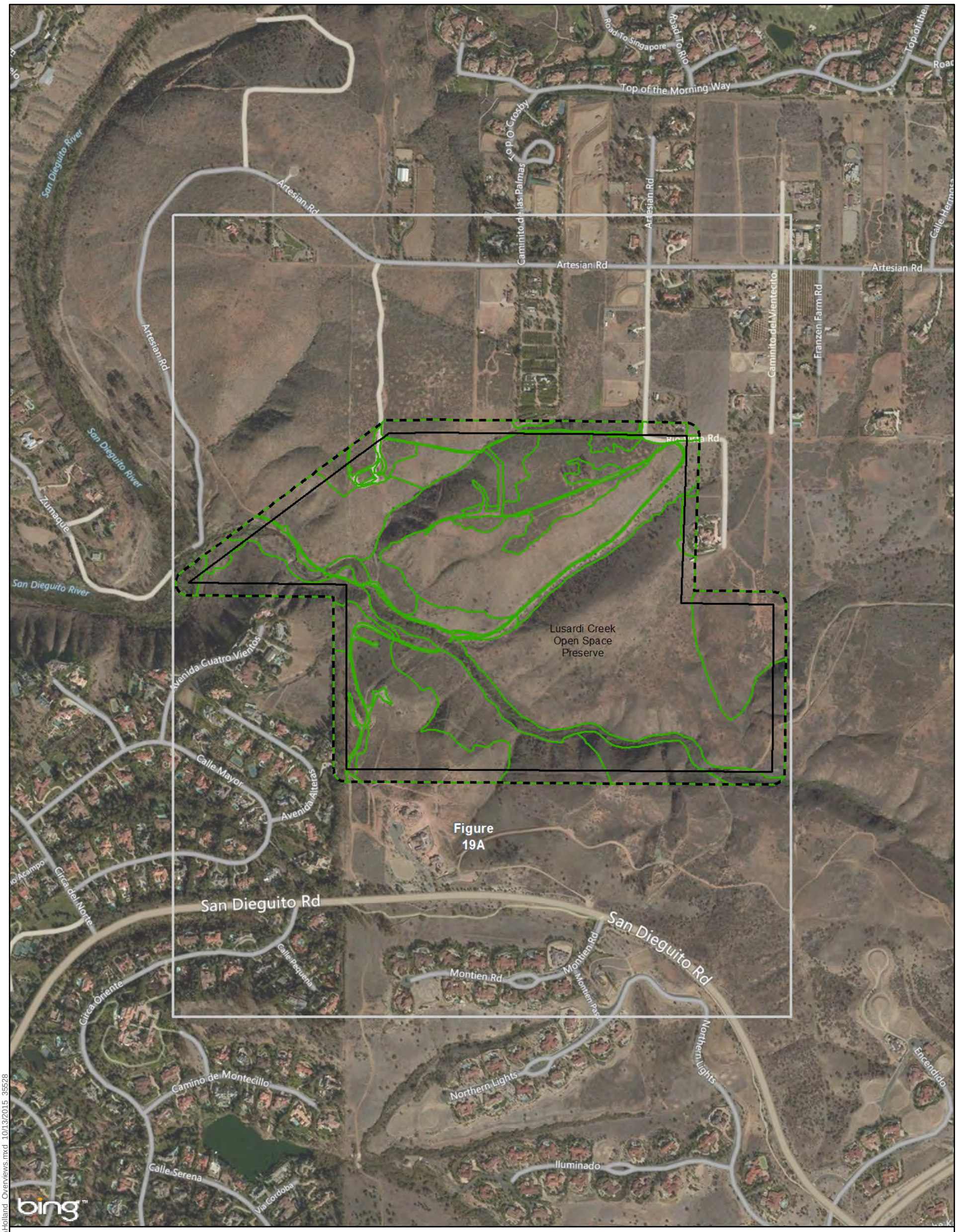

Figure 19A

Source: Vegetation-ICFI, 2015; Imagery-BING, 2015.

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Appendix A Figure 19 Overview
Vegetation Communities/Habitats (Modified Holland Code)
Lusardi Creek Open Space Preserve

Legend

- Preserve Boundaries
- Preserve Boundaries 100-foot Buffer
- Vegetation

Vegetation Key per Classification Manual

- 11000 - Disturbed Habitat
- 12000 - Urban/Developed
- 18000 - General Agriculture
- 32000 - Coastal Scrub
- 32400 - Maritime Succulent Scrub
- 32500 - Diegan Coastal Sage Scrub
- 37120 - Southern Mixed Chaparral
- 37200 - Chamise Chaparral
- 37C30 - Coastal Sage-Chaparral Transition
- 42200 - Non-Native Grassland
- 42210 - Non-Native Grassland: Broadleaf-Dominated
- 42300 - Wildflower Field
- 61320 - Southern Arroyo Willow Riparian Forest
- 79100 - Eucalyptus Woodland

0 250 500 Feet

N

Source: Vegetation-ICFI, 2015; Imagery-BING, 2015.

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Appendix A Figure 19A
Vegetation Communities/Habitats (Modified Holland Code)
Lusardi Creek Open Space Preserve

Legend

Preserve Boundaries

Preserve Boundaries 100-foot Buffer

Rare Plants

- Ashy Spike-Moss *(Selaginella cinerascens)*
- California Adolphia *(Adolphia californica)*
- San Diego Barrel Cactus *(Ferocactus viridescens)*

Rare Plants Areas

California Adolphia *(Adolphia californica)*

Invasive Plants

- Arundo *(Arundo donax)*
- Sweet Fennel *(Foeniculum vulgare)*
- Tree Tobacco *(Nicotiana glauca)*
- Canary Island Date Palm *(Phoenix canariensis)*
- Castor Bean *(Ricinus communis)*
- Wallaby Grass *(Rytidosperma caespitosum)*
- Milk Thistle *(Silybum marianum)*

Disturbance Stressor

Vegetation Clearing

0 387.5 775 Feet

N

Source: Vegetation-ICFI, 2015; Imagery-BING, 2015.

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Appendix A Figure 20 Overview
Habitat Stressors, Plant Observations, and Monitoring Plot Locations
Lusardi Creek Open Space Preserve

Legend

- Preserve Boundaries
- Preserve Boundaries 100-foot Buffer

Rare Plants

- Ashy Spike-Moss *(Selaginella cinerascens)*
- California Adolphia *(Adolphia californica)*
- San Diego Barrel Cactus *(Ferocactus viridescens)*

Rare Plants Areas

- California Adolphia *(Adolphia californica)*

Invasive Plants

- Arundo *(Arundo donax)*
- Sweet Fennel *(Foeniculum vulgare)*
- Tree Tobacco *(Nicotiana glauca)*
- Canary Island Date Palm *(Phoenix canariensis)*
- Castor Bean *(Ricinus communis)*
- Wallaby Grass *(Rytidosperma caespitosum)*
- Milk Thistle *(Silybum marianum)*

Disturbance Stressor

- Vegetation Clearing

0 250 500 Feet

N

Source: Vegetation-ICFI, 2015; Imagery-BING, 2015.

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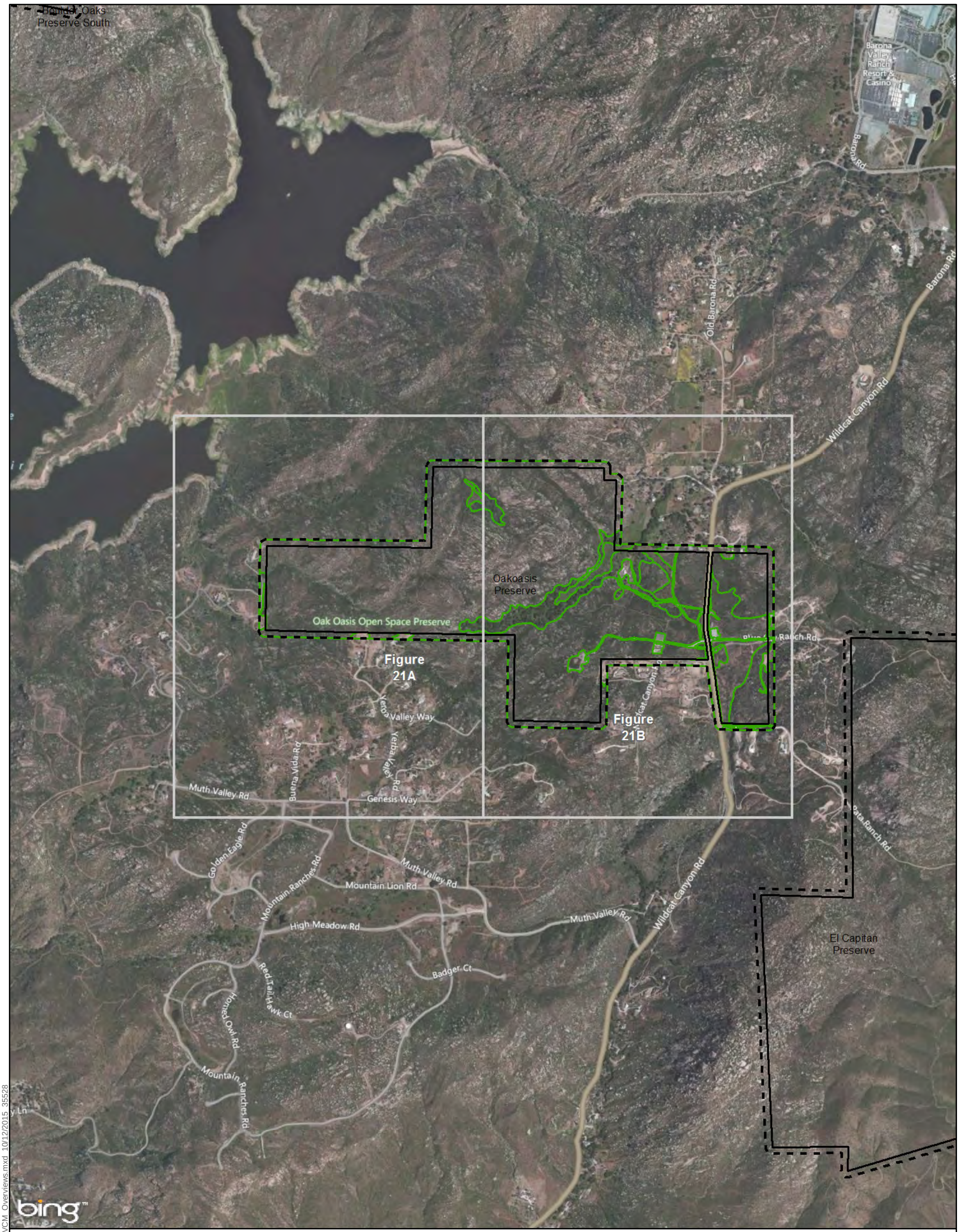
Appendix A Figure 20A
Habitat Stressors, Plant Observations, and Monitoring Plot Locations
Lusardi Creek Open Space Preserve



Legend

- Preserve Boundaries
- Preserve Boundaries 100-foot Buffer
- Vegetation

0 750 1,500 Feet

N

Source: Vegetation-ICFI, 2015; Imagery-BING, 2015.

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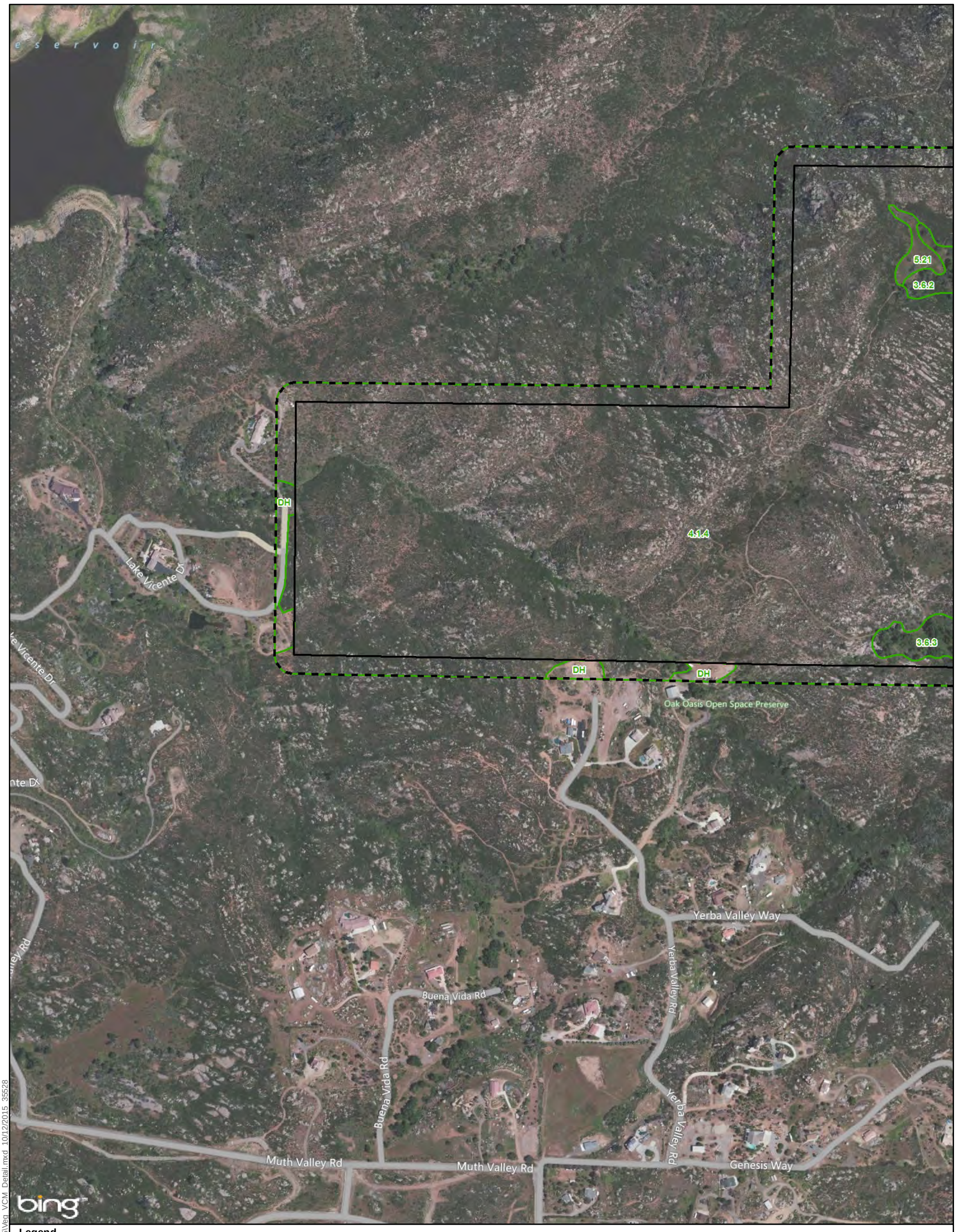
Appendix A Figure 21 Overview
Vegetation Communities/Habitats (Vegetation Classification Manual)
Oakoasis Preserve



Legend

- Preserve Boundaries
- Preserve Boundaries 100-foot Buffer
- Vegetation

Vegetation Key per Classification Manual

3.6.2, Quercus agrifolia-Quercus (berberidifolia; ×acutidens) Association

3.6.3, Quercus agrifolia-Salix lasiolepis Association

4.1.4, Adenostoma fasciculatum-Ceanothus tomentosus Association

5.21, Mediterranean California Naturalized Annual and Perennial Grassland Semi-Natural Stands

DH, Disturbed Habitat

0 250 500 Feet

N

Source: Vegetation-ICFI, 2015; Imagery-BING, 2015.

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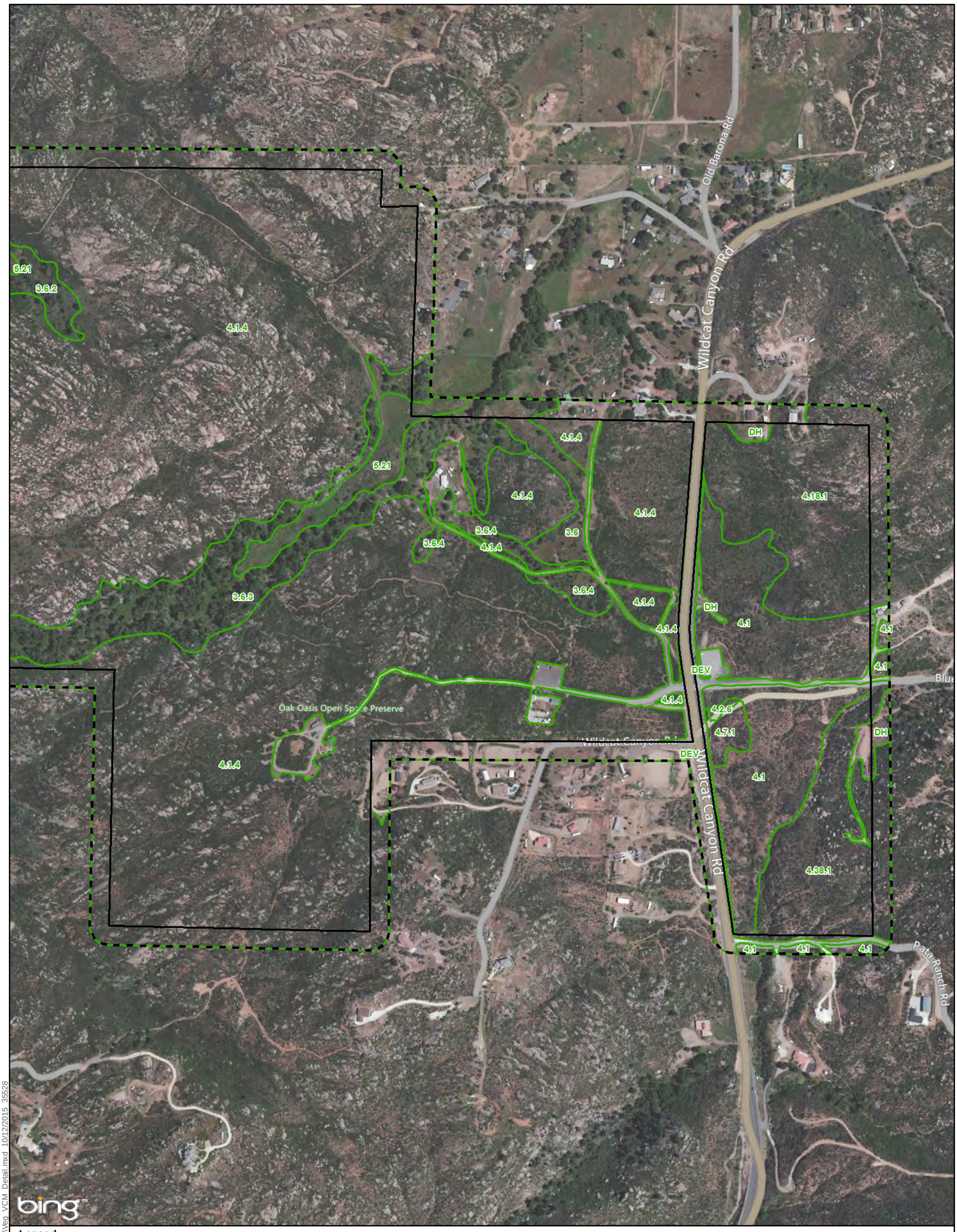
Appendix A Figure 21A
Vegetation Communities/Habitats (Vegetation Classification Manual)
Oakoasis Preserve



Legend

- Preserve Boundaries
- Preserve Boundaries 100-foot Buffer
- Vegetation

Vegetation Key per Classification Manual

- 3.6, Quercus agrifolia Alliance
- 3.6.2, Quercus agrifolia-Quercus (berberidifolia; ×acutidens) Association
- 3.6.3, Quercus agrifolia-Salix lasiolepis Association
- 3.6.4, Quercus agrifolia-Toxicodendron diversilobum-Grass Association
- 4.1, Adenostoma fasciculatum Alliance
- 4.1.4, Adenostoma fasciculatum-Ceanothus tomentosus Association
- 4.18.1, Ceanothus tomentosus Association
- 4.2.6, Adenostoma fasciculatum-Xylococcus bicolor-Quercus (berberidifolia; ×acutidens) Association
- 4.38.1, Quercus (berberidifolia; ×acutidens)-Adenostoma fasciculatum Association
- 4.7.1, Artemisia californica-Eriogonum fasciculatum-Malosma laurina Association
- 5.21, Mediterranean California Naturalized Annual and Perennial Grassland Semi-Natural Stands
- DEV, Developed
- DH, Disturbed Habitat

0 250 500 Feet

N

Source: Vegetation-ICFI, 2015; Imagery-BING, 2015.

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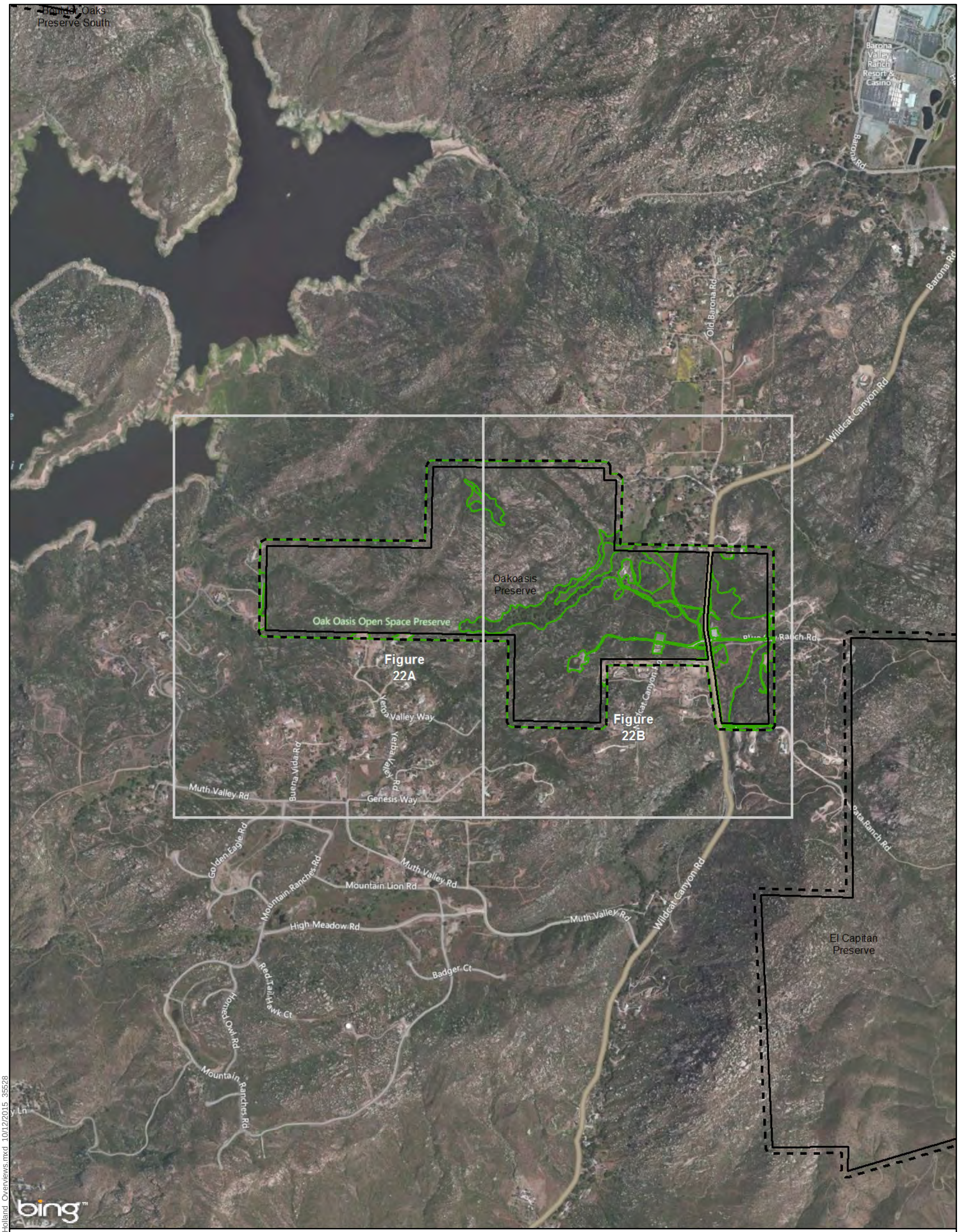
Appendix A Figure 21B
Vegetation Communities/Habitats (Vegetation Classification Manual)
Oakoasis Preserve



Legend

- Preserve Boundaries
- Preserve Boundaries 100-foot Buffer
- Vegetation

0 750 1,500 Feet

N

Source: Vegetation-ICFI, 2015; Imagery-BING, 2015.

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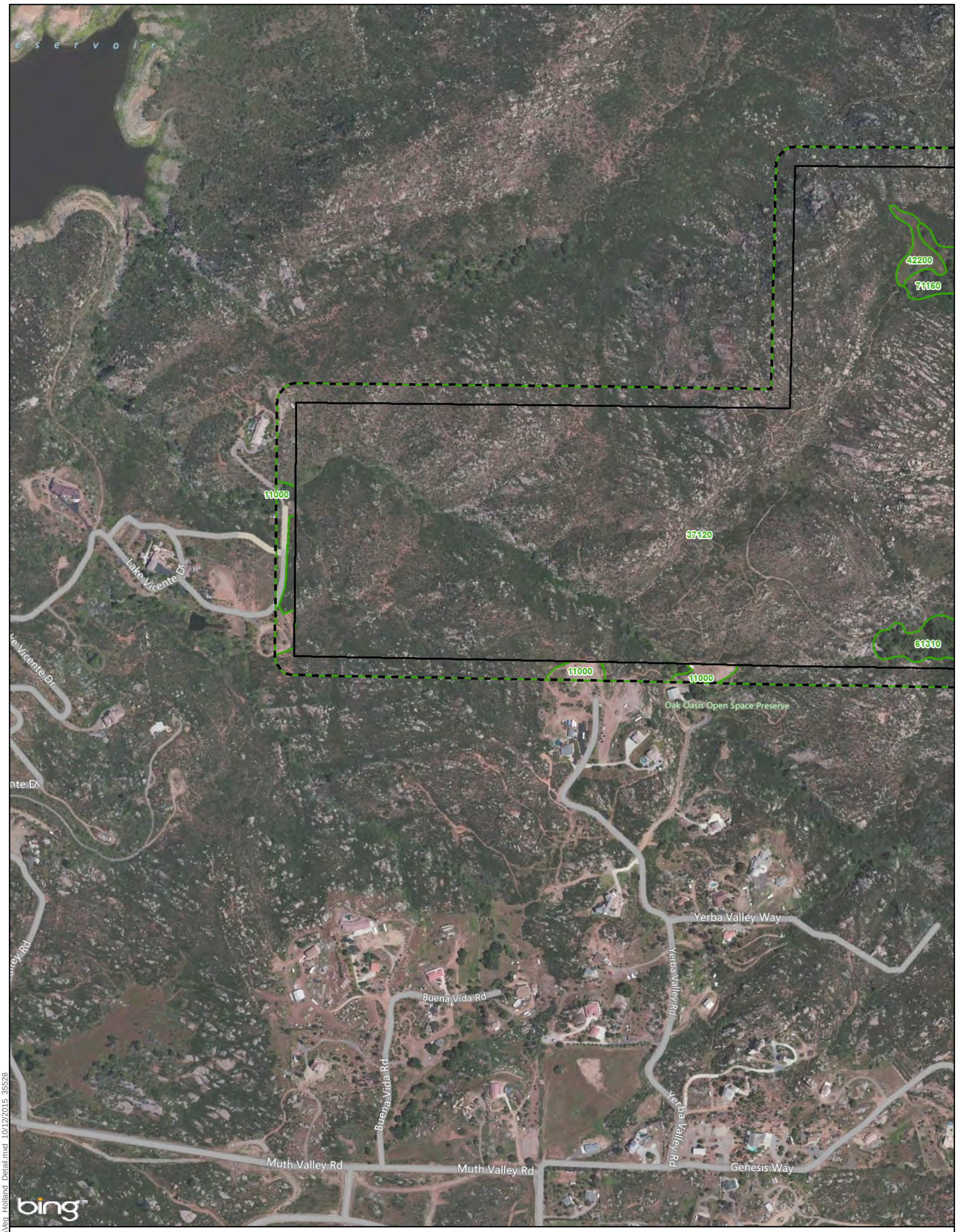
Appendix A Figure 22 Overview
Vegetation Communities/Habitats (Modified Holland Code)
Oakoasis Preserve



Legend

- Preserve Boundaries
- Preserve Boundaries 100-foot Buffer
- Vegetation

Vegetation Key per Classification Manual

11000 - Disturbed Habitat

37120 - Southern Mixed Chaparral

42200 - Non-Native Grassland

61310 - Southern Coast Live Oak Riparian Forest

71160 - Coast Live Oak Woodland

0 250 500 Feet

N

Source: Vegetation-ICFI, 2015; Imagery-BING, 2015.

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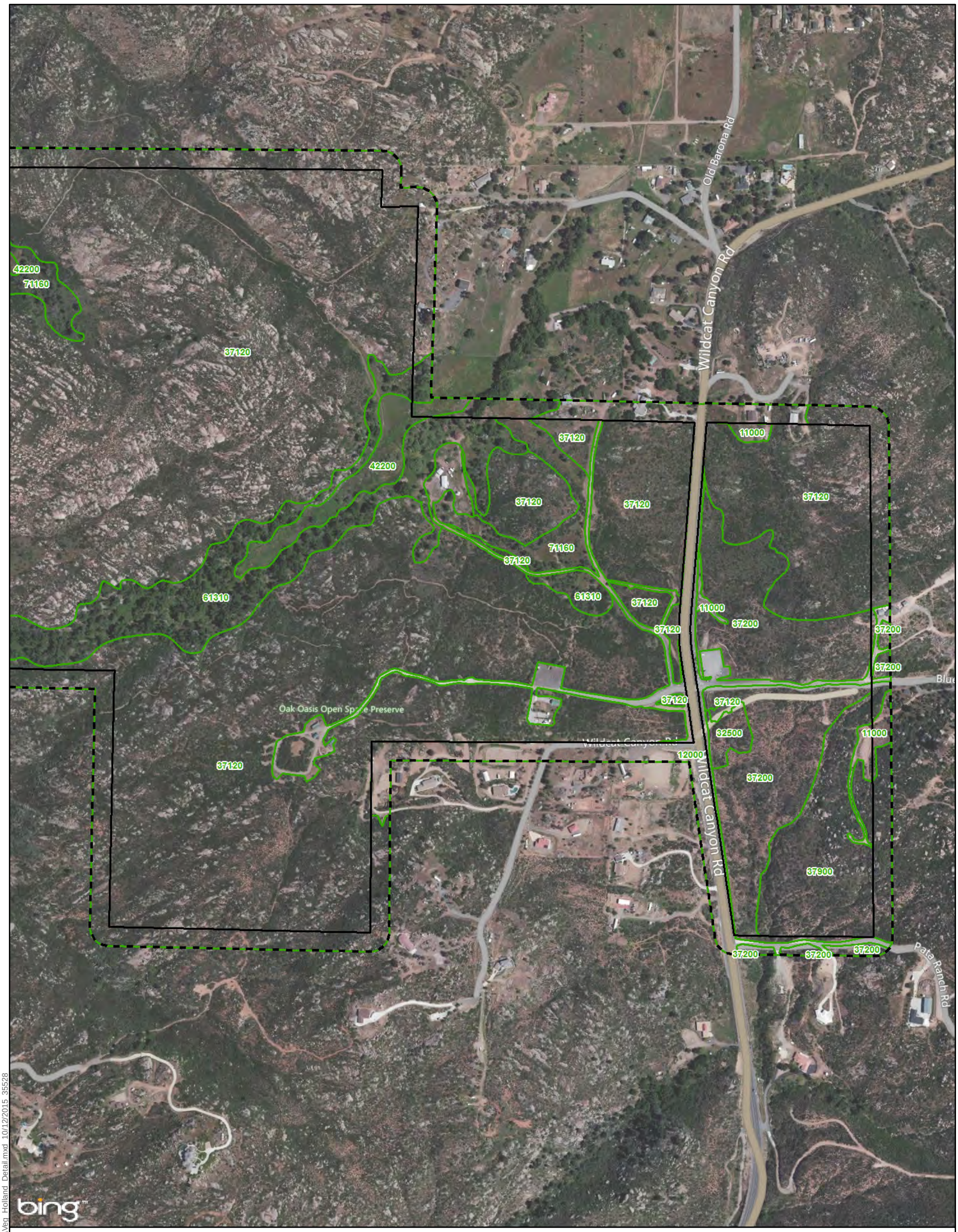
Appendix A Figure 22A
Vegetation Communities/Habitats (Modified Holland Code)
Oakoasis Preserve



Legend

- Preserve Boundaries
- Preserve Boundaries 100-foot Buffer
- Vegetation

Vegetation Key per Classification Manual

- 11000 - Disturbed Habitat
- 12000 - Urban/Developed
- 32500 - Diegan Coastal Sage Scrub
- 37120 - Southern Mixed Chaparral
- 37200 - Chamise Chaparral
- 37900 - Scrub Oak Chaparral
- 42200 - Non-Native Grassland
- 61310 - Southern Coast Live Oak Riparian Forest
- 71160 - Coast Live Oak Woodland

0 250 500 Feet

N

Source: Vegetation-ICFI, 2015; Imagery-BING, 2015.

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Appendix A Figure 22B
Vegetation Communities/Habitats (Modified Holland Code)
Oakoasis Preserve

Legend

- Preserve Boundaries
- Preserve Boundaries 100-foot Buffer

Rare Plants

- Monitoring Plot Center Point
- Monitoring Plot Photo Point

Rare Plants

- Engelmann Oak *(Quercus engelmannii)*
- Lakeside Ceanothus *(Ceanothus cyaneus)*

Monitoring Plot Maximum Extent

- Lakeside Ceanothus *(Ceanothus cyaneus)* Maximum Extent

Invasive Plants

- Tree Tobacco *(Nicotiana glauca)*
- African Fountain Grass *(Pennisetum setaceum)*

Disturbance Stressor

- Feral Pig Activity

0 750 1,500 Feet

N

Source: Vegetation-ICFI, 2015; Imagery-BING, 2015.

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Appendix A Figure 23 Overview
Habitat Stressors, Plant Observations, and Monitoring Plot Locations
Oakoasis Preserve

Legend

- Preserve Boundaries
- Preserve Boundaries 100-foot Buffer

Rare Plants

- Lakeside Ceanothus *(Ceanothus cyaneus)*

Monitoring Plot Maximum Extent

- Lakeside Ceanothus *(Ceanothus cyaneus)* Maximum Extent

Invasive Plants

- African Fountain Grass *(Pennisetum setaceum)*

0 250 500 Feet

N

Source: Vegetation-ICFI, 2015; Imagery-BING, 2015.

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Appendix A Figure 23A
Habitat Stressors, Plant Observations, and Monitoring Plot Locations
Oakoasis Preserve

Legend

Preserve Boundaries

Preserve Boundaries 100-foot Buffer

Rare Plants

Engelmann Oak *(Quercus engelmannii)*

Rare Plant Monitoring

Monitoring Plot Center Point

Monitoring Plot Photo Point

Monitoring Plot Maximum Extent

Lakeside Ceanothus *(Ceanothus cyaneus)* Maximum Extent

Invasive Plants

African Fountain Grass *(Pennisetum setaceum)*

Disturbance Stressor

Feral Pig Activity

0 250 500 Feet

N

Source: Vegetation-ICFI, 2015; Imagery-BING, 2015.

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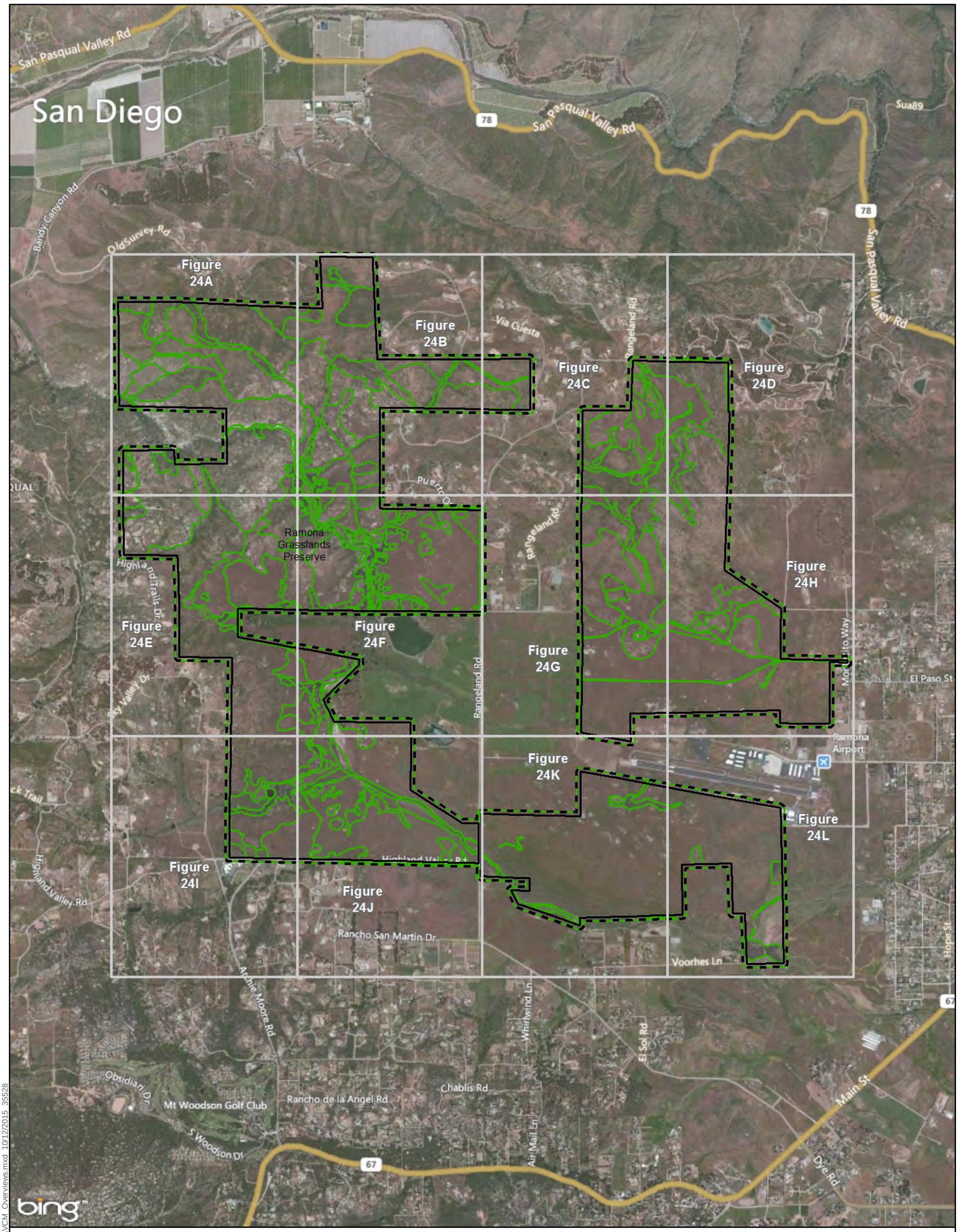
Appendix A Figure 23B
Habitat Stressors, Plant Observations, and Monitoring Plot Locations
Oakoasis Preserve



Legend

- Preserve Boundaries
- Preserve Boundaries 100-foot Buffer
- Vegetation

0 1,300 2,600 Feet

N

Source: Vegetation-ICFI, 2015; Imagery-BING, 2015.

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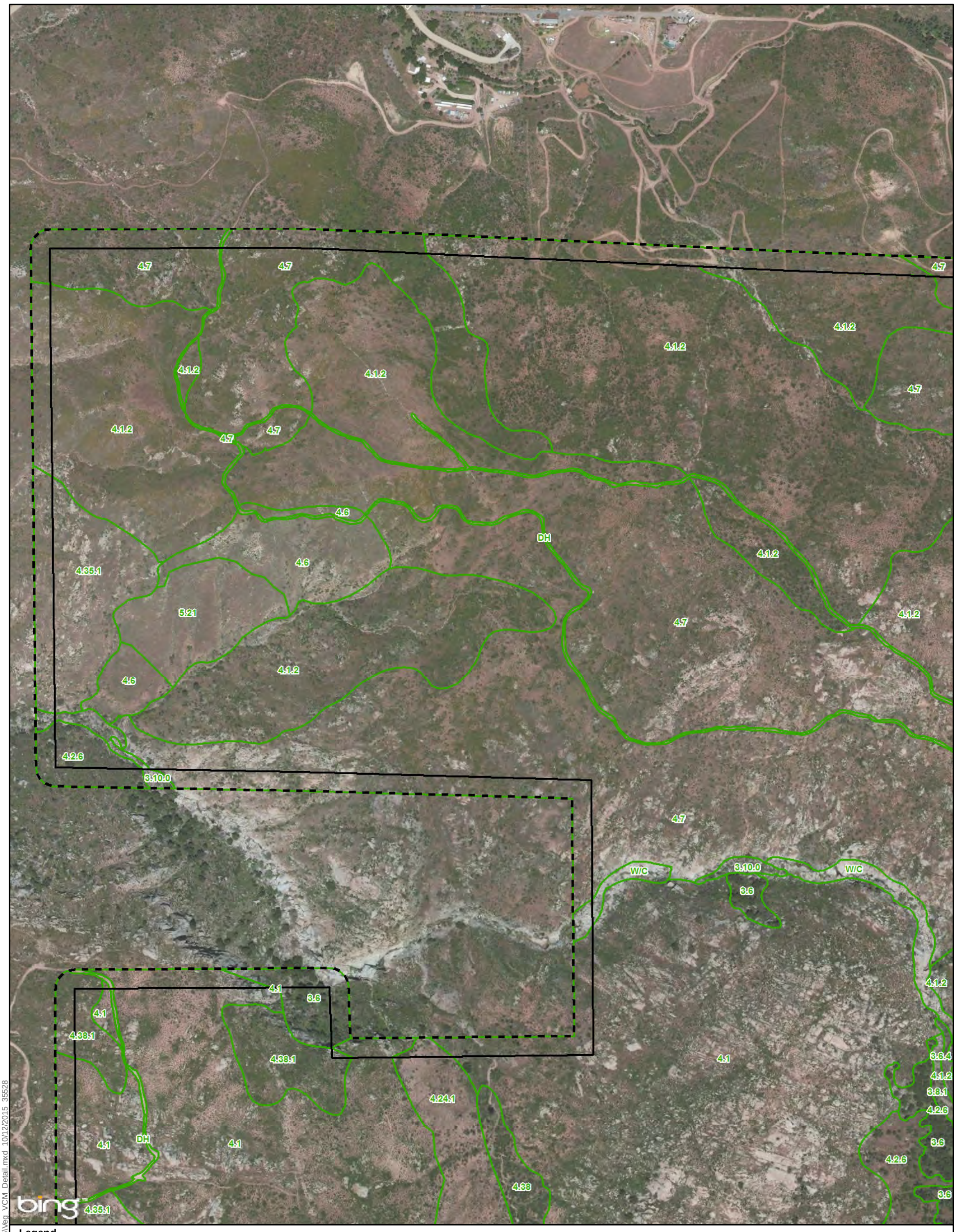
Appendix A Figure 24 Overview
Vegetation Communities/Habitats (Vegetation Classification Manual)
Ramona Grasslands Preserve



Legend

- Preserve Boundaries
- Preserve Boundaries 100-foot Buffer
- Vegetation

Vegetation Key per Classification Manual

- 3.10.0, Salix lasiolepis Association
- 3.6, Quercus agrifolia Alliance
- 3.6.4, Quercus agrifolia-Toxicodendron diversilobum-Grass Association
- 3.8.1, Salix gooddingii Association
- 4.1, Adenostoma fasciculatum Alliance
- 4.1.2, Adenostoma fasciculatum-(Eriogonum fasciculatum; Artemisia californica; Salvia mellifera) Association
- 4.2.6, Adenostoma fasciculatum-Xylococcus bicolor-Quercus (berberidifolia; ×acutidens) Association
- 4.24.1, Eriogonum fasciculatum-Salvia apiana Association
- 4.35.1, Malosma laurina-Lotus scoparius Association
- 4.38.1, Quercus (berberidifolia; ×acutidens)-Adenostoma fasciculatum Association
- 4.7, Artemisia californica-Eriogonum fasciculatum Alliance
- 5.21, Mediterranean California Naturalized Annual and Perennial Grassland Semi-Natural Stands
- DH, Disturbed Habitat
- W/C, Wash/Channel

0 250 500 Feet

N

Source: Vegetation-ICFI, 2015; Imagery-BING, 2015.

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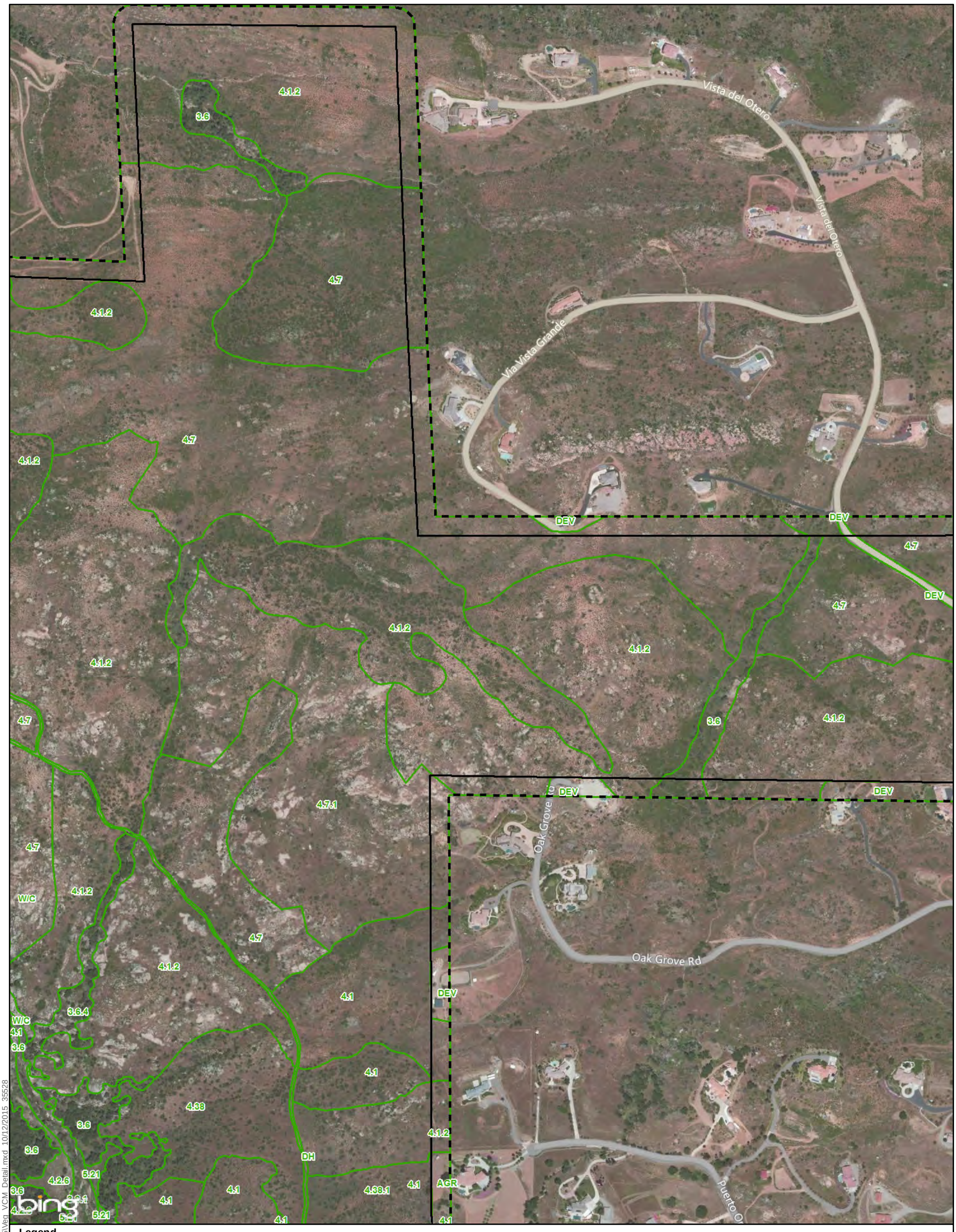
Appendix A Figure 24A
Vegetation Communities/Habitats (Vegetation Classification Manual)
Ramona Grasslands Preserve



Legend

- Preserve Boundaries
- Preserve Boundaries 100-foot Buffer
- Vegetation

Vegetation Key per Classification Manual

- 3.6, Quercus agrifolia Alliance
- 3.6.4, Quercus agrifolia-Toxicodendron diversilobum-Grass Association
- 3.8.1, Salix gooddingii Association
- 4.1, Adenostoma fasciculatum Alliance
- 4.1.2, Adenostoma fasciculatum-(Eriogonum fasciculatum; Artemisia californica; Salvia mellifera) Association
- 4.2.6, Adenostoma fasciculatum-Xylococcus bicolor-Quercus (berberidifolia; ×acutidens) Association
- 4.38.1, Quercus (berberidifolia; ×acutidens)-Adenostoma fasciculatum Association
- 4.7, Artemisia californica-Eriogonum fasciculatum Alliance
- 4.7.1, Artemisia californica-Eriogonum fasciculatum-Malosma laurina Association
- 5.21, Mediterranean California Naturalized Annual and Perennial Grassland Semi-Natural Stands
- AGR, Agriculture
- DEV, Developed
- DH, Disturbed Habitat
- W/C, Wash/Channel

0 250 500 Feet

N

Source: Vegetation-ICFI, 2015; Imagery-BING, 2015.

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Appendix A Figure 24B
Vegetation Communities/Habitats (Vegetation Classification Manual)
Ramona Grasslands Preserve

Legend

Preserve Boundaries

Preserve Boundaries 100-foot Buffer

Vegetation

Vegetation Key per Classification Manual

3.8.1, Salix gooddingii Association

4.1.2, Adenostoma fasciculatum-(Eriogonum fasciculatum; Artemisia californica; Salvia mellifera) Association

4.7, Artemisia californica-Eriogonum fasciculatum Alliance

5.14.1, Distichlis spicata-Annual Grasses Association

5.21, Mediterranean California Naturalized Annual and Perennial Grassland Semi-Natural Stands

AGR, Agriculture

DEV, Developed

DH, Disturbed Habitat

0 250 500 Feet

N

Source: Vegetation-ICFI, 2015; Imagery-BING, 2015.

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Appendix A Figure 24C
Vegetation Communities/Habitats (Vegetation Classification Manual)
Ramona Grasslands Preserve

Legend

- Preserve Boundaries
- Preserve Boundaries 100-foot Buffer
- Vegetation

Vegetation Key per Classification Manual

4.1.2, Adenostoma fasciculatum-(Eriogonum fasciculatum; Artemisia californica; Salvia mellifera) Association

4.7, Artemisia californica-Eriogonum fasciculatum Alliance

5.14.1, Distichlis spicata-Annual Grasses Association

5.21, Mediterranean California Naturalized Annual and Perennial Grassland Semi-Natural Stands

AGR, Agriculture

0 250 500 Feet

N

Source: Vegetation-ICFI, 2015; Imagery-BING, 2015.

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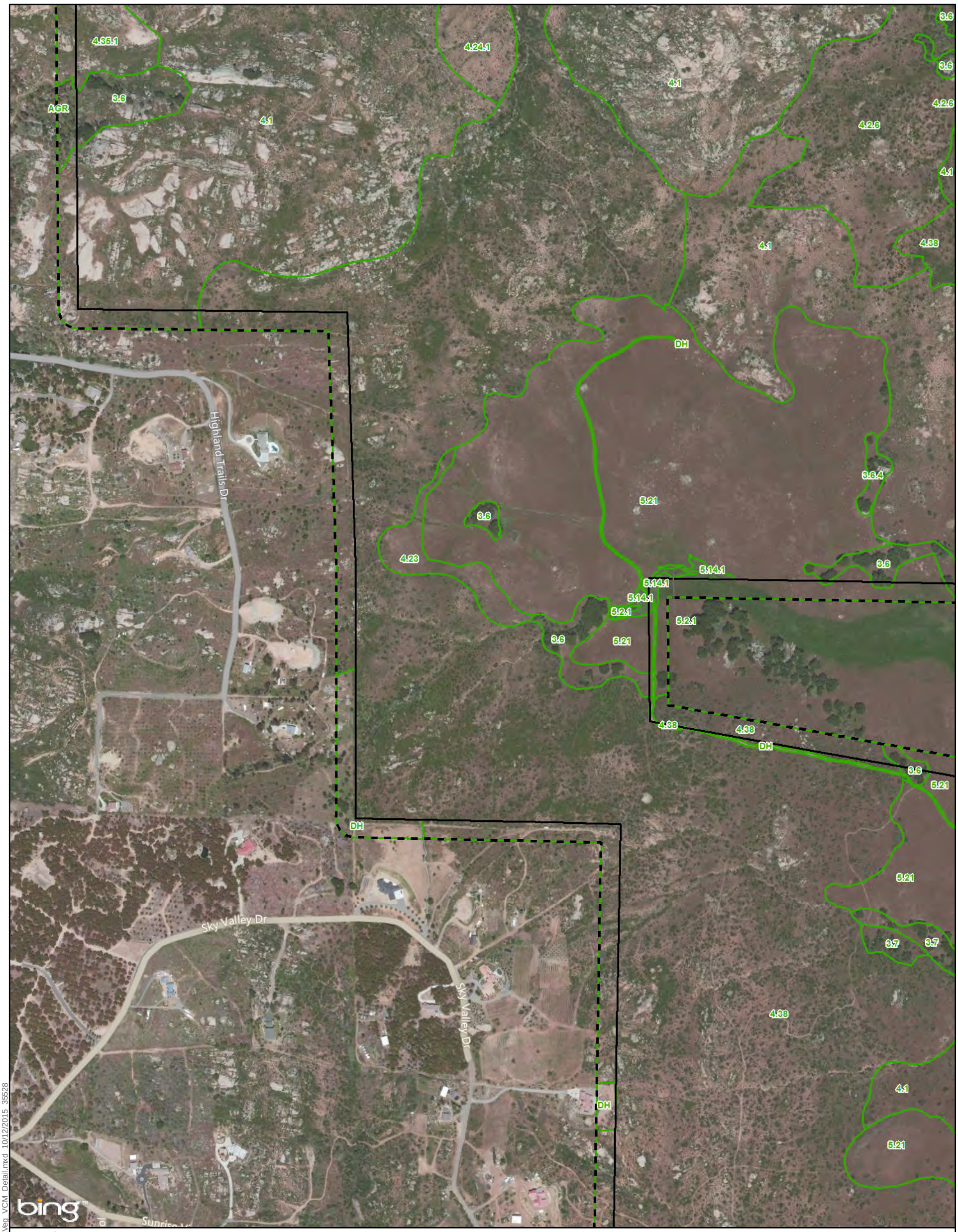
Appendix A Figure 24D
Vegetation Communities/Habitats (Vegetation Classification Manual)
Ramona Grasslands Preserve



Legend

Preserve Boundaries

Preserve Boundaries 100-foot Buffer

Vegetation

Vegetation Key per Classification Manual

3.6, Quercus agrifolia Alliance

3.6.4, Quercus agrifolia-Toxicodendron diversilobum-Grass Association

3.7, Quercus engelmannii Alliance

4.1, Adenostoma fasciculatum Alliance

4.2.6, Adenostoma fasciculatum-Xylococcus bicolor-Quercus (berberidifolia; ×acutidens) Association

4.23, Eriogonum fasciculatum Alliance

4.24.1, Eriogonum fasciculatum-Salvia apiana Association

4.35.1, Malosma laurina-Lotus scoparius Association

5.14.1, Distichlis spicata-Annual Grasses Association

5.2.1, Anemopsis californica-Juncus arcticus Association

5.21, Mediterranean California Naturalized Annual and Perennial Grassland Semi-Natural Stands

AGR, Agriculture

DH, Disturbed Habitat

0 250 500 Feet

N

Source: Vegetation-ICFI, 2015; Imagery-BING, 2015.

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Appendix A Figure 24E
Vegetation Communities/Habitats (Vegetation Classification Manual)
Ramona Grasslands Preserve

Legend

- Preserve Boundaries
- Preserve Boundaries 100-foot Buffer
- Vegetation

Vegetation Key per Classification Manual

- 3.10.0, Salix lasiolepis Association
- 3.4, Platanus racemosa Alliance
- 3.6, Quercus agrifolia Alliance
- 3.6.4, Quercus agrifolia-Toxicodendron diversilobum-Grass Association
- 3.7, Quercus engelmannii Alliance
- 3.8.1, Salix gooddingii Association
- 4.1, Adenostoma fasciculatum Alliance
- 4.11.1, Baccharis salicifolia Association
- 4.2.6, Adenostoma fasciculatum-Xylococcus bicolor-Quercus (berberidifolia; ×acutidens) Association
- 4.23, Eriogonum fasciculatum Alliance
- 4.24.1, Eriogonum fasciculatum-Salvia apiana Association
- 4.38.1, Quercus (berberidifolia; ×acutidens)-Adenostoma fasciculatum Association
- 4.7, Artemisia californica-Eriogonum fasciculatum Alliance
- 5.14.1, Distichlis spicata-Annual Grasses Association
- 5.2.1, Anemopsis californica-Juncus arcticus Association
- 5.21, Mediterranean California Naturalized Annual and Perennial Grassland Semi-Natural Stands
- 5.24.1, Nassella pulchra Association
- AGR, Agriculture
- DEV, Developed
- DH, Disturbed Habitat
- W/C, Wash/Channel

0 250 500 Feet

N

Source: Vegetation-ICFI, 2015; Imagery-BING, 2015.

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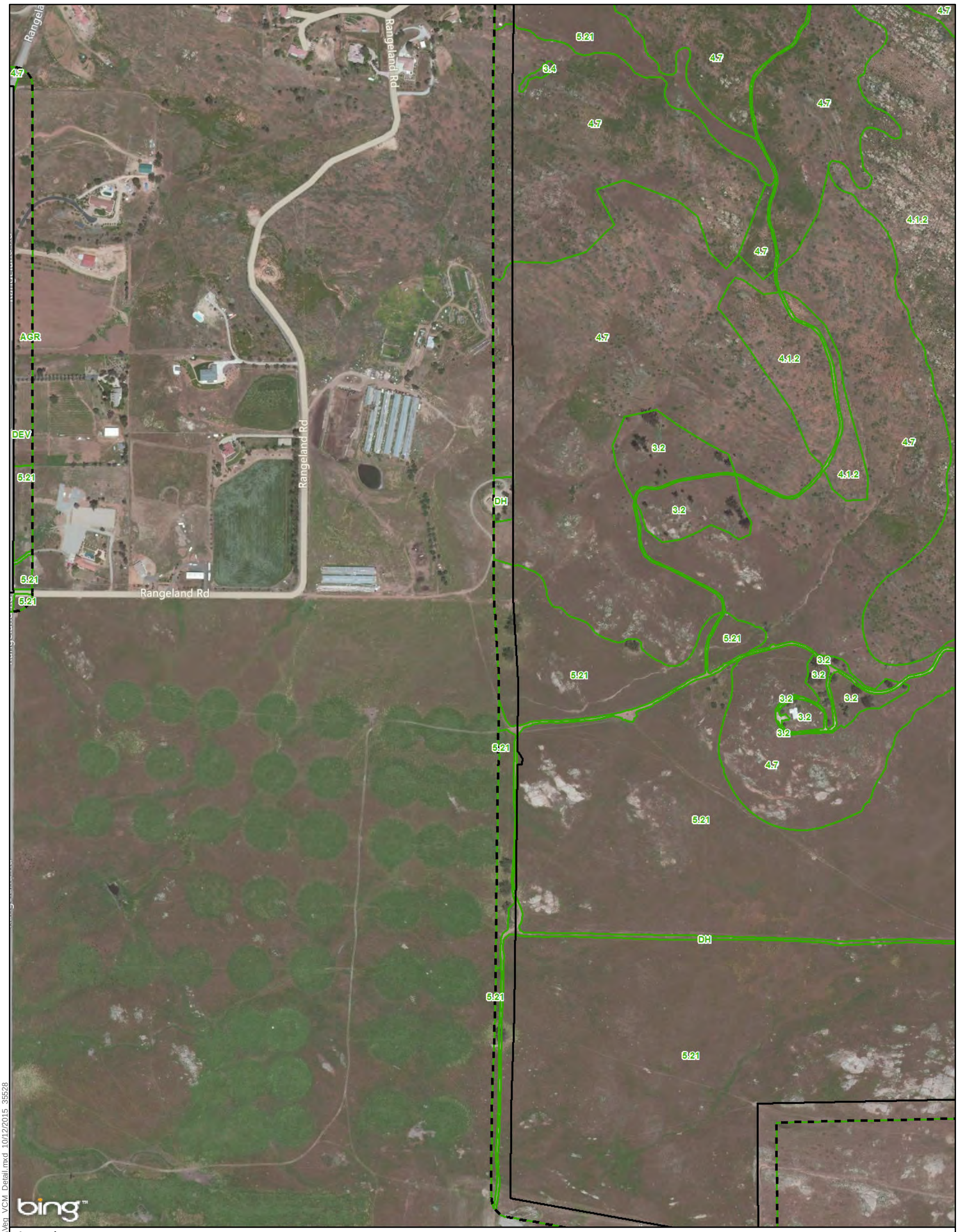
Appendix A Figure 24F
Vegetation Communities/Habitats (Vegetation Classification Manual)
Ramona Grasslands Preserve



Legend

- Preserve Boundaries
- Preserve Boundaries 100-foot Buffer
- Vegetation

Vegetation Key per Classification Manual

- 3.2, Eucalyptus (globulus; camaldulensis) Semi-Natural Stands
- 3.4, Platanus racemosa Alliance
- 4.1.2, Adenostoma fasciculatum-(Eriogonum fasciculatum; Artemisia californica; Salvia mellifera) Association
- 4.7, Artemisia californica-Eriogonum fasciculatum Alliance
- 5.21, Mediterranean California Naturalized Annual and Perennial Grassland Semi-Natural Stands
- AGR, Agriculture
- DEV, Developed
- DH, Disturbed Habitat

0 250 500 Feet

N

Source: Vegetation-ICFI, 2015; Imagery-BING, 2015.

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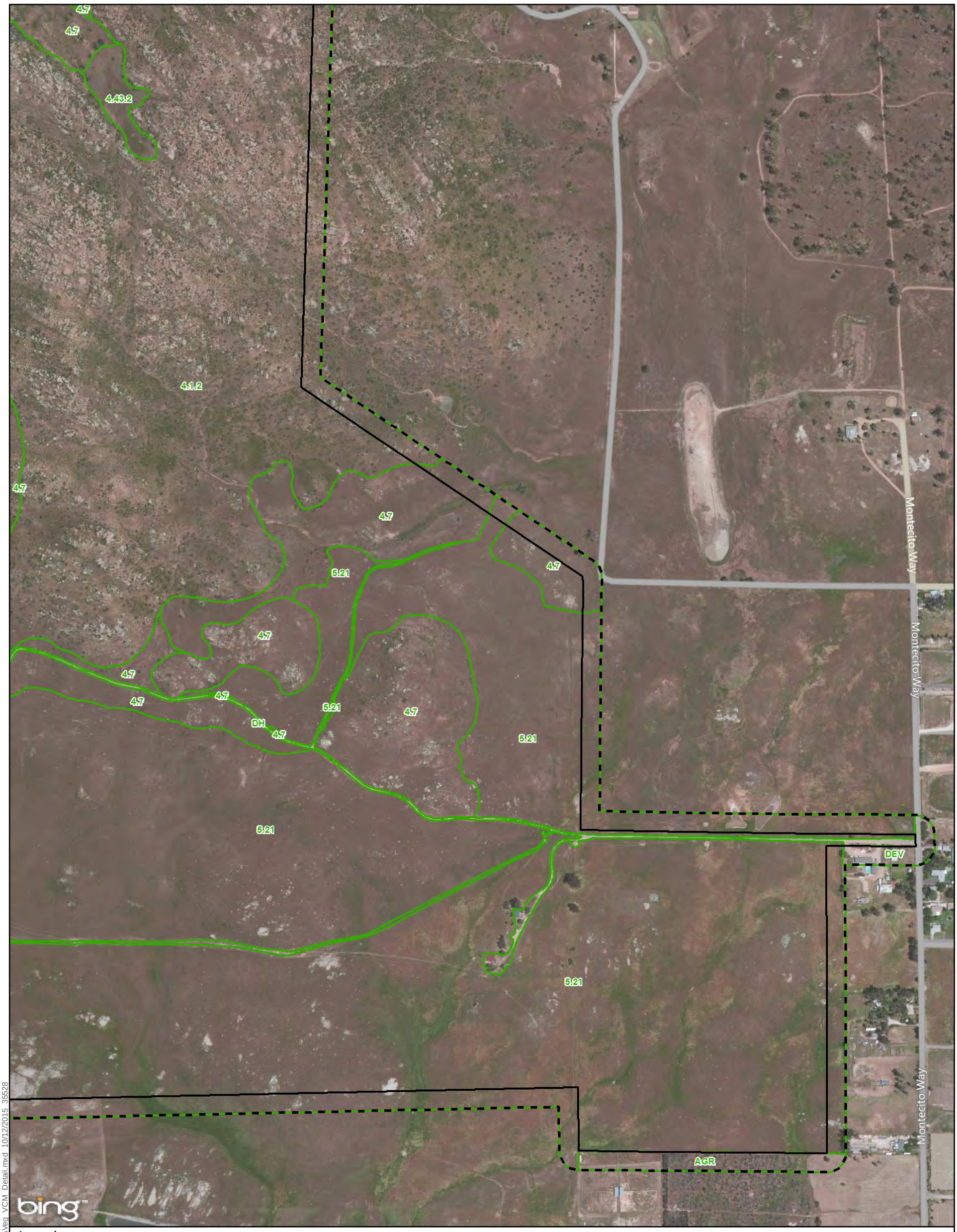
Appendix A Figure 24G
Vegetation Communities/Habitats (Vegetation Classification Manual)
Ramona Grasslands Preserve



Legend

Preserve Boundaries

Preserve Boundaries 100-foot Buffer

Vegetation

Vegetation Key per Classification Manual

4.1.2, Adenostoma fasciculatum-(Eriogonum fasciculatum; Artemisia californica; Salvia mellifera) Association

4.43.2, Salvia apiana-Artemisia californica Association

4.7, Artemisia californica-Eriogonum fasciculatum Alliance

5.21, Mediterranean California Naturalized Annual and Perennial Grassland Semi-Natural Stands

AGR, Agriculture

DEV, Developed

DH, Disturbed Habitat

0 250 500 Feet

N

Source: Vegetation-ICFI, 2015; Imagery-BING, 2015.

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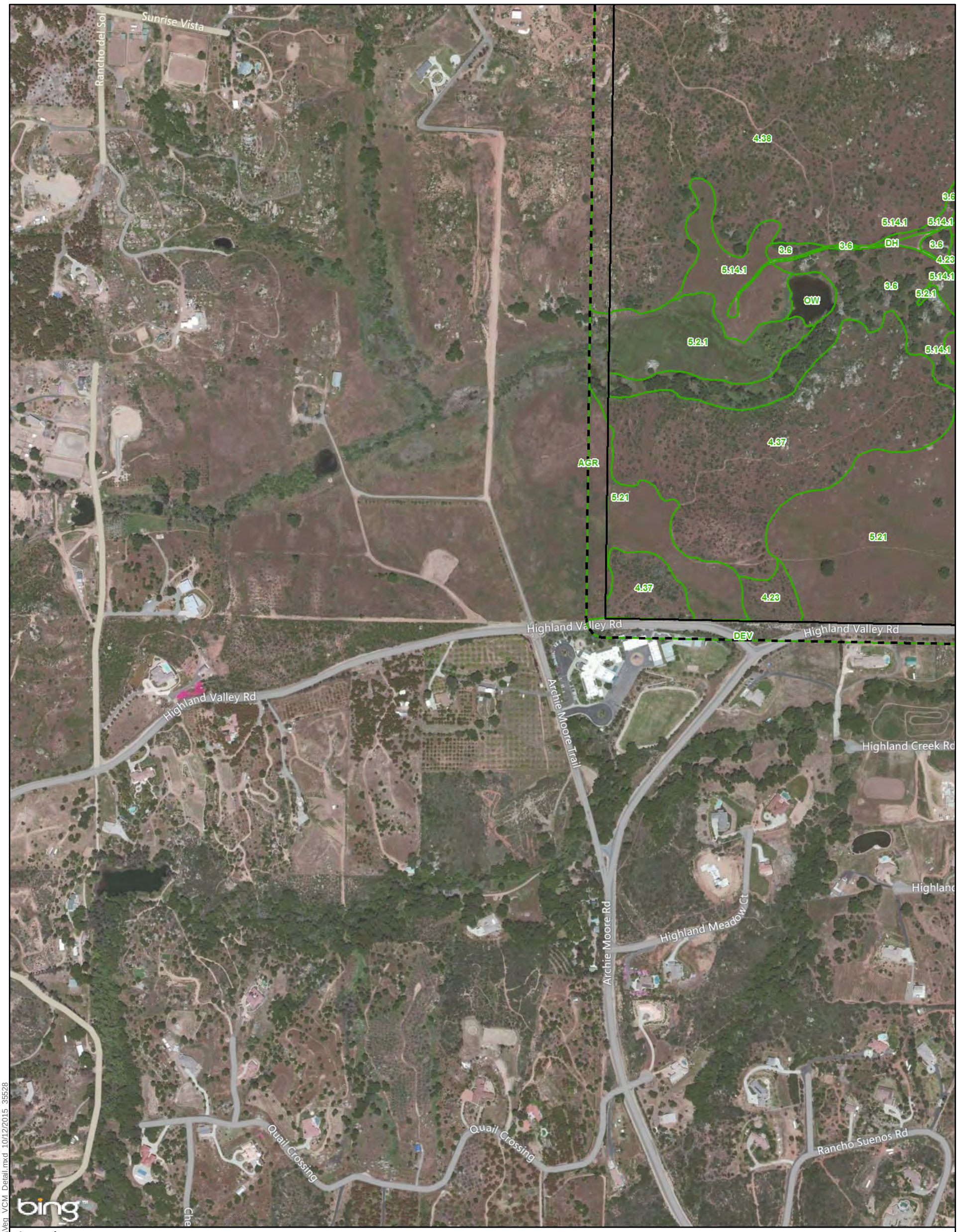
Appendix A Figure 24H
Vegetation Communities/Habitats (Vegetation Classification Manual)
Ramona Grasslands Preserve



Legend

- Preserve Boundaries
- Preserve Boundaries 100-foot Buffer
- Vegetation

Vegetation Key per Classification Manual

- 3.6, Quercus agrifolia Alliance
- 4.23, Eriogonum fasciculatum Alliance
- 5.14.1, Distichlis spicata-Annual Grasses Association
- 5.2.1, Anemopsis californica-Juncus arcticus Association
- 5.21, Mediterranean California Naturalized Annual and Perennial Grassland Semi-Natural Stands
- AGR, Agriculture
- DEV, Developed
- DH, Disturbed Habitat
- OW, Open Water

0 250 500 Feet

N

Source: Vegetation-ICFI, 2015; Imagery-BING, 2015.

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Appendix A Figure 24I
Vegetation Communities/Habitats (Vegetation Classification Manual)
Ramona Grasslands Preserve

Legend

- Preserve Boundaries
- Preserve Boundaries 100-foot Buffer
- Vegetation

Vegetation Key per Classification Manual

- 3.6, Quercus agrifolia Alliance
- 3.6.3, Quercus agrifolia-Salix lasiolepis Association
- 3.6.4, Quercus agrifolia-Toxicodendron diversilobum-Grass Association
- 3.8.1, Salix gooddingii Association
- 4.11.1, Baccharis salicifolia Association
- 4.23, Eriogonum fasciculatum Alliance
- 5.14.1, Distichlis spicata-Annual Grasses Association
- 5.2.1, Anemopsis californica-Juncus arcticus Association
- 5.21, Mediterranean California Naturalized Annual and Perennial Grassland Semi-Natural Stands
- DEV, Developed
- DH, Disturbed Habitat

0 250 500 Feet

N

Source: Vegetation-ICFI, 2015; Imagery-BING, 2015.

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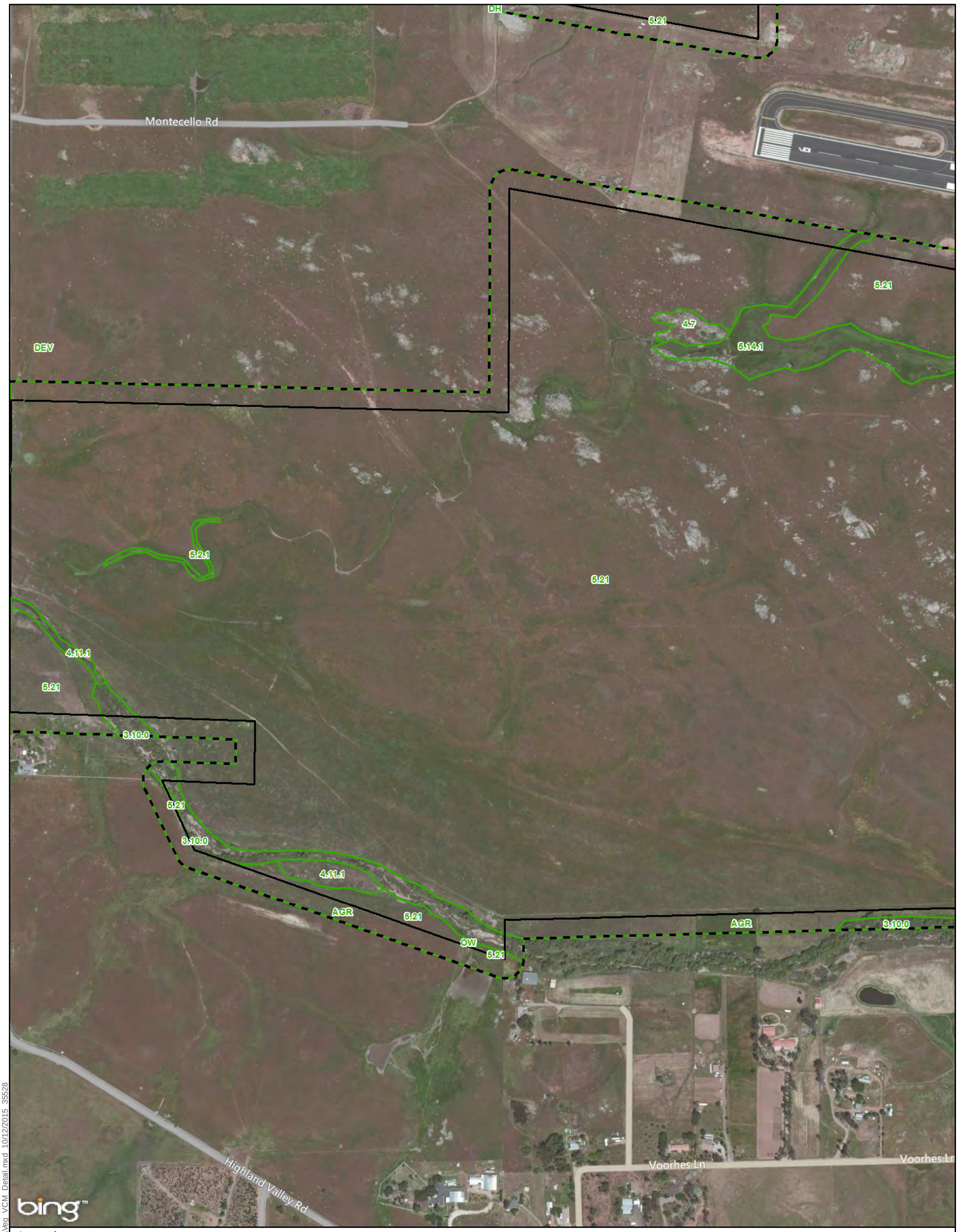
Appendix A Figure 24J
Vegetation Communities/Habitats (Vegetation Classification Manual)
Ramona Grasslands Preserve



Legend

Preserve Boundaries

Preserve Boundaries 100-foot Buffer

Vegetation

Vegetation Key per Classification Manual

3.10.0, Salix lasiolepis Association

4.11.1, Baccharis salicifolia Association

4.7, Artemisia californica-Eriogonum fasciculatum Alliance

5.14.1, Distichlis spicata-Annual Grasses Association

5.2.1, Anemopsis californica-Juncus arcticus Association

5.21, Mediterranean California Naturalized Annual and Perennial Grassland Semi-Natural Stands

AGR, Agriculture

DEV, Developed

DH, Disturbed Habitat

OW, Open Water

0 250 500 Feet

N

Source: Vegetation-ICFI, 2015; Imagery-BING, 2015.

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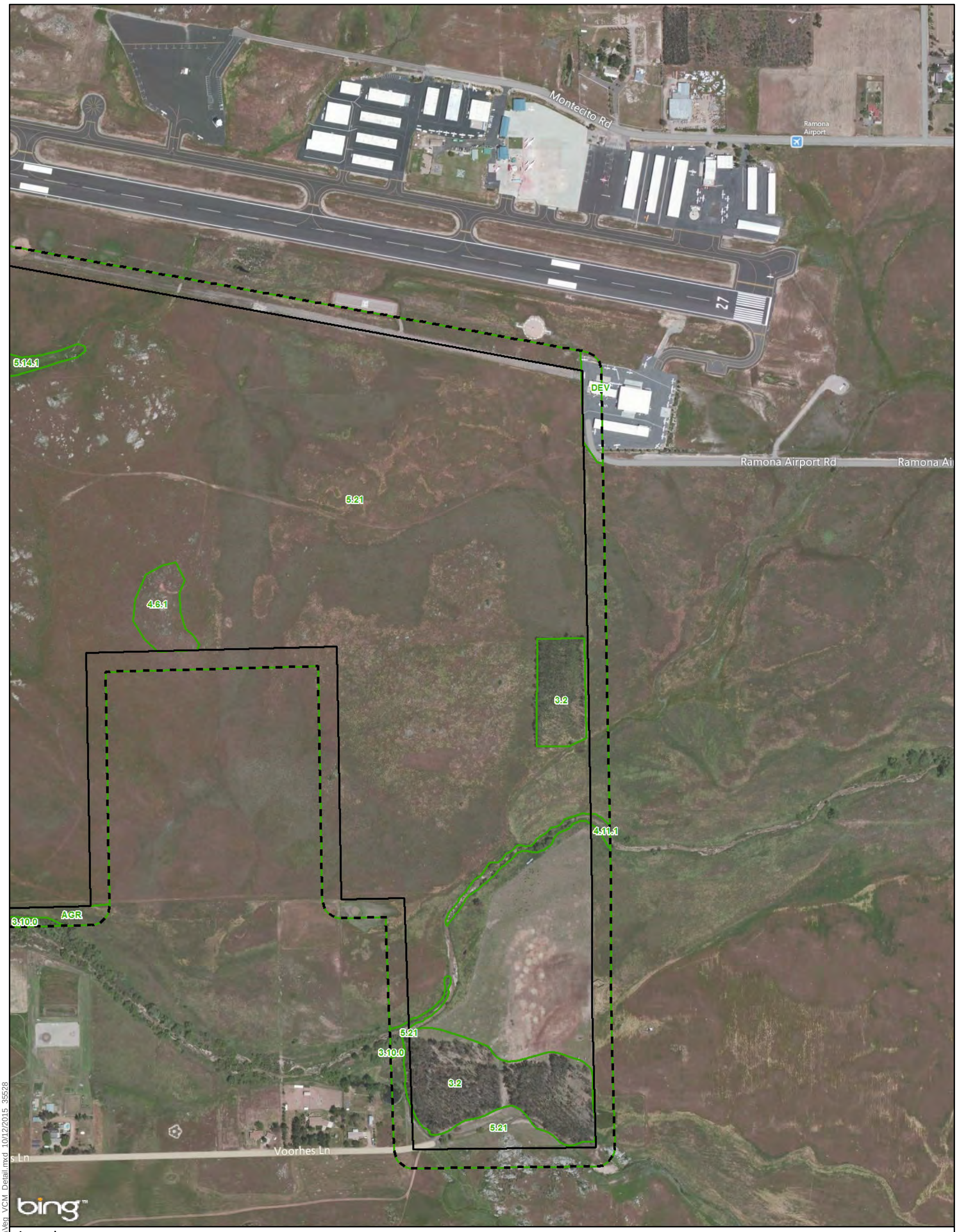
Appendix A Figure 24K
Vegetation Communities/Habitats (Vegetation Classification Manual)
Ramona Grasslands Preserve



Legend

- Preserve Boundaries
- Preserve Boundaries 100-foot Buffer
- Vegetation

Vegetation Key per Classification Manual

- 3.10.0, Salix lasiolepis Association
- 3.2, Eucalyptus (globulus; camaldulensis) Semi-Natural Stands
- 4.11.1, Baccharis salicifolia Association
- 4.6.1, Artemisia californica Association
- 5.14.1, Distichlis spicata-Annual Grasses Association
- 5.21, Mediterranean California Naturalized Annual and Perennial Grassland Semi-Natural Stands
- AGR, Agriculture
- DEV, Developed

0 250 500 Feet

N

Source: Vegetation-ICFI, 2015; Imagery-BING, 2015.

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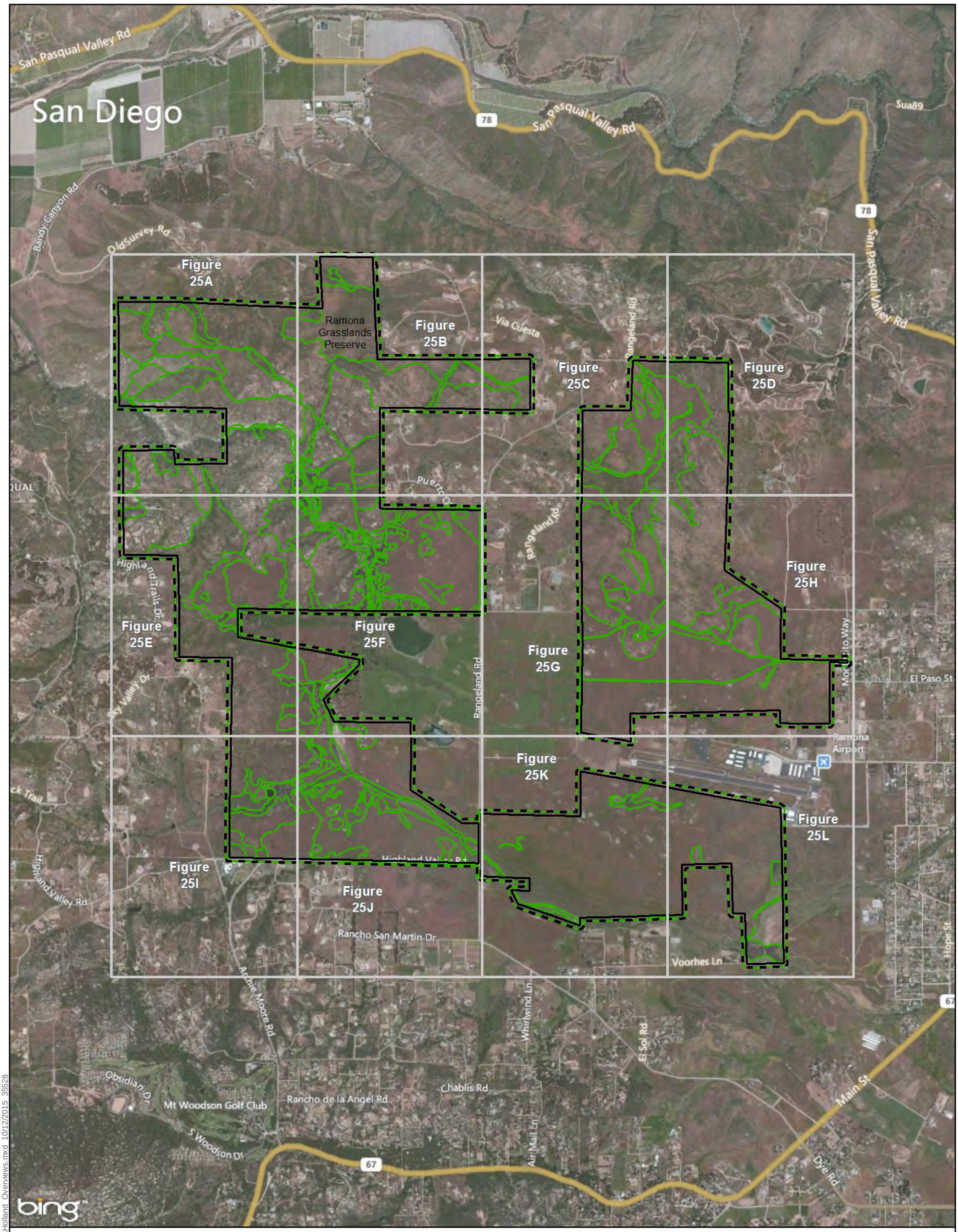
Appendix A Figure 24L
Vegetation Communities/Habitats (Vegetation Classification Manual)
Ramona Grasslands Preserve



Legend

- Preserve Boundaries
- Preserve Boundaries 100-foot Buffer
- Vegetation

0 1,300 2,600 Feet

N

Source: Vegetation-ICFI, 2015; Imagery-BING, 2015.

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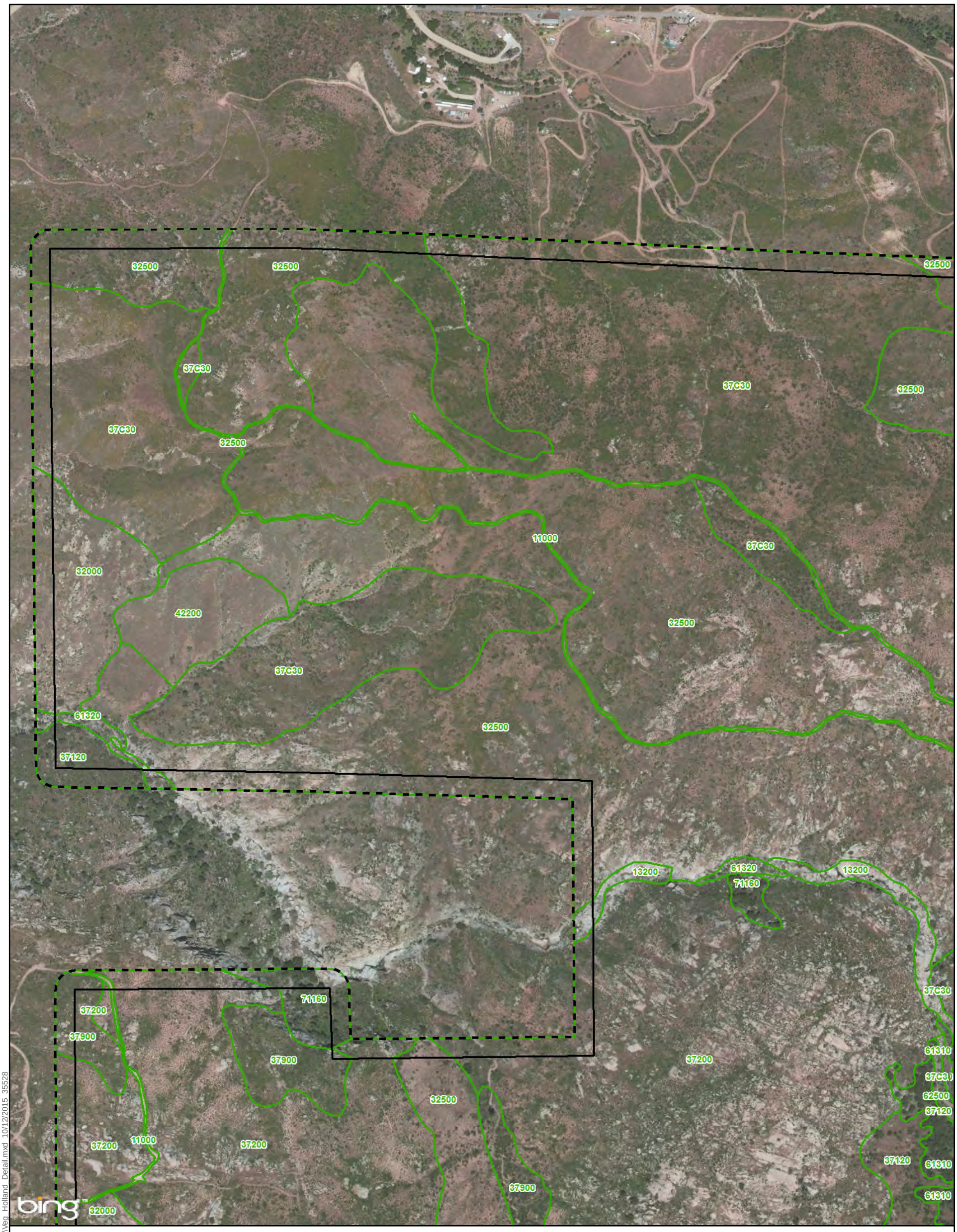
Appendix A Figure 25 Overview
Vegetation Communities/Habitats (Modified Holland Code)
Ramona Grasslands Preserve



Legend

- Preserve Boundaries
- Preserve Boundaries 100-foot Buffer
- Vegetation

Vegetation Key per Classification Manual

- 11000 - Disturbed Habitat
- 13200 - Non-Vegetated Channel; Floodway; Lakeshore Fringe
- 32000 - Coastal Scrub
- 32500 - Diegan Coastal Sage Scrub
- 37120 - Southern Mixed Chaparral
- 37200 - Chamise Chaparral
- 37900 - Scrub Oak Chaparral
- 37C30 - Coastal Sage-Chaparral Transition
- 42200 - Non-Native Grassland
- 61310 - Southern Coast Live Oak Riparian Forest
- 61320 - Southern Arroyo Willow Riparian Forest
- 62500 - Southern Riparian Woodland
- 71160 - Coast Live Oak Woodland

0 250 500 Feet

N

Source: Vegetation-ICFI, 2015; Imagery-BING, 2015.

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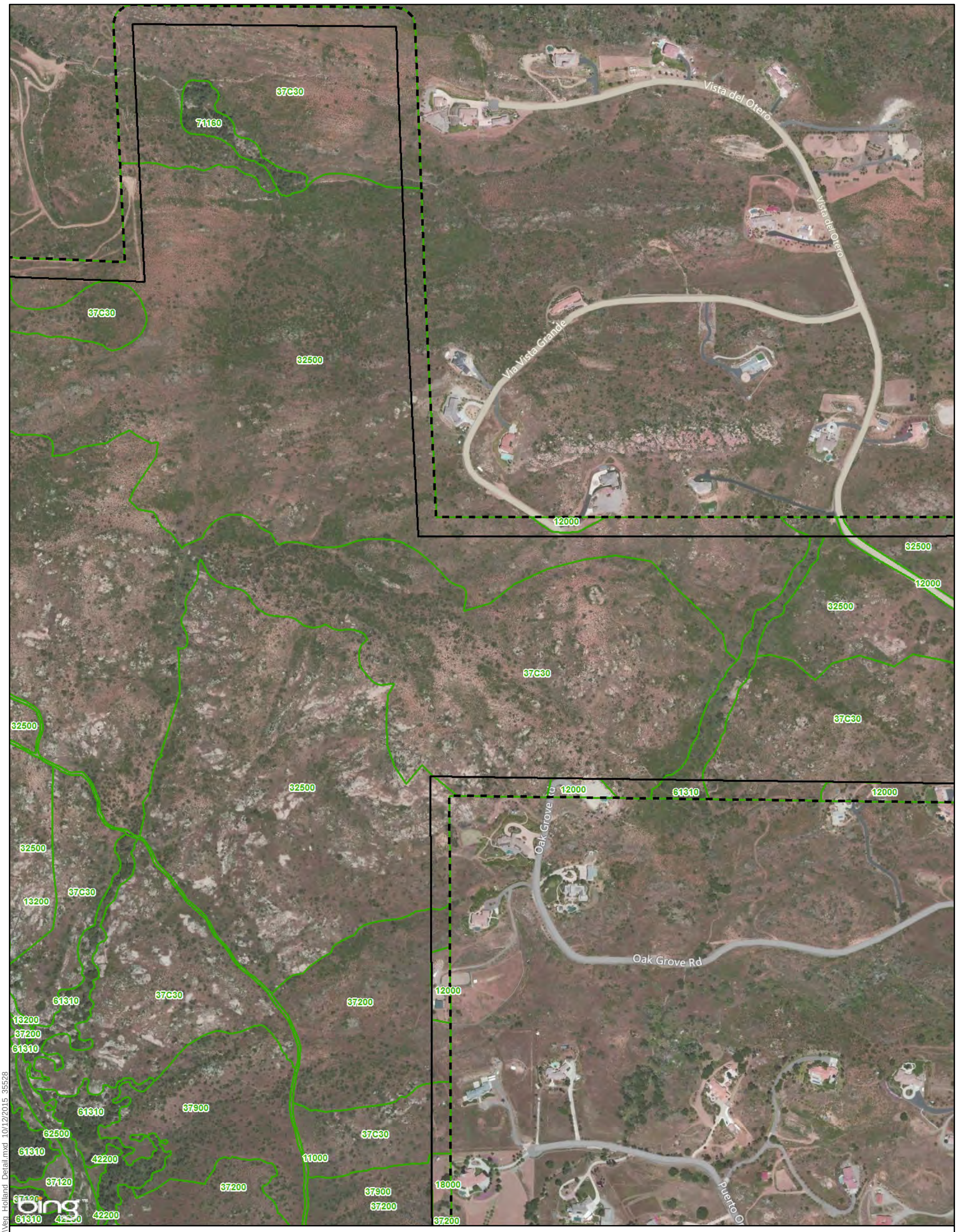
Appendix A Figure 25A
Vegetation Communities/Habitats (Modified Holland Code)
Ramona Grasslands Preserve



Legend

- Preserve Boundaries
- Preserve Boundaries 100-foot Buffer
- Vegetation

Vegetation Key per Classification Manual

- 11000 - Disturbed Habitat
- 12000 - Urban/Developed
- 13200 - Non-Vegetated Channel; Floodway; Lakeshore Fringe
- 18000 - General Agriculture
- 32500 - Diegan Coastal Sage Scrub
- 37120 - Southern Mixed Chaparral
- 37200 - Chamise Chaparral
- 37900 - Scrub Oak Chaparral
- 37C30 - Coastal Sage-Chaparral Transition
- 42200 - Non-Native Grassland
- 61310 - Southern Coast Live Oak Riparian Forest
- 62500 - Southern Riparian Woodland
- 71160 - Coast Live Oak Woodland

0 250 500 Feet

N

Source: Vegetation-ICFI, 2015; Imagery-BING, 2015.

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Appendix A Figure 25B
Vegetation Communities/Habitats (Modified Holland Code)
Ramona Grasslands Preserve

Source: Vegetation-ICFI, 2015; Imagery-BING, 2015.

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Appendix A Figure 25C
Vegetation Communities/Habitats (Modified Holland Code)
Ramona Grasslands Preserve

Legend

- Preserve Boundaries
- Preserve Boundaries 100-foot Buffer
- Vegetation

Vegetation Key per Classification Manual

18000 - General Agriculture
32500 - Diegan Coastal Sage Scrub
37C30 - Coastal Sage-Chaparral Transition
42120 - Valley Sacaton Grassland
42200 - Non-Native Grassland

0 250 500 Feet

N

Source: Vegetation-ICFI, 2015; Imagery-BING, 2015.

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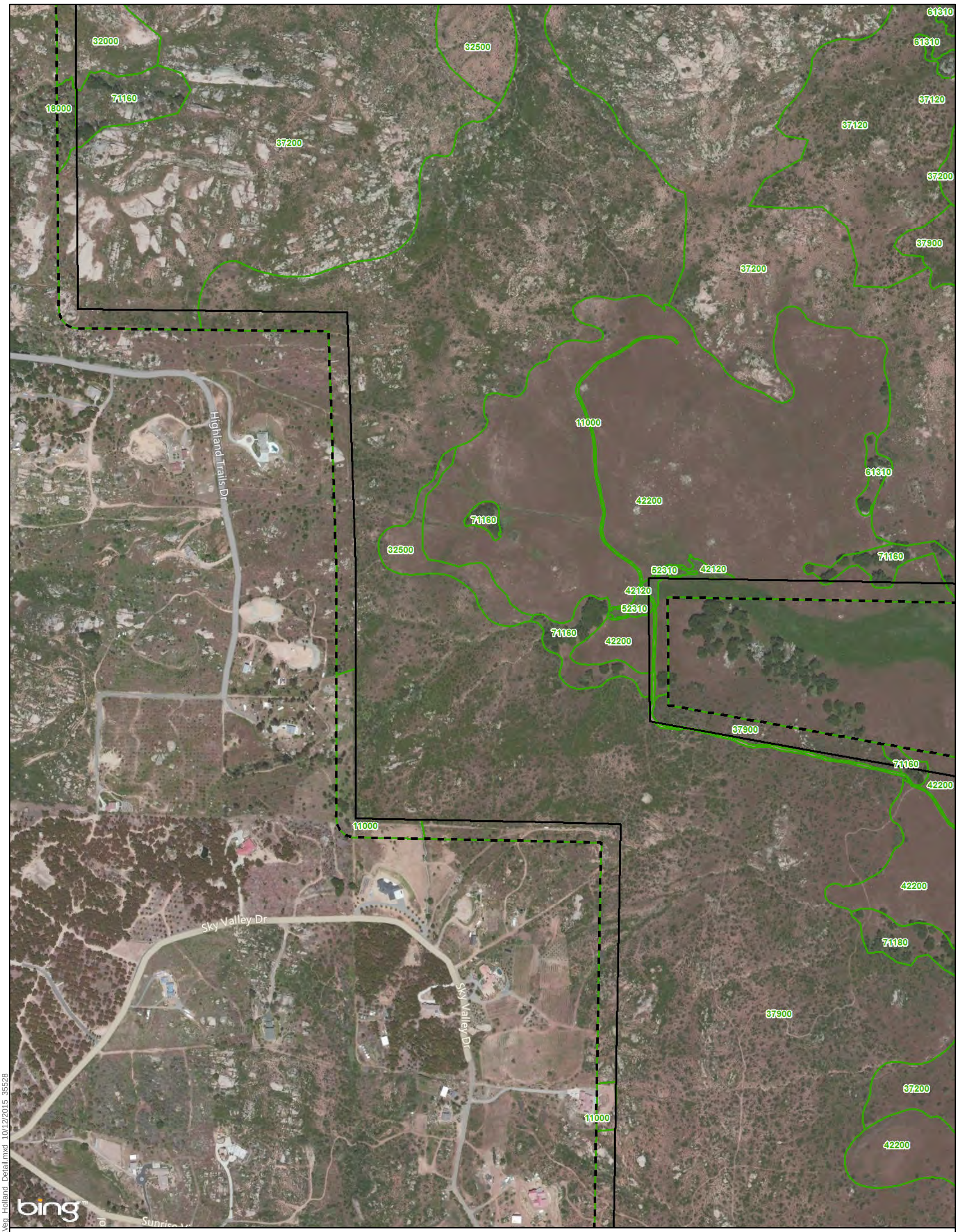
Appendix A Figure 25D
Vegetation Communities/Habitats (Modified Holland Code)
Ramona Grasslands Preserve



Legend

- Preserve Boundaries
- Preserve Boundaries 100-foot Buffer
- Vegetation

Vegetation Key per Classification Manual

- 11000 - Disturbed Habitat
- 18000 - General Agriculture
- 32000 - Coastal Scrub
- 32500 - Diegan Coastal Sage Scrub
- 37120 - Southern Mixed Chaparral
- 37200 - Chamise Chaparral
- 37900 - Scrub Oak Chaparral
- 42120 - Valley Sacaton Grassland
- 42200 - Non-Native Grassland
- 52310 - Cismontane Alkali Marsh
- 61310 - Southern Coast Live Oak Riparian Forest
- 71160 - Coast Live Oak Woodland
- 71180 - Engelmann Oak Woodland

0 250 500 Feet

N

Source: Vegetation-ICFI, 2015; Imagery-BING, 2015.

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Appendix A Figure 25E
Vegetation Communities/Habitats (Modified Holland Code)
Ramona Grasslands Preserve

Legend

- Preserve Boundaries
- Preserve Boundaries 100-foot Buffer
- Vegetation

Vegetation Key per Classification Manual

- 11000 - Disturbed Habitat
- 12000 - Urban/Developed
- 13200 - Non-Vegetated Channel; Floodway; Lakeshore Fringe
- 18000 - General Agriculture
- 32500 - Diegan Coastal Sage Scrub
- 37120 - Southern Mixed Chaparral
- 37200 - Chamise Chaparral
- 37900 - Scrub Oak Chaparral
- 42100 - Native Grassland
- 42120 - Valley Sacaton Grassland
- 42200 - Non-Native Grassland
- 52310 - Cismontane Alkali Marsh
- 61310 - Southern Coast Live Oak Riparian Forest
- 61320 - Southern Arroyo Willow Riparian Forest
- 62500 - Southern Riparian Woodland
- 63310 - Mule-Fat Scrub
- 71160 - Coast Live Oak Woodland
- 71180 - Engelmann Oak Woodland

0 250 500 Feet

N

Source: Vegetation-ICFI, 2015; Imagery-BING, 2015.

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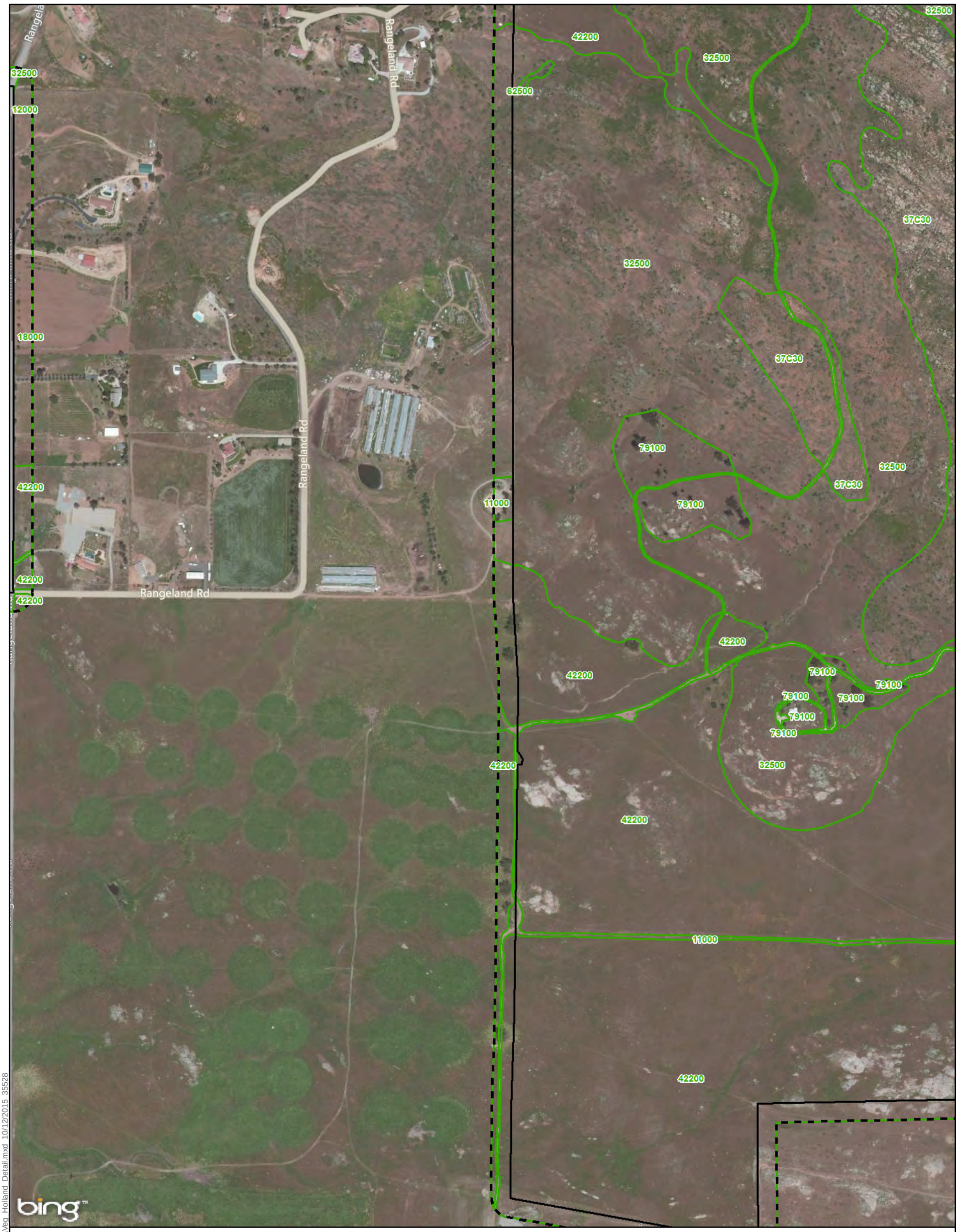
Appendix A Figure 25F
Vegetation Communities/Habitats (Modified Holland Code)
Ramona Grasslands Preserve



Legend

- Preserve Boundaries
- Preserve Boundaries 100-foot Buffer
- Vegetation

Vegetation Key per Classification Manual

- 11000 - Disturbed Habitat
- 12000 - Urban/Developed
- 18000 - General Agriculture
- 32500 - Diegan Coastal Sage Scrub
- 37C30 - Coastal Sage-Chaparral Transition
- 42200 - Non-Native Grassland
- 62500 - Southern Riparian Woodland
- 79100 - Eucalyptus Woodland

0 250 500 Feet

N

Source: Vegetation-ICFI, 2015; Imagery-BING, 2015.

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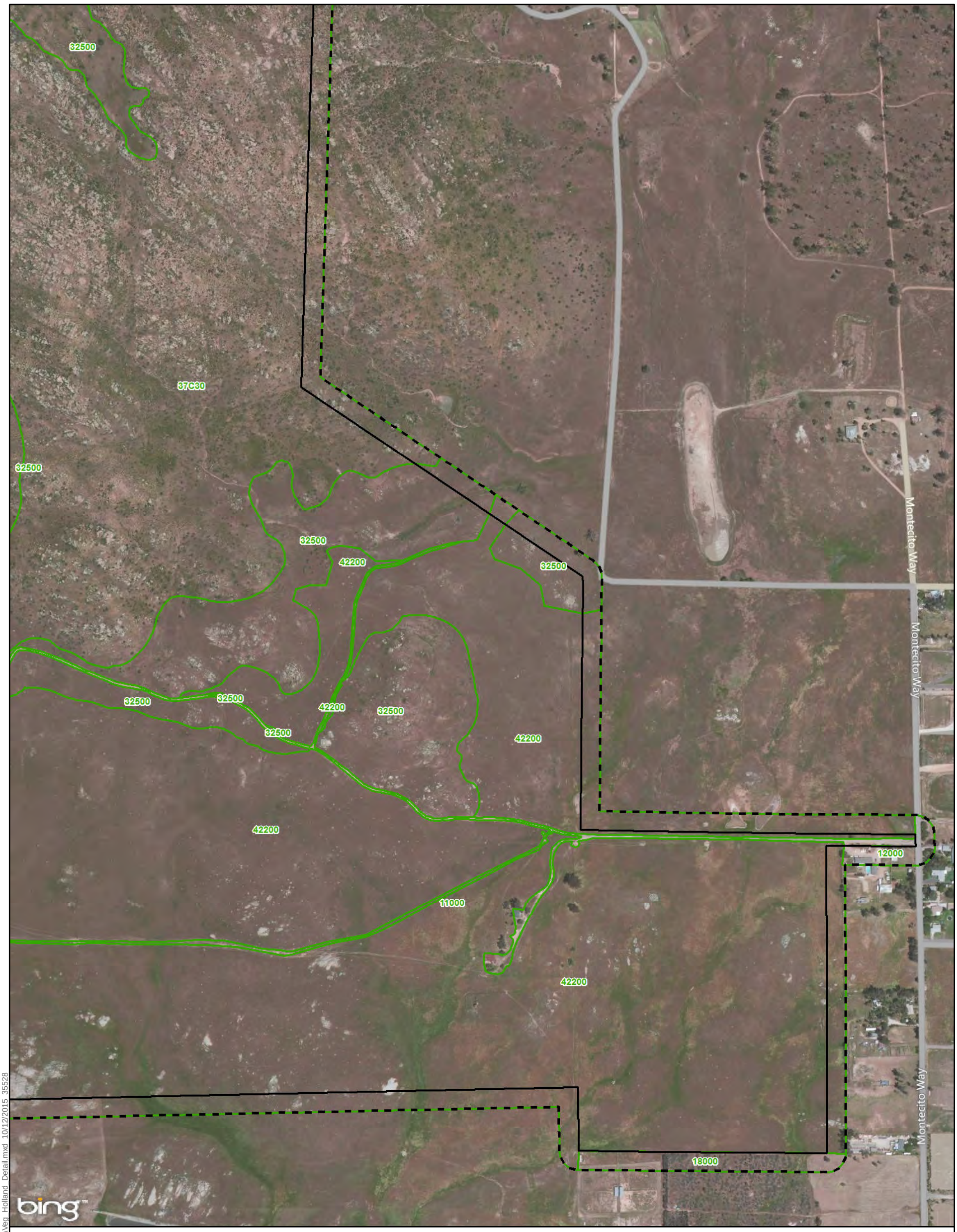
Appendix A Figure 25G
Vegetation Communities/Habitats (Modified Holland Code)
Ramona Grasslands Preserve



Legend

- Preserve Boundaries
- Preserve Boundaries 100-foot Buffer
- Vegetation

Vegetation Key per Classification Manual

- 11000 - Disturbed Habitat
- 12000 - Urban/Developed
- 18000 - General Agriculture
- 32500 - Diegan Coastal Sage Scrub
- 37C30 - Coastal Sage-Chaparral Transition
- 42200 - Non-Native Grassland

0 250 500 Feet

N

Source: Vegetation-ICFI, 2015; Imagery-BING, 2015.

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Appendix A Figure 25H
Vegetation Communities/Habitats (Modified Holland Code)
Ramona Grasslands Preserve

Legend

- Preserve Boundaries
- Preserve Boundaries 100-foot Buffer
- Vegetation

Vegetation Key per Classification Manual

- 11000 - Disturbed Habitat
- 12000 - Urban/Developed
- 18000 - General Agriculture
- 32500 - Diegan Coastal Sage Scrub
- 37900 - Scrub Oak Chaparral
- 42120 - Valley Sacaton Grassland
- 42200 - Non-Native Grassland
- 52310 - Cismontane Alkali Marsh
- 64100 - Open Water
- 71160 - Coast Live Oak Woodland

0 250 500 Feet

N

Source: Vegetation-ICFI, 2015; Imagery-BING, 2015.

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Appendix A Figure 25I
Vegetation Communities/Habitats (Modified Holland Code)
Ramona Grasslands Preserve

Legend

- Preserve Boundaries
- Preserve Boundaries 100-foot Buffer
- Vegetation

Vegetation Key per Classification Manual

- 11000 - Disturbed Habitat
- 12000 - Urban/Developed
- 32500 - Diegan Coastal Sage Scrub
- 37900 - Scrub Oak Chaparral
- 42120 - Valley Sacaton Grassland
- 42200 - Non-Native Grassland
- 52310 - Cismontane Alkali Marsh
- 61310 - Southern Coast Live Oak Riparian Forest
- 62500 - Southern Riparian Woodland
- 63310 - Mule-Fat Scrub
- 71160 - Coast Live Oak Woodland

0 250 500 Feet

N

Source: Vegetation-ICFI, 2015; Imagery-BING, 2015.

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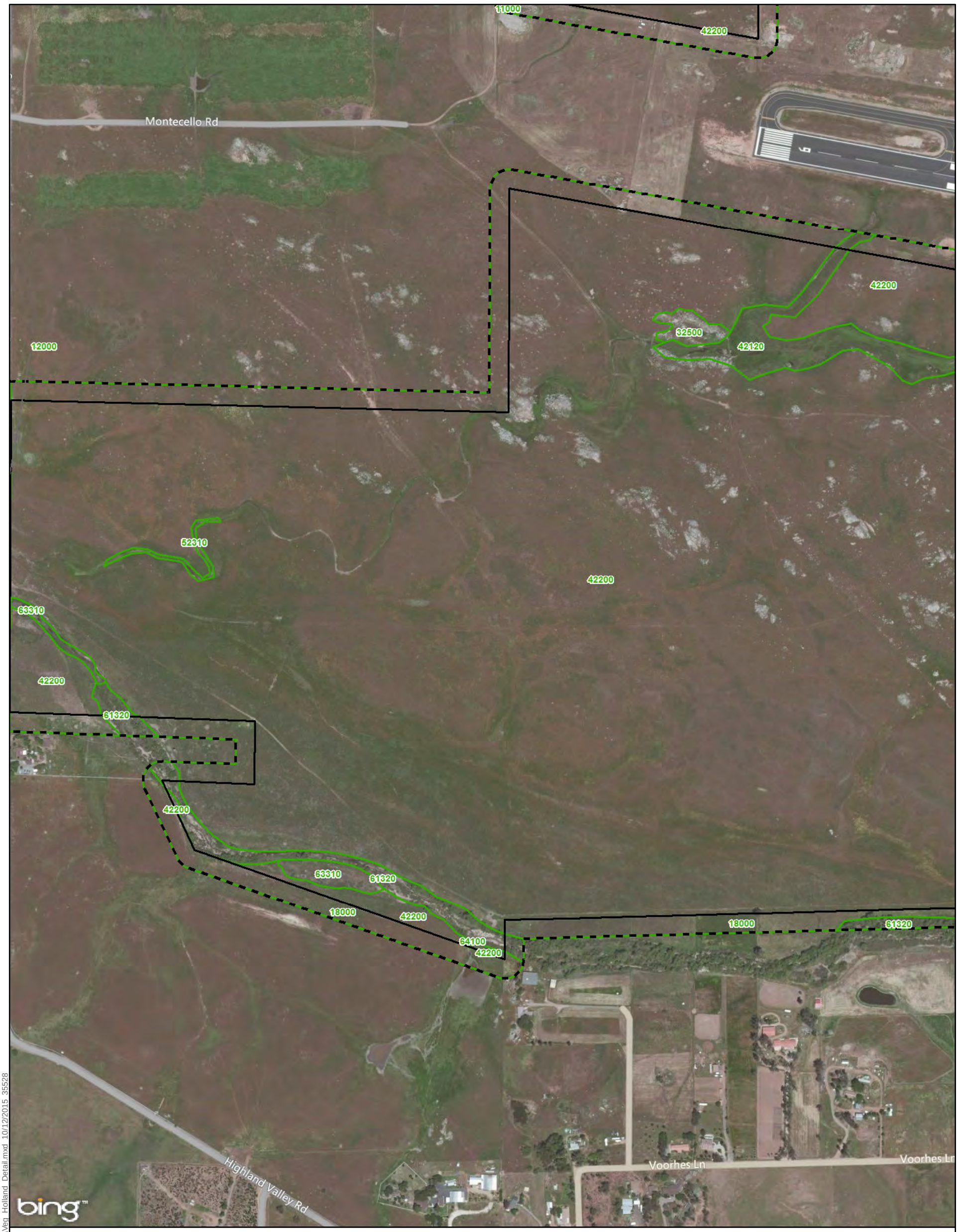
Appendix A Figure 25J
Vegetation Communities/Habitats (Modified Holland Code)
Ramona Grasslands Preserve



Legend

- Preserve Boundaries
- Preserve Boundaries 100-foot Buffer
- Vegetation

Vegetation Key per Classification Manual

- 11000 - Disturbed Habitat
- 12000 - Urban/Developed
- 18000 - General Agriculture
- 32500 - Diegan Coastal Sage Scrub
- 42120 - Valley Sacaton Grassland
- 42200 - Non-Native Grassland
- 52310 - Cismontane Alkali Marsh
- 61320 - Southern Arroyo Willow Riparian Forest
- 63310 - Mule-Fat Scrub
- 64100 - Open Water

0 250 500 Feet

N

Source: Vegetation-ICFI, 2015; Imagery-BING, 2015.

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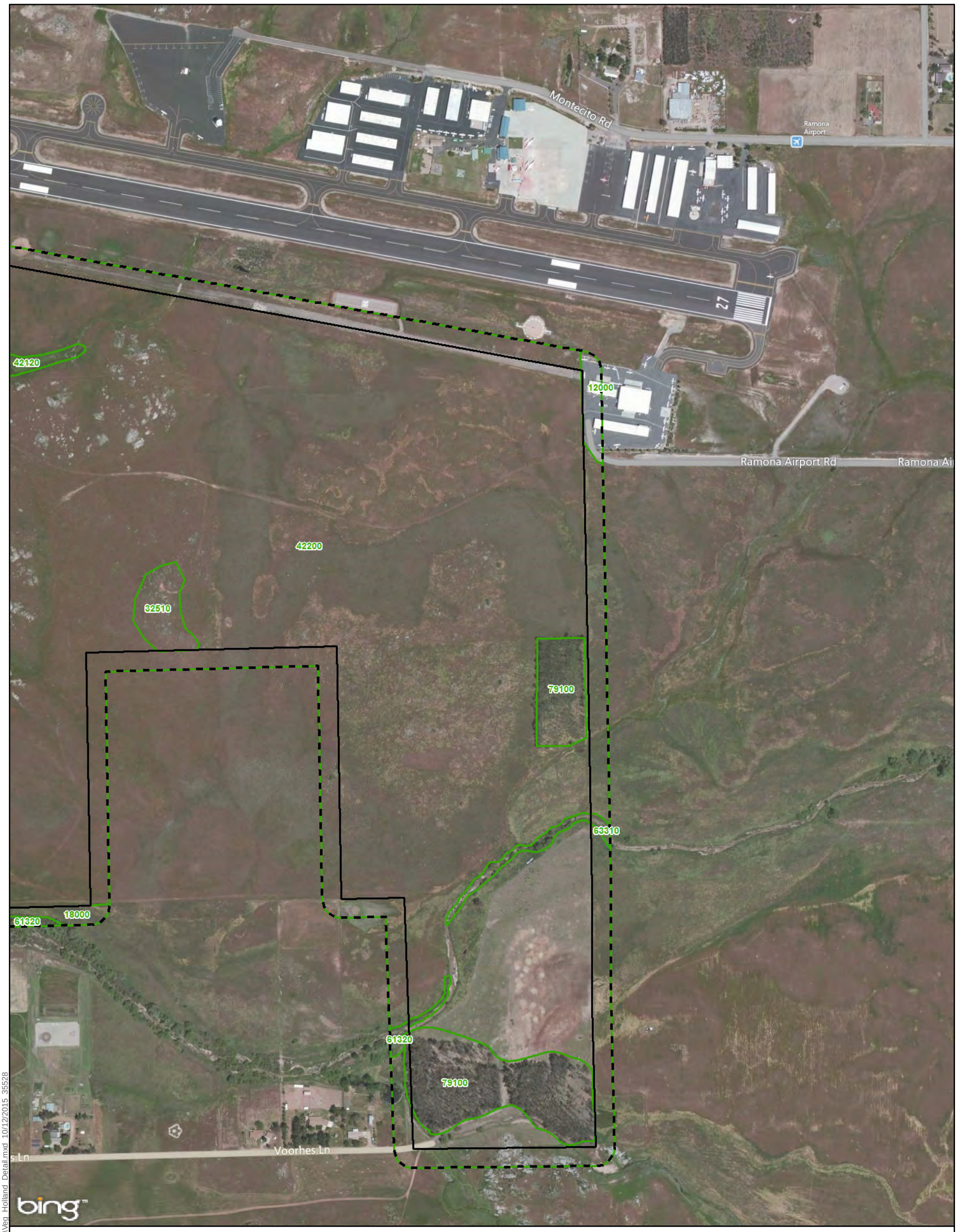
Appendix A Figure 25K
Vegetation Communities/Habitats (Modified Holland Code)
Ramona Grasslands Preserve



Legend

- Preserve Boundaries
- Preserve Boundaries 100-foot Buffer
- Vegetation

Vegetation Key per Classification Manual

- 12000 - Urban/Developed
- 18000 - General Agriculture
- 32510 - Diegan Coastal Sage Scrub: Coastal form
- 42120 - Valley Sacaton Grassland
- 42200 - Non-Native Grassland
- 61320 - Southern Arroyo Willow Riparian Forest
- 63310 - Mule-Fat Scrub
- 79100 - Eucalyptus Woodland

0 250 500 Feet

N

Source: Vegetation-ICFI, 2015; Imagery-BING, 2015.

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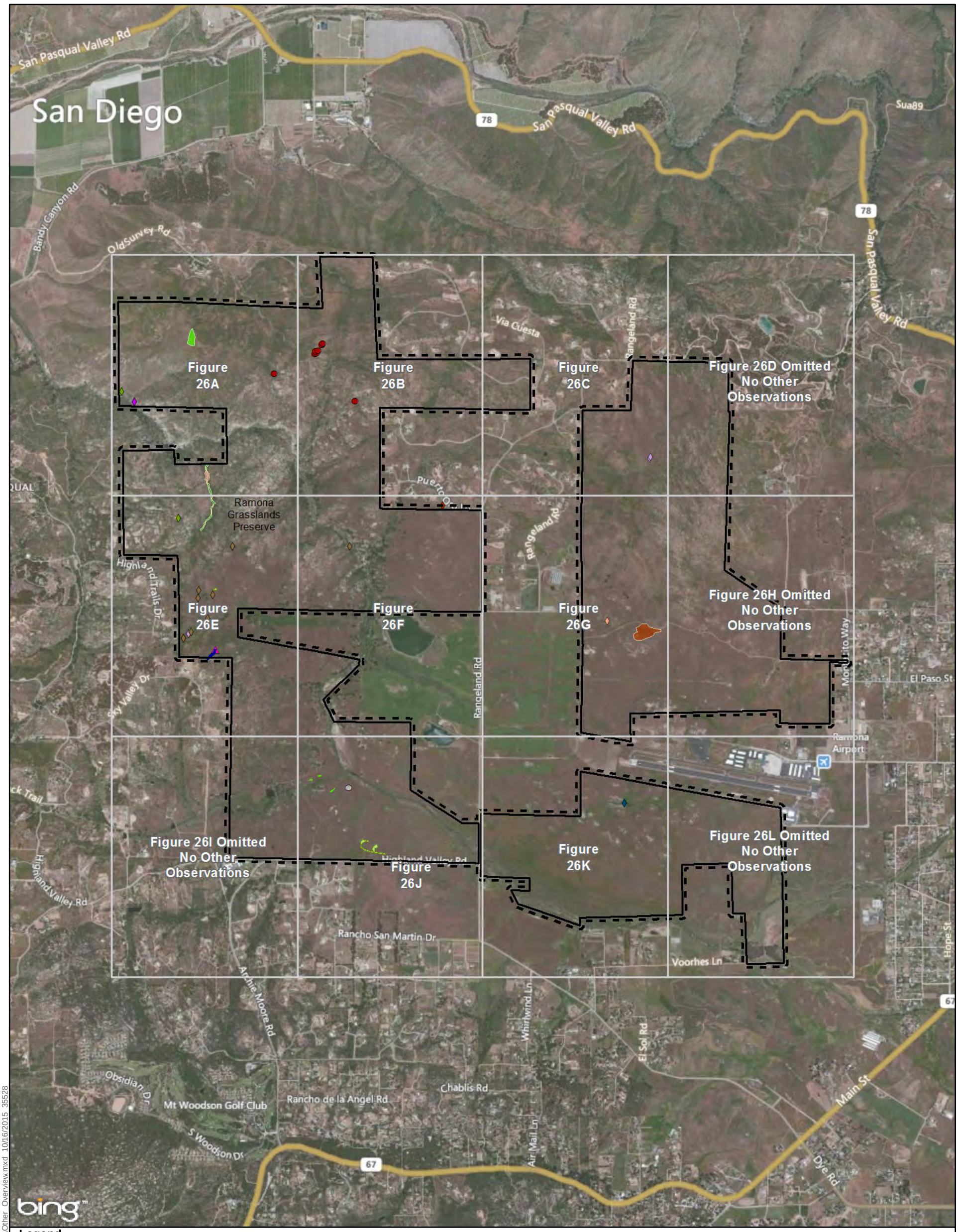
Appendix A Figure 25L
Vegetation Communities/Habitats (Modified Holland Code)
Ramona Grasslands Preserve



Legend

Preserve Boundaries

Preserve Boundaries 100-foot Buffer

Rare Plants

Graceful Tarplant *(Holocarpha virgata ssp. elongata)*

Rush Chaparral-Star *(Xanthisma junceum)*

Rare Plants Areas

Graceful Tarplant *(Holocarpha virgata ssp. elongata)*

Rush Chaparral-Star *(Xanthisma junceum)*

San Diego Sagewort *(Artemisia palmeri)*

Southern Tarplant *(Centromadia parryi ssp. australis)*

Invasive Plants

Arundo *(Arundo donax)*

Bull Thistle *(Cirsium vulgare)*

Pampas Grass *(Cortaderia sp.)*

Eucalyptus *(Eucalyptus sp.)*

Natal Grass *(Melinis repens ssp. repens)*

Stinknet *(Oncosiphon piluliferum)*

Tamarisk *(Tamarix sp.)*

Mexican Fan Palm *(Washingtonia robusta)*

Invasive Plants

Pampas Grass *(Cortaderia sp.)*

Eucalyptus *(Eucalyptus sp.)*

Eucalyptus and Pepper Trees

Disturbance Stressor

Illegal Trails

Illegal Trail

0 1,300 2,600 Feet

N

Source: Vegetation-ICFI, 2015; Imagery-BING, 2015.

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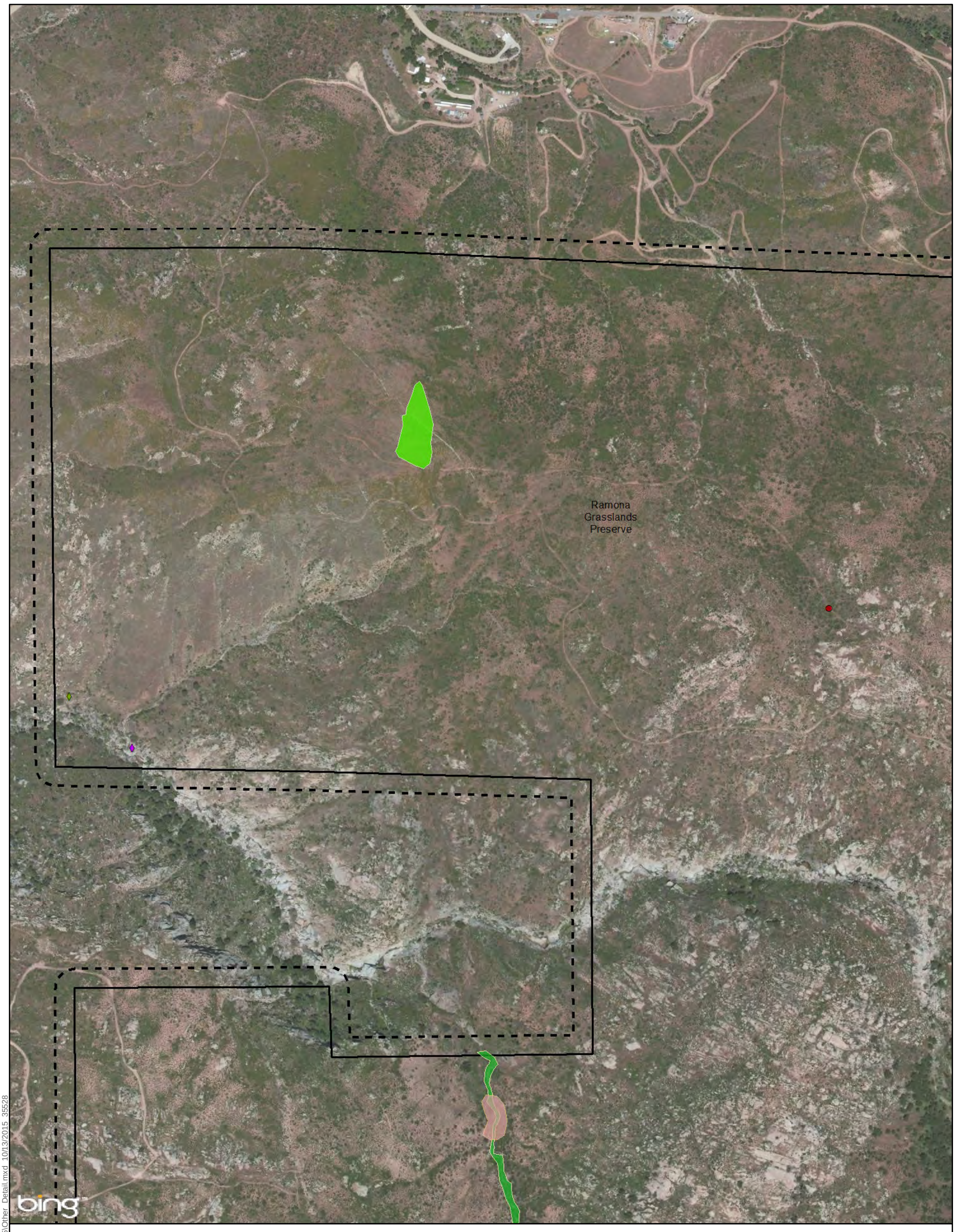
ICF INTERNATIONAL

Appendix A Figure 26 Overview
Habitat Stressors, Plant Observations, and Monitoring Plot Locations
Ramona Grasslands Preserve



Legend

Preserve Boundaries

Preserve Boundaries 100-foot Buffer

Rare Plants

Rush Chaparral-Star *(Xanthisma junceum)*

Rare Plants Areas

Rush Chaparral-Star *(Xanthisma junceum)*

San Diego Sagewort *(Artemisia palmeri)*

Invasive Plants

Arundo *(Arundo donax)*

Natal Grass *(Melinis repens ssp. repens)*

Invasive Plants

Eucalyptus *(Eucalyptus sp.)*

0 250 500 Feet

N

Source: Vegetation-ICFI, 2015; Imagery-BING, 2015.

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Appendix A Figure 26A
Habitat Stressors, Plant Observations, and Monitoring Plot Locations
Ramona Grasslands Preserve

Legend

- Preserve Boundaries
- Preserve Boundaries 100-foot Buffer

Rare Plants

- Rush Chaparral-Star *(Xanthisma junceum)*

0 250 500 Feet

N

Source: Vegetation-ICFI, 2015; Imagery-BING, 2015.

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Appendix A Figure 26B
Habitat Stressors, Plant Observations, and Monitoring Plot Locations
Ramona Grasslands Preserve

Legend

- Preserve Boundaries
- Preserve Boundaries 100-foot Buffer

Invasive Plants

- Bull Thistle *(Cirsium vulgare)*
- Mexican Fan Palm *(Washingtonia robusta)*

0 250 500 Feet

N

Source: Vegetation-ICFI, 2015; Imagery-BING, 2015.

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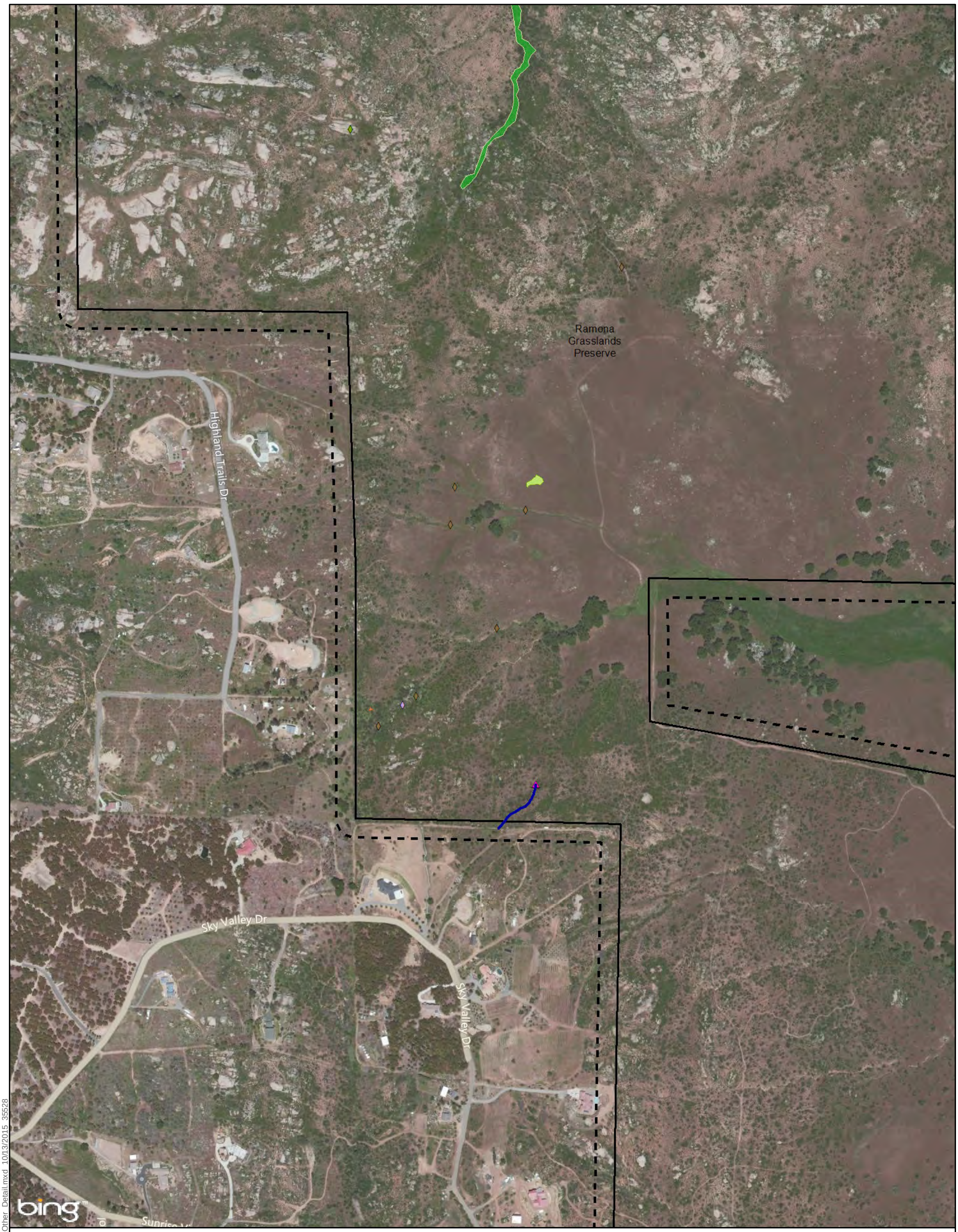
ICF INTERNATIONAL

Appendix A Figure 26C
Habitat Stressors, Plant Observations, and Monitoring Plot Locations
Ramona Grasslands Preserve



Legend

Preserve Boundaries
Preserve Boundaries 100-foot Buffer

Rare Plants Areas

Graceful Tarplant *(Holocarpha virgata ssp. elongata)*
San Diego Sagewort *(Artemisia palmeri)*

Invasive Plants

Pampas Grass *(Cortaderia sp.)*
Natal Grass *(Melinis repens ssp. repens)*
Tamarisk *(Tamarix sp.)*
Mexican Fan Palm *(Washingtonia robusta)*

Invasive Plants

Pampas Grass *(Cortaderia sp.)*

Disturbance Stressor

Illegal Trail
Illegal Trail

0 250 500 Feet

N

Source: Vegetation-ICFI, 2015; Imagery-BING, 2015.

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Appendix A Figure 26E
Habitat Stressors, Plant Observations, and Monitoring Plot Locations
Ramona Grasslands Preserve

Legend

Preserve Boundaries

Preserve Boundaries 100-foot Buffer

Invasive Plants

Pampas Grass *(Cortaderia sp.)*

Tamarisk *(Tamarix sp.)*

0 250 500 Feet

N

Source: Vegetation-ICFI, 2015; Imagery-BING, 2015.

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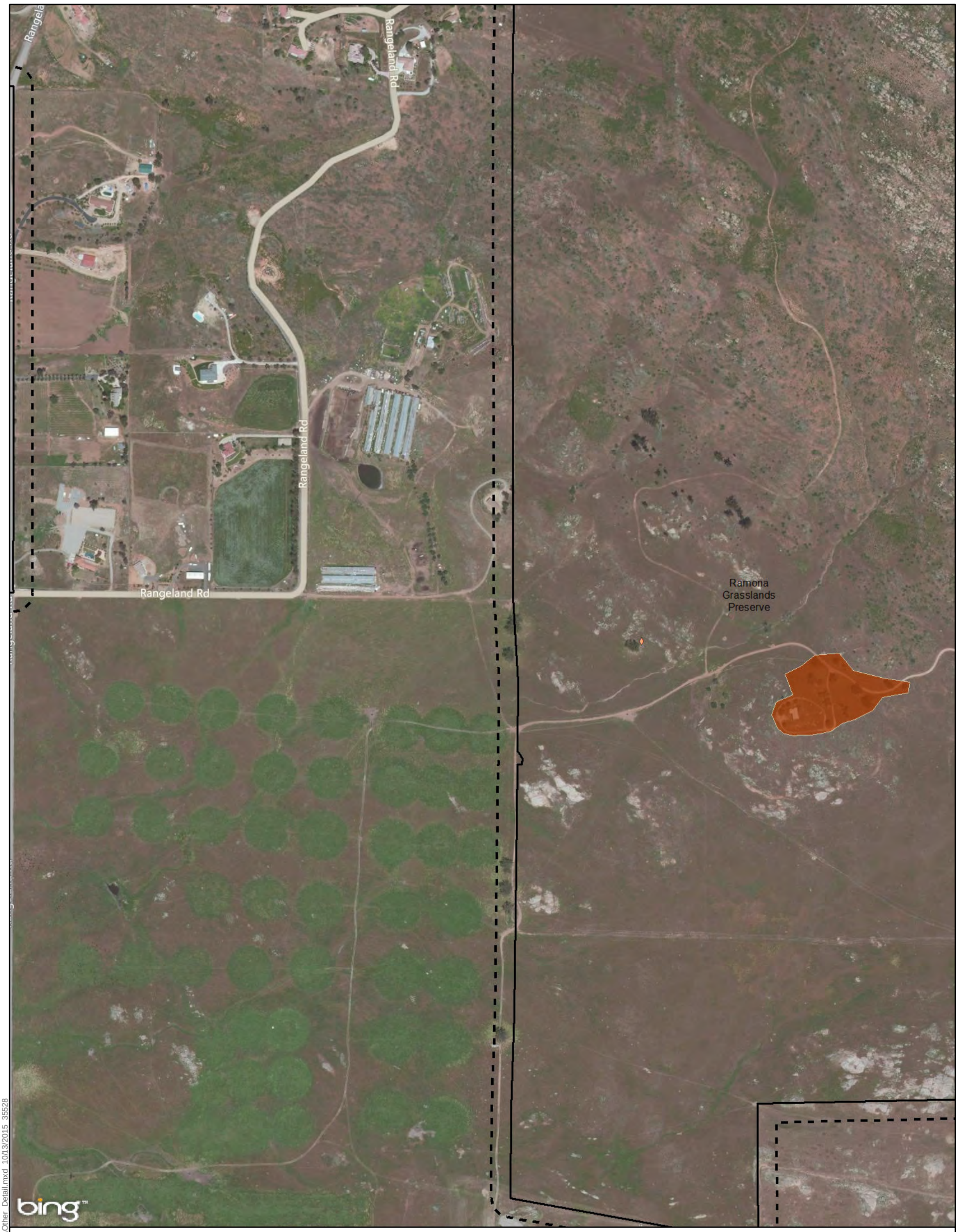
Appendix A Figure 26F
Habitat Stressors, Plant Observations, and Monitoring Plot Locations
Ramona Grasslands Preserve



Legend

- Preserve Boundaries
- Preserve Boundaries 100-foot Buffer

Invasive Plants

- Eucalyptus *(Eucalyptus sp.)*

Invasive Plants

- Eucalyptus and Pepper Trees

0 250 500 Feet

N

Source: Vegetation-ICFI, 2015; Imagery-BING, 2015.

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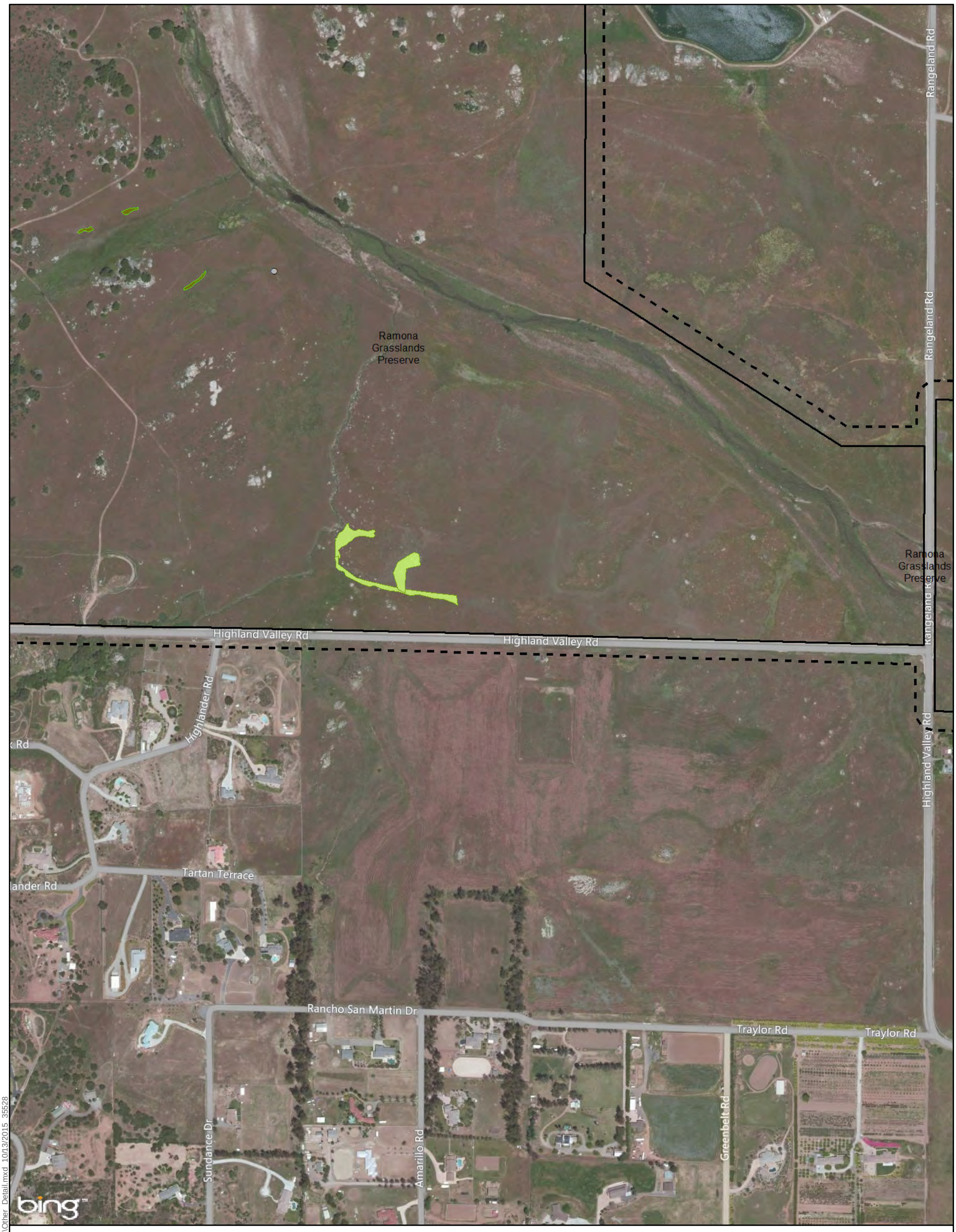
Appendix A Figure 26G
Habitat Stressors, Plant Observations, and Monitoring Plot Locations
Ramona Grasslands Preserve



Legend

- Preserve Boundaries
- Preserve Boundaries 100-foot Buffer

Rare Plants

- Graceful Tarplant *(Holocarpha virgata ssp. elongata)*

Rare Plants Areas

- Graceful Tarplant *(Holocarpha virgata ssp. elongata)*
- Southern Tarplant *(Centromadia parryi ssp. australis)*

0 250 500 Feet

N

Source: Vegetation-ICFI, 2015; Imagery-BING, 2015.

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Appendix A Figure 26J
Habitat Stressors, Plant Observations, and Monitoring Plot Locations
Ramona Grasslands Preserve

Legend

Preserve Boundaries

Preserve Boundaries 100-foot Buffer

Invasive Plants

Stinknet *(Oncosiphon piluliferum)*

0 250 500 Feet

N

Source: Vegetation-ICFI, 2015; Imagery-BING, 2015.

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Appendix A Figure 26K
Habitat Stressors, Plant Observations, and Monitoring Plot Locations
Ramona Grasslands Preserve

Legend

- Preserve Boundaries
- Preserve Boundaries 100-foot Buffer
- Vegetation

0 750 1,500 Feet

N

Source: Vegetation-ICFI, 2015; Imagery-BING, 2015.

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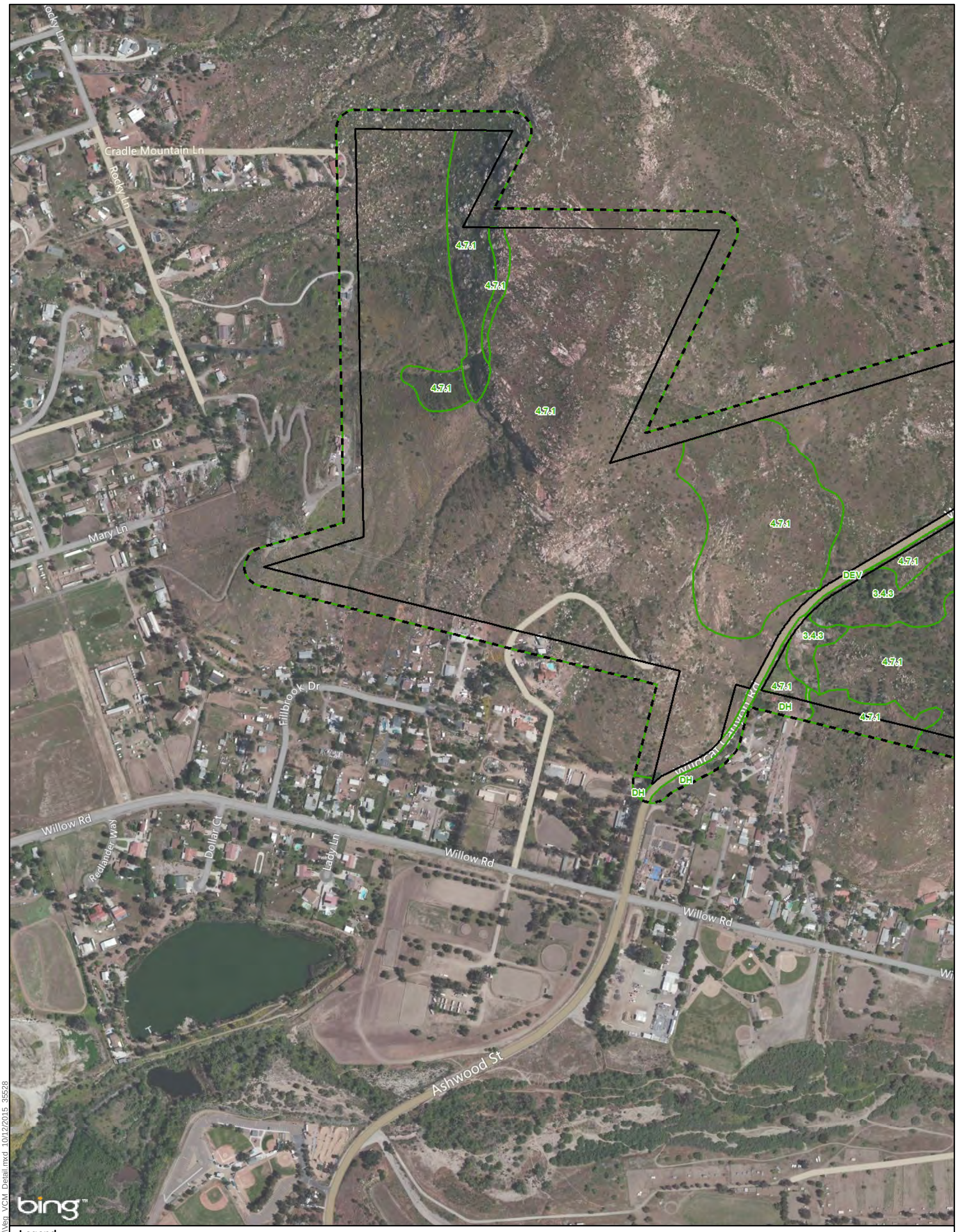
Appendix A Figure 27 Overview
Vegetation Communities/Habitats (Vegetation Classification Manual)
Stelzer Regional Park



Legend

Preserve Boundaries	3.4.3, Platanus racemosa-Quercus agrifolia Association
Preserve Boundaries 100-foot Buffer	4.7.1, Artemisia californica-Eriogonum fasciculatum-Malosma laurina Association
Vegetation	DEV, Developed
Vegetation Key per Classification Manual	DH, Disturbed Habitat

0 250 500 Feet

N

Source: Vegetation-ICFI, 2015; Imagery-BING, 2015.

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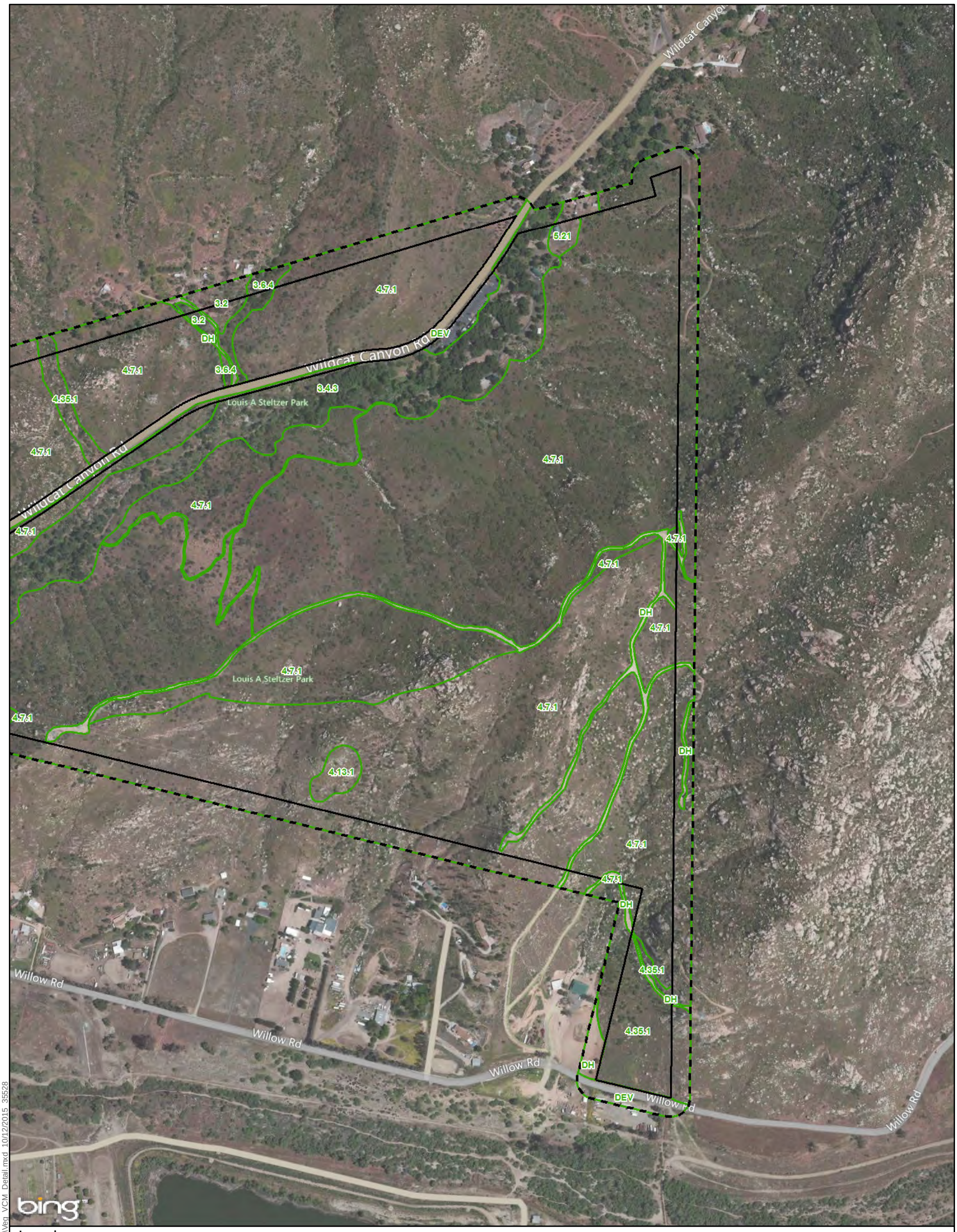
Appendix A Figure 27A
Vegetation Communities/Habitats (Vegetation Classification Manual)
Stelzer Regional Park



Legend

- Preserve Boundaries
- Preserve Boundaries 100-foot Buffer
- Vegetation

Vegetation Key per Classification Manual

- 3.2, Eucalyptus (globulus; camaldulensis) Semi-Natural Stands
- 3.4.3, Platanus racemosa-Quercus agrifolia Association
- 3.6.4, Quercus agrifolia-Toxicodendron diversilobum-Grass Association
- 4.13.1, Bahiopsis laciniata-Artemisia californica-Eriogonum fasciculatum Association
- 4.35.1, Malosma laurina-Lotus scoparius Association
- 4.7.1, Artemisia californica-Eriogonum fasciculatum-Malosma laurina Association
- 5.21, Mediterranean California Naturalized Annual and Perennial Grassland Semi-Natural Stands
- DEV, Developed
- DH, Disturbed Habitat

0 250 500 Feet

N

Source: Vegetation-ICFI, 2015; Imagery-BING, 2015.

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Appendix A Figure 27B
Vegetation Communities/Habitats (Vegetation Classification Manual)
Stelzer Regional Park

Figure 28A

Figure 28B

Legend

- Preserve Boundaries
- Preserve Boundaries 100-foot Buffer
- Vegetation

0 750 1,500 Feet

N

Source: Vegetation-ICFI, 2015; Imagery-BING, 2015.

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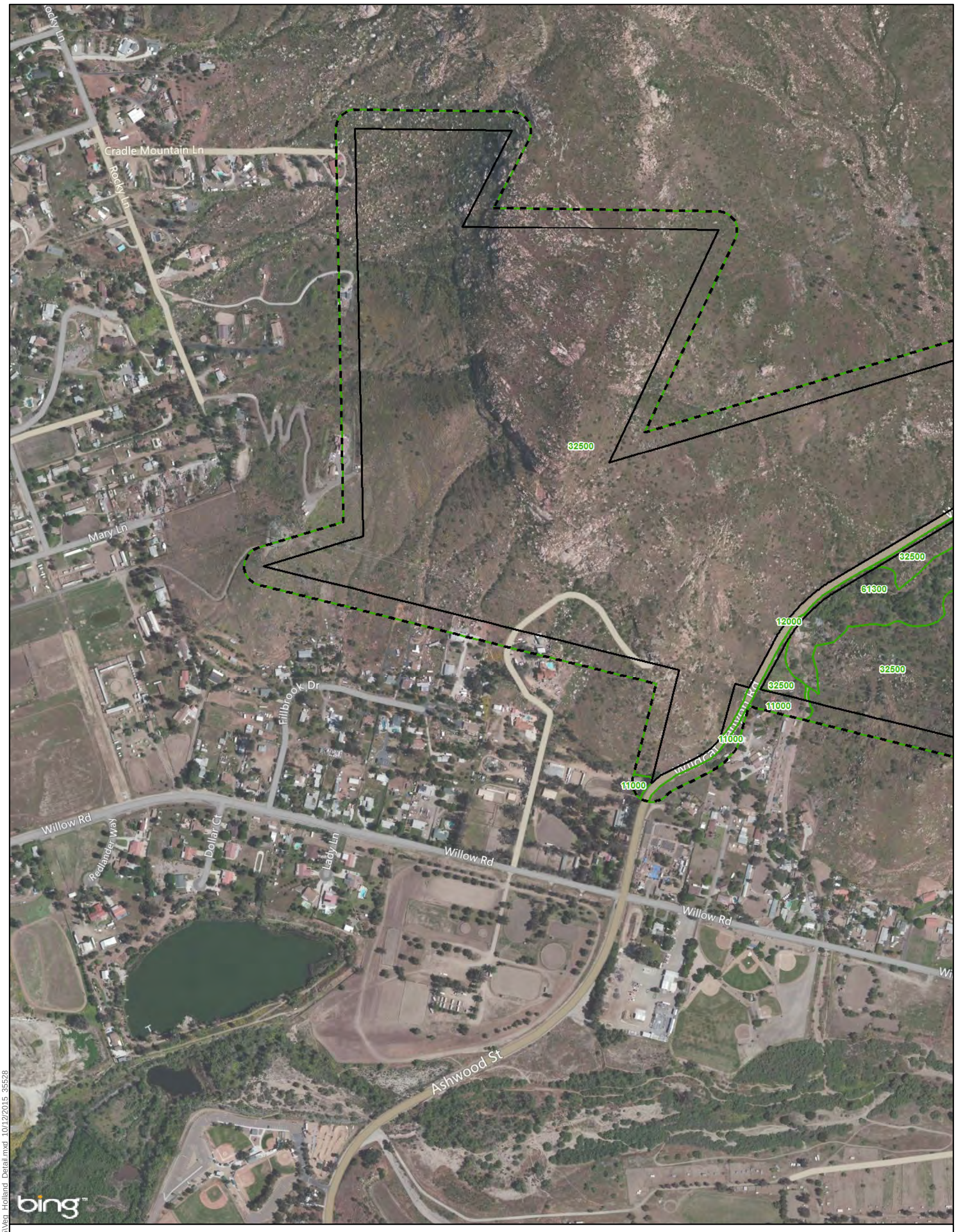
Appendix A Figure 28 Overview
Vegetation Communities/Habitats (Modified Holland Code)
Stelzer Regional Park



Legend

Preserve Boundaries	11000 - Disturbed Habitat
Preserve Boundaries 100-foot Buffer	12000 - Urban/Developed
Vegetation	32500 - Diegan Coastal Sage Scrub
Vegetation Key per Classification Manual	61300 - Southern Riparian Forest

0 250 500 Feet

N

Source: Vegetation-ICFI, 2015; Imagery-BING, 2015.

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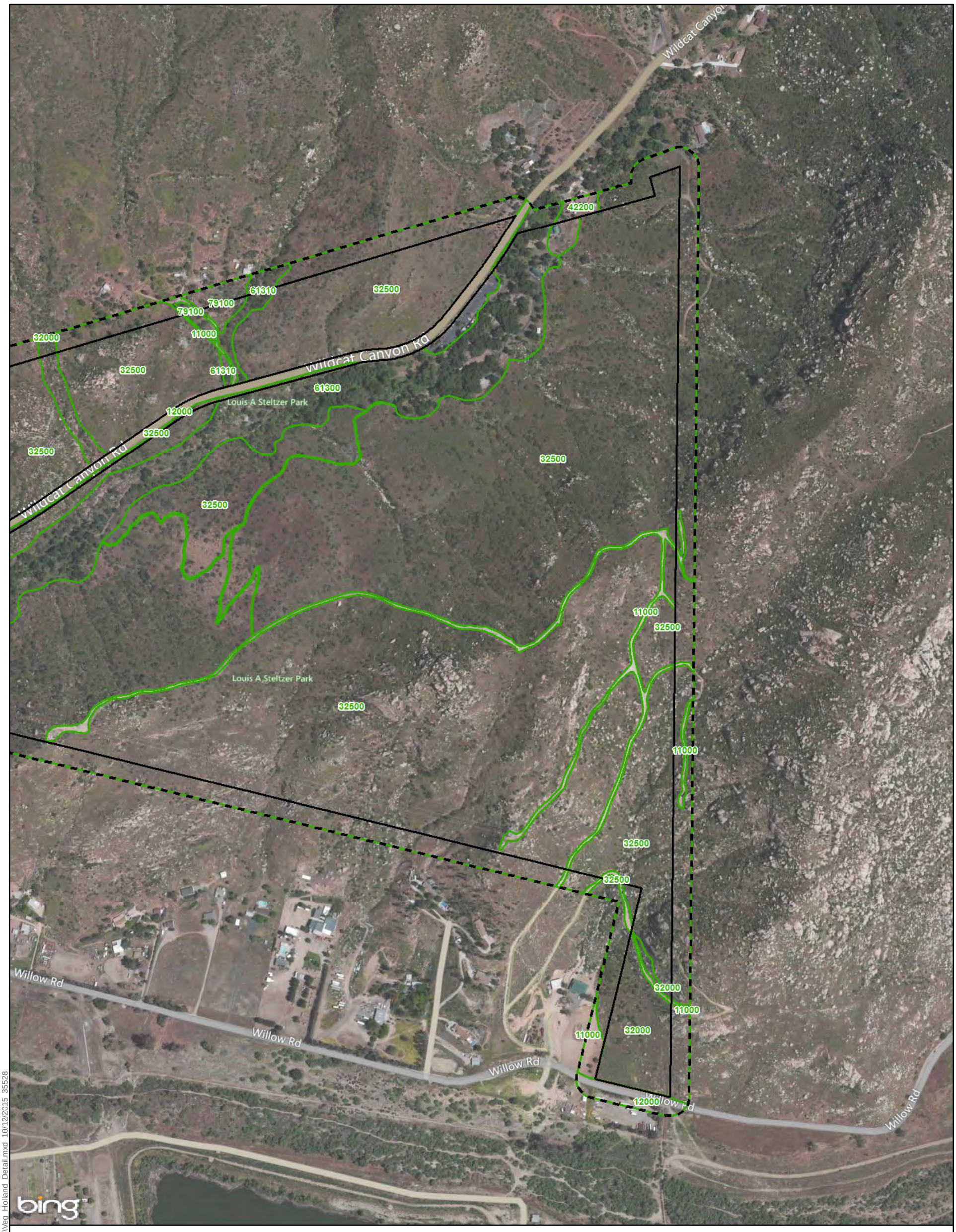
Appendix A Figure 28A
Vegetation Communities/Habitats (Modified Holland Code)
Stelzer Regional Park



Legend

- Preserve Boundaries
- Preserve Boundaries 100-foot Buffer
- Vegetation

Vegetation Key per Classification Manual

- 11000 - Disturbed Habitat
- 12000 - Urban/Developed
- 32000 - Coastal Scrub
- 32500 - Diegan Coastal Sage Scrub
- 42200 - Non-Native Grassland
- 61300 - Southern Riparian Forest
- 61310 - Southern Coast Live Oak Riparian Forest
- 79100 - Eucalyptus Woodland

0 250 500 Feet

N

Source: Vegetation-ICFI, 2015; Imagery-BING, 2015.

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Appendix A Figure 28B
Vegetation Communities/Habitats (Modified Holland Code)
Stelzer Regional Park

Legend

- Preserve Boundaries
- Preserve Boundaries 100-foot Buffer

Rare Plants

- Monitoring Plot Center Point
- Monitoring Plot Photo Point

Monitoring Plot Maximum Extent

- Lakeside Ceanothus *(Ceanothus cyaneus)* Maximum Extent

Invasive Plants

- Sweet Fennel *(Foeniculum vulgare)*
- Tree Tobacco *(Nicotiana glauca)*
- African Fountain Grass *(Pennisetum setaceum)*
- Castor Bean *(Ricinus communis)*

Disturbance Stressor

- Gophers

Source: Vegetation-ICFI, 2015; Imagery-BING, 2015.

0 750 1,500 Feet

N

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Appendix A Figure 29 Overview
Habitat Stressors, Plant Observations, and Monitoring Plot Locations
Stelzer Regional Park

Legend

- Preserve Boundaries
- Preserve Boundaries 100-foot Buffer

Rare Plant Monitoring

- Monitoring Plot Center Point
- Monitoring Plot Photo Point

Monitoring Plot Maximum Extent

- Lakeside Ceanothus *(Ceanothus cyaneus)* Maximum Extent

Invasive Plants

- African Fountain Grass *(Pennisetum setaceum)*

Disturbance Stressor

- Gophers

0 250 500 Feet

N

Source: Vegetation-ICFI, 2015; Imagery-BING, 2015.

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Appendix A Figure 29A
Habitat Stressors, Plant Observations, and Monitoring Plot Locations
Stelzer Regional Park

Legend

- Preserve Boundaries
- Preserve Boundaries 100-foot Buffer

Invasive Plants

- Sweet Fennel *(Foeniculum vulgare)*
- Tree Tobacco *(Nicotiana glauca)*
- Castor Bean *(Ricinus communis)*

0 250 500 Feet

N

Source: Vegetation-ICFI, 2015; Imagery-BING, 2015.

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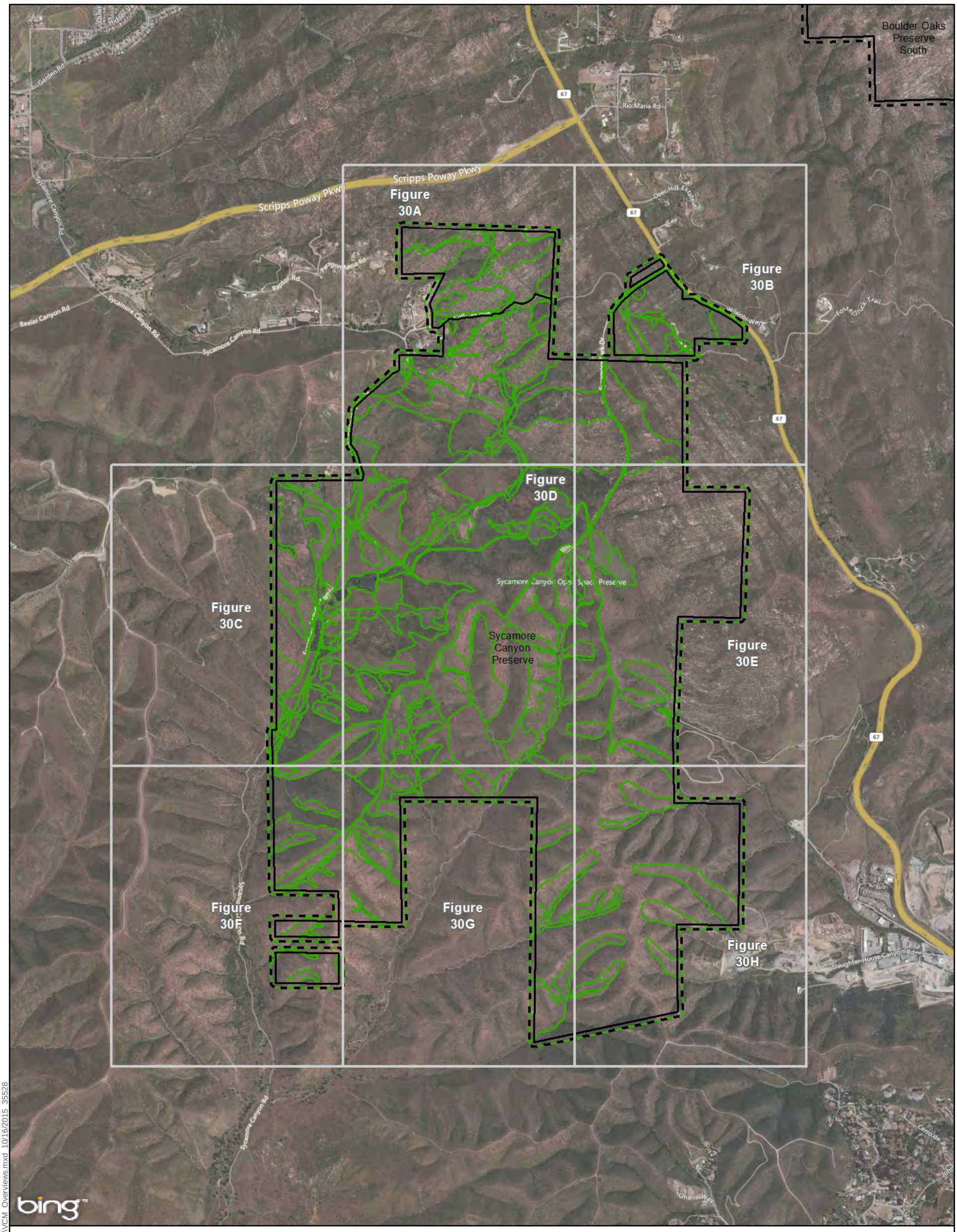
Appendix A Figure 29B
Habitat Stressors, Plant Observations, and Monitoring Plot Locations
Stelzer Regional Park



Legend

- Preserve Boundaries
- Preserve Boundaries 100-foot Buffer
- Vegetation

0 1,000 2,000 Feet

N

Source: Vegetation-ICFI, 2015; Imagery-BING, 2015.

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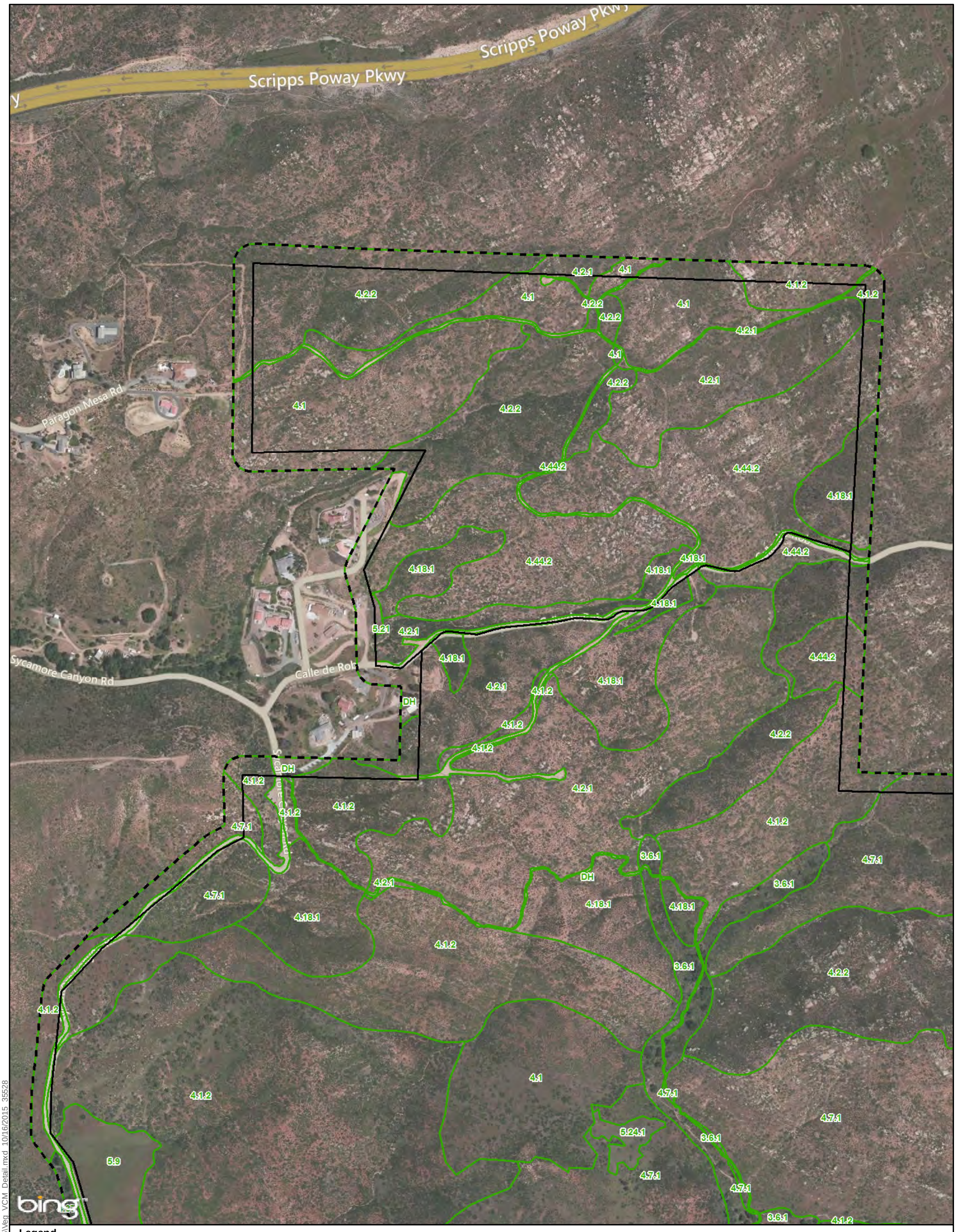
Appendix A Figure 30 Overview
Vegetation Communities/Habitats (Vegetation Classification Manual)
Sycamore Canyon/Goodan Ranch Preserve



Legend

- Preserve Boundaries
- Preserve Boundaries 100-foot Buffer
- Vegetation

Vegetation Key per Classification Manual

- 3.6.1, Quercus agrifolia-Artemisia californica Association
- 4.1, Adenostoma fasciculatum Alliance
- 4.1.2, Adenostoma fasciculatum-(Eriogonum fasciculatum; Artemisia californica; Salvia mellifera) Association
- 4.18.1, Ceanothus tomentosus Association
- 4.2.1, Adenostoma fasciculatum-Xylococcus bicolor Association
- 4.2.2, Adenostoma fasciculatum-Xylococcus bicolor-Ceanothus tomentosus Association
- 4.44.2, Salvia mellifera-Malosma laurina Association
- 4.7.1, Artemisia californica-Eriogonum fasciculatum-Malosma laurina Association
- 5.21, Mediterranean California Naturalized Annual and Perennial Grassland Semi-Natural Stands
- 5.24.1, Nassella pulchra Association
- 5.9, Bromus rubens-Schismus (arabicus; barbatus) Semi-Natural Stands
- DH, Disturbed Habitat

0 250 500 Feet

N

Source: Vegetation-ICFI, 2015; Imagery-BING, 2015.

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Appendix A Figure 30A
Vegetation Communities/Habitats (Vegetation Classification Manual)
Sycamore Canyon/Goodan Ranch Preserve

Legend

Preserve Boundaries

Preserve Boundaries 100-foot Buffer

Vegetation

Vegetation Key per Classification Manual

3.6.1, Quercus agrifolia-Artemisia californica Association

4.1.2, Adenostoma fasciculatum-(Eriogonum fasciculatum; Artemisia californica; Salvia mellifera) Association

4.2.1, Adenostoma fasciculatum-Xylococcus bicolor Association

4.2.2, Adenostoma fasciculatum-Xylococcus bicolor-Ceanothus tomentosus Association

4.24.1, Eriogonum fasciculatum-Salvia apiana Association

4.7.1, Artemisia californica-Eriogonum fasciculatum-Malosma laurina Association

DEV, Developed

DH, Disturbed Habitat

0 250 500 Feet

N

Source: Vegetation-ICFI, 2015; Imagery-BING, 2015.

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Appendix A Figure 30B
Vegetation Communities/Habitats (Vegetation Classification Manual)
Sycamore Canyon/Goodan Ranch Preserve

Legend

- Preserve Boundaries
- Preserve Boundaries 100-foot Buffer
- Vegetation

Vegetation Key per Classification Manual

- 3.4, Platanus racemosa Alliance
- 3.4.3, Platanus racemosa-Quercus agrifolia Association
- 4.1.2, Adenostoma fasciculatum-(Eriogonum fasciculatum; Artemisia californica; Salvia mellifera) Association
- 4.18.1, Ceanothus tomentosus Association
- 4.2.2, Adenostoma fasciculatum-Xylococcus bicolor-Ceanothus tomentosus Association
- 4.37.1, Quercus (berberidifolia; ×acutidens) Association
- 4.38.1, Quercus (berberidifolia; ×acutidens)-Adenostoma fasciculatum Association
- 4.44, Salvia mellifera Alliance
- 4.44.1, Salvia mellifera-Eriogonum fasciculatum Association
- 4.44.2, Salvia mellifera-Malosma laurina Association
- 4.7.1, Artemisia californica-Eriogonum fasciculatum-Malosma laurina Association
- 5.9, Bromus rubens-Schismus (arabicus; barbatus) Semi-Natural Stands
- AGR, Agriculture
- DH, Disturbed Habitat

0 250 500 Feet

N

Source: Vegetation-ICFI, 2015; Imagery-BING, 2015.

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Appendix A Figure 30C
Vegetation Communities/Habitats (Vegetation Classification Manual)
Sycamore Canyon/Goodan Ranch Preserve

Legend

- Preserve Boundaries
- Preserve Boundaries 100-foot Buffer
- Vegetation

Vegetation Key per Classification Manual

- 3.4.3, Platanus racemosa-Quercus agrifolia Association
- 3.6.1, Quercus agrifolia-Artemisia californica Association
- 3.6.4, Quercus agrifolia-Toxicodendron diversilobum-Grass Association
- 4.1, Adenostoma fasciculatum Alliance
- 4.1.2, Adenostoma fasciculatum-(Eriogonum fasciculatum; Artemisia californica; Salvia mellifera) Association
- 4.1.4, Adenostoma fasciculatum-Ceanothus tomentosus Association
- 4.18.1, Ceanothus tomentosus Association
- 4.2.1, Adenostoma fasciculatum-Xylococcus bicolor Association
- 4.2.2, Adenostoma fasciculatum-Xylococcus bicolor-Ceanothus tomentosus Association
- 4.24.1, Eriogonum fasciculatum-Salvia apiana Association
- 4.35.1, Malosma laurina-Lotus scoparius Association
- 4.37.1, Quercus (berberidifolia; ×acutidens) Association
- 4.44, Salvia mellifera Alliance
- 4.44.1, Salvia mellifera-Eriogonum fasciculatum Association
- 4.44.2, Salvia mellifera-Malosma laurina Association
- 4.7.1, Artemisia californica-Eriogonum fasciculatum-Malosma laurina Association
- 5.21, Mediterranean California Naturalized Annual and Perennial Grassland Semi-Natural Stands
- 5.7.1, Brassica nigra and Other Mustards Seminatural Stands
- 5.8, Bromus (diandrus; hordeaceus)-Brachypodium distachyon Semi-Natural Stands
- 5.9, Bromus rubens-Schismus (arabicus; barbatus) Semi-Natural Stands
- AGR, Agriculture
- DH, Disturbed Habitat

0 250 500 Feet

N

Source: Vegetation-ICFI, 2015; Imagery-BING, 2015.

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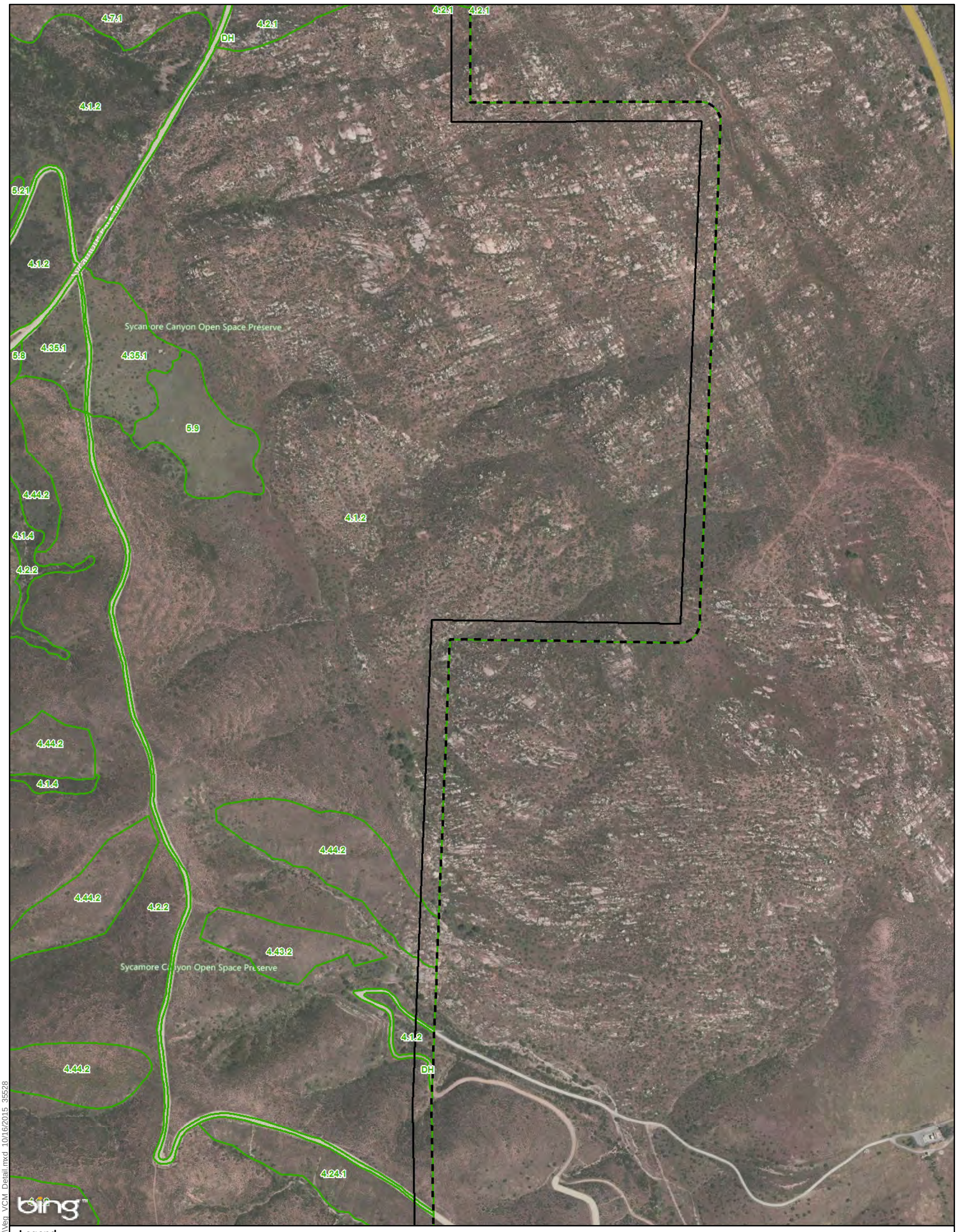
Appendix A Figure 30D
Vegetation Communities/Habitats (Vegetation Classification Manual)
Sycamore Canyon/Goodan Ranch Preserve



Legend

- Preserve Boundaries
- Preserve Boundaries 100-foot Buffer
- Vegetation

Vegetation Key per Classification Manual

- 4.1.2, Adenostoma fasciculatum-(Eriogonum fasciculatum; Artemisia californica; Salvia mellifera) Association
- 4.1.4, Adenostoma fasciculatum-Ceanothus tomentosus Association
- 4.2.1, Adenostoma fasciculatum-Xylococcus bicolor Association
- 4.2.2, Adenostoma fasciculatum-Xylococcus bicolor-Ceanothus tomentosus Association
- 4.24.1, Eriogonum fasciculatum-Salvia apiana Association
- 4.35.1, Malosma laurina-Lotus scoparius Association
- 4.43.2, Salvia apiana-Artemisia californica Association
- 4.44.2, Salvia mellifera-Malosma laurina Association
- 4.7.1, Artemisia californica-Eriogonum fasciculatum-Malosma laurina Association
- 5.21, Mediterranean California Naturalized Annual and Perennial Grassland Semi-Natural Stands
- 5.8, Bromus (diandrus; hordeaceus)-Brachypodium distachyon Semi-Natural Stands
- 5.9, Bromus rubens-Schismus (arabicus; barbatus) Semi-Natural Stands
- DH, Disturbed Habitat

0 250 500 Feet

N

Source: Vegetation-ICFI, 2015; Imagery-BING, 2015.

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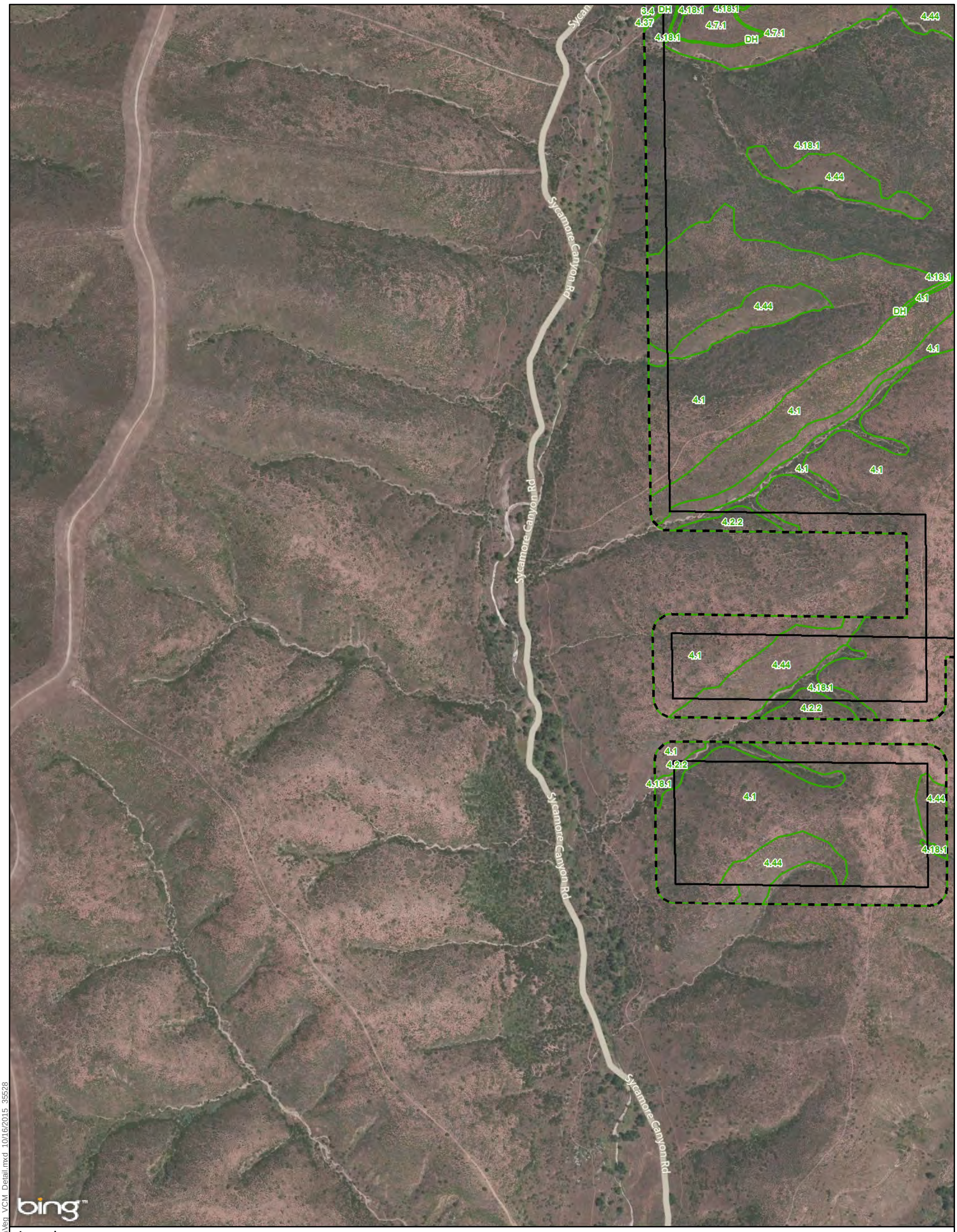
Appendix A Figure 30E
Vegetation Communities/Habitats (Vegetation Classification Manual)
Sycamore Canyon/Goodan Ranch Preserve



Legend

- Preserve Boundaries
- Preserve Boundaries 100-foot Buffer
- Vegetation

Vegetation Key per Classification Manual

- 3.4, Platanus racemosa Alliance
- 4.1, Adenostoma fasciculatum Alliance
- 4.18.1, Ceanothus tomentosus Association
- 4.2.2, Adenostoma fasciculatum-Xylococcus bicolor-Ceanothus tomentosus Association
- 4.44, Salvia mellifera Alliance
- 4.7.1, Artemisia californica-Eriogonum fasciculatum-Malosma laurina Association
- DH, Disturbed Habitat

0 250 500 Feet

N

Source: Vegetation-ICFI, 2015; Imagery-BING, 2015.

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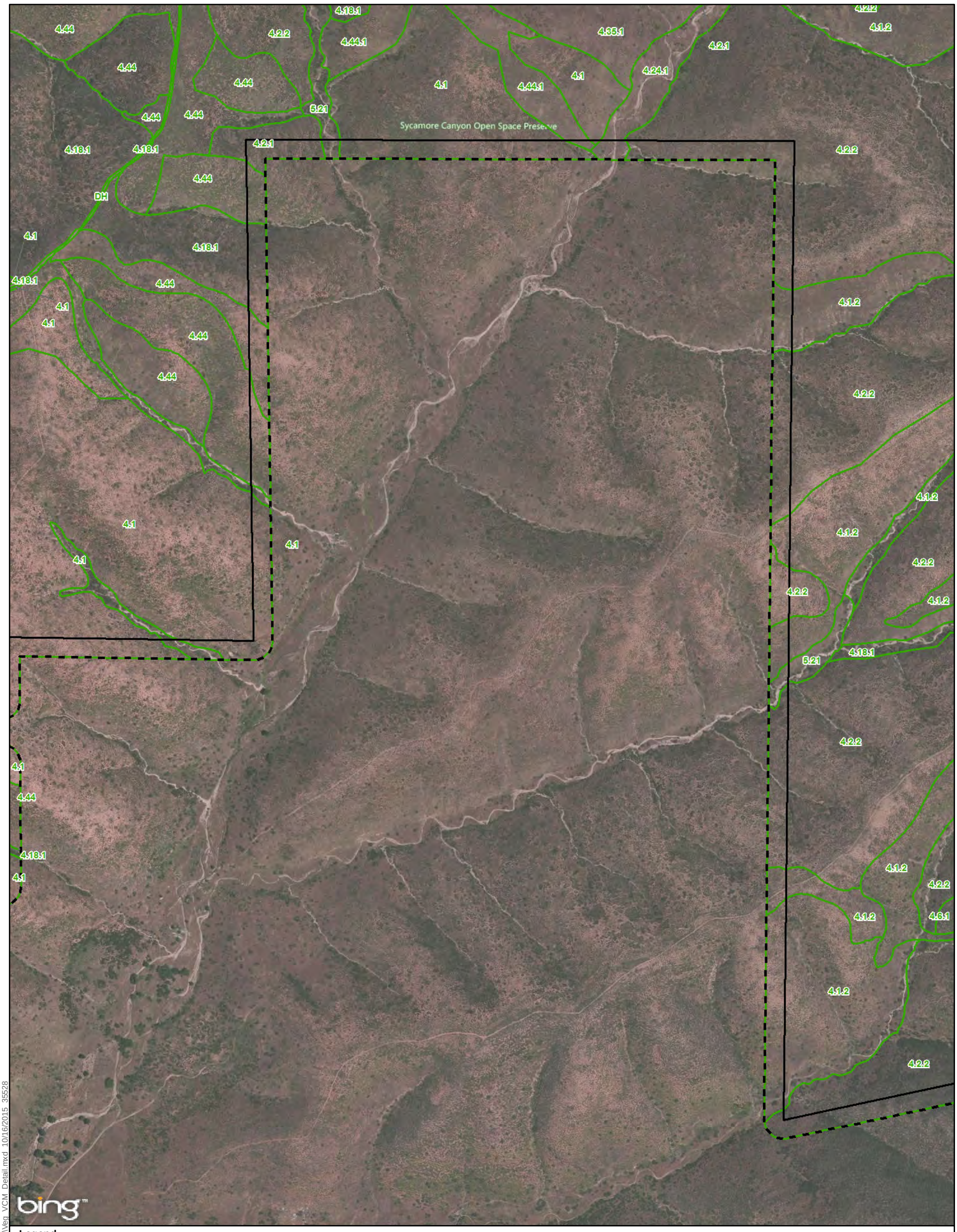
Appendix A Figure 30F
Vegetation Communities/Habitats (Vegetation Classification Manual)
Sycamore Canyon/Goodan Ranch Preserve



Legend

- Preserve Boundaries
- Preserve Boundaries 100-foot Buffer
- Vegetation

Vegetation Key per Classification Manual

- 4.1, Adenostoma fasciculatum Alliance
- 4.1.2, Adenostoma fasciculatum-(Eriogonum fasciculatum; Artemisia californica; Salvia mellifera) Association
- 4.18.1, Ceanothus tomentosus Association
- 4.2.1, Adenostoma fasciculatum-Xylococcus bicolor Association
- 4.2.2, Adenostoma fasciculatum-Xylococcus bicolor-Ceanothus tomentosus Association
- 4.24.1, Eriogonum fasciculatum-Salvia apiana Association
- 4.35.1, Malosma laurina-Lotus scoparius Association
- 4.44, Salvia mellifera Alliance
- 4.44.1, Salvia mellifera-Eriogonum fasciculatum Association
- 4.6.1, Artemisia californica Association
- 5.21, Mediterranean California Naturalized Annual and Perennial Grassland Semi-Natural Stands
- DH, Disturbed Habitat

0 250 500 Feet

N

Source: Vegetation-ICFI, 2015; Imagery-BING, 2015.

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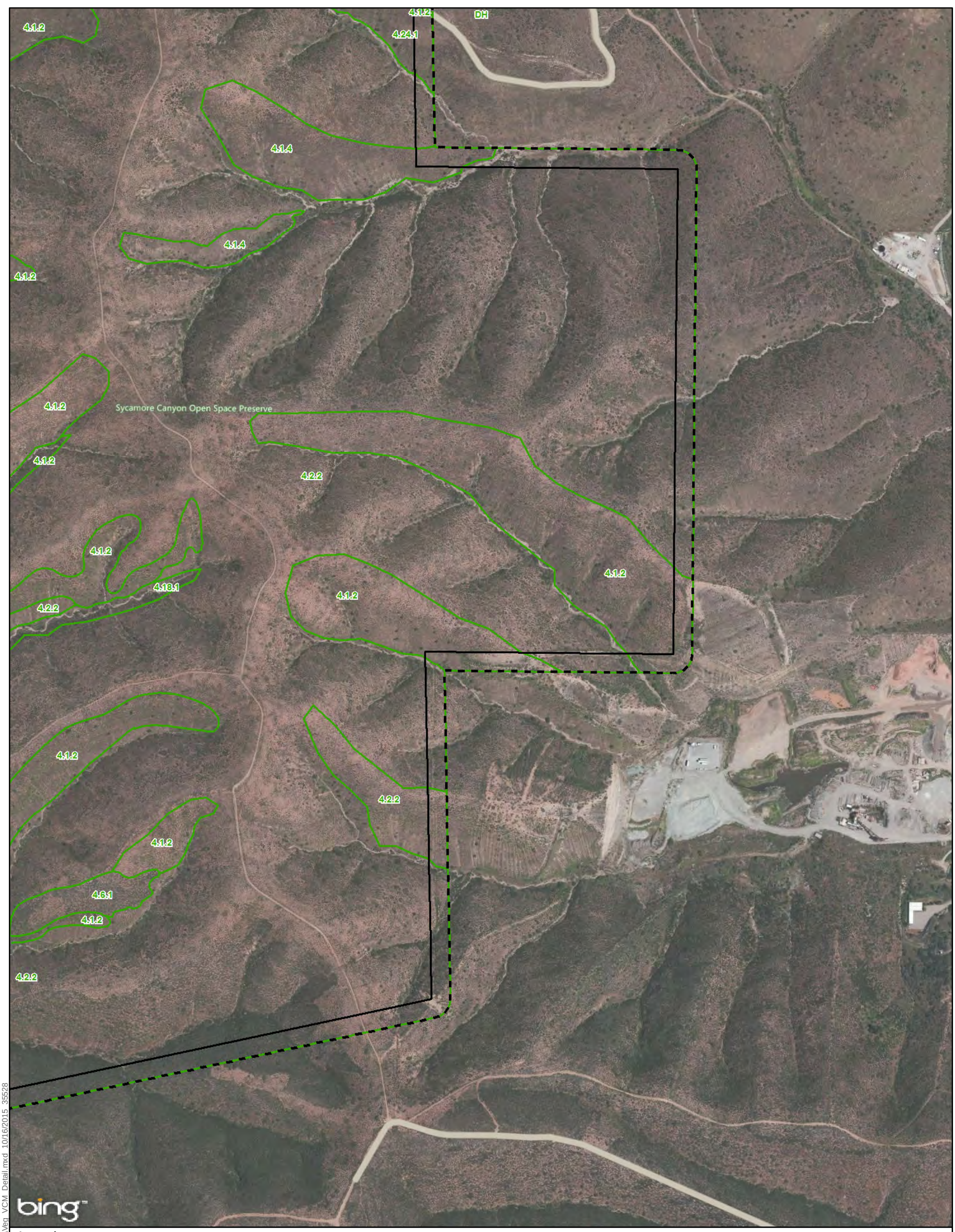
Appendix A Figure 30G
Vegetation Communities/Habitats (Vegetation Classification Manual)
Sycamore Canyon/Goodan Ranch Preserve



Legend

- Preserve Boundaries
- Preserve Boundaries 100-foot Buffer
- Vegetation

Vegetation Key per Classification Manual

4.1.2, Adenostoma fasciculatum-(Eriogonum fasciculatum; Artemisia californica; Salvia mellifera) Association
4.1.4, Adenostoma fasciculatum-Ceanothus tomentosus Association
4.18.1, Ceanothus tomentosus Association
4.2.2, Adenostoma fasciculatum-Xylococcus bicolor-Ceanothus tomentosus Association
4.24.1, Eriogonum fasciculatum-Salvia apiana Association
4.6.1, Artemisia californica Association
DH, Disturbed Habitat

0 250 500 Feet

N

Source: Vegetation-ICFI, 2015; Imagery-BING, 2015.

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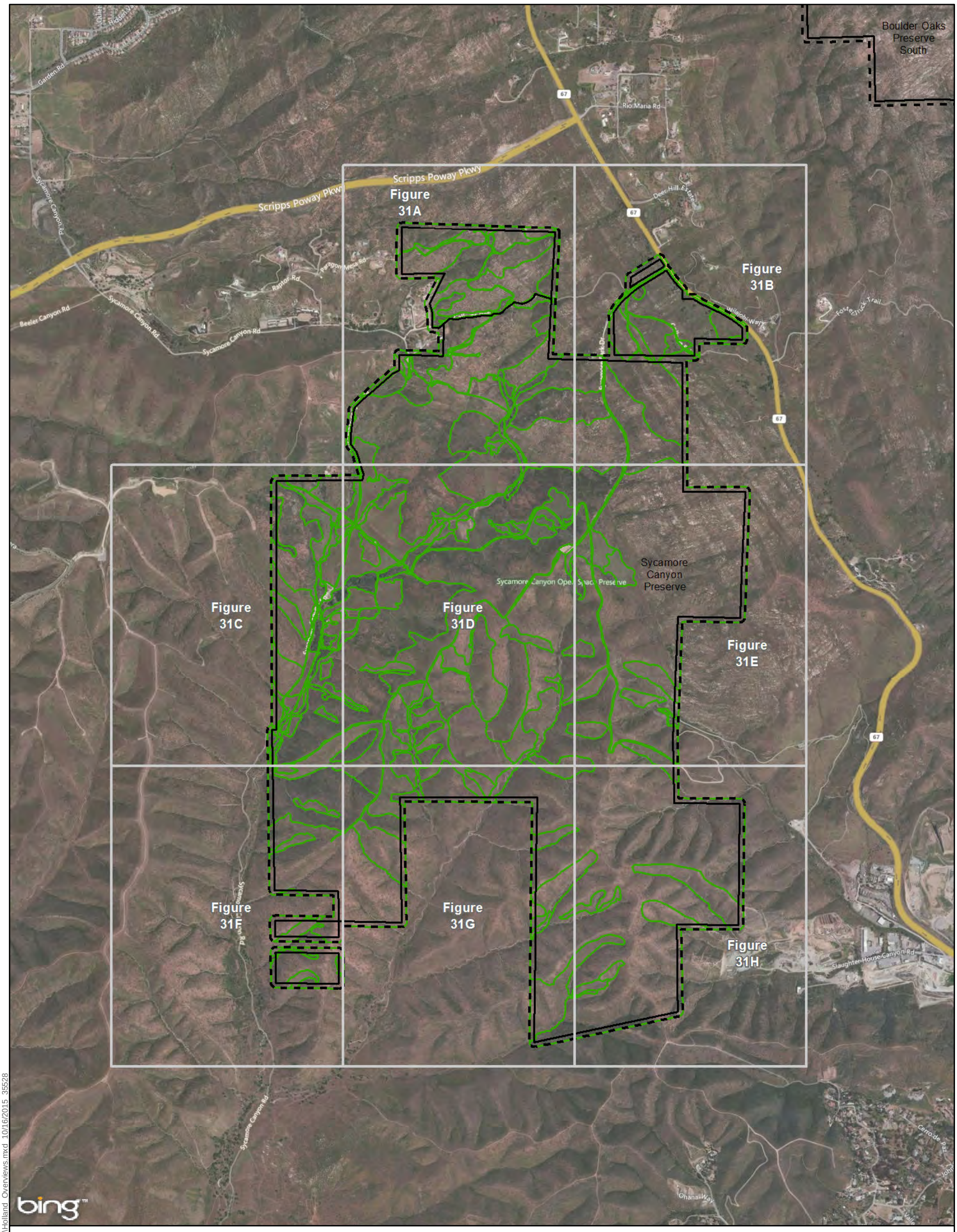
Appendix A Figure 30H
Vegetation Communities/Habitats (Vegetation Classification Manual)
Sycamore Canyon/Goodan Ranch Preserve



Legend

- Preserve Boundaries
- Preserve Boundaries 100-foot Buffer
- Vegetation

0 1,000 2,000 Feet

N

Source: Vegetation-ICFI, 2015; Imagery-BING, 2015.

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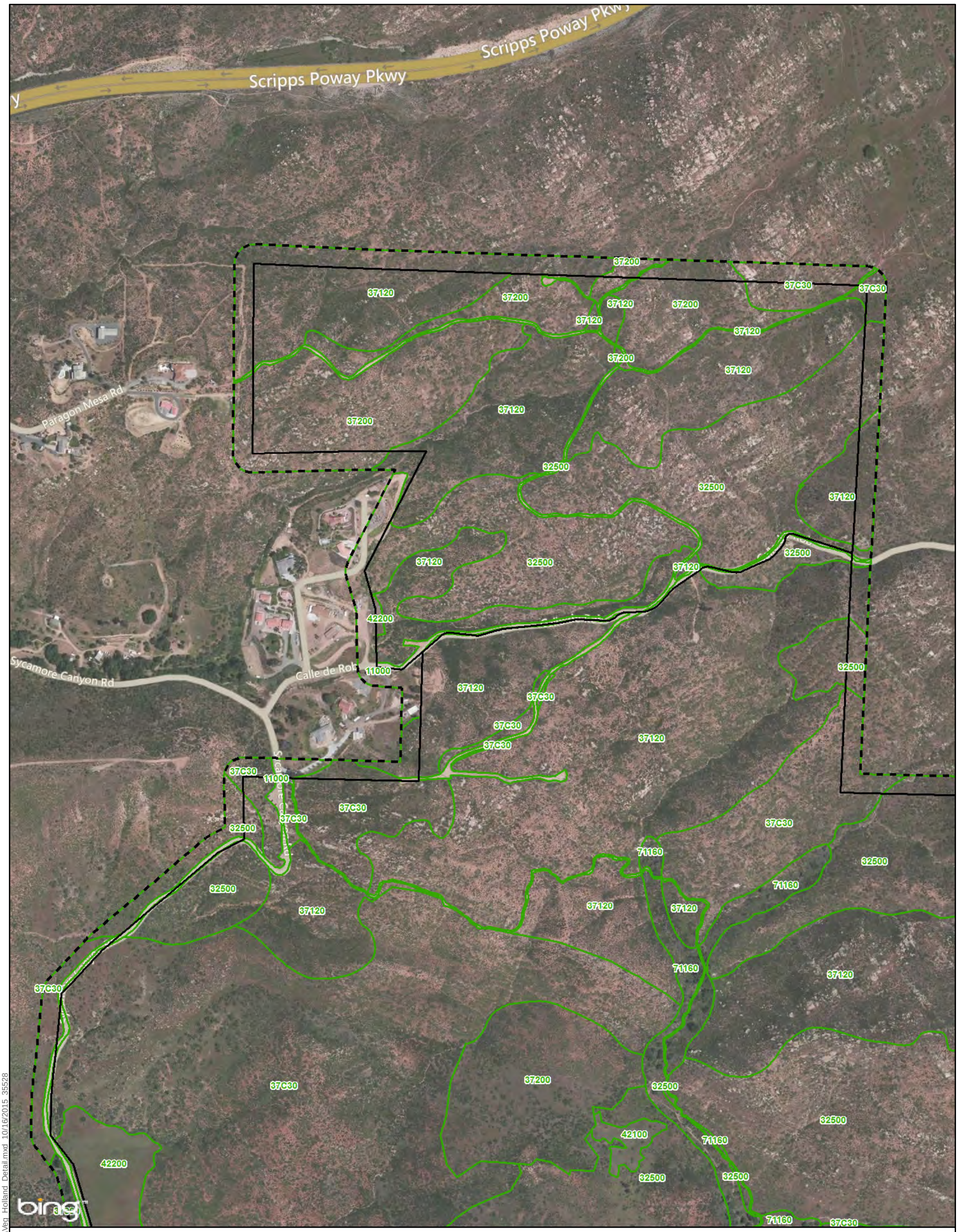
Appendix A Figure 31 Overview
Vegetation Communities/Habitats (Modified Holland Code)
Sycamore Canyon/Goodan Ranch Preserve



Legend

- Preserve Boundaries
- Preserve Boundaries 100-foot Buffer
- Vegetation

Vegetation Key per Classification Manual

- 11000 - Disturbed Habitat
- 32500 - Diegan Coastal Sage Scrub
- 37120 - Southern Mixed Chaparral
- 37200 - Chamise Chaparral
- 37900 - Scrub Oak Chaparral
- 37C30 - Coastal Sage-Chaparral Transition
- 42100 - Native Grassland
- 42200 - Non-Native Grassland
- 71160 - Coast Live Oak Woodland

0 250 500 Feet

N

Source: Vegetation-ICFI, 2015; Imagery-BING, 2015.

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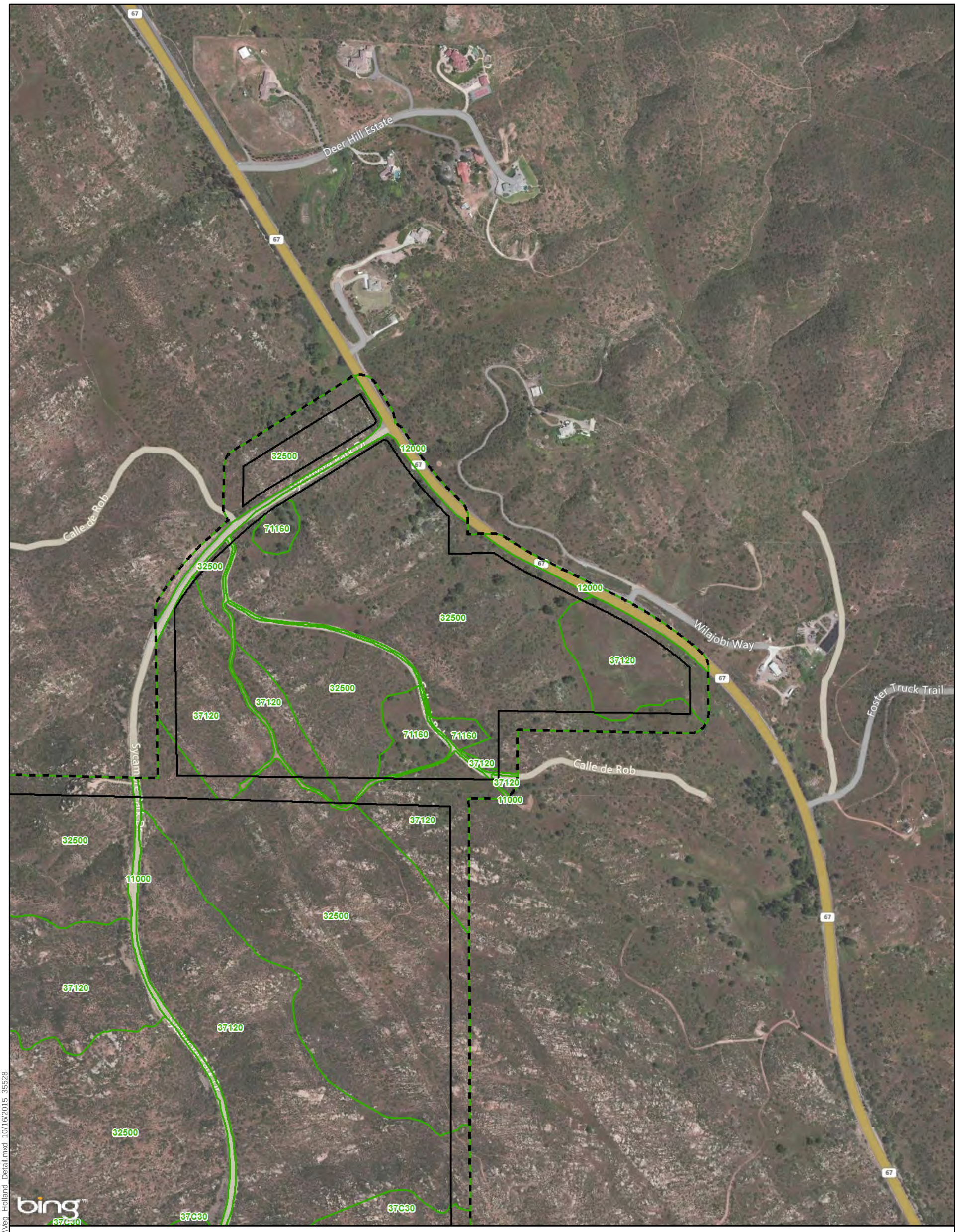
Appendix A Figure 31A
Vegetation Communities/Habitats (Modified Holland Code)
Sycamore Canyon/Goodan Ranch Preserve



Legend

- Preserve Boundaries
- Preserve Boundaries 100-foot Buffer
- Vegetation

Vegetation Key per Classification Manual

- 11000 - Disturbed Habitat
- 12000 - Urban/Developed
- 32500 - Diegan Coastal Sage Scrub
- 37120 - Southern Mixed Chaparral
- 37C30 - Coastal Sage-Chaparral Transition
- 71160 - Coast Live Oak Woodland

0 250 500 Feet

N

Source: Vegetation-ICFI, 2015; Imagery-BING, 2015.

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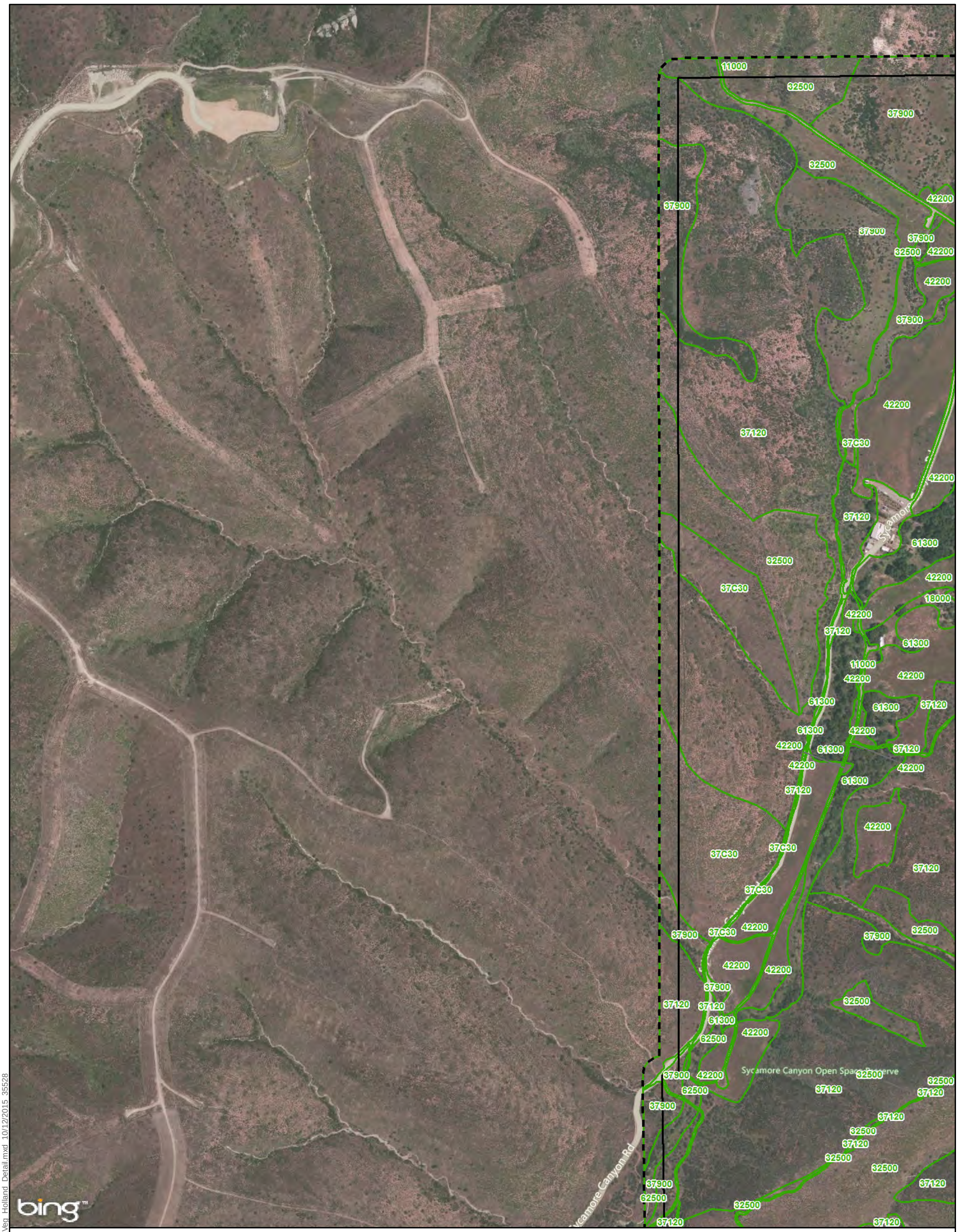
Appendix A Figure 31B
Vegetation Communities/Habitats (Modified Holland Code)
Sycamore Canyon/Goodan Ranch Preserve



Legend

- Preserve Boundaries
- Preserve Boundaries 100-foot Buffer
- Vegetation

Vegetation Key per Classification Manual

- 11000 - Disturbed Habitat
- 18000 - General Agriculture
- 32500 - Diegan Coastal Sage Scrub
- 37120 - Southern Mixed Chaparral
- 37900 - Scrub Oak Chaparral
- 37C30 - Coastal Sage-Chaparral Transition
- 42200 - Non-Native Grassland
- 61300 - Southern Riparian Forest
- 62500 - Southern Riparian Woodland

0 250 500 Feet

N

Source: Vegetation-ICFI, 2015; Imagery-BING, 2015.

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Appendix A Figure 31C
Vegetation Communities/Habitats (Modified Holland Code)
Sycamore Canyon/Goodan Ranch Preserve

Legend

- Preserve Boundaries
- Preserve Boundaries 100-foot Buffer
- Vegetation

Vegetation Key per Classification Manual

- 11000 - Disturbed Habitat
- 18000 - General Agriculture
- 32000 - Coastal Scrub
- 32500 - Diegan Coastal Sage Scrub
- 37120 - Southern Mixed Chaparral
- 37200 - Chamise Chaparral
- 37900 - Scrub Oak Chaparral
- 37C30 - Coastal Sage-Chaparral Transition
- 42200 - Non-Native Grassland
- 42210 - Non-Native Grassland: Broadleaf-Dominated
- 61300 - Southern Riparian Forest
- 61310 - Southern Coast Live Oak Riparian Forest
- 71160 - Coast Live Oak Woodland

0 250 500 Feet

N

Source: Vegetation-ICFI, 2015; Imagery-BING, 2015.

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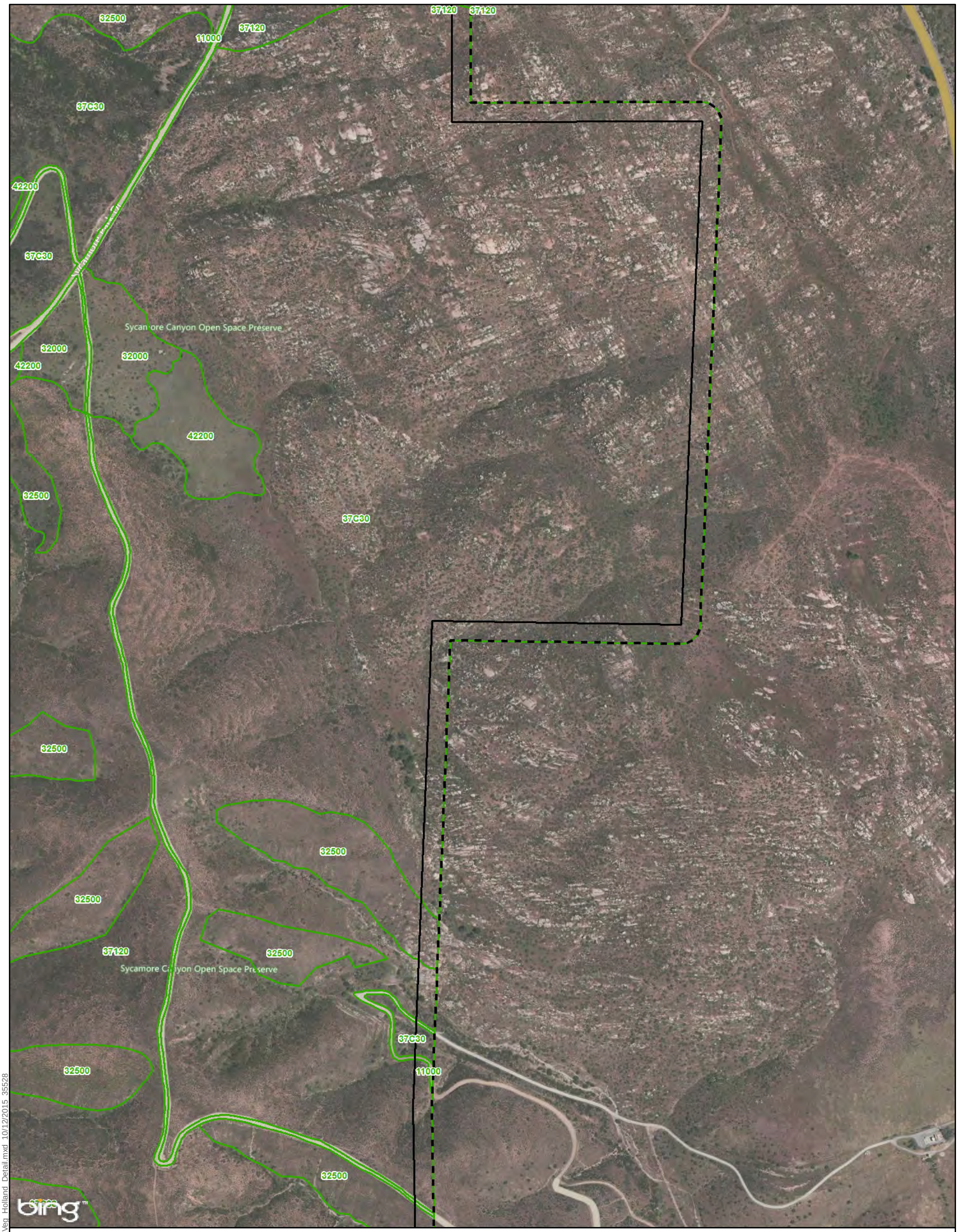
Appendix A Figure 31D
Vegetation Communities/Habitats (Modified Holland Code)
Sycamore Canyon/Goodan Ranch Preserve



Legend

- Preserve Boundaries
- Preserve Boundaries 100-foot Buffer
- Vegetation

Vegetation Key per Classification Manual

- 11000 - Disturbed Habitat
- 32000 - Coastal Scrub
- 32500 - Diegan Coastal Sage Scrub
- 37120 - Southern Mixed Chaparral
- 37C30 - Coastal Sage-Chaparral Transition
- 42200 - Non-Native Grassland

0 250 500 Feet

N

Source: Vegetation-ICFI, 2015; Imagery-BING, 2015.

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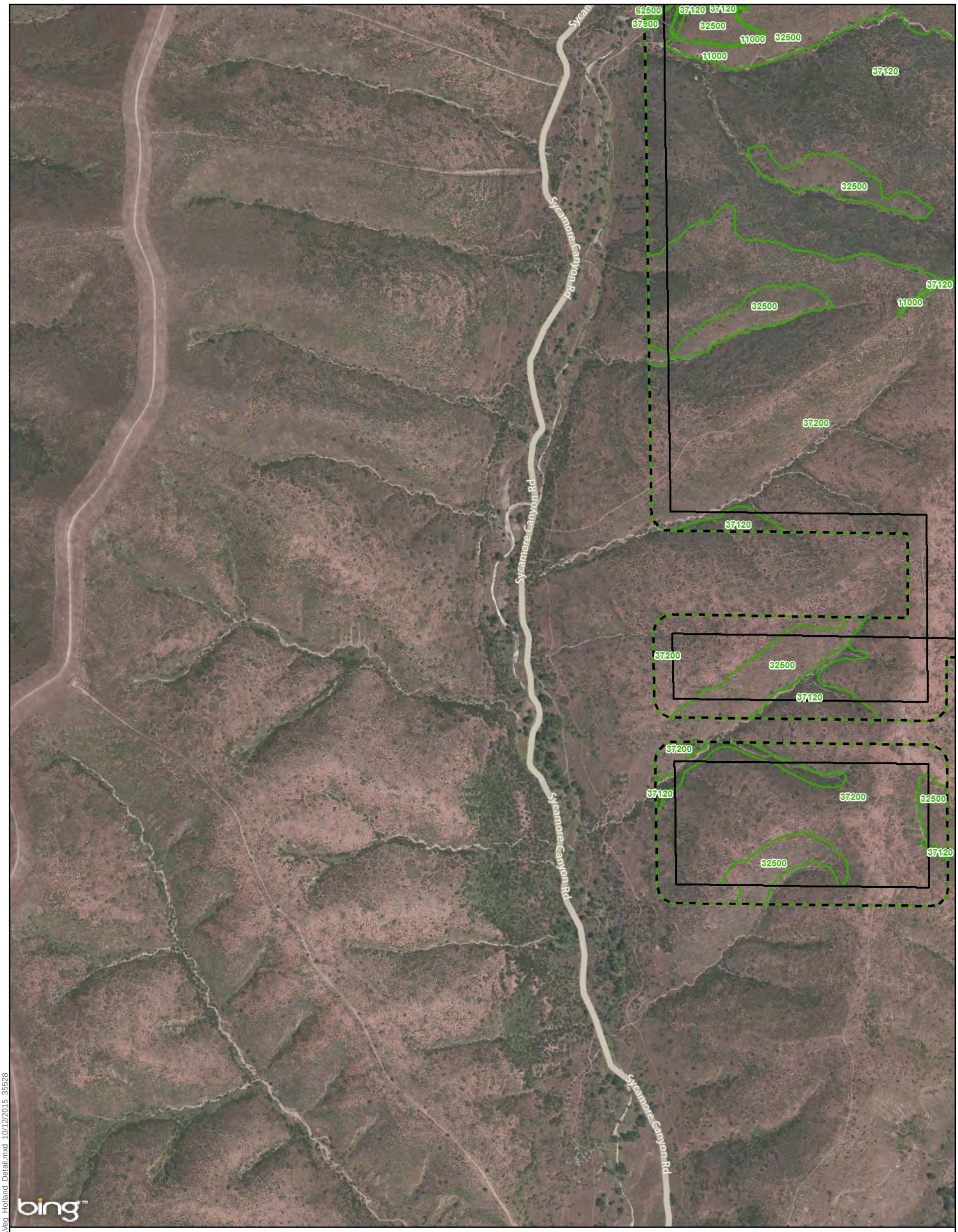
Appendix A Figure 31E
Vegetation Communities/Habitats (Modified Holland Code)
Sycamore Canyon/Goodan Ranch Preserve



Legend

- Preserve Boundaries
- Preserve Boundaries 100-foot Buffer
- Vegetation

Vegetation Key per Classification Manual

- 11000 - Disturbed Habitat
- 32500 - Diegan Coastal Sage Scrub
- 37120 - Southern Mixed Chaparral
- 37200 - Chamise Chaparral
- 37900 - Scrub Oak Chaparral
- 62500 - Southern Riparian Woodland

0 250 500 Feet

N

Source: Vegetation-ICFI, 2015; Imagery-BING, 2015.

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Appendix A Figure 31F
Vegetation Communities/Habitats (Modified Holland Code)
Sycamore Canyon/Goodan Ranch Preserve

Legend

- Preserve Boundaries
- Preserve Boundaries 100-foot Buffer
- Vegetation

Vegetation Key per Classification Manual

- 11000 - Disturbed Habitat
- 32000 - Coastal Scrub
- 32500 - Diegan Coastal Sage Scrub
- 32510 - Diegan Coastal Sage Scrub: Coastal form
- 37120 - Southern Mixed Chaparral
- 37200 - Chamise Chaparral
- 37C30 - Coastal Sage-Chaparral Transition
- 42200 - Non-Native Grassland

0 250 500 Feet

N

Source: Vegetation-ICFI, 2015; Imagery-BING, 2015.

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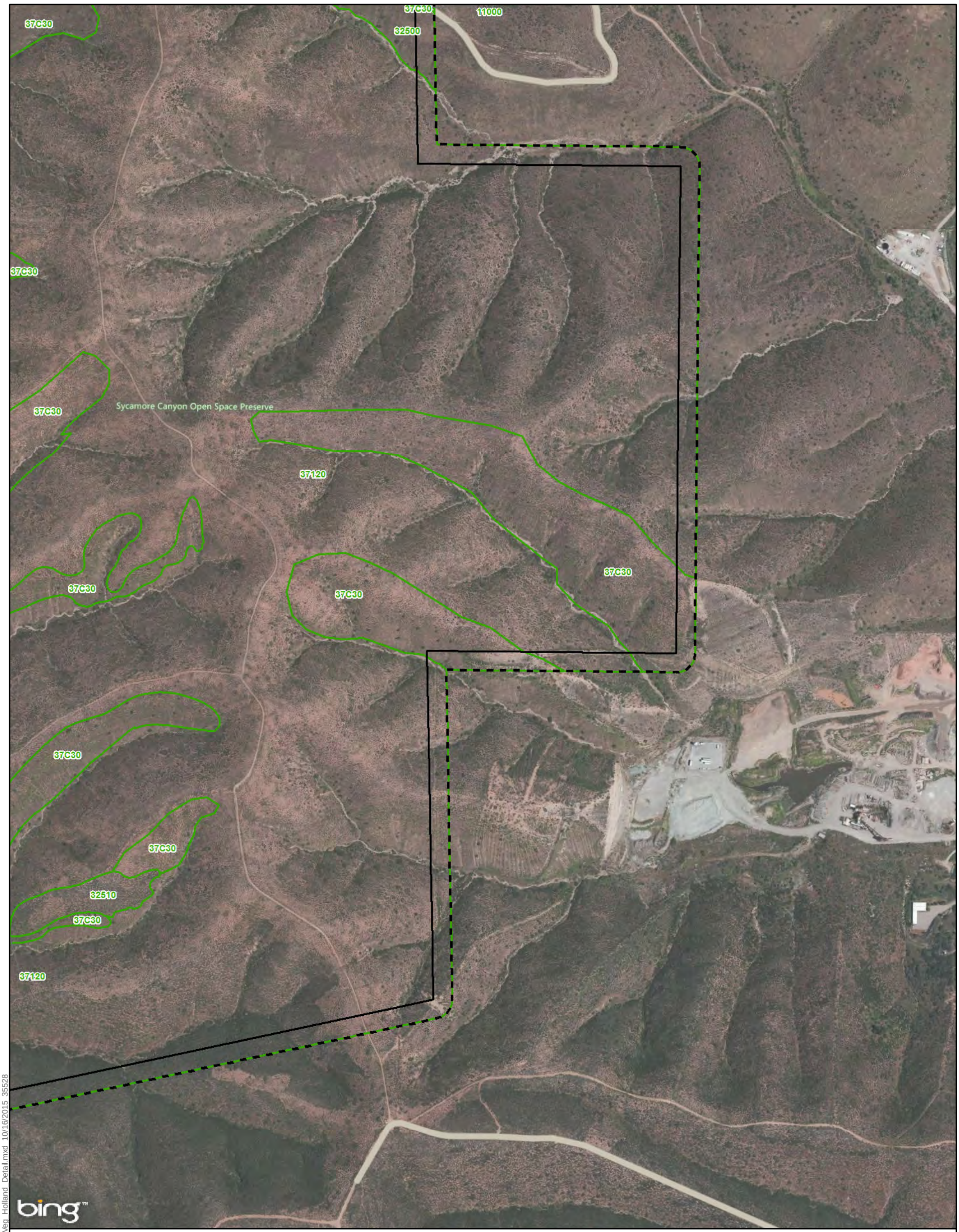
Appendix A Figure 31G
Vegetation Communities/Habitats (Modified Holland Code)
Sycamore Canyon/Goodan Ranch Preserve



Legend

- Preserve Boundaries
- Preserve Boundaries 100-foot Buffer
- Vegetation

Vegetation Key per Classification Manual

- 11000 - Disturbed Habitat
- 32500 - Diegan Coastal Sage Scrub
- 32510 - Diegan Coastal Sage Scrub: Coastal form
- 37120 - Southern Mixed Chaparral
- 37C30 - Coastal Sage-Chaparral Transition

0 250 500 Feet

N

Source: Vegetation-ICFI, 2015; Imagery-BING, 2015.

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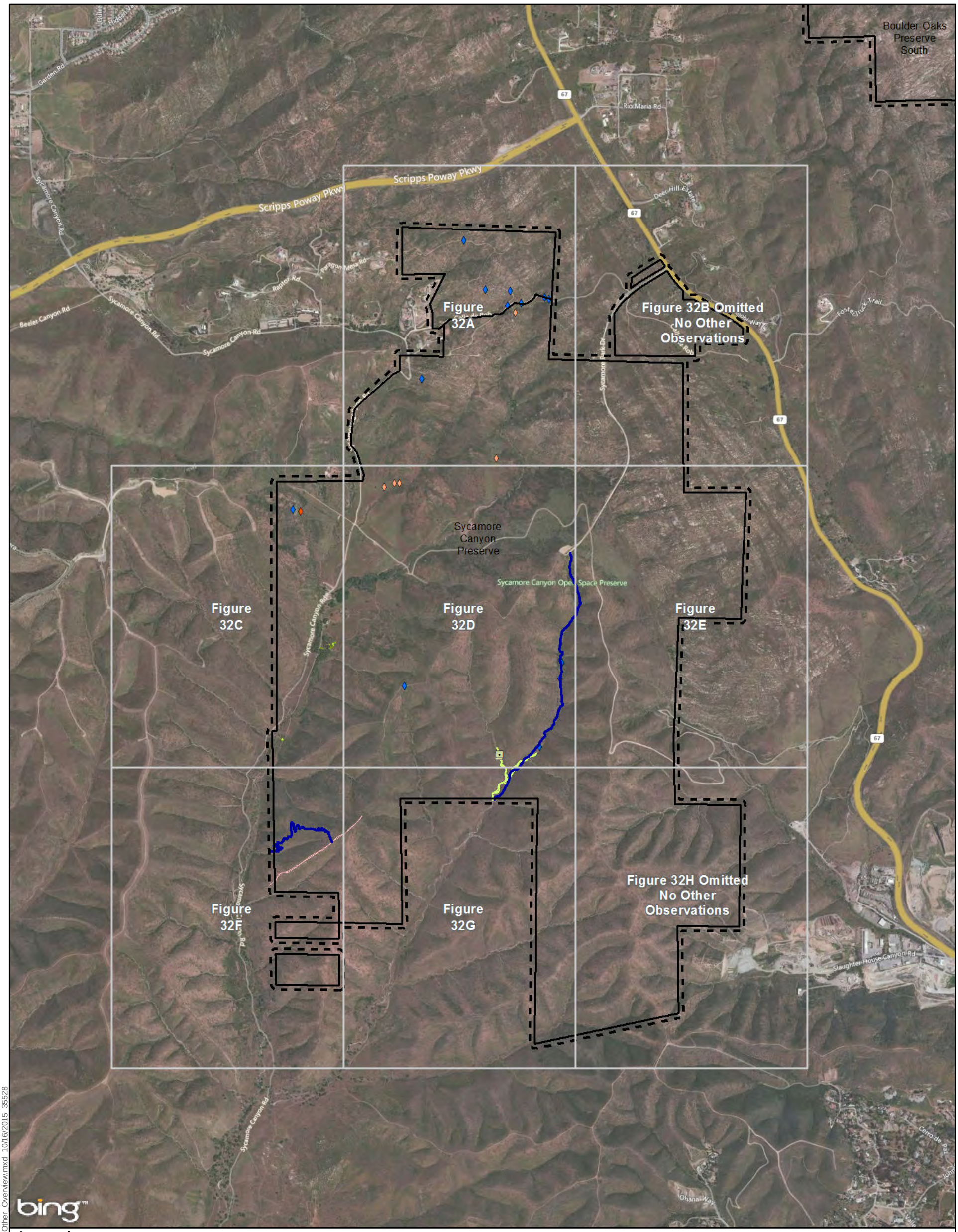
Appendix A Figure 31H
Vegetation Communities/Habitats (Modified Holland Code)
Sycamore Canyon/Goodan Ranch Preserve



Legend

- Preserve Boundaries
- Preserve Boundaries 100-foot Buffer

Rare Plants

- Monitoring Plot Center Point
- Monitoring Plot Photo Point

Monitoring Plot Maximum Extent

- Willowy Monardella *(Monardella viminea)* Maximum Extent

Rare Plants Areas

- Graceful Tarplant *(Holocarpha virgata ssp. elongata)*

Invasive Plants

- Artichoke Thistle *(Cynara cardunculus)*
- Eucalyptus *(Eucalyptus sp.)*
- African Fountain Grass *(Pennisetum setaceum)*

Disturbance Stressor

- Off Road Vehicles
- Illegal Trail

0 1,000 2,000 Feet

N

Source: Vegetation-ICFI, 2015; Imagery-BING, 2015.

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ICF INTERNATIONAL

Appendix A Figure 32 Overview
Habitat Stressors, Plant Observations, and Monitoring Plot Locations
Sycamore Canyon/Goodan Ranch Preserve

Legend

- Preserve Boundaries
- Preserve Boundaries 100-foot Buffer

Invasive Plants

- Eucalyptus *(Eucalyptus sp.)*
- African Fountain Grass *(Pennisetum setaceum)*

0 250 500 Feet

N

Source: Vegetation-ICFI, 2015; Imagery-BING, 2015.

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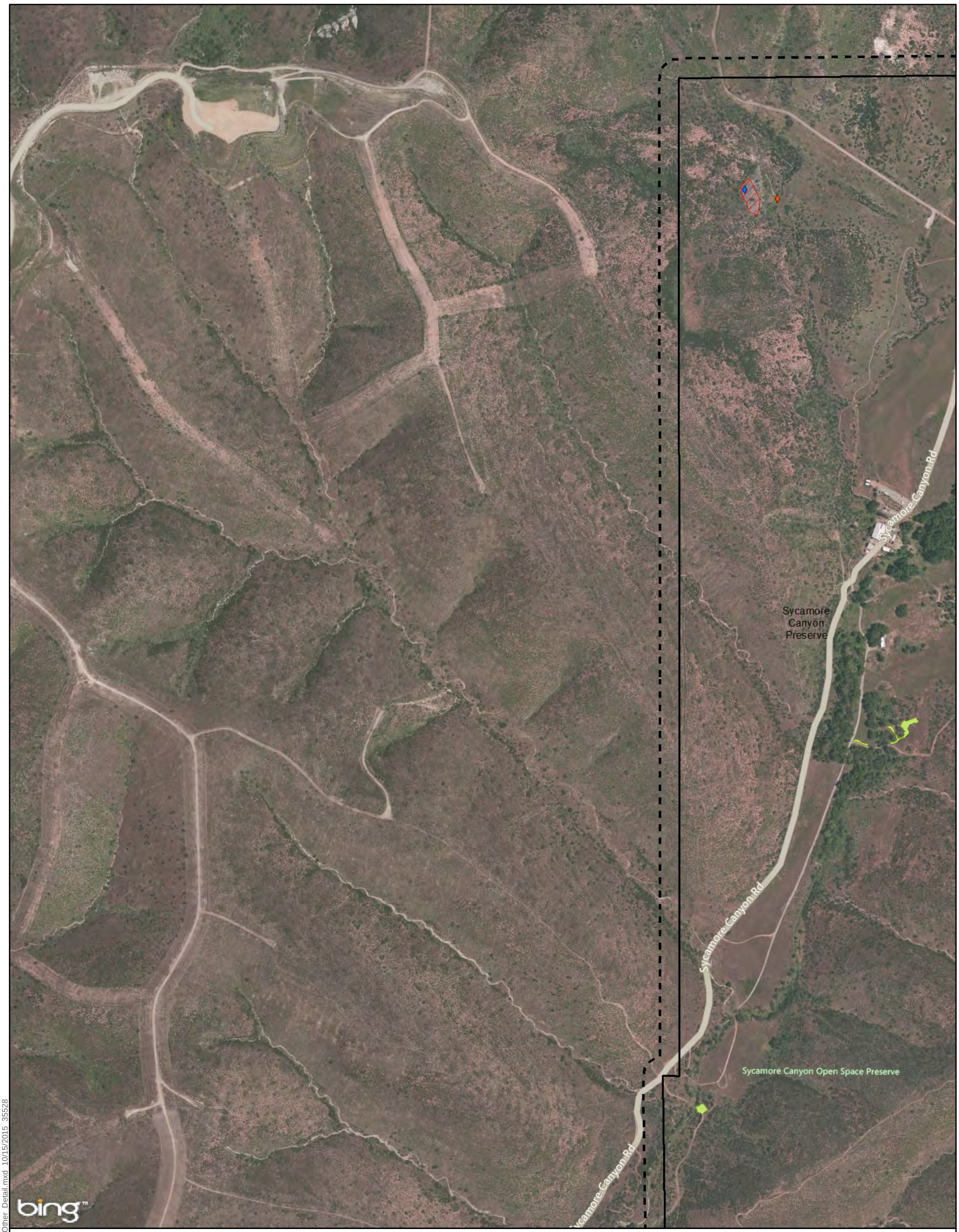
ICF INTERNATIONAL

Appendix A Figure 32A
Habitat Stressors, Plant Observations, and Monitoring Plot Locations
Sycamore Canyon/Goodan Ranch Preserve



Legend

- Preserve Boundaries
- Preserve Boundaries 100-foot Buffer

Rare Plants Areas

- Graceful Tarplant *(Holocarpha virgata ssp. elongata)*

Invasive Plants

- Artichoke Thistle *(Cynara cardunculus)*
- African Fountain Grass *(Pennisetum setaceum)*

Disturbance Stressor

- Excavation

0 250 500 Feet

N

Source: Vegetation-ICFI, 2015; Imagery-BING, 2015.

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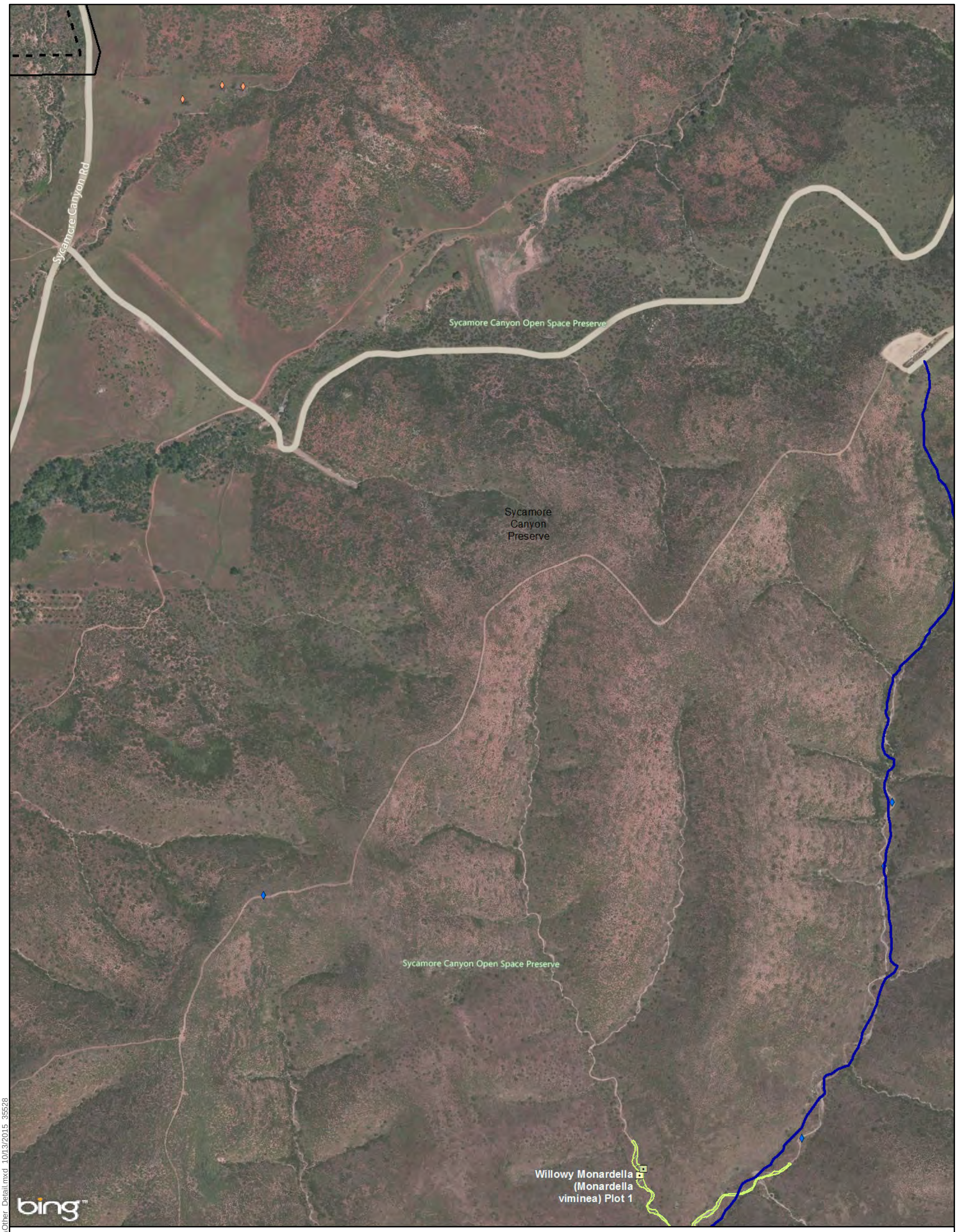
Appendix A Figure 32C
Habitat Stressors, Plant Observations, and Monitoring Plot Locations
Sycamore Canyon/Goodan Ranch Preserve



Legend

- Preserve Boundaries
- Preserve Boundaries 100-foot Buffer

Rare Plant Monitoring

- Monitoring Plot Center Point
- Monitoring Plot Photo Point

Monitoring Plot Maximum Extent

- Willowy Monardella *(Monardella viminea)* Maximum Extent

Invasive Plants

- Eucalyptus *(Eucalyptus sp.)*
- African Fountain Grass *(Pennisetum setaceum)*
- Illegal Trail

0 250 500 Feet

N

Source: Vegetation-ICFI, 2015; Imagery-BING, 2015.

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Appendix A Figure 32D
Habitat Stressors, Plant Observations, and Monitoring Plot Locations
Sycamore Canyon/Goodan Ranch Preserve

Legend

- Preserve Boundaries
- Preserve Boundaries 100-foot Buffer
- Illegal Trail

0 250 500 Feet

N

Source: Vegetation-ICFI, 2015; Imagery-BING, 2015.

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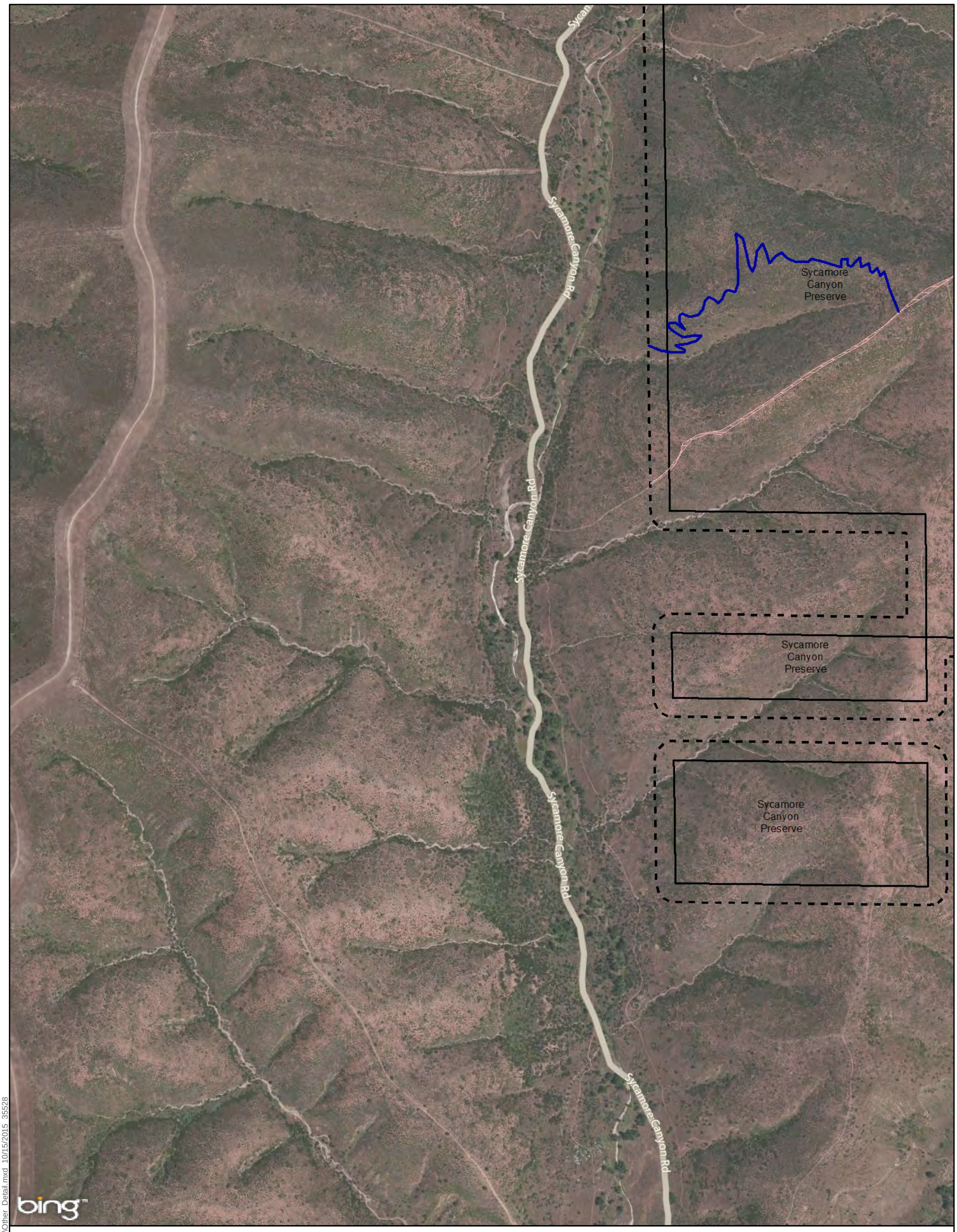
Appendix A Figure 32E
Habitat Stressors, Plant Observations, and Monitoring Plot Locations
Sycamore Canyon/Goodan Ranch Preserve



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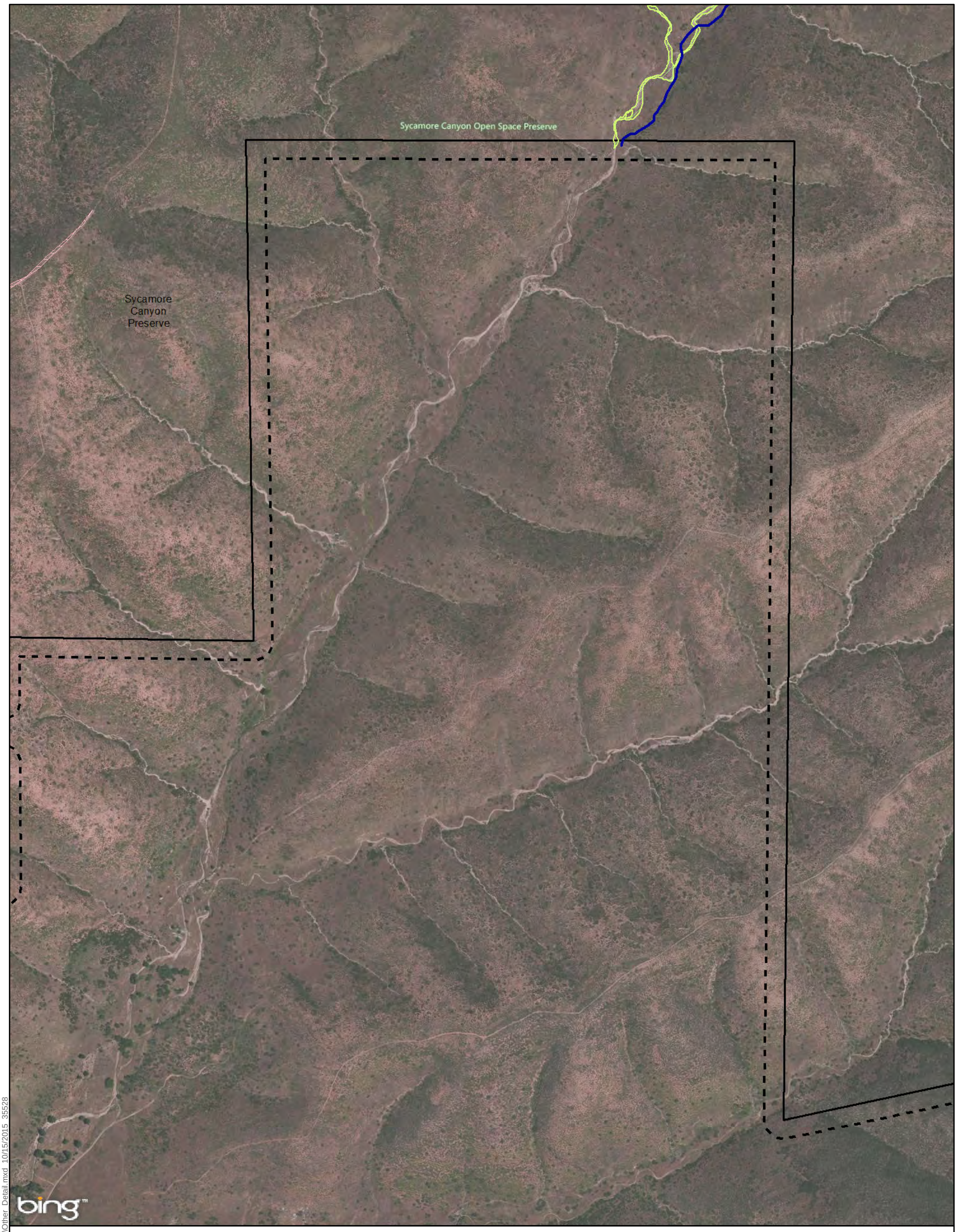
Appendix A Figure 32F
Habitat Stressors, Plant Observations, and Monitoring Plot Locations
Sycamore Canyon/Goodan Ranch Preserve



Legend

- Preserve Boundaries
- Preserve Boundaries 100-foot Buffer

Monitoring Plot Maximum Extent

- Willowy Monardella *(Monardella viminea)* Maximum Extent

Disturbance Stressor

- Off Road Vehicles
- Illegal Trail

0 250 500 Feet

N

Source: Vegetation-ICFI, 2015; Imagery-BING, 2015.

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Appendix A Figure 32G
Habitat Stressors, Plant Observations, and Monitoring Plot Locations
Sycamore Canyon/Goodan Ranch Preserve

Appendix B

Survey Personnel and Survey Dates

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Appendix B. CMP Survey Personnel and Survey Dates

Survey Personnel	July 2015																	August 2015														
	2	7	13	14	15	16	17	20	21	22	23	24	27	28	29	30	31	3	4	5	6	7	10	11	12	13	14	17	18	19	20	21
Ford Bendell	X											X			X																	
John Holson			X	X	X	X	X																									
Matt Kedziora									X	X	X																					
Glen Kinoshita																X	X								X							
Rari Marks																					X	X										
Renee Richardson														X																		
Nicole Salas																			X	X												
Lily Sam		X																														
Christian Singer			X	X	X	X	X																									
Lisa Webber			X	X	X	X	X																									
Lance Woolley	X	X	X	X	X	X	X		X	X	X	X	X	X	X	X	X		X	X	X	X				X	X	X	X	X	X	X

Appendix C

Vegetation Communities Summarized by Preserve

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Appendix C. Vegetation Communities and Land Cover Types Summarized by Preserve

Boulder Oaks Preserve						
VCM Code	**VCM Alliance**	**VCM Association**	**VCM Common Name**	**Modified Holland Code**	**Modified Holland Classification**	**Total**
Herbaceous Wetland Vegetation						***11.42***
5.30.1	*Schoenoplectus americanus* Alliance	*Schoenoplectus americanus* Association	American Bulrush Marsh	52410	Coastal and Valley Freshwater Marsh	11.32
5.35.1	*Typha* (*angustifolia*, *domingensis*, *latifolia*) Alliance	*Typha domingensis* Association	Cattail Marsh	52410	Coastal and Valley Freshwater Marsh	0.1
Upland Herbaceous Vegetation						***127.4***
5.14.1	*Distichlis spicata* Alliance	*Distichlis spicata*-Annual Grasses Association	Salt Grass-Annual Grasses Grassland	42120	Valley Sacaton Grassland	0.29
5.21	Mediterranean California Naturalized Annual and Perennial Grassland Semi-Natural Stands	Mediterranean California Naturalized Annual and Perennial Grassland Semi-Natural Stands	N/A	42200	Non-Native Grassland	127.11
Drought-Deciduous Shrublands						***2.26***
4.8.1	*Artemisia californica-Salvia mellifera* Alliance	*Artemisia californica-Salvia mellifera* Assocation	Coastal Sagebrush-Black Sage Scrub	32500	Diegan Coastal Sage Scrub	2.26
Evergreen Shrublands						***1744.98***
4.1.4	*Adenostoma fasciculatum* Alliance	*Adenostoma fasciculatum-Ceanothus tomentosus* Association	Chamise-Ramona-Lilac Chaparral	37120	Southern Mixed Chaparral	939.13
4.4.1	*Arctostaphylos glandulosa* Alliance	*Arctostaphylos glandulosa-Adenostoma fasciculatum* Association	Eastwood Manzanita-Chamise Chaparral	37120	Southern Mixed Chaparral	235.41
4.16.1	*Ceanothus leucodermis* Alliance	*Ceanothus leucodermis* Association	Chaparral Whitethorn Chaparral	37120	Southern Mixed Chaparral	63.07
4.18.1	*Ceanothus tomentosus* Alliance	Ceanothus tomentosus Association	Ramona-Lilac Chaparral	37120	Southern Mixed Chaparral	217.84
4.2.2	*Adenostoma fasciculatum-Xylococcus* bicolor Alliance	*Adenostoma fasciculatum-Xylococcus* bicolor-*Ceanothus tomentosus* Association	Chamise-Mission Manzanita-Ramona-Lilac Chaparral	37120	Southern Mixed Chaparral	182.97
4.38.1	*Quercus* (*berberidifolia*, ×*acutidens*)-*Adenostoma fasciculatum* Alliance	*Quercus* (*berberidifolia*, ×*acutidens*)-*Adenostoma fasciculatum* Association	Scrub Oak-Chamise Chaparral	37900	Scrub Oak Chaparral	106.56
Riparian Forests and Woodlands						***7.18***
3.6.4	*Quercus agrifolia* Alliance	*Quercus agrifolia-Toxicodendron diversilobum*-Grass Association	Coast Live Oak-Poison Oak-Grass Forests and Woodlands	61310	Southern Coast Live Oak Riparian Forest	5.12

Appendix C. Vegetation Communities and Land Cover Types Summarized by Preserve

Boulder Oaks Preserve						
VCM Code	**VCM Alliance**	**VCM Association**	**VCM Common Name**	**Modified Holland Code**	**Modified Holland Classification**	**Total**
3.10.0	*Salix lasiolepis* Alliance	*Salix lasiolepis* Association	Arroyo Willow Riparian Forests and Woodlands	61320	Southern Arroyo Willow Riparian Forest	2.06
Upland Forests and Woodlands						***96.66***
3.6.4	*Quercus agrifolia* Alliance	*Quercus agrifolia-Toxicodendron diversilobum*-Grass Association	Coast Live Oak-Poison Oak-Grass Forests and Woodlands	71160	Coast Live Oak Woodland	24.94
3.7.2	*Quercus engelmannii* Alliance	*Quercus engelmannii-Quercus agrifolia-Toxicodendron diversilobum*-Grass Association	Engelmann Oak-Coast Live Oak-Poison Oak-Grass Forests and Woodlands	71180	Engelmann Oak Woodland	71.72
Land Cover/Unvegetated						***25.53***
N/A	N/A	N/A	N/A	11000	Disturbed Habitat	17.34
N/A	N/A	N/A	N/A	64100	Open Water	3.49
N/A	N/A	N/A	N/A	12000	Urban/Developed	4.7
Total						**2015.43**

Appendix C. Vegetation Communities and Land Cover Types Summarized by Preserve

Del Dios Highlands Preserve						
VCM Code	**VCM Alliance**	**VCM Association**	**VCM Common Name**	**Modified Holland Code**	**Modified Holland Classification**	**Total**
Upland Herbaceous Vegetation						***1.52***
5.21	Mediterranean California Naturalized Annual and Perennial Grassland Semi-Natural Stands	Mediterranean California Naturalized Annual and Perennial Grassland Semi-Natural Stands	N/A	42200	Non-Native Grassland	1.52
Drought-Deciduous Shrublands						***1.92***
4.44.1	*Salvia mellifera* Alliance	*Salvia mellifera-Eriogonum fasciculatum* Association	Black Sage-California Buckwheat Scrub	32500	Diegan Coastal Sage Scrub	1.92
Evergreen Shrublands						**721.46**
4.1	*Adenostoma fasciculatum* Alliance	Alliance Only	Chamise Chaparral	37200	Chamise Chaparral	8.69
4.2.4	*Adenostoma fasciculatum-Xylococcus* bicolor Alliance	*Adenostoma fasciculatum-Xylococcus bicolor-Ceanothus verrucosus* Association	Chamise-Mission Manzanita-Wart-Stem-Lilac Chaparral	37C30	Southern Maritime Chaparral	290.07
4.4.1	*Arctostaphylos glandulosa* Alliance	*Arctostaphylos glandulosa-Adenostoma fasciculatum* Association	Eastwood Manzanita-Chamise Chaparral	37120	Southern Mixed Chaparral	2.76
4.19.1	*Ceanothus verrucosus* Alliance	*Ceanothus verrucosus* Association	Wart-Stem-Lilac Chaparral	37C30	Southern Maritime Chaparral	405.27
4.35.1	*Malosma laurina* Alliance	*Malosma laurina-Lotus scoparius* Association	Laurel Sumac-Deerweed Scrub	32000	Coastal Scrub	0.21
4.37.1	*Quercus* (*berberidifolia*, ×*acutidens*) Alliance	*Quercus* (*berberidifolia*, ×*acutidens*) Association	Scrub Oak Chaparral	37900	Scrub Oak Chaparral	14.46
Riparian Forests and Woodlands						***1.39***
3.6.4	*Quercus agrifolia* Alliance	*Quercus agrifolia-Toxicodendron diversilobum*-Grass Association	Coast Live Oak-Poison Oak-Grass Forests and Woodlands	61310	Southern Coast Live Oak Riparian Forest	0.54
3.8.1	*Salix gooddingii* Alliance	*Salix gooddingii* Association	Goodding's Black Willow Riparian Forests and Woodlands	62500	Southern Riparian Woodland	0.28
3.9.1	*Salix laevigata* Alliance	*Salix laevigata* Association	Red Willow Riparian Forests and Woodlands	62500	Southern Riparian Woodland	0.57
Upland Forests and Woodlands						**7.01**
3.2	*Eucalyptus* (*globulus*, *camaldulensis*) Semi-Natural Stands	*Eucalyptus* (*globulus*, *camaldulensis*) Semi-Natural Stands	Eucalyptus Forests and Woodlands	79100	Eucalyptus Woodland	7.01
Land Cover/Unvegetated						***32.85***
N/A	N/A	N/A	N/A	11000	Disturbed Habitat	10.36
N/A	N/A	N/A	N/A	12000	Urban/Developed	22.49

Appendix C. Vegetation Communities and Land Cover Types Summarized by Preserve

Del Dios Highlands Preserve						
VCM Code	VCM Alliance	VCM Association	VCM Common Name	Modified Holland Code	Modified Holland Classification	Total
Total						766.15

Appendix C. Vegetation Communities and Land Cover Types Summarized by Preserve

El Capitan Preserve						
VCM Code	**VCM Alliance**	**VCM Association**	**VCM Common Name**	**Modified Holland Code**	**Modified Holland Classification**	**Total**
Upland Herbaceous Vegetation						***19.17***
5.5	*Avena* (*barbata*, *fatua*) Semi-Natural Stands	*Avena* (*barbata*, *fatua*) Semi-Natural Stands	Wild Oats Grasslands	42200	Non-Native Grassland	3.69
5.21	Mediterranean California Naturalized Annual and Perennial Grassland Semi-Natural Stands	Mediterranean California Naturalized Annual and Perennial Grassland Semi-Natural Stands	N/A	42200	Non-Native Grassland	14.7
5.32	*Selaginella bigelovii* Alliance	Alliance Only	Bushy Spikemoss Mats	32500	Diegan Coastal Sage Scrub	0.78
Drought-Deciduous Shrublands						***478.59***
4.7.1	*Artemisia californica-Eriogonum fasciculatum* Alliance	*Artemisia californica-Eriogonum fasciculatum-Malosma laurina* Association	Coastal Sagebrush-California Buckwheat-Laurel Sumac Scrub	32500	Diegan Coastal Sage Scrub	429.63
4.13.1	*Bahiopsis laciniata* Alliance	*Bahiopsis laciniata-Artemisia californica-Eriogonum fasciculatum* Association	San Diego Sunflower-California Buckwheat Scrub	32500	Diegan Coastal Sage Scrub	39.69
4.43.2	*Salvia apiana* Alliance	*Salvia apiana-Artemisia californica* Association	White Sage-Coastal Sagebrush Scrub	32500	Diegan Coastal Sage Scrub	9.27
Evergreen Shrublands						**2064.19**
4.1.4	*Adenostoma fasciculatum* Alliance	*Adenostoma fasciculatum-Ceanothus tomentosus* Association	Chamise-Ramona-Lilac Chaparral	37120	Southern Mixed Chaparral	7.06
4.1.2	*Adenostoma fasciculatum* Alliance	*Adenostoma fasciculatum*-(*Eriogonum fasciculatum*, *Artemisia californica*, *Salvia mellifera*) Association	Chamise-Coastal Sage Scrub	37G00	Coastal Sage-Chaparral Transition	441.6
4.2.2	*Adenostoma fasciculatum-Xylococcus bicolor* Alliance	*Adenostoma fasciculatum-Xylococcus* bicolor-*Ceanothus tomentosus* Association	Chamise-Mission Manzanita-Ramona-Lilac Chaparral	37120	Southern Mixed Chaparral	697.6
4.2.6	*Adenostoma fasciculatum-Xylococcus bicolor* Alliance	*Adenostoma fasciculatum-Xylococcus bicolor-Quercus* (*berberidifolia*, ×*acutidens*) Association	Chamise-Mission Manzanita-Scrub Oak Chaparral	37120	Southern Mixed Chaparral	867.24
4.35.1	*Malosma laurina* Alliance	*Malosma laurina-Lotus scoparius* Association	Laurel Sumac-Deerweed Scrub	32000	Coastal Scrub	2.91
4.37.1	*Quercus* (*berberidifolia*, ×*acutidens*) Alliance	*Quercus* (*berberidifolia*, ×*acutidens*) Association	Scrub Oak Chaparral	37900	Scrub Oak Chaparral	31.65
4.38.1	*Quercus* (*berberidifolia*, ×*acutidens*)-*Adenostoma fasciculatum* Alliance	*Quercus* (*berberidifolia*, ×*acutidens*)-*Adenostoma fasciculatum* Association	Scrub Oak-Chamise Chaparral	37900	Scrub Oak Chaparral	16.13
Riparian Forests and Woodlands						**203.65**
3.4.3	*Platanus racemosa* Alliance	*Platanus racemosa-Quercus agrifolia* Association	Western Sycamore-Coast Live Oak Riparian Forests and Woodlands	61300	Southern Riparian Forest	8.37
3.6.4	*Quercus agrifolia* Alliance	*Quercus agrifolia-Toxicodendron diversilobum*-Grass Association	Coast Live Oak-Poison Oak-Grass Forests and Woodlands	61310	Southern Coast Live Oak Riparian Forest	195.28

Appendix C. Vegetation Communities and Land Cover Types Summarized by Preserve

El Capitan Preserve						
VCM Code	**VCM Alliance**	**VCM Association**	**VCM Common Name**	**Modified Holland Code**	**Modified Holland Classification**	**Total**
Upland Forests and Woodlands						***60.75***
3.6	*Quercus agrifolia* Alliance	Alliance Only	Coast Live Oak Forests and Woodlands	71160	Coast Live Oak Woodland	8.23
3.7.2	*Quercus engelmannii* Alliance	*Quercus engelmannii-Quercus agrifolia-Toxicodendron diversilobum*-Grass Association	Engelmann Oak-Coast Live Oak-Poison Oak-Grass Forests and Woodlands	71180	Engelmann Oak Woodland	52.52
Land Cover/Unvegetated						***14.87***
N/A	N/A	N/A	N/A	11000	Disturbed Habitat	14.87
Total						**2841.22**

Appendix C. Vegetation Communities and Land Cover Types Summarized by Preserve

El Monte Regional Park						
VCM Code	**VCM Alliance**	**VCM Association**	**VCM Common Name**	**Modified Holland Code**	**Modified Holland Classification**	**Total**
Upland Herbaceous Vegetation						***10.34***
5.5	*Avena* (*barbata*, *fatua*) Semi-Natural Stands	*Avena* (*barbata*, *fatua*) Semi-Natural Stands	Wild Oats Grasslands	42200	Non-Native Grassland	6.58
5.8	*Bromus* (*diandrus*, *hordeaceus*)-*Brachypodium distachyon* Semi-Natural Stands	*Bromus* (*diandrus*, *hordeaceus*)-*Brachypodium distachyon* Semi-Natural Stands	Annual Brome Grasslands	42200	Non-Native Grassland	3.76
Drought-Deciduous Shrublands						***25.2***
4.7.1	*Artemisia californica-Eriogonum fasciculatum* Alliance	*Artemisia californica-Eriogonum fasciculatum-Malosma laurina* Association	Coastal Sagebrush-California Buckwheat-Laurel Sumac Scrub	32500	Diegan Coastal Sage Scrub	24.52
4.23.2	*Eriogonum fasciculatum* Alliance	*Eriogonum fasciculatum-Salvia columbariae-Mirabilis laevis* Provisional Association	California Buckwheat-White Sage Scrub	32500	Diegan Coastal Sage Scrub	0.68
Riparian Forests and Woodlands						***26.29***
3.6.4	*Quercus agrifolia* Alliance	*Quercus agrifolia-Toxicodendron diversilobum*-Grass Association	Coast Live Oak-Poison Oak-Grass Forests and Woodlands	61310	Southern Coast Live Oak Riparian Forest	26.29
Upland Forests and Woodlands						***20.26***
3.6.1	*Quercus agrifolia* Alliance	*Quercus agrifolia-Artemisia californica* Association	Coast Live Oak-Coastal Sagebrush Forests and Woodlands	71160	Coast Live Oak Woodland	20.26
Land Cover/Unvegetated						***30.14***
N/A	N/A	N/A	N/A	11000	Disturbed Habitat	0.88
N/A	N/A	N/A	N/A	12000	Urban/Developed	29.26
Total						**112.23**

Appendix C. Vegetation Communities and Land Cover Types Summarized by Preserve

Lakeside Linkage Preserve						
VCM Code	**VCM Alliance**	**VCM Association**	**VCM Common Name**	**Modified Holland Code**	**Modified Holland Classification**	**Total**
Upland Herbaceous Vegetation						***4.75***
5.21	Mediterranean California Naturalized Annual and Perennial Grassland Semi-Natural Stands	Mediterranean California Naturalized Annual and Perennial Grassland Semi-Natural Stands	N/A	42200	Non-Native Grassland	4.75
Drought-Deciduous Shrublands						***142.86***
4.7	*Artemisia californica-Eriogonum fasciculatum* Alliance	Alliance Only	Coastal Sagebrush-California Buckwheat Scrub	32500	Diegan Coastal Sage Scrub	58.32
4.7.1	*Artemisia californica-Eriogonum fasciculatum* Alliance	*Artemisia californica-Eriogonum fasciculatum-Malosma laurina* Association	Coastal Sagebrush-California Buckwheat-Laurel Sumac Scrub	32500	Diegan Coastal Sage Scrub	52.25
4.7.2	*Artemisia californica-Eriogonum fasciculatum* Alliance	*Artemisia californica-Eriogonum fasciculatum-Opuntia littoralis/Dudleya* (*edulis*) Association	Coastal Sagebrush-California Buckwheat-Succulent Scrub	32400	Maritime Succulent Scrub	20.34
4.13.1	*Bahiopsis laciniata* Alliance	*Bahiopsis laciniata-Artemisia californica-Eriogonum fasciculatum* Association	San Diego Sunflower-California Buckwheat Scrub	32500	Diegan Coastal Sage Scrub	11.95
Upland Forests and Woodlands						***1.52***
3.2	*Eucalyptus* (*globulus*, *camaldulensis*) Semi-Natural Stands	*Eucalyptus* (*globulus*, *camaldulensis*) Semi-Natural Stands	Eucalyptus Forests and Woodlands	79100	Eucalyptus Woodland	1.52
Land Cover/Unvegetated						***47.85***
N/A	N/A	N/A	N/A	11000	Disturbed Habitat	5.76
N/A	N/A	N/A	N/A	12000	Urban/Developed	42.09
Total						**196.98**

Appendix C. Vegetation Communities and Land Cover Types Summarized by Preserve

Lusardi Creek Preserve						
VCM Code	**VCM Alliance**	**VCM Association**	**VCM Common Name**	**Modified Holland Code**	**Modified Holland Classification**	**Total**
Upland Herbaceous Vegetation						***23.49***
5.5	*Avena* (*barbata*, *fatua*) Semi-Natural Stands	*Avena* (*barbata*, *fatua*) Semi-Natural Stands	Wild Oats Grasslands	42200	Non-Native Grassland	2.95
5.7.1	*Brassica nigra* and Other Mustards Seminatural Stands	*Brassica nigra* and Other Mustards Seminatural Stands	Upland Mustards	42210	Non-Native Grassland: Broadleaf-Dominated	1.64
5.13.1	*Deinandra fasciculata* Provisional Alliance	*Deinandra fasciculata* Association	Fascicled Tarweed Fields	42300	Wildflower Field	18.72
5.21	Mediterranean California Naturalized Annual and Perennial Grassland Semi-Natural Stands	Mediterranean California Naturalized Annual and Perennial Grassland Semi-Natural Stands	N/A	42200	Non-Native Grassland	0.18
Drought-Deciduous Shrublands						***81.94***
4.6.1	*Artemisia californica* Alliance	*Artemisia californica* Association	Coastal Sagebrush Scrub	32510	Diegan Coastal Sage Scrub: Coastal form	48.46
4.7.1	*Artemisia californica-Eriogonum fasciculatum* Alliance	*Artemisia californica-Eriogonum fasciculatum-Malosma laurina* Association	Coastal Sagebrush-California Buckwheat-Laurel Sumac Scrub	32500	Diegan Coastal Sage Scrub	0.98
4.7.2	*Artemisia californica-Eriogonum fasciculatum* Alliance	*Artemisia californica-Eriogonum fasciculatum-Opuntia littoralis*/*Dudleya* (*edulis*) Association	Coastal Sagebrush-California Buckwheat-Succulent Scrub	32400	Maritime Succulent Scrub	28.99
4.8.1	*Artemisia californica-Salvia mellifera* Alliance	*Artemisia californica-Salvia mellifera* Assocation	Coastal Sagebrush-Black Sage Scrub	32500	Diegan Coastal Sage Scrub	0.49
4.29.1	*Isocoma menziesii* Alliance	*Isocoma menziesii* Provisional Association	Menzies's Goldenbush Scrub	32000	Coastal Scrub	3.02
Evergreen Shrublands						***94.73***
4.1	*Adenostoma fasciculatum* Alliance	Alliance Only	Chamise Chaparral	37200	Chamise Chaparral	34.25
4.1.2	*Adenostoma fasciculatum* Alliance	*Adenostoma fasciculatum*-(*Eriogonum fasciculatum*, *Artemisia californica*, *Salvia mellifera*) Association	Chamise-Coastal Sage Scrub	37G00	Coastal Sage-Chaparral Transition	11.71
4.2.1	*Adenostoma fasciculatum-Xylococcus* bicolor Alliance	*Adenostoma fasciculatum-Xylococcus* bicolor Association	Chamise-Mission Manzanita Chaparral	37120	Southern Mixed Chaparral	5.87
4.35.1	*Malosma laurina* Alliance	*Malosma laurina*-Lotus scoparius Association	Laurel Sumac-Deerweed Scrub	32000	Coastal Scrub	14.72
4.42.1	*Rhus integrifolia* Alliance	*Rhus integrifolia* Association	Lemonadeberry Scrub	32500	Diegan Coastal Sage Scrub	28.18
Riparian Forests and Woodlands						***12.75***
3.10.0	*Salix lasiolepis* Alliance	*Salix lasiolepis* Association	Arroyo Willow Riparian Forests and Woodlands	61320	Southern Arroyo Willow Riparian Forest	12.75
Upland Forests and Woodlands						***5.48***

Appendix C. Vegetation Communities and Land Cover Types Summarized by Preserve

Lusardi Creek Preserve						
VCM Code	**VCM Alliance**	**VCM Association**	**VCM Common Name**	**Modified Holland Code**	**Modified Holland Classification**	**Total**
3.2	*Eucalyptus* (*globulus*, *camaldulensis*) Semi-Natural Stands	*Eucalyptus* (*globulus*, *camaldulensis*) Semi-Natural Stands	Eucalyptus Forests and Woodlands	79100	Eucalyptus Woodland	5.48
Land Cover/Unvegetated						***8.25***
N/A	N/A	N/A	N/A	11000	Disturbed Habitat	5.41
N/A	N/A	N/A	N/A	12000	Urban/Developed	1.32
N/A	N/A	N/A	N/A	18000	General Agriculture	1.52
Total						**226.64**

Appendix C. Vegetation Communities and Land Cover Types Summarized by Preserve

Oakoasis Preserve						
VCM Code	**VCM Alliance**	**VCM Association**	**VCM Common Name**	**Modified Holland Code**	**Modified Holland Classification**	**Total**
Upland Herbaceous Vegetation						***5.24***
5.21	Mediterranean California Naturalized Annual and Perennial Grassland Semi-Natural Stands	Mediterranean California Naturalized Annual and Perennial Grassland Semi-Natural Stands	N/A	42200	Non-Native Grassland	5.24
Drought-Deciduous Shrublands						***1.2***
4.7.1	*Artemisia californica-Eriogonum fasciculatum* Alliance	*Artemisia californica-Eriogonum fasciculatum-Malosma laurina* Association	Coastal Sagebrush-California Buckwheat-Laurel Sumac Scrub	32500	Diegan Coastal Sage Scrub	1.2
Evergreen Shrublands						***404.36***
4.1	*Adenostoma fasciculatum* Alliance	Alliance Only	Chamise Chaparral	37200	Chamise Chaparral	23.07
4.1.4	*Adenostoma fasciculatum* Alliance	*Adenostoma fasciculatum-Ceanothus tomentosus* Association	Chamise-Ramona-Lilac Chaparral	37120	Southern Mixed Chaparral	348.07
4.2.6	*Adenostoma fasciculatum-Xylococcus bicolor* Alliance	*Adenostoma fasciculatum-Xylococcus bicolor-Quercus* (*berberidifolia*, ×*acutidens*) Association	Chamise-Mission Manzanita-Scrub Oak Chaparral	37120	Southern Mixed Chaparral	0.19
4.18.1	*Ceanothus tomentosus* Alliance	*Ceanothus tomentosus* Association	Ramona-Lilac Chaparral	37120	Southern Mixed Chaparral	18.94
4.38.1	*Quercus* (*berberidifolia*, ×*acutidens*)-*Adenostoma fasciculatum* Alliance	*Quercus* (*berberidifolia*, ×*acutidens*)-*Adenostoma fasciculatum* Association	Scrub Oak-Chamise Chaparral	37900	Scrub Oak Chaparral	14.09
Riparian Forests and Woodlands						***22.05***
3.6.3	*Quercus agrifolia* Alliance	*Quercus agrifolia-Salix lasiolepis* Association	Coast Live Oak-Arroyo Willow Riparian Forests and Woodlands	61310	Southern Coast Live Oak Riparian Forest	20.31
3.6.4	*Quercus agrifolia* Alliance	*Quercus agrifolia-Toxicodendron diversilobum*-Grass Association	Coast Live Oak-Poison Oak-Grass Forests and Woodlands	61310	Southern Coast Live Oak Riparian Forest	1.74
Upland Forests and Woodlands						***7.03***
3.6	*Quercus agrifolia* Alliance	Alliance Only	Coast Live Oak Forests and Woodlands	71160	Coast Live Oak Woodland	2.87
3.6.2	*Quercus agrifolia* Alliance	*Quercus agrifolia-Quercus* (*berberidifolia*, ×*acutidens*) Association	Coast Live Oak-Scrub Oak Forests and Woodlands	71160	Coast Live Oak Woodland	2.66
3.6.4	*Quercus agrifolia* Alliance	*Quercus agrifolia-Toxicodendron diversilobum*-Grass Association	Coast Live Oak-Poison Oak-Grass Forests and Woodlands	71160	Coast Live Oak Woodland	1.5
Land Cover/Unvegetated						***26.41***

Appendix C. Vegetation Communities and Land Cover Types Summarized by Preserve

Oakoasis Preserve						
VCM Code	**VCM Alliance**	**VCM Association**	**VCM Common Name**	**Modified Holland Code**	**Modified Holland Classification**	**Total**
N/A	N/A	N/A	N/A	11000	Disturbed Habitat	4.57
N/A	N/A	N/A	N/A	12000	Urban/Developed	21.84
Total						**466.29**

Appendix C. Vegetation Communities and Land Cover Types Summarized by Preserve

Ramona Grasslands Preserve						
VCM Code	**VCM Alliance**	**VCM Association**	**VCM Common Name**	**Modified Holland Code**	**Modified Holland Classification**	**Total**
Herbaceous Wetland Vegetation						***16.09***
5.2.1	*Anemopsis californica* Alliance	*Anemopsis californica-Juncus arcticus* Association	Yerba Mansa Meadows	52310	Cismontane Alkali Marsh	16.09
Upland Herbaceous Vegetation						***1528.79***
5.14.1	*Distichlis spicata* Alliance	*Distichlis spicata*-Annual Grasses Association	Salt Grass-Annual Grasses Grassland	42120	Valley Sacaton Grassland	59.21
5.24.1	*Nassella pulchra* Alliance	*Nassella pulchra* Association	Purple Needlegrass Grassland	42100	Native Grassland	0.37
5.21	Mediterranean California Naturalized Annual and Perennial Grassland Semi-Natural Stands	Mediterranean California Naturalized Annual and Perennial Grassland Semi-Natural Stands	N/A	42200	Non-Native Grassland	1469.21
Drought-Deciduous Shrublands						***761.57***
4.6.1	*Artemisia californica* Alliance	*Artemisia californica* Association	Coastal Sagebrush Scrub	32510	Diegan Coastal Sage Scrub: Coastal form	695.26
4.7.1	*Artemisia californica-Eriogonum fasciculatum* Alliance	*Artemisia californica-Eriogonum fasciculatum-Malosma laurina* Association	Coastal Sagebrush-California Buckwheat-Laurel Sumac Scrub	32500	Diegan Coastal Sage Scrub	37.13
4.23	*Eriogonum fasciculatum* Alliance	Alliance Only	California Buckwheat Scrub	32500	Diegan Coastal Sage Scrub	12.17
4.24.1	*Eriogonum fasciculatum* Alliance	*Eriogonum fasciculatum-Salvia apiana* Association	California Buckwheat-White Sage Scrub	32500	Diegan Coastal Sage Scrub	14.71
4.43.2	*Salvia apiana* Alliance	*Salvia apiana-Artemisia californica* Association	White Sage-Coastal Sagebrush Scrub	32500	Diegan Coastal Sage Scrub	2.3
Evergreen Shrublands						***1222.81***
4.1	*Adenostoma fasciculatum* Alliance	Alliance Only	Chamise Chaparral	37200	Chamise Chaparral	299.09
4.1.2	*Adenostoma fasciculatum* Alliance	*Adenostoma fasciculatum*-(*Eriogonum fasciculatum*, *Artemisia californica*, *Salvia mellifera*) Association	Chamise-Coastal Sage Scrub	37G00	Coastal Sage-Chaparral Transition	509.02
4.2.6	*Adenostoma fasciculatum-Xylococcus bicolor* Alliance	*Adenostoma fasciculatum-Xylococcus* bicolor-*Quercus* (*berberidifolia*, ×*acutidens*) Association	Chamise-Mission Manzanita-Scrub Oak Chaparral	37120	Southern Mixed Chaparral	72.96
4.35.1	*Malosma laurina* Alliance	*Malosma laurina-Lotus scoparius* Association	Laurel Sumac-Deerweed Scrub	32000	Coastal Scrub	16.45
4.37.1	*Quercus* (*berberidifolia*, ×*acutidens*) Alliance	*Quercus* (*berberidifolia*, ×*acutidens*) Association	Scrub Oak Chaparral	37900	Scrub Oak Chaparral	29.65
4.38.1	*Quercus* (*berberidifolia*, ×*acutidens*)-*Adenostoma fasciculatum* Alliance	*Quercus* (*berberidifolia*, ×*acutidens*)-*Adenostoma fasciculatum* Association	Scrub Oak-Chamise Chaparral	37900	Scrub Oak Chaparral	295.64
Riparian Shrublands						***18.1***

Appendix C. Vegetation Communities and Land Cover Types Summarized by Preserve

Ramona Grasslands Preserve						
VCM Code	**VCM Alliance**	**VCM Association**	**VCM Common Name**	**Modified Holland Code**	**Modified Holland Classification**	**Total**
4.11.1	*Baccharis salicifolia* Alliance	*Baccharis salicifolia* Association	Mule-Fat Thickets	63310	Mule-Fat Scrub	18.1
Riparian Forests and Woodlands						***76.79***
3.4	*Platanus racemosa* Alliance	Alliance Only	Western Sycamore Riparian Forests and Woodlands	62500	Southern Riparian Woodland	0.73
3.6	*Quercus agrifolia* Alliance	Alliance Only	Coast Live Oak Forests and Woodlands	61310	Southern Coast Live Oak Riparian Forest	31.1
3.6.3	*Quercus agrifolia* Alliance	*Quercus agrifolia-Salix lasiolepis* Association	Coast Live Oak-Arroyo Willow Riparian Forests and Woodlands	61310	Southern Coast Live Oak Riparian Forest	0.32
3.6.4	*Quercus agrifolia* Alliance	*Quercus agrifolia-Toxicodendron diversilobum*-Grass Association	Coast Live Oak-Poison Oak-Grass Forests and Woodlands	61310	Southern Coast Live Oak Riparian Forest	20.03
3.8.1	*Salix gooddingii* Alliance	*Salix gooddingii* Association	Goodding's Black Willow Riparian Forests and Woodlands	62500	Southern Riparian Woodland	16
3.10.0	*Salix lasiolepis* Alliance	*Salix lasiolepis* Association	Arroyo Willow Riparian Forests and Woodlands	61320	Southern Arroyo Willow Riparian Forest	8.61
Upland Forests and Woodlands						***92.55***
3.2	*Eucalyptus* (*globulus*, *camaldulensis*) Semi-Natural Stands	*Eucalyptus* (*globulus*, *camaldulensis*) Semi-Natural Stands	Eucalyptus Forests and Woodlands	79100	Eucalyptus Woodland	22.74
3.6	*Quercus agrifolia* Alliance	Alliance Only	Coast Live Oak Forests and Woodlands	71160	Coast Live Oak Woodland	59.43
3.7	*Quercus engelmannii* Alliance	Alliance Only	Englemann Oak Forests and Woodlands	71180	Engelmann Oak Woodland	10.38
Land Cover/Unvegetated						***91.04***
N/A	N/A	N/A	N/A	18000	General Agriculture	29.35
N/A	N/A	N/A	N/A	11000	Disturbed Habitat	24.87
N/A	N/A	N/A	N/A	13200	Non-Vegetated Channel	4.46
N/A	N/A	N/A	N/A	64100	Open Water	1.27
N/A	N/A	N/A	N/A	12000	Urban/Developed	31.09
Total						**3807.74**

Stelzer Regional Park

Appendix C. Vegetation Communities and Land Cover Types Summarized by Preserve

VCM Code	VCM Alliance	VCM Association	VCM Common Name	Modified Holland Code	Modified Holland Classification	Total
Upland Herbaceous Vegetation						***1.05***
5.21	Mediterranean California Naturalized Annual and Perennial Grassland Semi-Natural Stands	Mediterranean California Naturalized Annual and Perennial Grassland Semi-Natural Stands	N/A	42200	Non-Native Grassland	1.05
Drought-Deciduous Shrublands						***382.81***
4.7.1	*Artemisia californica-Eriogonum fasciculatum* Alliance	*Artemisia californica-Eriogonum fasciculatum-Malosma laurina* Association	Coastal Sagebrush-California Buckwheat-Laurel Sumac Scrub	32500	Diegan Coastal Sage Scrub	381.66
4.13.1	*Bahiopsis laciniata* Alliance	*Bahiopsis laciniata-Artemisia californica-Eriogonum fasciculatum* Association	San Diego Sunflower-California Buckwheat Scrub	32500	Diegan Coastal Sage Scrub	1.15
Evergreen Shrublands						***8.99***
4.35.1	*Malosma laurina* Alliance	*Malosma laurina-Lotus scoparius* Association	Laurel Sumac-Deerweed Scrub	32000	Coastal Scrub	8.99
Riparian Forests and Woodlands						***27.25***
3.4.3	*Platanus racemosa* Alliance	*Platanus racemosa-Quercus agrifolia* Association	Western Sycamore-Coast Live Oak Riparian Forests and Woodlands	61300	Southern Riparian Forest	25.89
3.6.4	*Quercus agrifolia* Alliance	*Quercus agrifolia-Toxicodendron diversilobum*-Grass Association	Coast Live Oak-Poison Oak-Grass Forests and Woodlands	61310	Southern Coast Live Oak Riparian Forest	1.36
Upland Forests and Woodlands						***1.5***
3.2	*Eucalyptus* (*globulus*, *camaldulensis*) Semi-Natural Stands	*Eucalyptus* (*globulus*, *camaldulensis*) Semi-Natural Stands	Eucalyptus Forests and Woodlands	79100	Eucalyptus Woodland	1.5
Land Cover/Unvegetated						***15.32***
N/A	N/A	N/A	N/A	11000	Disturbed Habitat	7.44
N/A	N/A	N/A	N/A	12000	Urban/Developed	7.88
Total						**436.92**

Appendix C. Vegetation Communities and Land Cover Types Summarized by Preserve

Sycamore Canyon/Goodan Ranch Preserve						
VCM Code	**VCM Alliance**	**VCM Association**	**VCM Common Name**	**Modified Holland Code**	**Modified Holland Classification**	**Total**
Upland Herbaceous Vegetation						***133.26***
5.7.1	*Brassica nigra* and Other Mustards Seminatural Stands	*Brassica nigra* and Other Mustards Seminatural Stands	Upland Mustards	42210	Non-Native Grassland: Broadleaf-Dominated	3.3
5.8	*Bromus* (*diandrus*, *hordeaceus*)-*Brachypodium distachyon* Semi-Natural Stands	*Bromus* (*diandrus*, *hordeaceus*)-*Brachypodium distachyon* Semi-Natural Stands	Annual Brome Grasslands	42200	Non-Native Grassland	1.4
5.9	*Bromus rubens-Schismus* (*arabicus*, *barbatus*) Semi-Natural Stands	*Bromus rubens-Schismus* (*arabicus*, *barbatus*) Semi-Natural Stands	Red Brome or Mediterranean Grass Grasslands	42200	Non-Native Grassland	104.7
5.21	Mediterranean California Naturalized Annual and Perennial Grassland Semi-Natural Stands	Mediterranean California Naturalized Annual and Perennial Grassland Semi-Natural Stands	N/A	42200	Non-Native Grassland	22.53
5.24.1	*Nassella pulchra* Alliance	*Nassella pulchra* Association	Purple Needlegrass Grassland	42100	Native Grassland	1.33
Drought-Deciduous Shrublands						***447.72***
4.6.1	*Artemisia californica* Alliance	*Artemisia californica* Association	Coastal Sagebrush Scrub	32510	Diegan Coastal Sage Scrub: Coastal form	2.97
4.7.1	*Artemisia californica-Eriogonum fasciculatum* Alliance	*Artemisia californica-Eriogonum fasciculatum-Malosma laurina* Association	Coastal Sagebrush-California Buckwheat-Laurel Sumac Scrub	32500	Diegan Coastal Sage Scrub	241.46
4.24.1	*Eriogonum fasciculatum* Alliance	*Eriogonum fasciculatum-Salvia apiana* Association	California Buckwheat-White Sage Scrub	32500	Diegan Coastal Sage Scrub	17.12
4.43.2	*Salvia apiana* Alliance	*Salvia apiana-Artemisia californica* Association	White Sage-Coastal Sagebrush Scrub	32500	Diegan Coastal Sage Scrub	4.21
4.44	*Salvia mellifera* Alliance	Alliance Only	Black Sage Scrub	32500	Diegan Coastal Sage Scrub	69.11
4.44.1	*Salvia mellifera* Alliance	*Salvia mellifera-Eriogonum fasciculatum* Association	Black Sage-California Buckwheat Scrub	32500	Diegan Coastal Sage Scrub	29.72
4.44.2	*Salvia mellifera* Alliance	*Salvia mellifera-Malosma laurina* Association	Black Sage-Laurel Sumac Scrub	32500	Diegan Coastal Sage Scrub	83.13
Evergreen Shrublands						***2075.02***
4.1	*Adenostoma fasciculatum* Alliance	Alliance Only	Chamise Chaparral	37200	Chamise Chaparral	214.73
4.1.4	*Adenostoma fasciculatum* Alliance	*Adenostoma fasciculatum-Ceanothus tomentosus* Association	Chamise-Ramona-Lilac Chaparral	37120	Southern Mixed Chaparral	20.62
4.1.2	*Adenostoma fasciculatum* Alliance	*Adenostoma fasciculatum*-(*Eriogonum fasciculatum*, *Artemisia californica*, *Salvia mellifera*) Association	Chamise-Coastal Sage Scrub	37G00	Coastal Sage-Chaparral Transition	734.13

Appendix C. Vegetation Communities and Land Cover Types Summarized by Preserve

Sycamore Canyon/Goodan Ranch Preserve						
VCM Code	**VCM Alliance**	**VCM Association**	**VCM Common Name**	**Modified Holland Code**	**Modified Holland Classification**	**Total**
4.2.1	*Adenostoma fasciculatum-Xylococcus* bicolor Alliance	*Adenostoma fasciculatum-Xylococcus bicolor* Association	Chamise-Mission Manzanita Chaparral	37120	Southern Mixed Chaparral	132.63
4.2.2	*Adenostoma fasciculatum-Xylococcus* bicolor Alliance	*Adenostoma fasciculatum-Xylococcus bicolor-Ceanothus tomentosus* Association	Chamise-Mission Manzanita-Ramona-Lilac Chaparral	37120	Southern Mixed Chaparral	644.05
4.18.1	*Ceanothus tomentosus* Alliance	*Ceanothus tomentosus* Association	Ramona-Lilac Chaparral	37120	Southern Mixed Chaparral	251.68
4.35.1	*Malosma laurina* Alliance	*Malosma laurina-Lotus scoparius* Association	Laurel Sumac-Deerweed Scrub	32000	Coastal Scrub	37.49
4.37.1	*Quercus* (*berberidifolia*, ×*acutidens*) Alliance	*Quercus* (*berberidifolia*, ×*acutidens*) Association	Scrub Oak Chaparral	37900	Scrub Oak Chaparral	33.2
4.38.1	*Quercus* (*berberidifolia*, ×*acutidens*)-*Adenostoma fasciculatum* Alliance	*Quercus* (*berberidifolia*, ×*acutidens*)-*Adenostoma fasciculatum* Association	Scrub Oak-Chamise Chaparral	37900	Scrub Oak Chaparral	6.49
Riparian Forests and Woodlands						***24.82***
3.4.3	*Platanus racemosa* Alliance	*Platanus racemosa-Quercus agrifolia* Association	Western Sycamore-Coast Live Oak Riparian Forests and Woodlands	61300	Southern Riparian Forest	22.87
3.6.4	*Quercus agrifolia* Alliance	*Quercus agrifolia-Toxicodendron diversilobum*-Grass Association	Coast Live Oak-Poison Oak-Grass Forests and Woodlands	61310	Southern Coast Live Oak Riparian Forest	1.95
Upland Forests and Woodlands						***14.69***
3.6.1	*Quercus agrifolia* Alliance	*Quercus agrifolia-Artemisia californica* Association	Coast Live Oak-Coastal Sagebrush Forests and Woodlands	71160	Coast Live Oak Woodland	14.69
Land Cover/Unvegetated						***38.49***
N/A	N/A	N/A	N/A	18000	General Agriculture	1.17
N/A	N/A	N/A	N/A	11000	Disturbed Habitat	33.02
N/A	N/A	N/A	N/A	12000	Urban/Developed	4.3
Total						**2734.00**

Appendix D

Sensitive Plant Monitoring Datasheets and Photos

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MSP - Rare Plant Occurrence Monitoring Form 2015

Scientific Name:	Baccharis vanessae	Common Name:	Encinitas baccharis
Existing MSP Occurrence?	unknown	MSP Occurr. ID:	
CNDDB Elem. Occur. #:		Translocated?	no
Preserve:	Del Dios Highlands Open Space Preserve	Mgmt Unit:	
Land Owner:	County San Diego Department of Parks and Recreation	Land Mangr:	County San Diego Department of Parks and Recreation
Occurrence Name:	Del Dios Highlands Preserve	Sample Point #:	DD201501
Surveyors:	Ford Bendell, Lance Woolley	Affiliation	ICF International
Date:	7/24/2015	Time Start:	7:30
		Time Finish:	10:45

I. OCCURRENCE STATUS

*Assess # plants in both species-specific **sampling area** (typically 10-m radius circle) & in **current mapped extent.** See p. 4 for definitions of categories describing phenology & evidence of herbivory, disease & stunted growth within the sampling area. Record any notes on p. 3.*

# Plants/Current Mapped Extent:	250	exact count or estimate?	estimate (extrapolate partial ct)	uncert.	medium
Area of Current Mapped Extent:	2.8	units	acres	exact (GPS) or estim?	estimate
Species Found in Maximum Extent?	yes	if not found, known or suspected reason:			
# Plants/Sampling Area	7	exact count or estimate?	exact	uncert.	low
Sample Area Radius (m)	10				
Phenology In Sampling Area (1-6): Vegetative	5 (50% to <7	Flowering	4 (25% to <50%)	Fruiting	1 (0%)
Dead	1 (0%)	Flowering & Fruiting	2 (>0% to <10%)		
Evidence in Sampling Area (1-6): Herbivory	1 (0%)	Disease	1 (0%)	Stunted Growth	1 (0%)
Is Sampling Area within Current Mapped Extent?	yes				
Collection (if not collected previously)?	no				
If yes: Collector		Collection #			
Museum/Herbarium					

II. SAMPLING AREA LOCATION & SITE PHOTOMONITORING

GPS Accuracy: +/-	1	accur. units:	meters	Datum:	NAD83
coord. system	UTM (m)				
Coordin's at Center of Plot: E:	488075.0099	N:	3658452.249		
Camera type:	IPAD Air				
Locat. 1 Coord.--E, N	488071.82124, 3658440.04652	Direction facing	East, 60 degrees	Height	3 feet
Camera angle	-2	Photo #	1	File location	
Locat. 2 Coord.-- E,N	488071.82124, 3658440.04652	Direction facing	East, 60 degrees	Height	3 feet
Camera angle	-2	Photo #	2	File location	

III. ASSOCIATED SPECIES

If need more room, record additional data and any notes on page 3.

species/substrate	% Cover	Collection #, or NC if not collected	species/substrate	% Cover	Collect.# or NC if not collected
Malosma laurina	5	NC			
Salvia mellifera	5	NC			
Hazardia squarrosa	1	NC			
Ceanothus verrucosus	15	NC			
Adenostoma fasciculatum	2	NC			
Xylococcus bicolor	2	NC			
Marah macrocarpa	1	NC			
Brassica nigra	1	NC			
Avena barbata	1	NC			
Rhus integrifolia	1	NC			
Cneoridium dumosum	1	NC			
Antirrhinum nuttallianum	1	NC	**bare ground**	89	
Baccharis vanessae	1	NC	**rock**	3	
			litter	8	

COVER: Total % Cover:	37	%Herb:	3	%Shrub:	34	%Tree:	0

MSP - Rare Plant Habitat and Threats Assessment Form 2015

(top 4 rows auto-fill from page 1)

Scientific Name:	Baccharis vanessae	MSP Occur. ID:	0
Preserve:	Del Dios Highlands Open Space Preserve		
Occurrence Name:	Del Dios Highlands Preserve		
Surveyors:	Ford Bendell, Lance Woolley	Affiliation:	ICF International
Date:	7/24/2015	Time Start:	9:00 AM
Time Finish:	10:05 AM		

IV. **HABITAT ASSESSMENT IN SAMPLING AREA** - Assess habitat covariates within **species-specific sampling area (typically 10-m radius circle)**. Vegetation alliance/association can be assigned using San Diego vegetation key (AECOM 2012) in the office or field, using "Associated Species" data from page 1. See page 4 for definitions of habitat assessment categories.

SANDAG 2012 Vegetation Alliance/Association:	Ceanothus verrucosus Alliance/Ceanothus verrucosus Association				
Cover classes (1-6)	Cryptogamic Crust Cover:	2 (>0% to <1	Thatch Cover	1 (0%)	
	Thatch Depth Average (cm)		Thatch Depth max (cm)		
Dead Standing Biomass	yes				
If yes, cover/species class	Ceanothus verrucosus/2 (>0% to <10%		Average height (cm)	150	

Mammal Species Activity (categ. 1-4)

Feral pig activity	1 = No feral pig activity (rooting, wallowing, vegetation destruction, tracks, scat, pig) detected.		
ground squirr. activity	1 = No ground squirrel burrows detected.		
gopher activity	1 = No pocket gopher mounds detected.		
Sampling area representative of mapped occurrence?	yes	(If no, note differences on page 3)	

VI. **THREATS ASSESSMENT IN MAXIMUM EXTENT** - Assess threats within the **occurrence's maximum extent** (cumulative extent over years of monitoring) **plus 10-m surrounding buffer**. See page 4 for definitions of threat assessment categories. Record notes on page 3. See Argentine Ant Protocol (USGS 2015) for setting up bait, etc.

Surrounding Land Use/Activity at, or Adjacent to, Site	Preserve with old dirt road				
Argentine ant abundance at bait station (1-4)	1 = No ants detected at bait station or in vicinity.				
Time start		Temp start		Time end	Temp end
Ant sample collected?		Ant sample #		Ant Station Photo #	

DISTURBANCES (Rank each as 1-6):

Non-native forbs	1 = No sign of	feral pig activity	1 = No sign	altered hydrology	4 = Disturbance occurs in
Non-native grasses	3 = Disturbanc	trampling	1 = No sign	erosion	4 = Disturbance occurs in
Non-native woody pl.	1 = No sign of	vandalism	1 = No sign	urban runoff	1 = No sign of disturbanc
competitive native pl.	1 = No sign of	current grazing	1 = No sign	slope movement	1 = No sign of disturbanc
dumping/trash	1 = No sign of	historic grazing	1 = No sign	soil compaction	1 = No sign of disturbanc
encampments	1 = No sign of	historic agriculture	1 = No sign		

fuel modification zone/fire break	1 = No sign of		
road construction/maintenance	1 = No sign of	if present, describe:	
illegal vegetation clearing	1 = No sign of	if present, describe:	
brush management/restoration	1 = No sign of disturbance within maxinum extent or in adjacent 10 m buffer.		
ORV activity	1 = No sign of	if present, describe:	
Evidence of recent fire	1 = No sign of disturbance within maxinum		
If sign of recent fire, year burned?			
Trails	1 = No sign of disturbance within maxinum ex	If trails are present, are they authorized?	

Type of trail use	hiking	no	biking	no	equestrian	no	dog no
	service vehicles	no	other	no			
	illegal trail use?	1 = No sign of	describe:				
Other disturbance?	1 = No sign of	describe:					

MSP-Management Needs and Notes 2015

(top 2 rows auto-fill from page 1)

Scientific Name: Baccharis vanessae

MSP Occur ID. 0

Date: 7/24/2015

VI. MANAGEMENT RECOMMENDATIONS

Stop erosion within the Encinitas baccharis population. Water runoff from existing dirt road is creating erosion gullies within the Encinitas baccharis population. Currently there is a drain pipe that dumps runoff water directly onto the population. It is highly recommended that a water diversion feature be created to stop the erosion. Please see attached photos.

VII. MANAGEMENT ACTIONS IN LAST YEAR

None known.

VIII. CNDDB SPECIES DETECTED (list any plant or animal species to add to the CNDDB)

Ceanothus verrucosus

NOTES

Within monitoring plot -- 1 male plant, 2 female plants, 2 vegetative plants, and 2 seedlings

Photo 1. Encinitas baccharis Monitoring Plot DD201501, facing southeast. Del Dios Highlands Preserve.

Photo 2. Erosion from access road drainage pipe affecting Encinitas baccharis population. Del Dios Highlands Preserve.

MSP - Rare Plant Occurrence Monitoring Form 2015

Scientific Name:	Baccharis vanessae	Common Name:	Encinitas baccharis
Existing MSP Occurrence?	unknown	MSP Occurr. ID:	
CNDDB Elem. Occur. #:		Translocated?	no
Preserve:	Del Dios Highlands Open Space Preserve	Mgmt Unit:	
Land Owner:	County San Diego Department of Parks and Recreation	Land Mangr:	County of San Diego Department of Parks and Recreation
Occurrence Name:	Del Dios Highlands Preserve	Sample Point #:	DD201502
Surveyors:	Glen Kinoshita, Lance Woolley	Affiliation:	ICF International
Date:	7/30/2015	Time Start:	9:00
Time Finish:	9:50		

I. OCCURRENCE STATUS

*Assess # plants in both species-specific **sampling area** (typically 10-m radius circle) & in **current mapped extent.** See p. 4 for definitions of categories describing phenology & evidence of herbivory, disease & stunted growth within the sampling area. Record any notes on p. 3.*

# Plants/Current Mapped Extent:	250	exact count or estimate?	estimate (extrapolate partial ct)	uncert.	medium
Area of Current Mapped Extent:	2.8	units	acres	exact (GPS) or estim?	estimate
Species Found in Maximum Extent?	yes	if not found, known or suspected reason:			
# Plants/Sampling Area	5	exact count or estimate?	exact	uncert.	
Sample Area Radius (m)	10				
Phenology In Sampling Area (1-6):	Vegetative	5 (50% to <7	Flowering	4 (25% to <50%)	Fruiting 1 (0%)
	Dead	1 (0%)	Flowering & Fruiting	1 (0%)	
Evidence in Sampling Area (1-6):	Herbivory	1 (0%)	Disease	1 (0%)	Stunted Growth 1 (0%)
Is Sampling Area within Current Mapped Extent?	yes				
Collection (if not collected previously)?	no				
If yes: Collector		Collection #			
Museum/Herbarium					

II. SAMPLING AREA LOCATION & SITE PHOTOMONITORING

GPS Accuracy: +/-	1	accur. units:	meters	Datum:	NAD83
coord. system	UTM (m)				
Coordin's at Center of Plot: E:	488142.805	N:	3658472.454		
Camera type:	IPAD Air				
Locat. 1 Coord.--E, N	488147.6629475022, 3658475.6630347576			Direction facing	Southwest, 216 Degrees
Height	5 feet				
Camera angle	-3	Photo #	1	File location	
Locat. 2 Coord.-- E,N				Direction facing	
Height					
Camera angle		Photo #		File location	

III. ASSOCIATED SPECIES

If need more room, record additional data and any notes on page 3.

species/substrate	% Cover	Collection #, or NC if not collected	species/substrate	% Cover	Collect.# or NC if not collected
Ceanothus verrucosus	15	NC			
Xylococcus bicolor	15	NC			
Ceanothus tomentosus	10	NC			
Malosma laurina	10	NC			
Rhus integrifolia	5	NC			
Hazardia squarrosa	1	NC			
Antirrhinum nuttallianum	1	NC			
Mirabilis laevis	1	NC			
Galium sp.	1	NC			
Pseudognaphalium sp.	1	NC			
Bromus madritensis ssp. rubens	1	NC			
Baccharis vannassae	1	NC	**bare ground**	10	
			rock	85	
			litter	5	

COVER: Total % Cover: 52 %Herb: 5 %Shrub: 47 %Tree: 0

MSP - Rare Plant Habitat and Threats Assessment Form 2015

(top 4 rows auto-fill from page 1)

Scientific Name:	Baccharis vanessae	MSP Occur. ID:	0
Preserve:	Del Dios Highlands Open Space Preserve		
Occurrence Name:	Del Dios Highlands Preserve		
Surveyors:	Glen Kinoshita, Lance Woolley	Affiliation:	ICF International
Date:	7/30/2015	Time Start:	9:00 AM
Time Finish:	9:50 AM		

IV. **HABITAT ASSESSMENT IN SAMPLING AREA** - Assess habitat covariates within **species-specific sampling area (typically 10-m radius circle)**. Vegetation alliance/association can be assigned using San Diego vegetation key (AECOM 2012) in the office or field, using "Associated Species" data from page 1. See page 4 for definitions of habitat assessment categories.

SANDAG 2012 Vegetation Alliance/Association: Ceanothus verrucosus Alliance/Ceanothus verrucosus Association

Cover classes (1-6)

Cryptogamic Crust Cover:	1 (0%)	Thatch Cover	1 (0%)
Thatch Depth Average (cm)		Thatch Depth max (cm)	
Dead Standing Biomass	yes		
If yes, cover/species class	Ceanothus verrucosus/3 (10% to <25%	Average height (cm)	200

Mammal Species Activity (categ. 1-4)

Feral pig activity	1 = No feral pig activity (rooting, wallowing, vegetation destruction, tracks, scat, pig) detected.
ground squirr. activity	1 = No ground squirrel burrows detected.
gopher activity	1 = No pocket gopher mounds detected.
Sampling area representative of mapped occurrence?	yes (If no, note differences on page 3)

VI. **THREATS ASSESSMENT IN MAXIMUM EXTENT** - Assess threats within the **occurrence's maximum extent** (cumulative extent over years of monitoring) **plus 10-m surrounding buffer**. See page 4 for definitions of threat assessment categories. Record notes on page 3. See Argentine Ant Protocol (USGS 2015) for setting up bait, etc.

Surrounding Land Use/Activity at, or Adjacent to, Site: Homes on periphery of preserve.

Argentine ant abundance at bait station (1-4): 1 = No ants detected at bait station or in vicinity.

Time start		Temp start		Time end	Temp end
Ant sample collected?		Ant sample #		Ant Station Photo #	

DISTURBANCES (Rank each as 1-6):

Non-native forbs	1 = No sign of	feral pig activity	1 = No sign	altered hydrology	1 = No sign of disturbanc
Non-native grasses	3 = Disturbanc	trampling	1 = No sign	erosion	1 = No sign of disturbanc
Non-native woody pl.	1 = No sign of	vandalism	1 = No sign	urban runoff	1 = No sign of disturbanc
competitive native pl.	1 = No sign of	current grazing	1 = No sign	slope movement	1 = No sign of disturbanc
dumping/trash	1 = No sign of	historic grazing	1 = No sign	soil compaction	1 = No sign of disturbanc
encampments	1 = No sign of	historic agriculture	1 = No sign		

fuel modification zone/fire break	1 = No sign of		
road construction/maintenance	1 = No sign of	if present, describe:	
illegal vegetation clearing	1 = No sign of	if present, describe:	
brush management/restoration	1 = No sign of disturbance within maxinum extent or in adjacent 10 m buffer.		
ORV activity	1 = No sign of	if present, describe:	
Evidence of recent fire	1 = No sign of disturbance within maxinum		
If sign of recent fire, year burned?			
Trails	1 = No sign of disturbance within maxinum ex	If trails are present, are they authorized?	

Type of trail use

hiking		biking		equestrian	dog
service vehicles		other			
illegal trail use?		describe:			

Other disturbance?	1 = No sign of	describe:	

MSP-Management Needs and Notes 2015

(top 2 rows auto-fill from page 1)

Scientific Name: Baccharis vanessae

MSP Occur ID. 0

Date: 7/30/2015

VI. MANAGEMENT RECOMMENDATIONS

None.

VII. MANAGEMENT ACTIONS IN LAST YEAR

None.

VIII. CNDDB SPECIES DETECTED (list any plant or animal species to add to the CNDDB)

Ceanothus verrucosus

NOTES

Within monitoring plot -- 1 male plant, 1 female plant, 3 vegetative plants

Photo 1. Encinitas baccharis Monitoring Plot DD201502, facing southwest. Del Dios Highlands Preserve.

MSP - Rare Plant Occurrence Monitoring Form 2015

Scientific Name:	Baccharis vanessae	Common Name:	Encinitas baccharis
Existing MSP Occurrence?	*unknown*	MSP Occurr. ID:	
CNDDB Elem. Occur. #:		Translocated?	no
Preserve:	Del Dios Highlands Open Space Preserve	Mgmt Unit	
Land Owner:	County San Diego Department of Parks and Recreation	Land Mangr:	County San Diego Department of Parks and Recreation
Occurrence Name:	Del Dios Highlands Preserve	Sample Point #:	DD201503
Surveyors:	Glen Kinoshita, Lance Woolley	Affiliation	ICF International
Date:	7/30/2015	Time Start:	12:00
		Time Finish:	12:40

I. OCCURRENCE STATUS - *Assess # plants in both species-specific **sampling area** (typically 10-m radius circle) & in **current mapped extent.** See p. 4 for definitions of categories describing phenology & evidence of herbivory, disease & stunted growth within the sampling area. Record any notes on p. 3.*

# Plants/Current Mapped Extent:	250	exact count or estimate?	estimate (extrapolate partial ct)	uncert.	medium
Area of Current Mapped Extent:	2.8	units	acres	exact (GPS) or estim?	estimate
Species Found in Maximum Extent?	yes	if not found, known or suspected reason:			
# Plants/Sampling Area	31	exact count or estimate?	exact	uncert.	
Sample Area Radius (m)					

Phenology In Sampling Area (1-6):	Vegetative	5 (50% to <7	Flowering	4 (25% to <50%)		Fruiting	2 (>0% to <10%)
	Dead	1 (0%)	Flowering & Fruiting	1 (0%)			
Evidence in Sampling Area (1-6):	Herbivory	1 (0%)	Disease	1 (0%)		Stunted Growth	1 (0%)
Is Sampling Area within Current Mapped Extent?	yes						

Collection (if not collected previously)?	no		
If yes: Collector		Collection #	
Museum/Herbarium			

II. SAMPLING AREA LOCATION & SITE PHOTOMONITORING

GPS Accuracy: +/-	1	accur. units:	meters	Datum:	NAD83		
coord. system	UTM (m)						
Coordin's at Center of Plot: E:	488032.6699			N:	3658485.004		
Camera type:	IPAD Air						
Locat. 1 Coord.--E, N	488032.68197931774, 3658494.8709092624			Direction facing	Southwest, 220 Degrees	Height	5 feet
Camera angle	-8	Photo #	1	File location			
Locat. 2 Coord.-- E,N				Direction facing		Height	
Camera angle		Photo #		File location			

III. ASSOCIATED SPECIES *If need more room, record additional data and any notes on page 3.*

species/substrate	% Cover	Collection #, or NC if not collected	species/substrate	% Cover	Collect.# or NC if not collected
Ceanothus verrucosus	20	NC			
Xylococcus bicolor	20	NC			
Rhus integrifolia	5	NC			
Adenostoma fasciculatum	3	NC			
Bromus madritensis ssp. rubens	1	NC			
Ehrharta erecta	1	NC			
Galium aparine	1	NC			
Antirrhinum nuttallianum	1	NC			
Baccharis vanessae	3	NC			
			bare ground	5	
			rock	88	
			litter	7	

COVER: Total % Cover:	55	%Herb:	4	%Shrub:	51	%Tree:	0

MSP - Rare Plant Habitat and Threats Assessment Form 2015

(top 4 rows auto-fill from page 1)

Scientific Name:	Baccharis vanessae	MSP Occur. ID:	0
Preserve:	Del Dios Highlands Open Space Preserve		
Occurrence Name:	Del Dios Highlands Preserve		
Surveyors:	Glen Kinoshita, Lance Woolley	Affiliation:	ICF International
Date:	7/30/2015	Time Start:	12:00 PM
Time Finish:	12:40 PM		

IV. **HABITAT ASSESSMENT IN SAMPLING AREA** - Assess habitat covariates within **species-specific sampling area (typically 10-m radius circle)**. Vegetation alliance/association can be assigned using San Diego vegetation key (AECOM 2012) in the office or field, using "Associated Species" data from page 1. See page 4 for definitions of habitat assessment categories.

SANDAG 2012 Vegetation Alliance/Association: Ceanothus verrucosus Alliance/Ceanothus verrucosus Association

Cover classes (1-6)

Cryptogamic Crust Cover:	2 (>0% to <1	Thatch Cover	1 (0%)
Thatch Depth Average (cm)		Thatch Depth max (cm)	
Dead Standing Biomass	yes		
If yes, cover/species class	Ceanothus verrucosus/2 (>0% to <10%	Average height (cm)	200

Mammal Species Activity (categ. 1-4)

Feral pig activity	1 = No feral pig activity (rooting, wallowing, vegetation destruction, tracks, scat, pig) detected.
ground squirr. activity	1 = No ground squirrel burrows detected.
gopher activity	1 = No pocket gopher mounds detected.
Sampling area representative of mapped occurrence?	yes (If no, note differences on page 3)

VI. **THREATS ASSESSMENT IN MAXIMUM EXTENT** - Assess threats within the **occurrence's maximum extent** (cumulative extent over years of monitoring) **plus 10-m surrounding buffer**. See page 4 for definitions of threat assessment categories. Record notes on page 3. See Argentine Ant Protocol (USGS 2015) for setting up bait, etc.

Surrounding Land Use/Activity at, or Adjacent to, Site	Houses along edge of preserve, old access road drainage erosion may impact spec				
Argentine ant abundance at bait station (1-4)	1 = No ants detected at bait station or in vicinity.				
Time start		Temp start		Time end	Temp end
Ant sample collected?		Ant sample #		Ant Station Photo #	

DISTURBANCES (Rank each as 1-6):

Non-native forbs	1 = No sign of	feral pig activity	1 = No sign	altered hydrology	3 = Disturbance present i
Non-native grasses	3 = Disturbanc	trampling	1 = No sign	erosion	3 = Disturbance present i
Non-native woody pl.	1 = No sign of	vandalism	1 = No sign	urban runoff	1 = No sign of disturbanc
competitive native pl.	1 = No sign of	current grazing	1 = No sign	slope movement	1 = No sign of disturbanc
dumping/trash	1 = No sign of	historic grazing	1 = No sign	soil compaction	1 = No sign of disturbanc
encampments	1 = No sign of	historic agriculture	1 = No sign		

fuel modification zone/fire break	1 = No sign of		
road construction/maintenance	1 = No sign of	if present, describe:	
illegal vegetation clearing	1 = No sign of	if present, describe:	
brush management/restoration	1 = No sign of disturbance within maxinum extent or in adjacent 10 m buffer.		
ORV activity	1 = No sign of	if present, describe:	
Evidence of recent fire	1 = No sign of disturbance within maxinum		
If sign of recent fire, year burned?			
Trails	1 = No sign of disturbance within maxinum ex	If trails are present, are they authorized?	

Type of trail use

hiking		biking		equestrian	dog
service vehicles		other			
illegal trail use?		describe:			
Other disturbance?	1 = No sign of	describe:			

MSP-Management Needs and Notes 2015

(top 2 rows auto-fill from page 1)

Scientific Name: Baccharis vanessae

MSP Occur ID. 0

Date: 7/30/2015

VI. MANAGEMENT RECOMMENDATIONS

Monitor erosion from drainage of the old access road.

VII. MANAGEMENT ACTIONS IN LAST YEAR

VIII. CNDDB SPECIES DETECTED (list any plant or animal species to add to the CNDDB)

Ceanothus verrucosus

NOTES

Within monitoring plot -- 6 female plants, 4 female plants, 21 vegetative plants.

Photo 1. Encinitas baccharis Monitoring Plot DD201503, facing southwest. Del Dios Highlands Preserve.

MSP - Rare Plant Occurrence Monitoring Form 2015

Scientific Name:	Ceanothus cyaneus	Common Name:	Lakeside Ceanothus
Existing MSP Occurrence?	unknown	MSP Occurr. ID:	
CNDDB Elem. Occur. #:		Translocated?	no
Preserve:	Boulder Oaks Preserve	Mgmt Unit:	
Land Owner:	County San Diego Department of Parks and Recreation	Land Mangr:	County San Diego Department of Parks and Recreation
Occurrence Name:	Boulder Oaks Preserve	Sample Point #:	BO201501
Surveyors:	Nicole Salas, Lance Woolley	Affiliation:	ICF International
Date:	8/4/2015	Time Start:	11:00
		Time Finish:	12:15

I. OCCURRENCE STATUS

*Assess # plants in both species-specific **sampling area** (typically 10-m radius circle) & in **current mapped extent.** See p. 4 for definitions of categories describing phenology & evidence of herbivory, disease & stunted growth within the sampling area. Record any notes on p. 3.*

# Plants/Current Mapped Extent:	600	exact count or estimate?	estimate (extrapolate partial ct)	uncert.	medium
Area of Current Mapped Extent:	1267	units	acres	exact (GPS) or estim?	estimate
Species Found in Maximum Extent?	yes	if not found, known or suspected reason:			
# Plants/Sampling Area	26	exact count or estimate?	exact	uncert.	low
Sample Area Radius (m)	10				

Phenology In Sampling Area (1-6):	Vegetative	6 (≥75%)	Flowering	1 (0%)		Fruiting	1 (0%)
	Dead	3 (10% to <2	Flowering & Fruiting	1 (0%)			
Evidence in Sampling Area (1-6):	Herbivory	1 (0%)	Disease	1 (0%)		Stunted Growth	1 (0%)
Is Sampling Area within Current Mapped Extent?	yes						

Collection (if not collected previously)?	no		
If yes: Collector		Collection #	
Museum/Herbarium			

II. SAMPLING AREA LOCATION & SITE PHOTOMONITORING

GPS Accuracy: +/-	1	accur. units:	meters	Datum:	NAD83		
coord. system	UTM (m)						
Coordin's at Center of Plot: E:	506845.0842			N:	3645997.769		
Camera type:	IPAD Air						
Locat. 1 Coord.--E, N	506850.138587438, 3645987.35223502			Direction facing	Northwest, 294 Degrees	Height	5 Feet
Camera angle	1 Degree	Photo #	1	File location			
Locat. 2 Coord.-- E,N				Direction facing		Height	
Camera angle		Photo #		File location			

III. ASSOCIATED SPECIES

If need more room, record additional data and any notes on page 3.

species/substrate	% Cover	Collection #, or NC if not collected	species/substrate	% Cover	Collect.# or NC if not collected
Adenostoma fasciculatum	5	NC			
Ceanothus tomentosus	10	NC			
Malosma laurina	3	NC			
Hesperoyucca whipplei	3	NC			
Salvia apiana	1	NC			
Eriodictyon crassifolium ssp. crassifolium	1	NC			
Avena barbata	5	NC			
Bromus madritensis ssp. rubens	10	NC			
Stipa sp.	1	NC			
Ceanothus cyaneus	5	NC			
			bare ground	35	
			rock	20	
			litter	45	

COVER: Total % Cover:	44	%Herb:	16	%Shrub:	28	%Tree:	0

MSP - Rare Plant Habitat and Threats Assessment Form 2015

(top 4 rows auto-fill from page 1)

Scientific Name:	Ceanothus cyaneus	MSP Occur. ID:	0
Preserve:	Boulder Oaks Preserve		
Occurrence Name:	Boulder Oaks Preserve		
Surveyors:	Nicole Salas, Lance Woolley	Affiliation:	ICF International
Date:	8/4/2015	Time Start:	11:00 AM
Time Finish:	12:15 PM		

IV. **HABITAT ASSESSMENT IN SAMPLING AREA** - Assess habitat covariates within **species-specific sampling area (typically 10-m radius circle)**. Vegetation alliance/association can be assigned using San Diego vegetation key (AECOM 2012) in the office or field, using "Associated Species" data from page 1. See page 4 for definitions of habitat assessment categories.

SANDAG 2012 Vegetation Alliance/Association: Adenostoma fasciculatum-Xylococcus Alliance/Adenostoma fasciculatum-Xylococcus-Ceanothus tomentosus Association

Cover classes (1-6)

Cryptogamic Crust Cover:	1 (0%)	Thatch Cover	2 (>0% to <10%)
Thatch Depth Average (cm)	2	Thatch Depth max (cm)	3
Dead Standing Biomass	yes		
If yes, cover/species class	Ceanothus cyaneus/2 (>0% to <10%)	Average height (cm)	200

Mammal Species Activity (categ. 1-4)

Feral pig activity	1 = No feral pig activity (rooting, wallowing, vegetation destruction, tracks, scat, pig) detected.
ground squirr. activity	1 = No ground squirrel burrows detected.
gopher activity	1 = No pocket gopher mounds detected.
Sampling area representative of mapped occurrence?	yes (If no, note differences on page 3)

VI. **THREATS ASSESSMENT IN MAXIMUM EXTENT** - Assess threats within the **occurrence's maximum extent** (cumulative extent over years of monitoring) **plus 10-m surrounding buffer**. See page 4 for definitions of threat assessment categories. Record notes on page 3. See Argentine Ant Protocol (USGS 2015) for setting up bait, etc.

Surrounding Land Use/Activity at, or Adjacent to, Site	Preserve				
Argentine ant abundance at bait station (1-4)	1 = No ants detected at bait station or in vicinity.				
Time start		Temp start		Time end	Temp end
Ant sample collected?		Ant sample #		Ant Station Photo #	

DISTURBANCES (Rank each as 1-6):

Non-native forbs	1 = No sign of	feral pig activity	1 = No sign	altered hydrology	1 = No sign of disturbanc
Non-native grasses	3 = Disturbanc	trampling	1 = No sign	erosion	1 = No sign of disturbanc
Non-native woody pl.	1 = No sign of	vandalism	1 = No sign	urban runoff	1 = No sign of disturbanc
competitive native pl.	1 = No sign of	current grazing	1 = No sign	slope movement	1 = No sign of disturbanc
dumping/trash	1 = No sign of	historic grazing	1 = No sign	soil compaction	1 = No sign of disturbanc
encampments	1 = No sign of	historic agriculture	1 = No sign		

fuel modification zone/fire break	1 = No sign of		
road construction/maintenance	1 = No sign of	if present, describe:	
illegal vegetation clearing	1 = No sign of	if present, describe:	
brush management/restoration	1 = No sign of disturbance within maxinum extent or in adjacent 10 m buffer.		
ORV activity	1 = No sign of	if present, describe:	
Evidence of recent fire	1 = No sign of disturbance within maxinum		
If sign of recent fire, year burned?			
Trails	1 = No sign of disturbance within maxinum ex	If trails are present, are they authorized?	

Type of trail use

hiking		biking		equestrian	dog
service vehicles		other			
illegal trail use?		describe:			
Other disturbance?	1 = No sign of	describe:			

MSP-Management Needs and Notes 2015

(top 2 rows auto-fill from page 1)

Scientific Name: Ceanothus cyaneus

MSP Occur ID. 0

Date: 8/4/2015

VI. MANAGEMENT RECOMMENDATIONS

None

VII. MANAGEMENT ACTIONS IN LAST YEAR

None

VIII. CNDDB SPECIES DETECTED (list any plant or animal species to add to the CNDDB)

None

NOTES

Photo 1. Lakeside ceanothus Monitoring Plot BO201501, facing northwest. Boulder Oaks Preserve.

MSP - Rare Plant Occurrence Monitoring Form 2015

Scientific Name:	Ceanothus cyaneus	Common Name:	Lakeside Ceanothus
Existing MSP Occurrence?	*unknown*	MSP Occurr. ID:	
CNDDB Elem. Occur. #:		Translocated?	no
Preserve:	Boulder Oaks Preserve	Mgmt Unit	
Land Owner:	County San Diego Department of Parks and Recreation	Land Mangr:	County of San Diego Department of Parks and Recreation
Occurrence Name:	Boulder Oaks Preserve	Sample Point #:	BO201502
Surveyors:	Nicole Salas, Lance Woolley	Affiliation	ICF International
Date:	8/4/2015	Time Start:	12:45
Time Finish:	1:10		

I. OCCURRENCE STATUS - *Assess # plants in both species-specific **sampling area** (typically 10-m radius circle) & in **current mapped extent.** See p. 4 for definitions of categories describing phenology & evidence of herbivory, disease & stunted growth within the sampling area. Record any notes on p. 3.*

# Plants/Current Mapped Extent:	600	exact count or estimate?	estimate (extrapolate partial ct)	uncert.	medium
Area of Current Mapped Extent:	1267	units	acres	exact (GPS) or estim?	estimate
Species Found in Maximum Extent?	yes	if not found, known or suspected reason:			
# Plants/Sampling Area	27	exact count or estimate?	exact	uncert.	low
Sample Area Radius (m)	10				
Phenology In Sampling Area (1-6):	Vegetative	6 (≥75%)	Flowering	1 (0%)	Fruiting	1 (0%)
	Dead	3 (10% to <2	Flowering & Fruiting	1 (0%)		
Evidence in Sampling Area (1-6):	Herbivory	1 (0%)	Disease	1 (0%)	Stunted Growth	1 (0%)
Is Sampling Area within Current Mapped Extent?	no				

Collection (if not collected previously)?	no		
If yes: Collector		Collection #	
Museum/Herbarium			

II. SAMPLING AREA LOCATION & SITE PHOTOMONITORING

GPS Accuracy: +/-	1	accur. units:	meters	Datum:	NAD83
coord. system	UTM (m)				
Coordin's at Center of Plot: E:	506959.5521	N:	3645905.282		
Camera type:	IPAD Air				
Locat. 1 Coord.--E, N	506948.9947564175, 3645899.0666262577		Direction facing	East, 72 Degrees	Height	5 feet
Camera angle	3 degrees	Photo #	1	File location	
Locat. 2 Coord.-- E,N			Direction facing		Height	
Camera angle		Photo #		File location	

III. ASSOCIATED SPECIES *If need more room, record additional data and any notes on page 3.*

species/substrate	% Cover	Collection #, or NC if not collected	species/substrate	% Cover	Collect.# or NC if not collected
Adenostoma fasciculatum	12	NC			
Ceanothus tomentosus	10	NC			
Xylococcus bicolor	5	NC			
Hazardia squarrosa	3	NC			
Malosma laurina	3	NC			
Eriodictyon crassifolium ssp. crassifolium	1	NC			
Crocanthemum scoparium	1	NC			
Hesperoyucca whipplei	1	NC			
Bromus madritensis ssp. rubens	5	NC			
Gastridium phleoides	1	NC			
Ceanothus cyaneus	5	NC			
			bare ground	35	
			rock	20	
			litter	45	

COVER: Total % Cover:	47	%Herb:	6	%Shrub:	41	%Tree:	0

(top 4 rows auto-fill from page 1)

Scientific Name:	Ceanothus cyaneus	MSP Occur. ID:	0
Preserve:	Boulder Oaks Preserve		
Occurrence Name:	Boulder Oaks Preserve		
Surveyors:	Nicole Salas, Lance Woolley	Affiliation:	ICF International
Date:	8/4/2015	Time Start: 12:45 PM	Time Finish: 1:10 AM

IV. **HABITAT ASSESSMENT IN SAMPLING AREA** - Assess habitat covariates within **species-specific sampling area (typically 10-m radius circle)**. Vegetation alliance/association can be assigned using San Diego vegetation key (AECOM 2012) in the office or field, using "Associated Species" data from page 1. See page 4 for definitions of habitat assessment categories.

SANDAG 2012 Vegetation Alliance/Association: Adenostoma fasciculatum-Xylococcus Alliance/Adenostoma fasciculatum-Xylococcus-Ceanothus tomentosus Association

Cover classes (1-6)

Cryptogamic Crust Cover:	1 (0%)	Thatch Cover	2 (>0% to <10%)
Thatch Depth Average (cm)	1	Thatch Depth max (cm)	2
Dead Standing Biomass	yes		
If yes, cover/species class	Ceanothus cyaneus/2 (>0% to <10%)	Average height (cm)	200

Mammal Species Activity (categ. 1-4)

Feral pig activity	1 = No feral pig activity (rooting, wallowing, vegetation destruction, tracks, scat, pig) detected.
ground squirr. activity	1 = No ground squirrel burrows detected.
gopher activity	1 = No pocket gopher mounds detected.
Sampling area representative of mapped occurrence?	yes (If no, note differences on page 3)

VI. **THREATS ASSESSMENT IN MAXIMUM EXTENT** - Assess threats within the **occurrence's maximum extent** (cumulative extent over years of monitoring) **plus 10-m surrounding buffer**. See page 4 for definitions of threat assessment categories. Record notes on page 3. See Argentine Ant Protocol (USGS 2015) for setting up bait, etc.

Surrounding Land Use/Activity at, or Adjacent to, Site	Preserve				
Argentine ant abundance at bait station (1-4)	1 = No ants detected at bait station or in vicinity.				
Time start		Temp start		Time end	Temp end
Ant sample collected?		Ant sample #		Ant Station Photo #	

DISTURBANCES (Rank each as 1-6):

Non-native forbs	1 = No sign of	feral pig activity	1 = No sign	altered hydrology	1 = No sign of disturbanc
Non-native grasses	3 = Disturbanc	trampling	1 = No sign	erosion	1 = No sign of disturbanc
Non-native woody pl.	1 = No sign of	vandalism	1 = No sign	urban runoff	1 = No sign of disturbanc
competitive native pl.	1 = No sign of	current grazing	1 = No sign	slope movement	1 = No sign of disturbanc
dumping/trash	1 = No sign of	historic grazing	1 = No sign	soil compaction	1 = No sign of disturbanc
encampments	1 = No sign of	historic agriculture	1 = No sign		

fuel modification zone/fire break	1 = No sign of		
road construction/maintenance	1 = No sign of	if present, describe:	
illegal vegetation clearing	1 = No sign of	if present, describe:	
brush management/restoration	1 = No sign of disturbance within maxinum extent or in adjacent 10 m buffer.		
ORV activity	1 = No sign of	if present, describe:	
Evidence of recent fire	1 = No sign of disturbance within maxinum		
If sign of recent fire, year burned?			
Trails	1 = No sign of disturbance within maxinum ex	If trails are present, are they authorized?	

Type of trail use

hiking		biking		equestrian	dog
service vehicles		other			
illegal trail use?		describe:			
Other disturbance?	1 = No sign of	describe:			

MSP-Management Needs and Notes 2015

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Scientific Name: Ceanothus cyaneus

MSP Occur ID. 0

Date: 8/4/2015

VI. MANAGEMENT RECOMMENDATIONS

None

VII. MANAGEMENT ACTIONS IN LAST YEAR

None

VIII. CNDDB SPECIES DETECTED (list any plant or animal species to add to the CNDDB)

None

NOTES

Photo 1. Lakeside ceanothus Monitoring Plot BO201502, facing east. Boulder Oaks Preserve.

MSP - Rare Plant Occurrence Monitoring Form 2015

Scientific Name:	Ceanothus cyaneus	Common Name:	Lakeside Ceanothus
Existing MSP Occurrence?	*unknown*	MSP Occurr. ID:	
CNDDB Elem. Occur. #:		Translocated?	no
Preserve:	El Capitan Open Space Preserve	Mgmt Unit	
Land Owner:	County San Diego Department of Parks and Recreation	Land Mangr:	County of San Diego Department of Parks and Recreation
Occurrence Name:	El Capitan	Sample Point #:	EC201501
Surveyors:	Rari Marks, Lance Woolley	Affiliation	ICF International
Date:	8/6/2015	Time Start:	10:30
		Time Finish:	11:05

I. OCCURRENCE STATUS - *Assess # plants in both species-specific **sampling area** (typically 10-m radius circle) & in **current mapped extent.** See p. 4 for definitions of categories describing phenology & evidence of herbivory, disease & stunted growth within the sampling area. Record any notes on p. 3.*

# Plants/Current Mapped Extent:	400	exact count or estimate?	estimate (extrapolate partial ct)	uncert.	medium
Area of Current Mapped Extent:	67	units	acres	exact (GPS) or estim?	estimate
Species Found in Maximum Extent?	yes	if not found, known or suspected reason:			
# Plants/Sampling Area	51	exact count or estimate?	exact	uncert.	low
Sample Area Radius (m)	10				
Phenology In Sampling Area (1-6):	Vegetative	5 (50% to <7	Flowering	1 (0%)	Fruiting 1 (0%)
	Dead	4 (25% to <5	Flowering & Fruiting	1 (0%)	
Evidence in Sampling Area (1-6):	Herbivory	1 (0%)	Disease	1 (0%)	Stunted Growth 1 (0%)
Is Sampling Area within Current Mapped Extent?	yes				
Collection (if not collected previously)?	no				
If yes: Collector		Collection #			
Museum/Herbarium					

II. SAMPLING AREA LOCATION & SITE PHOTOMONITORING

GPS Accuracy: +/-	1	accur. units:	meters	Datum:	NAD83
coord. system	UTM (m)				
Coordin's at Center of Plot: E:	514279.436	N:	3641648.088		
Camera type:	IPAD Air				
Locat. 1 Coord.--E, N	514264.00002982456, 3641653.05453825	Direction facing	East, 106 Degrees	Height	5 Feet
Camera angle	7 Degrees	Photo #	1	File location	
Locat. 2 Coord.-- E,N		Direction facing		Height	
Camera angle		Photo #		File location	

III. ASSOCIATED SPECIES *If need more room, record additional data and any notes on page 3.*

species/substrate	% Cover	Collection #, or NC if not collected	species/substrate	% Cover	Collect.# or NC if not collected
Adenostoma fasciculatum	15	NC			
Rhamnus ilicifolia	1	NC			
Malosma laurina	1	NC			
Gutierrezia sarothrae	1	NC			
Crocanthemum scoparium	1	NC			
Quercus ×acutidens	3	NC			
Rhus ovata	1	NC			
Hesperoyucca whipplei	1	NC			
Pennisetum setaceum	1	NC			
Ceanothus cyaneus	2	NC			
			bare ground	20	
			rock	10	
			litter	70	

COVER: Total % Cover: 27 %Herb: 1 %Shrub: 26 %Tree: 0

(top 4 rows auto-fill from page 1)

Scientific Name:	Ceanothus cyaneus	MSP Occur. ID:	0
Preserve:	El Capitan Open Space Preserve		
Occurrence Name:	El Capitan		
Surveyors:	Rari Marks, Lance Woolley	Affiliation:	ICF International
Date:	8/6/2015	Time Start: 10:30 AM	Time Finish: 11:05 AM

IV. **HABITAT ASSESSMENT IN SAMPLING AREA** - Assess habitat covariates within **species-specific sampling area (typically 10-m radius circle)**. Vegetation alliance/association can be assigned using San Diego vegetation key (AECOM 2012) in the office or field, using "Associated Species" data from page 1. See page 4 for definitions of habitat assessment categories.

SANDAG 2012 Vegetation Alliance/Association: Adenostoma fasciculatum Alliance/Adenostoma fasciculatum-(Eriogonum fasciculatum, Artemisia californica, Salvia mellifera) Association

Cover classes (1-6)

Cryptogamic Crust Cover:	1 (0%)	Thatch Cover	1 (0%)
Thatch Depth Average (cm)		Thatch Depth max (cm)	
Dead Standing Biomass	yes		
If yes, cover/species class	Ceanothus cyaneus/2 (>0% to <10%)	Average height (cm)	200

Mammal Species Activity (categ. 1-4)

Feral pig activity	1 = No feral pig activity (rooting, wallowing, vegetation destruction, tracks, scat, pig) detected.
ground squirr. activity	1 = No ground squirrel burrows detected.
gopher activity	1 = No pocket gopher mounds detected.
Sampling area representative of mapped occurrence?	yes (If no, note differences on page 3)

VI. **THREATS ASSESSMENT IN MAXIMUM EXTENT** - Assess threats within the **occurrence's maximum extent** (cumulative extent over years of monitoring) **plus 10-m surrounding buffer**. See page 4 for definitions of threat assessment categories. Record notes on page 3. See Argentine Ant Protocol (USGS 2015) for setting up bait, etc.

Surrounding Land Use/Activity at, or Adjacent to, Site	Preserve				
Argentine ant abundance at bait station (1-4)	1 = No ants detected at bait station or in vicinity.				
Time start		Temp start		Time end	Temp end
Ant sample collected?		Ant sample #		Ant Station Photo #	

DISTURBANCES (Rank each as 1-6):

Non-native forbs	1 = No sign of	feral pig activity	1 = No sign	altered hydrology	1 = No sign of disturbanc
Non-native grasses	3 = Disturbanc	trampling	1 = No sign	erosion	1 = No sign of disturbanc
Non-native woody pl.	1 = No sign of	vandalism	1 = No sign	urban runoff	1 = No sign of disturbanc
competitive native pl.	1 = No sign of	current grazing	1 = No sign	slope movement	1 = No sign of disturbanc
dumping/trash	1 = No sign of	historic grazing	1 = No sign	soil compaction	1 = No sign of disturbanc
encampments	1 = No sign of	historic agriculture	1 = No sign		

fuel modification zone/fire break	1 = No sign of		
road construction/maintenance	1 = No sign of	if present, describe:	
illegal vegetation clearing	1 = No sign of	if present, describe:	
brush management/restoration	1 = No sign of disturbance within maxinum extent or in adjacent 10 m buffer.		
ORV activity	1 = No sign of	if present, describe:	
Evidence of recent fire	1 = No sign of disturbance within maxinum		
If sign of recent fire, year burned?			
Trails	1 = No sign of disturbance within maxinum ex	If trails are present, are they authorized?	

Type of trail use

hiking		biking		equestrian	dog
service vehicles		other			
illegal trail use?		describe:			
Other disturbance?	1 = No sign of	describe:			

MSP-Management Needs and Notes 2015

(top 2 rows auto-fill from page 1)

Scientific Name: Ceanothus cyaneus

MSP Occur ID. 0

Date: 8/6/2015

VI. MANAGEMENT RECOMMENDATIONS

Monitor invasion of Pennisetum setaceum

VII. MANAGEMENT ACTIONS IN LAST YEAR

None

VIII. CNDDB SPECIES DETECTED (list any plant or animal species to add to the CNDDB)

None

NOTES

None

Photo 1. Lakeside ceanothus Monitoring Plot EC201501, facing east. El Capitan Preserve.

MSP - Rare Plant Occurrence Monitoring Form 2015

Scientific Name:	Ceanothus cyaneus	Common Name:	Lakeside Ceanothus
Existing MSP Occurrence?	*unknown*	MSP Occurr. ID:	
CNDDB Elem. Occur. #:		Translocated?	yes
Preserve:	El Capitan Open Space Preserve	Mgmt Unit	
Land Owner:	County San Diego Department of Parks and Recreation	Land Mangr:	County of San Diego Department of Parks and Recreation
Occurrence Name:	El Capitan	Sample Point #:	EC201502
Surveyors:	Rari Marks, Lance Woolley	Affiliation	ICF International
Date:	8/6/2015	Time Start:	1:30
		Time Finish:	2:00

I. OCCURRENCE STATUS - *Assess # plants in both species-specific **sampling area** (typically 10-m radius circle) & in **current mapped extent.** See p. 4 for definitions of categories describing phenology & evidence of herbivory, disease & stunted growth within the sampling area. Record any notes on p. 3.*

# Plants/Current Mapped Extent:	150	exact count or estimate?	estimate (extrapolate partial ct)	uncert.	high
Area of Current Mapped Extent:	2	units	acres	exact (GPS) or estim?	estimate
Species Found in Maximum Extent?	yes	if not found, known or suspected reason:			
# Plants/Sampling Area	74	exact count or estimate?	exact	uncert.	low
Sample Area Radius (m)	10				
Phenology In Sampling Area (1-6):	Vegetative	4 (25% to <5	Flowering	1 (0%)	Fruiting	1 (0%)
	Dead	5 (50% to <7	Flowering & Fruiting	1 (0%)		
Evidence in Sampling Area (1-6):	Herbivory	1 (0%)	Disease	1 (0%)	Stunted Growth	1 (0%)
Is Sampling Area within Current Mapped Extent?	yes				
Collection (if not collected previously)?	no				
If yes: Collector		Collection #			
Museum/Herbarium					

II. SAMPLING AREA LOCATION & SITE PHOTOMONITORING

GPS Accuracy: +/-	1	accur. units:	meters	Datum:	NAD83
coord. system	UTM (m)				
Coordin's at Center of Plot: E:	511938.3169	N:	3641388.67		
Camera type:	IPAD Air				
Locat. 1 Coord.--E, N	511943.8229657967, 3641397.767242693	Direction facing	Southwest, 216 Degrees	Height	5 Feet
Camera angle	3 Degrees	Photo #	1	File location	
Locat. 2 Coord.-- E,N		Direction facing		Height	
Camera angle		Photo #		File location	

III. ASSOCIATED SPECIES *If need more room, record additional data and any notes on page 3.*

species/substrate	% Cover	Collection #, or NC if not collected	species/substrate	% Cover	Collect.# or NC if not collected
Adenostoma fasciculatum	6	NC			
Malosma laurina	2	NC			
Xylococcus bicolor	2	NC			
Eriogonum fasciculatum	1	NC			
Hesperoyucca whipplei	1	NC			
Hazardia squarrosa	1	NC			
Salvia apiana	1	NC			
Stephanomeria diegensis	1	NC			
Bromus madritensis ssp. rubens	5	NC			
Ceanothus cyaneus	7	NC			
			bare ground	35	
			rock	25	
			litter	40	

COVER: Total % Cover:	27	%Herb:	6	%Shrub:	21	%Tree:	0

MSP - Rare Plant Habitat and Threats Assessment Form 2015

(top 4 rows auto-fill from page 1)

Scientific Name:	Ceanothus cyaneus	MSP Occur. ID:	0
Preserve:	El Capitan Open Space Preserve		
Occurrence Name:	El Capitan		
Surveyors:	Rari Marks, Lance Woolley	Affiliation:	ICF International
Date:	8/6/2015	Time Start: 1:30 AM	Time Finish: 2:00 AM

IV. **HABITAT ASSESSMENT IN SAMPLING AREA** - Assess habitat covariates within **species-specific sampling area (typically 10-m radius circle)**. Vegetation alliance/association can be assigned using San Diego vegetation key (AECOM 2012) in the office or field, using "Associated Species" data from page 1. See page 4 for definitions of habitat assessment categories.

SANDAG 2012 Vegetation Alliance/Association: Adenostoma fasciculatum-Xylococcus bicolor Alliance/Adenostoma fasciculatum-Xylococcus bicolor-Quercus (berberidifolia, xacutidens) Association

Cover classes (1-6)

Cryptogamic Crust Cover:	1 (0%)	Thatch Cover	2 (>0% to <10%)
Thatch Depth Average (cm)	1	Thatch Depth max (cm)	2
Dead Standing Biomass	yes		
If yes, cover/species class	Ceanothus cyaneus/3 (10% to <25%)	Average height (cm)	200

Mammal Species Activity (categ. 1-4)

Feral pig activity	1 = No feral pig activity (rooting, wallowing, vegetation destruction, tracks, scat, pig) detected.
ground squirr. activity	1 = No ground squirrel burrows detected.
gopher activity	1 = No pocket gopher mounds detected.
Sampling area representative of mapped occurrence?	yes (If no, note differences on page 3)

VI. **THREATS ASSESSMENT IN MAXIMUM EXTENT** - Assess threats within the **occurrence's maximum extent** (cumulative extent over years of monitoring) **plus 10-m surrounding buffer**. See page 4 for definitions of threat assessment categories. Record notes on page 3. See Argentine Ant Protocol (USGS 2015) for setting up bait, etc.

Surrounding Land Use/Activity at, or Adjacent to, Site	Preserve				
Argentine ant abundance at bait station (1-4)	1 = No ants detected at bait station or in vicinity.				
Time start		Temp start		Time end	Temp end
Ant sample collected?		Ant sample #		Ant Station Photo #	

DISTURBANCES (Rank each as 1-6):

Non-native forbs	1 = No sign of	feral pig activity	1 = No sign	altered hydrology	1 = No sign of disturbanc
Non-native grasses	3 = Disturbanc	trampling	1 = No sign	erosion	3 = Disturbance present
Non-native woody pl.	1 = No sign of	vandalism	1 = No sign	urban runoff	1 = No sign of disturbanc
competitive native pl.	1 = No sign of	current grazing	1 = No sign	slope movement	1 = No sign of disturbanc
dumping/trash	1 = No sign of	historic grazing	1 = No sign	soil compaction	1 = No sign of disturbanc
encampments	1 = No sign of	historic agriculture	1 = No sign		

fuel modification zone/fire break	1 = No sign of		
road construction/maintenance	1 = No sign of	if present, describe:	
illegal vegetation clearing	1 = No sign of	if present, describe:	
brush management/restoration	1 = No sign of disturbance within maxinum extent or in adjacent 10 m buffer.		
ORV activity	1 = No sign of	if present, describe:	
Evidence of recent fire	1 = No sign of disturbance within maxinum		
If sign of recent fire, year burned?			
Trails	1 = No sign of disturbance within maxinum ex	If trails are present, are they authorized?	

Type of trail use

hiking		biking		equestrian	dog
service vehicles		other			
illegal trail use?		describe:			
Other disturbance?	1 = No sign of	describe:			

MSP-Management Needs and Notes 2015

(top 2 rows auto-fill from page 1)

Scientific Name: Ceanothus cyaneus

MSP Occur ID. 0

Date: 8/6/2015

VI. MANAGEMENT RECOMMENDATIONS

Monitor erosion channel from road at edge of plot.

VII. MANAGEMENT ACTIONS IN LAST YEAR

None

VIII. CNDDB SPECIES DETECTED (list any plant or animal species to add to the CNDDB)

None

NOTES

Photo 1. Lakeside ceanothus Monitoring Plot EC201502, facing southwest. El Capitan Preserve.

MSP - Rare Plant Occurrence Monitoring Form 2015

Scientific Name:	Ceanothus cyaneus	Common Name:	Lakeside ceanothus
Existing MSP Occurrence?	*unknown*	MSP Occurr. ID:	
CNDDB Elem. Occur. #:		Translocated?	no
Preserve:	Oakoasis	Mgmt Unit	
Land Owner:	County San Diego Department of Parks and Recreation	Land Mangr:	County of San Diego Department of Parks and Recreation
Occurrence Name:	Oakoasis	Sample Point #:	OO201501
Surveyors:	Glen Kinoshita, Lance Woolley	Affiliation	ICF International
Date:	7/31/2015	Time Start:	8:20am
Time Finish:	9:10am		

I. OCCURRENCE STATUS - *Assess # plants in both species-specific **sampling area** (typically 10-m radius circle) & in **current mapped extent.** See p. 4 for definitions of categories describing phenology & evidence of herbivory, disease & stunted growth within the sampling area. Record any notes on p. 3.*

# Plants/Current Mapped Extent:	225	exact count or estimate?	exact	uncert.	medium
Area of Current Mapped Extent:	13.55	units	acres	exact (GPS) or estim?	exact (GPS ma
Species Found in Maximum Extent?	yes	if not found, known or suspected reason:			
# Plants/Sampling Area	7	exact count or estimate?	exact	uncert.	very low
Sample Area Radius (m)	10				

Phenology In Sampling Area (1-6):	Vegetative	6 (≥75%)	Flowering	1 (0%)		Fruiting	1 (0%)
	Dead	2 (>0% to <1	Flowering & Fruiting	1 (0%)			
Evidence in Sampling Area (1-6):	Herbivory	1 (0%)	Disease	1 (0%)		Stunted Growth	1 (0%)
Is Sampling Area within Current Mapped Extent?	yes						

Collection (if not collected previously)?	no		
If yes: Collector		Collection #	
Museum/Herbarium			

II. SAMPLING AREA LOCATION & SITE PHOTOMONITORING

GPS Accuracy: +/-	1	accur. units:	meters	Datum:	NAD83
coord. system	UTM (m)				
Coordin's at Center of Plot: E:	509720.9219	N:	3641853.726		
Camera type:	IPAD Air				
Locat. 1 Coord.--E, N	509724.3925218773, 3641842.6437223405	Direction facing	Northwest, 325 Degrees	Height	5 Feet
Camera angle	2 Degrees	Photo #	1	File location	
Locat. 2 Coord.-- E,N		Direction facing		Height	
Camera angle		Photo #		File location	

III. ASSOCIATED SPECIES *If need more room, record additional data and any notes on page 3.*

species/substrate	% Cover	Collection #, or NC if not collected	species/substrate	% Cover	Collect.# or NC if not collected
Artemisia californica	3	NC	Bromus madritensis ssp. rubens	3	NC
Baccharis sarothroides	2	NC	Calysetgia sp.	1	NC
Malosma laurina	5	NC	Avena barbata	2	NC
Ceanothus tomentosus	5	NC	Melinis repens ssp. repens	1	NC
Ceanothus crassifolius	1	NC	Ceanothus cyaneus	1	NC
Hazardia squarrosa	1	NC			
Brickellia californica	1	NC			
Eriophyllum confertiflorum	1	NC			
Adenostoma fasciculatum	5	NC			
Salvia apiana	1	NC			
Cneoridium dumosum	2	NC			
Pseudognaphalium sp.	1	NC	**bare ground**	15	
Cryptantha sp.	1	NC	**rock**	55	
Stipa sp.	1	NC	**litter**	30	

COVER: Total % Cover:	34	%Herb:	9	%Shrub:	25	%Tree:	0

(top 4 rows auto-fill from page 1)

Scientific Name:	Ceanothus cyaneus	MSP Occur. ID:	0
Preserve:	Oakoasis		
Occurrence Name:	Oakoasis		
Surveyors:	Glen Kinoshita, Lance Woolley	Affiliation:	ICF International
Date:	7/31/2015	Time Start: 8:20am	Time Finish: 9:10am

IV. **HABITAT ASSESSMENT IN SAMPLING AREA** - Assess habitat covariates within **species-specific sampling area (typically 10-m radius circle)**. Vegetation alliance/association can be assigned using San Diego vegetation key (AECOM 2012) in the office or field, using "Associated Species" data from page 1. See page 4 for definitions of habitat assessment categories.

SANDAG 2012 Vegetation Alliance/Association: Adenostoma fasciculatum Alliance/Adenostoma fasciculatum-Ceanothus tomentosus Association

Cover classes (1-6)

Cryptogamic Crust Cover:	1 (0%)	Thatch Cover	2 (>0% to <10%)
Thatch Depth Average (cm)	6	Thatch Depth max (cm)	12
Dead Standing Biomass	yes		
If yes, cover/species class	Ceanothus cyaneus/2 (>0% to <10%)	Average height (cm)	100

Mammal Species Activity (categ. 1-4)

Feral pig activity	1 = No feral pig activity (rooting, wallowing, vegetation destruction, tracks, scat, pig) detected.
ground squirr. activity	
gopher activity	1 = No pocket gopher mounds detected.

Sampling area representative of mapped occurrence? yes (If no, note differences on page 3)

VI. **THREATS ASSESSMENT IN MAXIMUM EXTENT** - Assess threats within the **occurrence's maximum extent** (cumulative extent over years of monitoring) **plus 10-m surrounding buffer**. See page 4 for definitions of threat assessment categories. Record notes on page 3. See Argentine Ant Protocol (USGS 2015) for setting up bait, etc.

Surrounding Land Use/Activity at, or Adjacent to, Site: Preserve

Argentine ant abundance at bait station (1-4): 1 = No ants detected at bait station or in vicinity.

Time start		Temp start		Time end	Temp end
Ant sample collected?		Ant sample #		Ant Station Photo #	

DISTURBANCES (Rank each as 1-6):

Non-native forbs	1 = No sign of	feral pig activity	1 = No sign	altered hydrology	1 = No sign of disturbanc
Non-native grasses	3 = Disturbanc	trampling	1 = No sign	erosion	1 = No sign of disturbanc
Non-native woody pl.	1 = No sign of	vandalism	1 = No sign	urban runoff	1 = No sign of disturbanc
competitive native pl.	1 = No sign of	current grazing	1 = No sign	slope movement	1 = No sign of disturbanc
dumping/trash	1 = No sign of	historic grazing	1 = No sign	soil compaction	1 = No sign of disturbanc
encampments	1 = No sign of	historic agriculture	1 = No sign		

fuel modification zone/fire break	1 = No sign of		
road construction/maintenance	1 = No sign of	if present, describe:	
illegal vegetation clearing	1 = No sign of	if present, describe:	
brush management/restoration	1 = No sign of disturbance within maxinum extent or in adjacent 10 m buffer.		
ORV activity	1 = No sign of	if present, describe:	
Evidence of recent fire	1 = No sign of disturbance within maxinum		
If sign of recent fire, year burned?			
Trails	1 = No sign of disturbance within maxinum ex	If trails are present, are they authorized?	

Type of trail use

hiking		biking		equestrian	dog
service vehicles		other			
illegal trail use?		describe:			

Other disturbance? 1 = No sign of describe:

MSP-Management Needs and Notes 2015

(top 2 rows auto-fill from page 1)

Scientific Name: Ceanothus cyaneus

MSP Occur ID. 0

Date: 7/31/2015

VI. MANAGEMENT RECOMMENDATIONS

Control nonnative grasses -- Melinis repens ssp. repens

VII. MANAGEMENT ACTIONS IN LAST YEAR

None

VIII. CNDDB SPECIES DETECTED (list any plant or animal species to add to the CNDDB)

None

NOTES

Photo 1. Lakeside ceanothus Monitoring Plot OO201501, facing northwest. Oakoasis Preserve.

MSP - Rare Plant Occurrence Monitoring Form 2015

Scientific Name:	Ceanothus cyaneus	Common Name:	Lakeside Ceanothus
Existing MSP Occurrence?	*unknown*	MSP Occurr. ID:	
CNDDB Elem. Occur. #:		Translocated?	no
Preserve:	Stelzer	Mgmt Unit	
Land Owner:	County San Diego Department of Parks and Recreation	Land Mangr:	County of San Diego Department of Parks and Recreation
Occurrence Name:	Stelzer	Sample Point #:	STZ201501
Surveyors:	Glen Kinoshita, Lance Woolley	Affiliation	ICF International
Date:	7/31/2015	Time Start:	11:15am
Time Finish:	11:55am		

I. OCCURRENCE STATUS - *Assess # plants in both species-specific **sampling area** (typically 10-m radius circle) & in **current mapped extent.** See p. 4 for definitions of categories describing phenology & evidence of herbivory, disease & stunted growth within the sampling area. Record any notes on p. 3.*

# Plants/Current Mapped Extent:	135	exact count or estimate?	estimate (extrapolate partial ct)	uncert.	medium
Area of Current Mapped Extent:	7.98	units	acres	exact (GPS) or estim?	exact (GPS ma
Species Found in Maximum Extent?	yes	if not found, known or suspected reason:			
# Plants/Sampling Area	39	exact count or estimate?	exact	uncert.	low
Sample Area Radius (m)	10				

Phenology In Sampling Area (1-6):	Vegetative	3 (10% to <2	Flowering	1 (0%)		Fruiting	1 (0%)
	Dead	6 (≥75%)	Flowering & Fruiting	2 (>0% to <10%)			
Evidence in Sampling Area (1-6):	Herbivory	1 (0%)	Disease	1 (0%)		Stunted Growth	1 (0%)
Is Sampling Area within Current Mapped Extent?	yes						

Collection (if not collected previously)?	no		
If yes: Collector		Collection #	
Museum/Herbarium			

II. SAMPLING AREA LOCATION & SITE PHOTOMONITORING

GPS Accuracy: +/-	1	accur. units:	meters	Datum:	NAD83
coord. system	UTM (m)				
Coordin's at Center of Plot: E:	508350.4116	N:	3638427.609		
Camera type:	IPAD Air				
Locat. 1 Coord.--E, N	508364.4519515106, 3638416.2029147977	Direction facing	West ,280 Degrees	Height	5 Feet
Camera angle	4 Degrees	Photo #	1	File location	
Locat. 2 Coord.-- E,N	508364.4519515106, 3638416.2029147977	Direction facing	Northwest, 325 Degrees	Height	5 Feet
Camera angle	4 Degrees	Photo #	2	File location	

III. ASSOCIATED SPECIES *If need more room, record additional data and any notes on page 3.*

species/substrate	% Cover	Collection #, or NC if not collected	species/substrate	% Cover	Collect.# or NC if not collected
Artemisia californica	3	NC	Bromus diandrus	1	NC
Eriogonum fasciculatum	5	NC	Calystegia sp.	1	NC
Malosma laurina	15	NC	Ceanothus cyaneus	4	NC
Salvia apiana	5	NC			
Hazardia squarrosa	1	NC			
Eriophyllum confertifolium	2	NC			
Bromus madritensis ssp. rubens	30	NC			
Festuca myuros	20	NC			
Hirschfeldia incana	1	NC			
Salsola tragus	1	NC			
Stephanomeria diegensis	1	NC			
Erodium cicutarium	1	NC	**bare ground**	80	
Logfia gallica	1	NC	**rock**	10	
Galium sp.	1	NC	**litter**	10	

COVER: Total % Cover:	93	%Herb:	58	%Shrub:	35	%Tree:	0

MSP - Rare Plant Habitat and Threats Assessment Form 2015

(top 4 rows auto-fill from page 1)

Scientific Name:	Ceanothus cyaneus	MSP Occur. ID:	0
Preserve:	Stelzer		
Occurrence Name:	Stelzer		
Surveyors:	Glen Kinoshita, Lance Woolley	Affiliation:	ICF International
Date:	7/31/2015	Time Start:	11:15am
Time Finish:	11:55am		

IV. **HABITAT ASSESSMENT IN SAMPLING AREA** - Assess habitat covariates within **species-specific sampling area (typically 10-m radius circle)**. Vegetation alliance/association can be assigned using San Diego vegetation key (AECOM 2012) in the office or field, using "Associated Species" data from page 1. See page 4 for definitions of habitat assessment categories.

SANDAG 2012 Vegetation Alliance/Association: Artemisia californica-Eriogonum fasciculatum Alliance/Artemisia californica-Eriogonum fasciculatum-Malosma laurina Association

Cover classes (1-6)

Cryptogamic Crust Cover:	1 (0%)	Thatch Cover	4 (25% to <50%)
Thatch Depth Average (cm)	2	Thatch Depth max (cm)	3
Dead Standing Biomass	yes		
If yes, cover/species class	Ceanothus cyaneus/3 (10% to <25%)	Average height (cm)	200

Mammal Species Activity (categ. 1-4)

Feral pig activity	1 = No feral pig activity (rooting, wallowing, vegetation destruction, tracks, scat, pig) detected.
ground squirr. activity	1 = No ground squirrel burrows detected.
gopher activity	4 = ≥10 mounds or one or more gophers seen within sampling area.
Sampling area representative of mapped occurrence?	yes (If no, note differences on page 3)

VI. **THREATS ASSESSMENT IN MAXIMUM EXTENT** - Assess threats within the **occurrence's maximum extent** (cumulative extent over years of monitoring) **plus 10-m surrounding buffer**. See page 4 for definitions of threat assessment categories. Record notes on page 3. See Argentine Ant Protocol (USGS 2015) for setting up bait, etc.

Surrounding Land Use/Activity at, or Adjacent to, Site	Sunrise Powerlink, Preserve				
Argentine ant abundance at bait station (1-4)	1 = No ants detected at bait station or in vicinity.				
Time start		Temp start		Time end		Temp end	
Ant sample collected?		Ant sample #		Ant Station Photo #	

DISTURBANCES (Rank each as 1-6):

Non-native forbs	4 = Disturbanc	feral pig activity	1 = No sign	altered hydrology	1 = No sign of disturbanc
Non-native grasses	6 = Disturbanc	trampling	1 = No sign	erosion	1 = No sign of disturbanc
Non-native woody pl.	1 = No sign of	vandalism	1 = No sign	urban runoff	1 = No sign of disturbanc
competitive native pl.	1 = No sign of	current grazing	1 = No sign	slope movement	1 = No sign of disturbanc
dumping/trash	1 = No sign of	historic grazing	1 = No sign	soil compaction	1 = No sign of disturbanc
encampments	1 = No sign of	historic agriculture	1 = No sign		

fuel modification zone/fire break	1 = No sign of		
road construction/maintenance	1 = No sign of	if present, describe:	
illegal vegetation clearing	1 = No sign of	if present, describe:	
brush management/restoration	1 = No sign of disturbance within maxinum extent or in adjacent 10 m buffer.		
ORV activity	1 = No sign of	if present, describe:	
Evidence of recent fire	1 = No sign of disturbance within maxinum		
If sign of recent fire, year burned?			
Trails	1 = No sign of disturbance within maxinum ex	If trails are present, are they authorized?	

Type of trail use

hiking		biking		equestrian		dog	
service vehicles		other					
illegal trail use?		describe:					
Other disturbance?	1 = No sign of	describe:					

MSP-Management Needs and Notes 2015

(top 2 rows auto-fill from page 1)

Scientific Name: Ceanothus cyaneus

MSP Occur ID. 0

Date: 7/31/2015

VI. MANAGEMENT RECOMMENDATIONS

Control gophers and nonnative grasses and forbs.

VII. MANAGEMENT ACTIONS IN LAST YEAR

None

VIII. CNDDB SPECIES DETECTED (list any plant or animal species to add to the CNDDB)

None

NOTES

Photo 1. Lakeside ceanothus Monitoring Plot STZ201501, facing west. Stelzer Regional Park.

MSP - Rare Plant Occurrence Monitoring Form 2015

Scientific Name:	Monardella viminea	Common Name:	Willowy monardella
Existing MSP Occurrence?	*unknown*	MSP Occurr. ID:	
CNDDB Elem. Occur. #:		Translocated?	no
Preserve:	Sycamore Canyon and Goodan Ranch Preserves	Mgmt Unit	
Land Owner:	County San Diego Department of Parks and Recreation	Land Mangr:	County San Diego Department of Parks and Recreation
Occurrence Name:	Sycamore Canyon	Sample Point #:	SYC201501
Surveyors:	Lily Sam, Lance Woolley	Affiliation	ICF International
Date:	7/7/2015	Time Start:	9:00
		Time Finish:	2:30

I. OCCURRENCE STATUS - *Assess # plants in both species-specific **sampling area** (typically 10-m radius circle) & in **current mapped extent.** See p. 4 for definitions of categories describing phenology & evidence of herbivory, disease & stunted growth within the sampling area. Record any notes on p. 3.*

# Plants/Current Mapped Extent:	441	exact count or estimate?	exact	uncert.	low
Area of Current Mapped Extent:	0.77	units	acres	exact (GPS) or estim?	exact (GPS ma
Species Found in Maximum Extent?	yes	if not found, known or suspected reason:			
# Plants/Sampling Area	56	exact count or estimate?	exact	uncert.	low
Sample Area Radius (m)	10		exact		

Phenology In Sampling Area (1-6):	Vegetative	1 (0%)	Flowering	6 (≥75%)		Fruiting	1 (0%)
	Dead	2 (>0% to <1	Flowering & Fruiting	3 (10% to <25%)			
Evidence in Sampling Area (1-6):	Herbivory	1 (0%)	Disease	1 (0%)		Stunted Growth	1 (0%)
Is Sampling Area within Current Mapped Extent?	yes						

Collection (if not collected previously)?	no		
If yes: Collector		Collection #	
Museum/Herbarium			

II. SAMPLING AREA LOCATION & SITE PHOTOMONITORING

GPS Accuracy: +/-	1	accur. units:	meters	Datum:	NAD83
coord. system	UTM (m)				
Coordin's at Center of Plot: E:	502411.6024	N:	3642217.501		
Camera type:	Iphone 6				
Locat. 1 Coord.--E, N	502417.11636362906, 3642228.3667163774	Direction facing	South, 176 Degrees	Height	5 Feet
Camera angle	5 Degrees	Photo #	1	File location	
Locat. 2 Coord.-- E,N	502417.11636362906, 3642228.3667163774	Direction facing	South, 207 Degrees	Height	5 Feet
Camera angle	2 Degrees	Photo #	2	File location	

III. ASSOCIATED SPECIES *If need more room, record additional data and any notes on page 3.*

species/substrate	% Cover	Collection #, or NC if not collected	species/substrate	% Cover	Collect.# or NC if not collected
Eriogonum fasciculatum	4	NC	Calystegia sp.	1	NC
Rhamnus crocea	4	NC	Bromus madritensis ssp. rubens	1	NC
Bromus diandrus	1	NC	Monardella viminea	3	NC
Centaurea melitensis	1	NC			
Hirschfeldia incana	1	NC			
Erodium botrys	1	NC			
Artemisia California	1	NC			
Arena Barbara	1	NC			
Bromus hordeaceus	1	NC			
Malosma laurina	1	NC			
Salvia mellifera	1	NC			
Lepidium sp.	1	NC	**bare ground**	73	
Deinandra fasciculata	1	NC	**rock**	25	
Silene gallica	1	NC	**litter**	2	

COVER: Total % Cover:	25	%Herb:	14	%Shrub:	11	%Tree:	0

MSP - Rare Plant Habitat and Threats Assessment Form 2015

(top 4 rows auto-fill from page 1)

Scientific Name:	Monardella viminea	MSP Occur. ID:	0
Preserve:	Sycamore Canyon and Goodan Ranch Preserves		
Occurrence Name:	Sycamore Canyon		
Surveyors:	Lily Sam, Lance Woolley	Affiliation:	ICF International
Date:	7/7/2015	Time Start:	9:00 AM
Time Finish:	2:30 AM		

IV. **HABITAT ASSESSMENT IN SAMPLING AREA** - Assess habitat covariates within **species-specific sampling area (typically 10-m radius circle)**. Vegetation alliance/association can be assigned using San Diego vegetation key (AECOM 2012) in the office or field, using "Associated Species" data from page 1. See page 4 for definitions of habitat assessment categories.

SANDAG 2012 Vegetation Alliance/Association:

Cover classes (1-6)

Cryptogamic Crust Cover:		Thatch Cover	4 (25% to <50%)
Thatch Depth Average (cm)	2	Thatch Depth max (cm)	4
Dead Standing Biomass	yes		
If yes, cover/species class	Herbaceous/5 (50% to <75%)	Average height (cm)	7

Mammal Species Activity (categ. 1-4)

Feral pig activity	
ground squirr. activity	
gopher activity	

Sampling area representative of mapped occurrence? (If no, note differences on page 3)

VI. **THREATS ASSESSMENT IN MAXIMUM EXTENT** - Assess threats within the **occurrence's maximum extent** (cumulative extent over years of monitoring) **plus 10-m surrounding buffer**. See page 4 for definitions of threat assessment categories. Record notes on page 3. See Argentine Ant Protocol (USGS 2015) for setting up bait, etc.

Surrounding Land Use/Activity at, or Adjacent to, Site

Argentine ant abundance at bait station (1-4)

Time start		Temp start		Time end	Temp end
Ant sample collected?		Ant sample #		Ant Station Photo #	

DISTURBANCES (Rank each as 1-6):

Non-native forbs	3 = Disturbance	feral pig activity	1 = No sign	altered hydrology	1 = No sign of disturbanc
Non-native grasses	3 = Disturbance	trampling	1 = No sign	erosion	3 = Disturbance present i
Non-native woody pl.	1 = No sign of	vandalism	1 = No sign	urban runoff	1 = No sign of disturbanc
competitive native pl.	1 = No sign of	current grazing	1 = No sign	slope movement	3 = Disturbance present i
dumping/trash	3 = Disturbance	historic grazing	1 = No sign	soil compaction	1 = No sign of disturbanc
encampments	1 = No sign of	historic agriculture	1 = No sign		

fuel modification zone/fire break	1 = No sign of		
road construction/maintenance	1 = No sign of	if present, describe:	
illegal vegetation clearing	1 = No sign of	if present, describe:	
brush management/restoration	1 = No sign of disturbance within maxinum extent or in adjacent 10 m buffer.		
ORV activity	3 = Disturbance	if present, describe:	ORV activity along illegal hiking trail
Evidence of recent fire	1 = No sign of disturbance within maxinum		
If sign of recent fire, year burned?			
Trails	4 = Disturbance occurs in 10% to <25% of are	If trails are present, are they authorized?	no

Type of trail use							
hiking	yes	biking	yes	equestrian	no	dog	no
service vehicles	no	other	yes				
illegal trail use?	3 = Disturbance	describe:	ORV activity along illegal hiking trail				
Other disturbance?	1 = No sign of	describe:					

MSP-Management Needs and Notes 2015

(top 2 rows auto-fill from page 1)

Scientific Name: Monardella viminea

MSP Occur ID. 0

Date: 7/7/2015

VI. MANAGEMENT RECOMMENDATIONS

Manage nonnative grasses and forbs. Continue to keep illegal trail closed. Add more trail barriers.

VII. MANAGEMENT ACTIONS IN LAST YEAR

None

VIII. CNDDB SPECIES DETECTED (list any plant or animal species to add to the CNDDB)

None

NOTES

The maximum extent of the population extends well south of the Sycamore Canyon Preserve Boundary.

Willowy monardella Volume and Estimated Number of Plants Calculations

Patch	Height (m)	Length (m)	Width (m)	Volume (m^3)	Estimated Number of Plants[1]	Seedlings[2]	Juvenile[2]	Mature[2]	Adult[2]
1	0.4	2.9	1.2	1.392	4.43	--	--	--	4
2	0.47	3.46	1.4	2.277	6.17	--	--	--	6
3	0.29	0.43	0.32	0.040	0.18	--	--	--	1
4	0.31	1	0.93	0.288	1.18	--	--	--	1
5	0.42	1.5	0.66	0.416	1.26	--	--	--	1
6	0.46	1.2	1.7	0.938	2.60	--	--	--	3
7	0.5	2.03	0.96	0.974	2.48	--	--	--	2
8	0.56	1.36	1.25	0.952	2.17	--	--	--	2
9	0.25	0.3	0.4	0.030	0.15	--	--	1	--
10	0.3	0.32	0.45	0.043	0.18	--	--	1	--
11	0.7	1.4	1	0.980	1.78	--	--	--	2
12	0.4	1.54	1.26	0.776	2.47	--	--	--	2
13	0.48	0.76	0.68	0.248	0.66	--	--	--	1
14	0.44	1.66	0.6	0.438	1.27	--	--	--	1
15	0.18	0.1	0.25	0.005	0.03	--	--	1	--
16	0.47	0.43	0.48	0.097	0.26	--	--	--	1
17	0.41	0.35	0.19	0.027	0.08	--	--	1	--
18	0.54	0.6	0.58	0.188	0.44	--	--	--	1
19	0.59	1	0.6	0.354	0.76	--	--	--	1
20	0.46	1.14	1.03	0.540	1.50	--	--	--	1
21	0.31	0.76	0.38	0.090	0.37	--	--	--	1
22	0.54	2.18	2.13	2.507	5.92	--	--	--	6
23	0.43	0.38	0.82	0.134	0.40	--	--	--	1
24	0.38	2.1	1.33	1.061	3.56	--	--	--	4
25	0.38	3.23	1.64	2.013	6.75	--	--	--	7
26	0.18	0.1	0.2	0.004	0.03	--	1	--	--
27	0.18	0.1	0.2	0.004	0.03	--	1	--	--
28	0.1	0.1	0.05	0.001	0.01	--	1	--	--
	Total	--	--	--	**47.12**	**--**	**3**	**4**	**49**

[1] Estimated number of plants was estimated by measuring length and width in meters of the patch. These two measurements were multiplied together and divided by the value 0.785 meters (Rebman and Dossey 2006). The estimated number of plants was rounded to the nearest whole number and then classified as a seedling, juvenile, mature or adult.

[2] Seedling: lacks multiple stems and is less than four inches tall.
Juvenile: lacks multiple stems and is more than four inches tall.
Mature: more than four inches tall and has less than twenty stems.
Adult: is more than four inches tall and has more than twenty stems.

Photo 1. Willowy monardella monitoring plot SYC201501, facing south. Sycamore Canyon/Goodan Ranch Preserve.