

**FINAL HABITAT MITIGATION AND  
MONITORING PLAN**

**CHOCOLATE CANYON MITIGATION SITE**

**SUNRISE POWERLINK**

**CORPS FILE NO. 2007-00704-SAS  
SWRCB 401 CERTIFICATION FILE NO. SB090151N  
CDFG STREAMBED ALTERATION AGREEMENT NO. 1600-2009-0365-R5**

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### List of Acronyms

AA(s)	Assessment Area(s)
BMPs	Best Management Practices
BO	Biological Opinion
Cal-IPC	California Invasive Plant Council
Corps	U.S. Army Corps of Engineers
CDFG	California Department of Fish and Game
CNF	Cleveland National Forest
CRAM	California Rapid Assessment Method
CWA	Clean Water Act
EIR	Environmental Impact Report
EIS	Environmental Impact Statement
EPA	Environmental Protection Agency
GIS	Geographic Information System
HAP/HMP	Habitat Acquisition Plan/Habitat Management Plan
HMMP	Habitat Mitigation and Monitoring Plan
HSA	Hydrologic subarea
kV	kilovolt
LSAA	Lake and Streambed Alteration Agreement
MHPA	Multi-habitat Planning Area
MSCP	Multiple Species Conservation Plan
NGVD	National Geodetic Vertical Datum
OHV	Off-highway Vehicle
OHWM	Ordinary High Water Mark
PAR	Property Analysis Record
PCN	Pre-Construction Notification
PJD	Preliminary Jurisdictional Determination
ROW	Right-of-Way
SDG&E	San Diego Gas and Electric
SRPL	Sunrise Powerlink
SWRCB	State Water Resources Control Board
TOB	Top of Bank
WOS	Waters of the State
WOUS	Waters of the United States

## 1.0 INTRODUCTION AND PURPOSE

San Diego Gas and Electric (SDG&E) is constructing a new 500/230 kilovolt (kV) electric transmission line that would traverse approximately 120 miles between the El Centro area of Imperial County and southwestern San Diego County, in southern California (Figure 1). Construction of this transmission line, along with associated roads, facilities, and maintenance areas, will result in impacts to areas under the jurisdiction of the U.S. Army Corps of Engineers (Corps), the State Water Resources Control Board (SWRCB), and the California Department of Fish and Game (CDFG). State and federal regulations require mitigation for impacts to “waters of the United States” (WOUS) and “waters of the State” (WOS).

Mitigation for permanent impacts to WOUS and WOS is being accomplished through preservation, restoration, and enhancement of wetlands and waters within five mitigation sites, as described in the approved Conceptual Habitat Mitigation and Monitoring Plan (HMMP; WRA 2010b). A Final HMMP for each site is a requirement of the authorizations issued by the Corps, SWRCB, and CDFG. The Final HMMP describes the specific and detailed mitigation activities and plans, performance criteria to measure success, initial monitoring and management actions, long-term management activities, and estimated costs for the Chocolate Canyon Mitigation Site in San Diego County, California. The Chocolate Canyon Mitigation Site is one component of the overall mitigation program for unavoidable impacts to wetlands and waters from the Sunrise Powerlink (SRPL) Project.

### 1.1 Responsible Parties and Easement Holders

SDG&E is responsible for implementing mitigation for the SRPL Project. WRA, Inc. is the applicant's authorized agent and preparer of this Final HMMP for mitigation to WOUS and WOS.

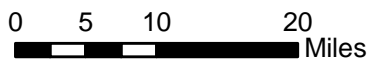
Primary contact information for these parties is below:

<i>Project Applicant:</i>	SDG&E 8315 Century Park Court, CP21G San Diego, California 92123-1548 Contact: Alan Colton Contact Phone: (858) 654-8727
<i>Authorized Agent:</i>	WRA, Inc. 2169-G East Francisco Blvd. San Rafael, CA 94901 Contact: Michael Josselyn, PhD, PWS Contact Phone: (415) 454-8868
<i>Entity Responsible for Long-Term Management:</i>	City of San Diego, CA



**Figure 1. Project Area Location Map**

Sunrise Powerlink  
 San Diego/Imperial County, California



Map Date: June 2010  
 Map By: Derek Chan  
 Base Source: ESRI  
 Filepath: L:\Acad 2000 Files\17000\17128-3\GIS\ArcMap\Mitigation\  
 Fig1\_LocMap\_20100630.mxd

SDG&E will be responsible for implementing the project mitigation through completion of the initial monitoring period. SDG&E will convey the lands to a conservancy or otherwise approved entity (to be determined and approved by the United States Fish and Wildlife Service, CDFG, Bureau of Land Management and California Public Utilities Commission). This process is detailed in G-CM-17 of the project Biological Opinion (BO) FWS-08B04233-11F0047 (USFWS 2010) and included in Section 4.0.

The Agency approved management entity will be responsible for long-term management of the Chocolate Canyon Mitigation Site. The description of the long-term management for this mitigation site, the restrictions to be placed on the site, and the financial commitments are summarized in Section 10.0 and 12.0 and within the Habitat Acquisition Plan and Habitat Management Plan (HAP/HMP) prepared for this mitigation site (SDG&E 2010).

## **1.2 Document Overview and Purpose**

The purpose of this Final HMMP is to describe the mitigation, monitoring, and management of wetlands and waters provided as mitigation within the Chocolate Canyon Mitigation Site. Restoration of temporary impacts to streams, wetlands, and desert dry washes within the construction footprint is described as part of the Restoration Plan for Temporary Impacts to Waters contained in Appendix A of the Conceptual HMMP (WRA 2010b) and is therefore not addressed here.

The intention of this document is to follow the regulation set forth in the 2008 Clean Water Act (CWA) Section 404 Final Compensatory Mitigation Rule. As such, language and requirements may differ from that of the 2004 Los Angeles District Final Mitigation Guidelines and Monitoring Requirements. In addition, we provide information requested by the Los Angeles District Corps office and the SWRCB related to the functional assessment of the impact and mitigation sites using the California Rapid Assessment Method (CRAM).

Mitigation for the impacts associated with “single and complete projects” will be implemented at five mitigation sites. Four of these sites are located along the SRPL project alignment, and one (Desert Cahuilla) is located in the desert area north of the alignment (see Figure 2). These locations are also part of an overall mitigation program addressing a variety of habitat and special status species requirements for the SRPL. The mitigation sites that are proposed to address impacts to WOUS and WOS are:

- Desert Cahuilla Mitigation Site
- Suckle Mitigation Site
- Long Potrero Mitigation Site
- Lightner Mitigation Site
- Chocolate Canyon Mitigation Site

This Final HMMP addresses one of these mitigation sites: the Chocolate Canyon Mitigation Site. The mitigation, monitoring, and management activities described in this Final HMMP are intended to meet the permit requirements of the Corps, CDFG, and SWRCB, as well as the Corps regulatory requirements for preparation of mitigation plans set forth in 33 CFR 332.4(c). The regulatory requirements contained in 33 CFR 332.4(c), as issued by the Corps in 2008, generally encompass the requirements of mitigation and monitoring plans for all of the resource agencies (Corps 2008b). We have included additional information described in the 2004 Los Angeles District final Mitigation Guidelines and Monitoring Requirements and information required in the forthcoming mitigation guidelines, as feasible.





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Sunrise Powerlink

San Diego/Imperial County,  
California

**Figure 2.**

Overview of Mitigation  
Area Locations

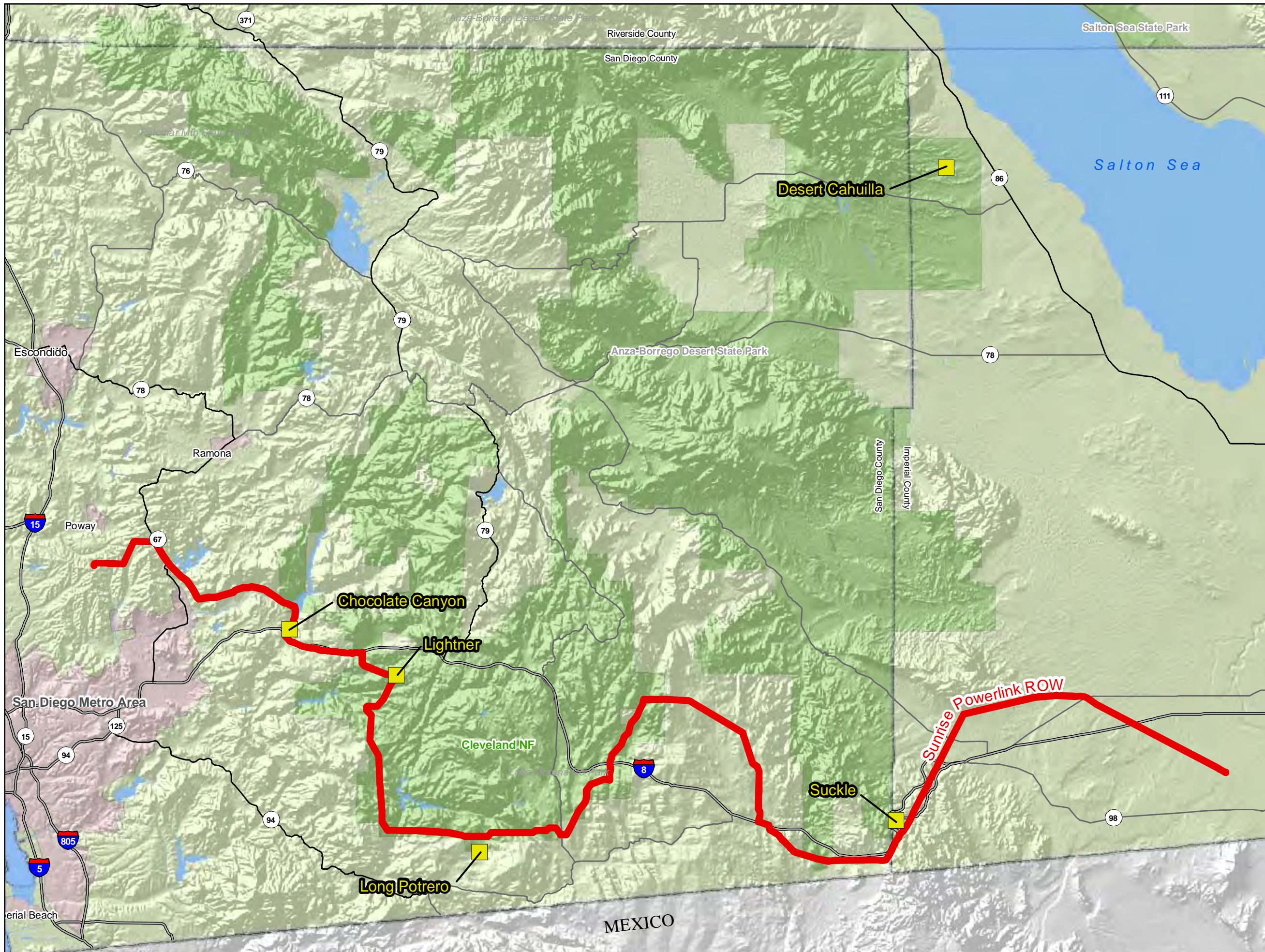
**Legend**

 Mitigation Area



0 5 10  
Miles

Map Date: June 2010  
Map By: Derek Chan  
Base Source: ESRI  
Filepath: L:\Acad 2000 Files\17000\17128-3\GIS\ArcMap\Mitigation\Fig2\_MitigationSites\_20100629.mxd



The 2008 regulations require an HMMP to include:

- *Mitigation Objectives, including resource type, amounts, and methods of compensation (see Section 2.0)*
- *Site Selection, including key factors for providing mitigation at a site (see Section 3.0)*
- *Site Protection Instrument (see Section 4.0)*
- *Baseline Information, including ecological characteristics of impacted and mitigation sites (see Section 5.0)*
- *Determination of Credits, including a description of how the mitigation will provide compensatory mitigation for impacts (see Section 6.0)*
- *Mitigation Work Plan, including detailed descriptions of the work to be performed in implementing mitigation (see Section 7.0)*
- *Maintenance Plan, including maintenance activities to ensure continued viability of the mitigation site (see Section 8.0)*
- *Ecologically based Performance Standards (see Section 9.0)*
- *Monitoring Requirements and Methods (see Section 9.0)*
- *Long-term Management Plan (see Section 10.0)*
- *Adaptive Management Plan (see Section 11.0)*
- *Financial Assurances to ensure project mitigation will be effectively implemented and maintained (see Section 12.0)*

Project impacts were described in the Pre-Construction Notification (PCN) prepared for the Corps, as part of the Lake and Streambed Alteration Agreement (LSAA) Notification Package prepared for the CDFG, as part of the Water Quality Certification Application prepared for the SWRCB, and as modified by subsequent submittals. All permit application documents contain a complete project description. Project modifications have been made throughout the permit process to further reduce environmental impacts, including those to streams, wetlands, and desert dry washes.

## **2.0 MITIGATION GOALS AND OBJECTIVES FOR THE CHOCOLATE CANYON MITIGATION SITE**

The goals of the mitigation activities taking place at the Chocolate Canyon Mitigation Site are to:

- Preserve and manage both uplands and aquatic resources on each of the five properties in perpetuity
- Enhance stream and wetland functions, including buffer and wildlife habitat functions
- Provide the legal structure and funding for long-term management of weeds, trash, vandalism, trespassing and any other human-induced disturbances in perpetuity through a non-wasting endowment

Mitigation activities include preservation and enhancement of 1.36 acres of mountain ephemeral, intermittent, and perennial streams, as well as 10.55 acres of riparian habitat. Activities will also include preservation and enhancement of 1.01 acres of wetland habitat.

Mitigation actions being implemented at the Chocolate Canyon Mitigation Site are defined in the Corps 2008 Mitigation Rule (Corps 2008b) and described below:

- **Preservation:** The permanent protection of ecologically important wetlands or other aquatic resources through the implementation of appropriate legal and physical mechanisms (i.e. conservation easements, title transfers). Preservation may include protection of upland areas adjacent to wetlands as necessary to ensure protection or enhancement of the aquatic ecosystem. Preservation does not result in a net gain of wetland acres and may only be used in certain circumstances, including when the resources to be preserved contribute significantly to the ecological sustainability of the watershed.
- **Enhancement:** Activities conducted within existing wetlands that heighten, intensify, or improve one or more wetland functions. Enhancement is often undertaken for a specific purpose such as to improve water quality, flood water retention or wildlife habitat. Enhancement results in a gain in wetland function, but does not result in a net gain in wetland acres.

## 2.1 Resource Functions of the Mitigation Project

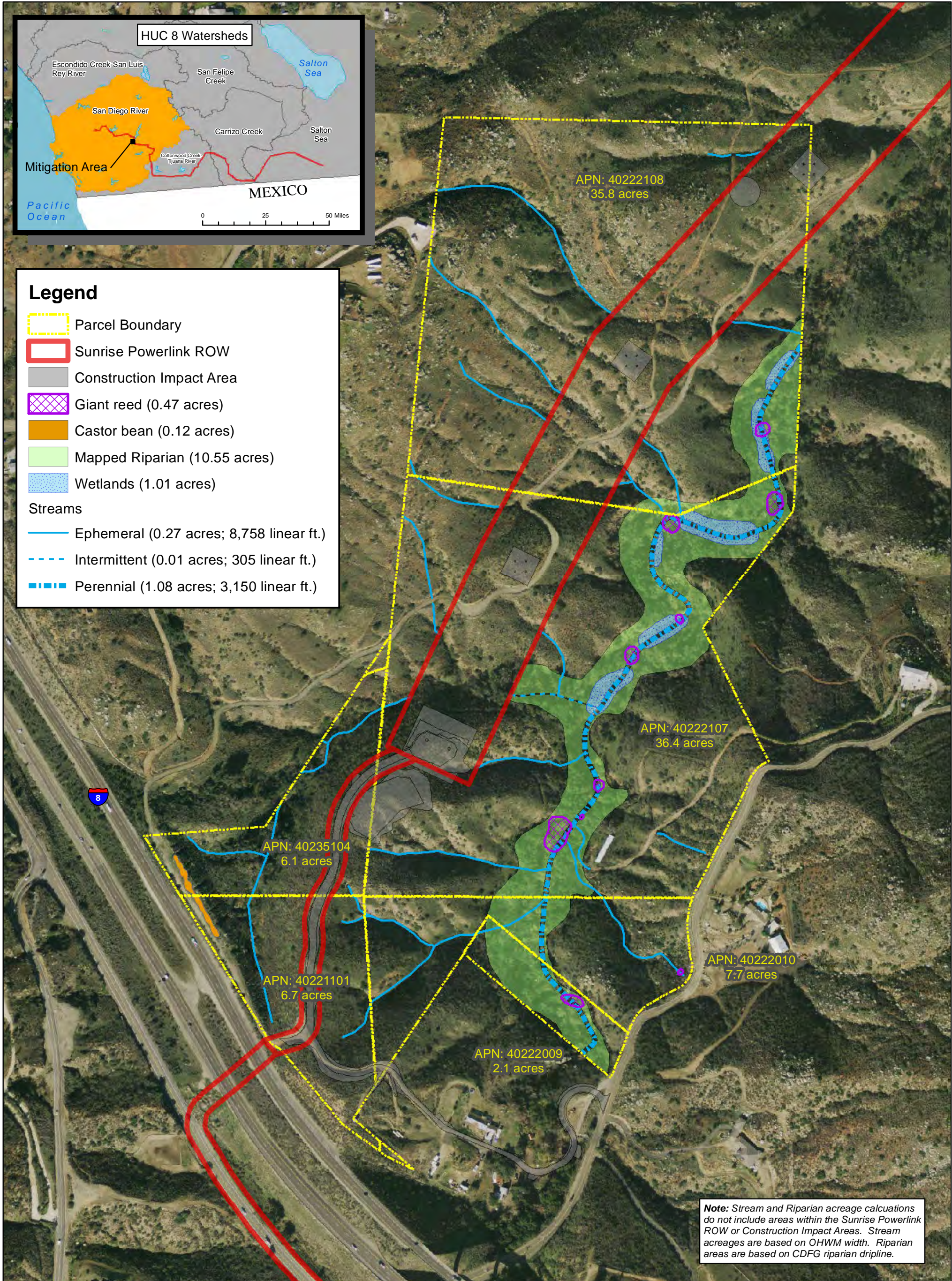
The Chocolate Canyon Mitigation Site supports a mixture of ephemeral, intermittent, and perennial streams along with riparian and wetland habitat (Figure 3). At present, the Chocolate Canyon Mitigation Site could potentially be developed under Multiple Species Conservation Plan (MSCP) regulations. The acquisition of this mitigation site ensures that the headwaters on site are preserved for continued natural resource function and value. Section 3.0 describes the rationale for selecting this site to be included in the SRPL mitigation project, and it includes a description of the mitigation site's watershed context. Section 5.0 provides further discussion of the functions and values of this site based on CRAM evaluations, and projected CRAM scores estimate how these values are expected to change after five years of preservation. An overview of habitat values is also provided in the HAP/HMP (SDG&E 2010).

## 2.2 Basis for Request to Include Preservation as Part of Compensatory Mitigation

The basis for preservation to be included as compensatory mitigation at each mitigation site is based upon requirements from the Corps 2008 Mitigation Rule 332.3(h): (h) Preservation (Corps 2008b):

*(1) Preservation may be used to provide compensatory mitigation for activities authorized by [Corps] permits when all the following criteria are met:*

- The resources to be preserved provide important physical, chemical, or biological functions for the watershed;*
- The resources to be preserved contribute significantly to the ecological sustainability of the watershed. In determining the contribution of those resources to the ecological sustainability of the watershed, the district engineer must use appropriate quantitative assessment tools, where available;*
- Preservation is determined by the district engineer to be appropriate and practicable;*
- The resources are under threat of destruction or adverse modifications; and*



**Figure 3. Existing Conditions at Chocolate Canyon Mitigation Site**

Sunrise Powerlink  
San Diego County, California



0 150 300 600 Feet



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Map Date: November 2010  
Map By: Derek Chan  
Base Source: NAIP, 2005, San Diego County  
Filepath: L:\Acad 2000 Files\17000\17128-3\GIS\ArcMap\Mitigation\ChocolateCanyon\ChocolateCanyon\_Mitigation\_20101119.mxd

- (v) *The preserved site will be permanently protected through an appropriate real estate or other legal instrument (e.g., easement, title transfer to state resource agency or land trust).*

*(2) Where preservation is used to provide compensatory mitigation, to the extent appropriate and practicable the preservation shall be done in conjunction with aquatic resource restoration, establishment, and/or enhancement activities.*

Corps criteria i through v (above) are satisfied by the habitat provided and mitigation activities planned for the Chocolate Canyon Mitigation Site. Specifically, the Chocolate Canyon Mitigation Site:

- (i) Preserves permanent stream, Least Bells Vireo (*Vireo bellii pusillus*) (LBV), and Southwestern Willow Flycatcher (*Empidonax traillii extimus*) (SWFL) habitat. Site supports important watershed that drains to public water drinking supply.
- (ii) Important wildlife corridor as there is an underpass at I-5 at this location that allows for wildlife to pass beneath highway. Excellent LBV habitat along stream corridor.
- (iii) Upon review of all materials, the district engineer will make a final determination regarding the use of this site as potential preservation mitigation credits;
- (iv) Areas could have been developed under MSCP regulations allowing for limited development in open space lands with some set aside. This acquisition will preserve the entire site.
- (v) City of San Diego will likely manage lands to protect as part of MHPA and as watershed lands.

### 3.0 SITE SELECTION

The Chocolate Canyon Mitigation Site was selected due to its connection with adjoining open space, its use as a wildlife corridor, and its location within the watershed. Preservation of this area offers the opportunity to expand an existing MSCP preserve area. The City of San Diego will grant protection of this site as part of Multi-habitat Planning Area (MHPA) and watershed lands and will manage the site. The site originally qualified for developed under MSCP regulations, which would have allowed limited development in open space lands. As part of MHPA, the entire site will be preserved and no development will be permitted. Preservation will include permanent stream, LVB and SWFL habitat. The site also provides an important wildlife corridor, with the nearby underpass at Interstate-8 that allows for wildlife to pass beneath highway.

The mitigation site contains a mixture of ephemeral, intermittent, and perennial streams along with an abundance of freshwater marsh wetlands. Selection of this site would allow for the protection of intermittent and riparian habitats found on the site. Enhancement opportunities are also available with the removal of non-native, invasive plant species such as giant reed (*Arundo donax*) and castor bean (*Ricinus communis*). This in turn will provide habitat improvement for the LBV and SWFL.

### 3.1 Watershed Setting and Context

The Chocolate Canyon Mitigation Site occurs within the Conejos Creek Hydrologic Subarea (HAS) and is surrounded to the west by private lands and the County of San Diego's Chocolate Summit. The northern border of the site is adjacent to the City of San Diego's Cornerstone Lands, which in turn are adjacent to Cleveland National Forest (CNF) and El Capitan Lake. Recreational uses in CNF include target shooting, camping, biking, hiking, designated off-highway vehicle (OHV) areas, and hunting. The southern border runs along the Interstate 8 freeway edge and is adjacent to the community of Harbison Canyon (SDG&E 2010). This mitigation site includes an important part of the watershed that drains to public drinking water supply. Implementation of the proposed mitigation activities at this site would protect and enhance the waters within the watershed, as well as ensure the hydrological and ecological connectivity of the site with its surrounding rural landscape.

Specific information on the Chocolate Canyon Mitigation Site location is listed below in Table 1.

**Table 1. Chocolate Canyon Mitigation Site Location Details**

Mitigation Site Location	Located north of Interstate 8, directly adjacent to the highway off Peutz Valley Road.
Mitigation Site Latitude/Longitude	116° 48' 17" W, 32° 51' 14" N
Name of Watershed and Hydrologic Unit	Conejos Creek HSA (907.31)
Mitigation Site City and County	Alpine, San Diego County

### 3.2 Beneficial Uses Provided

Beneficial uses and water quality objectives are required to be established for all WOS, both surface and ground waters. Beneficial uses of the surface and ground waters of the San Diego Region are discussed in the Water Quality Control Plan for the San Diego Basin 9 (San Diego RWQCB 1994). Beneficial uses for surface waters are designated under section 303 of the CWA (40 CFR 131) and under the Porter-Cologne Act (California Water Code section 13050[f]). The State is required to specify appropriate water uses to be achieved and protected. Definitions and abbreviations for beneficial uses provided by WOS are summarized in Table 2. Waters in the Chocolate Canyon Mitigation Site are part of the Conejos Creek HSA watershed and are considered inland surface waters as defined by the San Diego RWQCB (1994). According to this document:

*Beneficial uses of inland surface waters generally include REC-1 (swimmable) and WARM or COLD. Additionally, inland waters are usually designated as IND, PRO, REC-2, WILD, and are sometimes designated as BIOL and RARE. Inland surface waters that meet the criteria mandated by the Sources of Drinking Water Policy are designated MUN. Unless otherwise designated by the San Diego RWQCB, all inland surface waters in the Region are considered suitable or potentially suitable as a municipal and domestic water supply.*

For the Conejos Creek HSA watershed in which the Chocolate Canyon Mitigation Site occurs, the San Diego RWQCB has designated the following beneficial uses (see Table 3): Municipal and Domestic Supply (MUN), Agricultural Supply (AGR), Industrial Service Supply (IND), Industrial Process Supply (PROC), Hydropower Generation (POW), Warm Freshwater Habitat (WARM), Water Contact Recreation (REC1), Noncontact Water Recreation (REC2), and

Preservation of Biological Habitats of Special Significance (BIOL). The Chocolate Canyon Mitigation Site contains established water bodies along with some lower gradient headwaters within its watershed, and the watershed as a whole provides the above-mentioned beneficial uses.

**Table 2. Definitions for Beneficial Uses of WOS.**

<b>State Recognized Beneficial Uses</b>	<b>Description</b>
Municipal and Domestic Supply (MUN)	Uses of water for community, military, or individual water supply systems, including, but not limited to, drinking water supply.
Agricultural Supply (AGR)	Uses of water for farming, horticulture, or ranching, including, but not limited to, irrigation, stock watering, or support of vegetation for range grazing.
Industrial Service Supply (IND)	Includes uses of water for industrial activities that do not depend primarily on water quality including, but not limited to, mining, cooling water supply, hydraulic conveyance, gravel washing, fire protection, or oil well re-pressurization.
Industrial Process Supply (PROC)	Uses of water for industrial activities that depend primarily on water quality.
Hydropower Generation (POW)	Uses of water for hydropower generation.
Freshwater Replenishment (FRSH)	Uses of water for natural or artificial maintenance of surface water quantity or quality.
Water Contact Recreation (REC1)	Uses of water for recreational activities involving body contact with water where ingestion of water is reasonably possible. These uses include, but are not limited to, swimming, wading, water-skiing, skin and scuba diving, surfing, whitewater activities, fishing, and uses of natural hot springs.
Noncontact Water Recreation (REC2)	Uses of water for recreational activities involving proximity to water, but not normally involving contact with water where water ingestion is reasonably possible. These uses include, but are not limited to, picnicking, sunbathing, hiking, beachcombing, camping, boating, tide pool and marine life study, hunting, sightseeing, or aesthetic enjoyment in conjunction with the above activities.
Preservation of Biological Habitats of Special Significance (BIOL)	Includes uses of water that support designated areas or habitats, such as established refuges, parks, sanctuaries, ecological reserves, or Areas of Special Biological Significance (ASBS), where the preservation or enhancement of natural resources requires special protection.
Wildlife Habitat (WILD)	Uses of waters that support wildlife habitats, including, but not limited to, the preservation and enhancement of vegetation and prey species used by wildlife, such as waterfowl.
Cold Freshwater Habitat (COLD)	Uses of water that support cold water ecosystems, including, but not limited to, preservation or enhancement of aquatic habitats, vegetation, fish, or wildlife, including invertebrates.
Warm Freshwater Habitat (WARM)	Uses of water that support warm water ecosystems including, but not limited to, preservation or enhancement of aquatic habitats, vegetation, fish, or wildlife, including invertebrates.
Aquaculture (AQUA)	Includes the uses of water for aquaculture or mariculture operations including, but not limited to, propagation, cultivation, maintenance, or harvesting of aquatic plants and animals for human consumption or bait purposes.
Inland Saline Water Habitat (SAL)	Includes uses of water that support inland saline water ecosystems including, but not limited to, preservation or enhancement of aquatic saline habitats, vegetation, fish, or wildlife, including invertebrates.
Estuarine Habitat (EST)	Includes uses of water that support estuarine ecosystems including, but not limited to, preservation or enhancement of estuarine habitats, vegetation, fish, shellfish, or wildlife (e.g., estuarine mammals, waterfowl, shorebirds).

**Table 2. Definitions for Beneficial Uses of WOS.**

State Recognized Beneficial Uses	Description
Marine Habitat (MAR)	Includes uses of water that support marine ecosystems including, but not limited to, preservation or enhancement of marine habitats, vegetation such as kelp, fish, shellfish, or wildlife (e.g., marine mammals, shorebirds).
Rare, Threatened, or Endangered Species (RARE)	Includes uses of water that support habitats necessary, at least in part, for the survival and successful maintenance of plant or animal species established under state or federal law as rare, threatened or endangered.
Migration of Aquatic Organisms (MIGR)	Includes uses of water that support habitats necessary for migration, acclimatization between fresh and salt water, or other temporary activities by aquatic organisms, such as anadromous fish.
Spawning, Reproduction, and/or Early Development (SPWN)	Includes uses of water that support high quality aquatic habitats suitable for reproduction and early development of fish. This use is applicable only for the protection of anadromous fish.
Shellfish Harvesting (SHELL)	Includes uses of water that support habitats suitable for the collection of filter-feeding shellfish (e.g., clams, oysters and mussels) for human consumption, commercial, or sport purposes.

One goal of the overall SRPL mitigation program is to compensate for SRPL-related impacts to WOS and their beneficial uses. Beneficial uses of WOS within the Chocolate Canyon Mitigation Site will be preserved and/or enhanced to mitigate a portion of the beneficial uses affected by SRPL project activities; mitigation activities on the other four mitigation sites are intended to compensate for any remaining beneficial uses not provided by the Chocolate Canyon Mitigation Site. All designated beneficial uses of WOS potentially impacted by SRPL activities are summarized in Table 3; however, not all uses listed in Table 3 are necessarily affected by the SRPL Project. Only those that are marked as such have the potential to be affected.



**Table 3. Beneficial Uses of WOS That May Be Affected by the SRPL Project.**

<b>SAN DIEGO REGION INLAND SURFACE WATERS</b>	<b>Hydrologic Unit Basin Number</b>	<b>M U N</b>	<b>A G R</b>	<b>I N D</b>	<b>P R O C</b>	<b>G W R</b>	<b>F R S H</b>	<b>P O W</b>	<b>R E C 1</b>	<b>R E C 2</b>	<b>B I O L</b>	<b>W A R M</b>	<b>C O L D</b>	<b>W I L D</b>	<b>R A R E</b>	<b>S P W N</b>
<b>San Diego River Watershed</b>	907.31	X	X	X	X				X	X		X	X	X		
Conejos Creek 7.31	907.31	X	X	X	X				X	X		X	X	X		
Alpine Creek	907.31	X	X	X	X				X	X		X	X	X		
Chocolate Canyon	907.33	X	X	X	X				X	X		X	X	X		
Chocolate Canyon	907.31	X	X	X	X				X	X		X	X	X		
Sweetwater River	909.31	X	X	X	X				X	X		X	X	X		X
Viejas Creek	909.31	X	X	X	X				X	X		X	X	X		
Viejas Creek	909.33	X	X	X	X				X	X		X	X	X		
Taylor Creek	909.31	X	X	X	X				X	X		X	X	X		
<b>Tijuana Hydrologic Unit</b>	<b>911</b>															
Cottonwood Creek	911.23	+							X	X		X		X		
Dry Valley	911.23	+							X	X		X		X		
Bob Owens Canyon	911.23	+							X	X		X		X		
McAlmond Canyon	911.24	+							X	X		X		X		
McAlmond Canyon	911.23	+							X	X		X		X		
Rattlesnake Canyon	911.23	+							X	X		X		X		
Potrero Creek	911.25	+							X	X		X		X		
Potrero Creek	911.23	+							X	X		X		X		
Bee Creek	911.23	+							X	X		X		X		
Cottonwood Creek	911.30	X	X	X	X		X		X	X		X	X	X	X	X
Hauser Creek	911.30	X	X	X	X		X		X	X		X	X	X	X	X
Pine Valley Creek	911.30	X	X	X	X		X		X	X		X	X	X	X	X
Wilson Creek	911.30															
Pats Canyon	911.30															
La Posta Creek	911.70	X	X	X	X		X		O	X		X	X	X		
Simmons Canyon	911.70	X	X	X	X		X		O	X		X	X	X		
Diablo Canyon	911.84	+														
<b>Reservoirs &amp; Lakes</b>																
El Capitan Reservoir	907.31	X	X	X	X			X <sup>1</sup>	X	X	X	X				
Loveland Reservoir	909.31	X	X	X	X		X	X	X	X	X					
Barrett Lake	911.30	X	X	X	X		X	X	X	X	X	X	X			
San Vicente Reservoir	907.20	X	X	X	X		X	X	X	X	X	X				

COLORADO RIVER BASIN REGION		Water Board Hydrologic Unit Code	MUN	AGUA	FRSH	INDR	GRWR	REEC	RRIM	WARR	COLL	WILL	PLOW	RARE
	Tule Creek	22.71, 22.72	P	X			X	X	X	X		X		
	Unlisted Perennial and Intermittent Streams		P <sup>11</sup>		I <sup>12</sup>	X	I	I	I	I		I		I <sup>13</sup>
	Washes (Ephemeral Streams)				I <sup>12</sup>		I		I	see note 7		I		

**Key:**  
 X = Existing Beneficial Use  
 0 = Potential Beneficial Use  
 I = Intermittent Uses  
 + = Excepted from MUN. The water body has been exempted by the Regional Board from the municipal use designation under the terms and conditions of State Board Resolution No. 88-63, *Sources of Drinking Water Policy*.)

Note 1: Waterbodies are listed multiple times if they cross hydrologic area or sub area boundaries.)  
 Note 2: Beneficial use designations apply to all tributaries to the indicated waterbody, if not listed separately.

**FOOTNOTES:** Footnotes are numbered as found in the Basin Plan.  
 7. Use, if any, to be determined on a case-by-case basis.  
 11. Potential use designations will be determined on a case-by-case basis as necessary in accordance with the "Sources of Drinking Water Policy" in this chapter.  
 12. Applies only to tributaries to Salton Sea.  
 13. Rare, endangered, or threatened wildlife exists in or utilizes some of these waterway(s). If the RARE beneficial use may be affected by a water quality control decision, responsibility for substantiation of the existence of rare, endangered, or threatened species on a case-by-case basis is upon the California Department of Fish and Game on its own initiative and/or at the request of the Regional Board; and such substantiation must be provided within a reasonable time frame as approved by the Regional Board.

#### **4.0 LONG-TERM SITE PROTECTION**

Consistent with the Mitigation and Monitoring, Reporting, and Compliance Program and the BO (USFWS 2010), SDG&E will likely convey the entire Chocolate Canyon Mitigation Site to the City of San Diego or other approved management entity. The timing and approval process is explained in the Conservation Measure of the 2010 BO (G-CM-17) (USFWS 2010), below. The HAP/HMP (SDG&E 2010) provides a description of long-term management of the Chocolate Canyon Mitigation Site after performance standards have been achieved; a summary of these activities is provided in Section 10.0, below. Long-term financing mechanisms are also provided in the HAP/HMP (SDG&E 2010) and in Section 12.0, below.

**G-CM-17:** This conservation measure has been changed to reflect updated information and progress made in acquiring offsite conservation.

*(a) Prior to initiating ground- or vegetation-disturbing project activities, SDG&E will provide and implement the following assurance:*

- *Unless already acquired, SDG&E will provide assurances (e.g., performance bond, letter of credit, or escrow account) to fund the acquisitions listed below in (c).*

*(b) SDG&E will fully fund an endowment for in-perpetuity management of all parcels acquired in (c) within 3 months of the Wildlife Agencies' approval of the final endowment amounts.*

*(c) Unless otherwise authorized by the Wildlife Agencies, no later than 18 months from the date of the revised 2010 biological and conference opinion, SDG&E will acquire and permanently preserve the nine (9) parcels identified in the September 2010 HAP (referenced by name as Nabi, Lakeside Ranch, Hamlet, El Capitan, Chocolate Canyon, Lightner, Long Potrero, Suckle, and Desert Cahuilla) in a manner consistent with the HAP and the following provisions:*

- *The land-owner, land management entity, conservation easement grantee, and endowment fund manager for each property will be approved by the Wildlife Agencies. SDG&E will coordinate efforts with the Wildlife Agencies to identify potential candidates and review their qualifications to hold and manage lands and/or endowment funds. This task will be completed within 6 months of issuance of the 2010 revised biological and conference opinion;*
- *SDG&E will conduct a revised Property Analysis Record (PAR) or PAR-like analysis for each property once the land management entity for individual properties has been identified and approved by the Wildlife Agencies. This revised PAR will be used to determine the final endowment amount SDG&E will provide for in-perpetuity habitat management of each property;*
- *Conservation easement language, or its equivalent where an easement is not allowed by the land manager (State Parks), for all properties will be approved by the Wildlife Agencies prior to easement recordation; and*
- *SDG&E will complete the required acquisition, protection, and transfer of all properties and record the required conservation easements in favor of DFG, or other entity approved by the Wildlife Agencies, no later than 18 months after the start of the ground- or vegetation-disturbing activities.*

## 5.0 BASELINE INFORMATION

### 5.1 Preliminary Jurisdictional Determination and Functional Assessment of Impact Sites

A preliminary jurisdictional determination (PJD) of the extent of wetlands and waters along the SRPL Right-of-Way (ROW) (WRA 2010a) has been approved by the Corps and is included in permit application packages for the Project. The PJD was used during Project planning to avoid unnecessary impacts to WOUS and WOS and to quantify unavoidable impacts to wetlands and waters. Impacts to unvegetated waters included perennial, intermittent, and ephemeral streams. Ephemeral streams were described using two subcategories, including desert dry washes and mountain ephemeral streams. Vegetated wetlands delineated using the Corps 3-parameter approach (Environmental Laboratory 1987) also occur at two impact sites along the margins of intermittent streams.

A functional assessment of 30 impact sites along the SRPL ROW was performed using CRAM methodology, covering both existing conditions and projected post-project conditions. The Conceptual HMMP (WRA 2010b) describes the results of the CRAM functional assessment of impact sites in full detail. Combined average CRAM scores for impacted jurisdictional areas are summarized in Table 4. CRAM scores for existing conditions will be used as baseline data, while CRAM scores for post-project conditions were estimated as a means to predict the effects of impacts to wetland functions and services. An estimate of the reduction in functions and services provided by impacted WOUS and WOS was generated by comparing existing and projected post-project CRAM scores at impacted sites. All assessments of impact sites used the CRAM methodology for riverine wetlands, although ephemeral streams and Corps wetlands were also included in the assessments. Further detail on the assessments and CRAM methodology can be found in the Conceptual HMMP (WRA 2010b). Raw CRAM scores for all impact and mitigation assessment areas (AAs) are presented in Appendix A.

**Table 4. Combined Average CRAM Scores for Existing and Post-Project Conditions at Impact Sites along the SRPL ROW.**

CRAM Index and Attributes	Existing (Baseline) Mean Scores	Projected Post-Project Mean Scores	Decrease Between Existing and Projected Post-Project Conditions (percentage points)
Overall Index Score	72.3%	69.3%	3.0
Landscape Context	93.4%	89.0%	4.4
Hydrology	88.6%	82.8%	5.8
Physical Structure	47.5%	46.3%	1.2
Biotic Structure	59.7%	59.3%	0.4

As outlined in the Conceptual HMMP (WRA 2010b), the combined average CRAM score of representative impact sites for SRPL is expected to decrease by an average of 3 percentage points from project implementation. This represents the average decrease in functions and services resulting from impacts to WOUS and WOS from the Project. The CRAM score for the one perennial stream within the ROW is not expected to measurably decrease. The majority of individual projected impacts would result from aggradation/degradation of stream channels and degradation of wetland buffer areas.

While impacts to Buffer Condition and Channel Stability are likely to be common among desert dry wash and mountain ephemeral impact locations, these combined stream categories saw a decline of less than 2 percentage points in overall projected CRAM scores. The largest decline

in CRAM score came from one intermittent stream on the Lightner Mitigation Site where the Suncrest Substation is proposed, causing a loss of both stream channel and adjacent riparian habitat. The drop in overall CRAM score of 38.7 percentage points for this AA (accounting for the majority of an 11.6-point drop for all intermittent streams combined) is the most substantial single impact of the SRPL project as reflected in projected CRAM scores. Enhancement activities at the Chocolate Canyon Mitigation Site, in combination with mitigation at other sites included in the overall mitigation package, are intended to offset these impacts to functions and services.

## 5.2 Baseline Condition and CRAM Assessment of the Chocolate Canyon Mitigation Site

The Chocolate Canyon Mitigation Site is approximately 75 acres and is comprised of six parcels. It is located within the southern portion of the San Diego River Watershed (Figure 4), north of Interstate 8, directly adjacent to the highway off Peutz Valley Road in San Diego County, California. The northern and eastern boundaries of the site are surrounded by mountainous terrain, and urban sprawl occurs to the west (upstream). This site ranges from 900 to 1,290 feet NGVD (National Geodetic Vertical Datum) in elevation.

There are a total of six freshwater wetlands and 21 total streams. Of these 21 streams, 19 are ephemeral, one is intermittent, and one is perennial (Table 5, Figure 3).

**Table 5. Jurisdictional areas at Chocolate Canyon**

	Area (acres)	Length (linear Feet)
<b>Ephemeral Streams</b>	0.27	8,758
<b>Intermittent Streams</b>	0.01	305
<b>Perennial Streams</b>	1.08	3,150
<b>Freshwater Marsh</b>	1.01	-
<b>TOTAL:</b>	2.37	12,213

Soils: The dominant soil type mapped for this mitigation site is listed as Cienba-Fallbrook rocky sandy loams, 30 to 65 percent slopes, eroded. A small portion of the northeastern section of the site is mapped as Cienba coarse sandy loam, 30 to 65 percent slopes, eroded. The soils are well to excessively drained and range from medium to very rapid runoff (USDA 2010a). Neither soil series appears on the San Diego County hydric soils list (USDA 2010b).

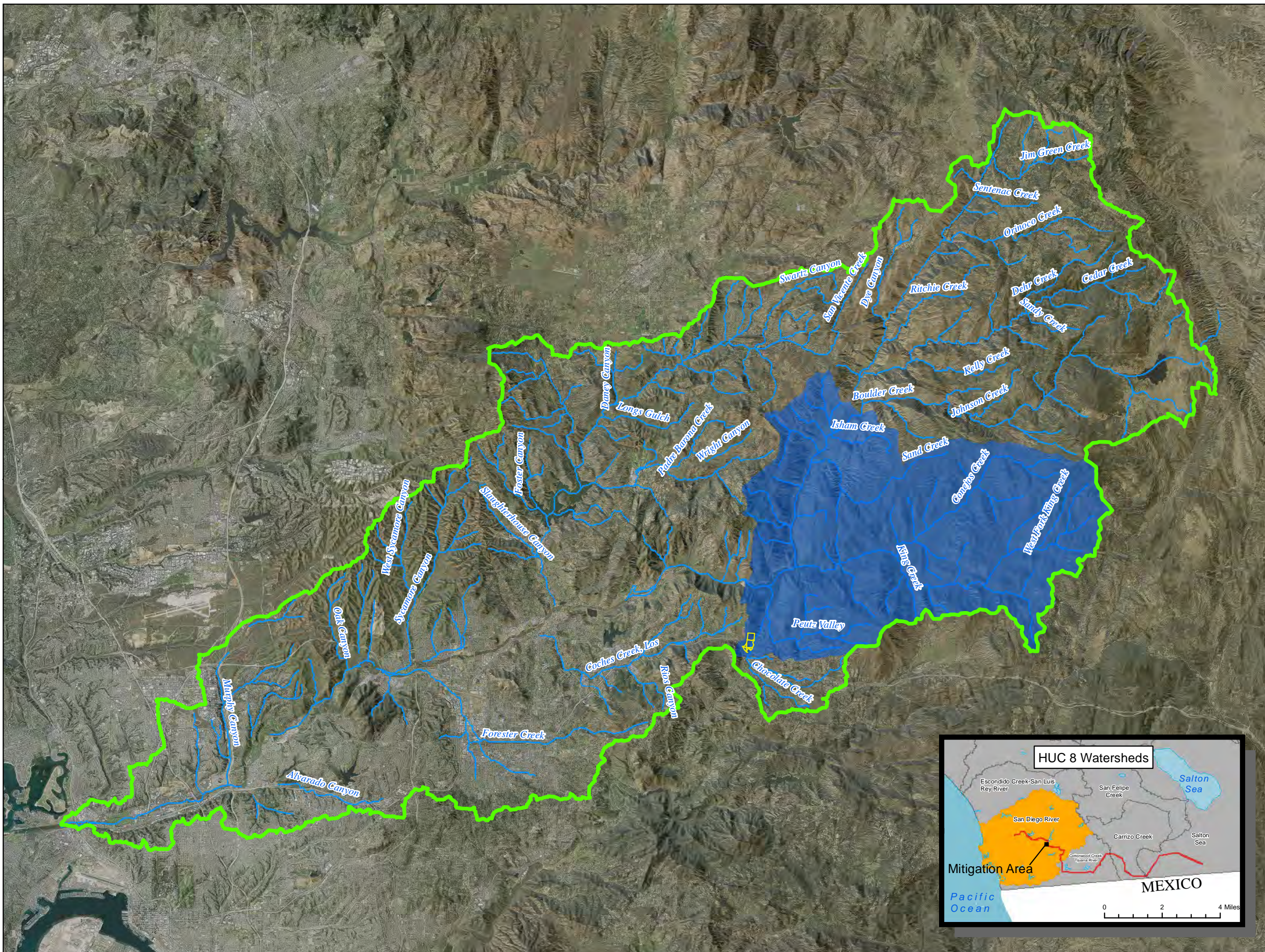
Vegetation: The dominant vegetation community within this site is Diegan coastal sage scrub except in riparian areas adjacent to intermittent and perennial streams and where freshwater marshes were mapped. Dominant plant species observed within this community include California buckwheat (*Eriogonum fasciculatum*), laurel sumac (*Malosma laurina*), along with various brome (*Bromus* spp.) species throughout. Riparian areas adjacent to the intermittent and perennial stream are characterized as southern coast live oak riparian forest with the presence of coast live oak (*Quercus agrifolia*), willow species (*Salix* spp.), and western sycamores (*Platanus racemosa*). High densities of poison oak (*Toxicodendron diversilobum*) were also observed along both intermittent and perennial stream banks while moderate densities of California grape (*Vitis californica*) were found only along perennial stream banks. Freshwater marshes occurred along the stream channel of the main perennial stream. Dominant vegetation observed in these marshes include California blackberry (*Rubus ursinus*),

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**Figure 4.**

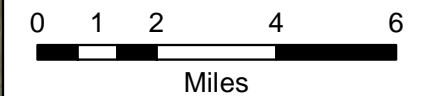
Chocolate Canyon  
Mitigation Site:

Watersheds



**Legend**

-  Parcel Boundary
-  San Diego River Watershed
-  Conejos Creek Watershed (HUC 12)
-  USGS Blueline Streams



Map Date: September 2010  
Map By: Derek Chan  
Base Source: San Diego County photo

Douglas mugwort (*Artemisia douglasiana*), and common three square (*Schoenoplectus pungens*). Several large patches of the invasive giant reed were observed along the perennial stream channel and a few individual stands of castor bean were found along the main access road in the southwestern section of the mitigation site.

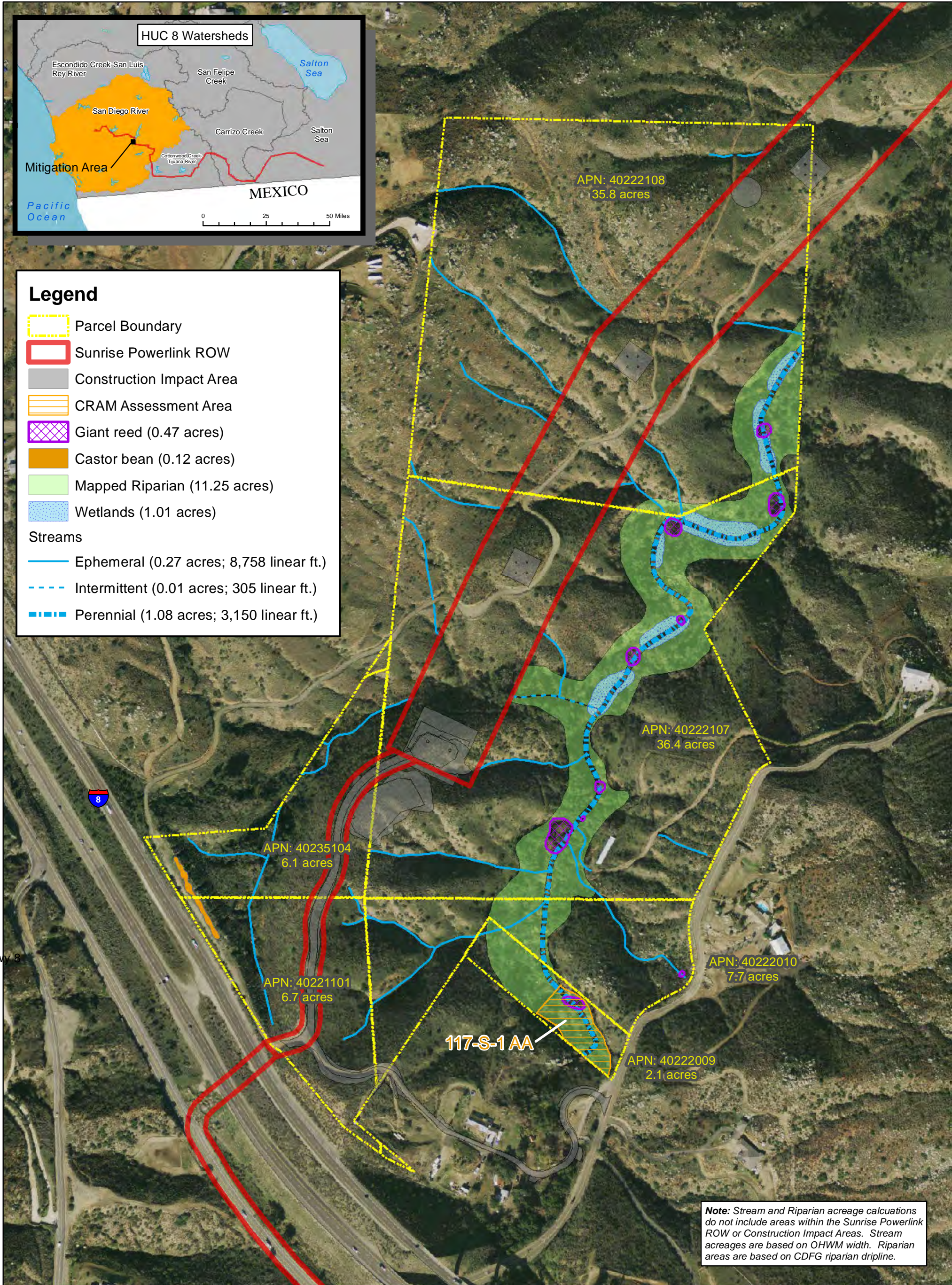
Hydrology: Precipitation and resulting runoff from adjacent lands are the main sources of hydrology for the ephemeral and intermittent streams which then flow into the main perennial stream, Chocolate Canyon Creek. Stream flow from Chocolate Canyon Creek then travels downstream into the El Capitan Reservoir. Average precipitation for this region is approximately 18.6 inches of rain per year (USDA 2010c). Access roads appear to have altered the natural hydrology by bisecting a small portion of the ephemeral streams onsite. The hydrology for this and the intermittent stream appear to remain in their natural state downstream of a small bridge that occurs in the upstream portion of the mitigation site. Upstream of the mitigation site, an approximately 198-foot culvert carries flow underneath Interstate-8.

### 5.2.1 Baseline CRAM Functional Assessment of the Chocolate Canyon Mitigation Site

Functional assessments were performed at four of the five proposed mitigation sites for SRPL using CRAM methodology, covering both existing conditions and projected conditions following the implementation of mitigation activities. The assessments provide scores which quantify the existing condition and functional value of streams and wetlands being used as mitigation for impacts to WOUS and WOS along the SRPL ROW. The seven total mitigation CRAM assessments are representative of all proposed mitigation activities for the SRPL project, and also provide insight on conditions at proposed mitigation sites where activities other than preservation will take place. One of the seven representative CRAM assessments was performed on the Chocolate Canyon Mitigation Site. This assessment was conducted in June 2010.

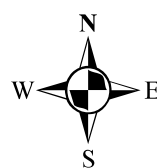
Only the perennial stream at the Chocolate Canyon Mitigation Site was used as a representative AA, although other streams and wetlands are present at the site (Figure 5). This decision was based on possible limitations of CRAM methodology in certain aquatic systems. As described in the CRAM Technical Bulletin (CWMW 2009), seasonal wetlands and headwater streams often have naturally lower complexity [than higher-order streams or perennial wetlands] and may inherently produce lower scores under the current CRAM methodology. Or, as described in the CRAM User's Manual (Collins *et al.* 2008), there may be a limit to the applicability of CRAM in low order (i.e., headwater) streams in very arid environments that tend not to support species-rich plant communities with complex horizontal and vertical structure. The decision to assess only the perennial stream was made in conjunction with staff from the Corps.

The perennial stream at the Chocolate Canyon Mitigation Site was assessed as both an impact AA and a mitigation AA, because both SRPL Project activity and mitigation activities are proposed for this area. The stream, labeled 117-S-1, is located near the SRPL ROW, and a bridge over the stream will be re-built to accommodate heavy construction equipment. However, this work will have little impact on the stream itself, and it is not expected to cause a noticeable change in CRAM metric scores. Thus, while 117-S-1 is considered an impact site, its CRAM scores were unchanged between existing conditions and projected post-project conditions (not including mitigation activities). Existing condition scores are summarized below, while projected post-project conditions (including mitigation activities) are discussed in Section 5.2.2. Stream 117-S-1 had an overall CRAM score of 81.0 percent under existing conditions.



**Figure 5. CRAM Assessment Areas within the Chocolate Canyon Mitigation Site**

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0 150 300 600 Feet



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Map Date: November 2010  
Map By: Derek Chan  
Base Source: NAIP, 2005, San Diego County  
Filepath: L:\Acad 2000 Files\17000\17128-3\GIS\ArcMap\CRAM ChocolateCanyon\_CRAM\_20101117.mxd



### *Buffer & Landscape Context*

Stream 117-S-1 scored a 55.8 percent for the Buffer & Landscape Context attribute. The stream passes through a 198-foot culvert upstream of the AA. This unnatural disruption of the riparian corridor caused the AA to receive a score of “D” for the Landscape Connectivity metric, contributing to the relatively low attribute score. The AA received a “B” for the Buffer Condition submetric due to the presence of nonnative plants and limited soil disturbance in the buffer area. The AA received an “A” for the remaining submetrics.

### *Hydrology*

Stream 117-S-1 scored an 83.3 percent for the Hydrology attribute. The AA received a “B” for the Water Source metric due to limited development in the upstream area, and a “B” for Channel Stability due to minor signs of aggradation and degradation. The AA received an “A” for Hydrologic Connectivity due to a favorable entrenchment ratio.

### *Physical Structure*

Stream 117-S-1 scored an 87.5 percent for the Physical Structure attribute. The AA received a “B” for topographic complexity, due to the presence of two benches with limited microtopography. The AA received an “A” for Structural Patch Richness.

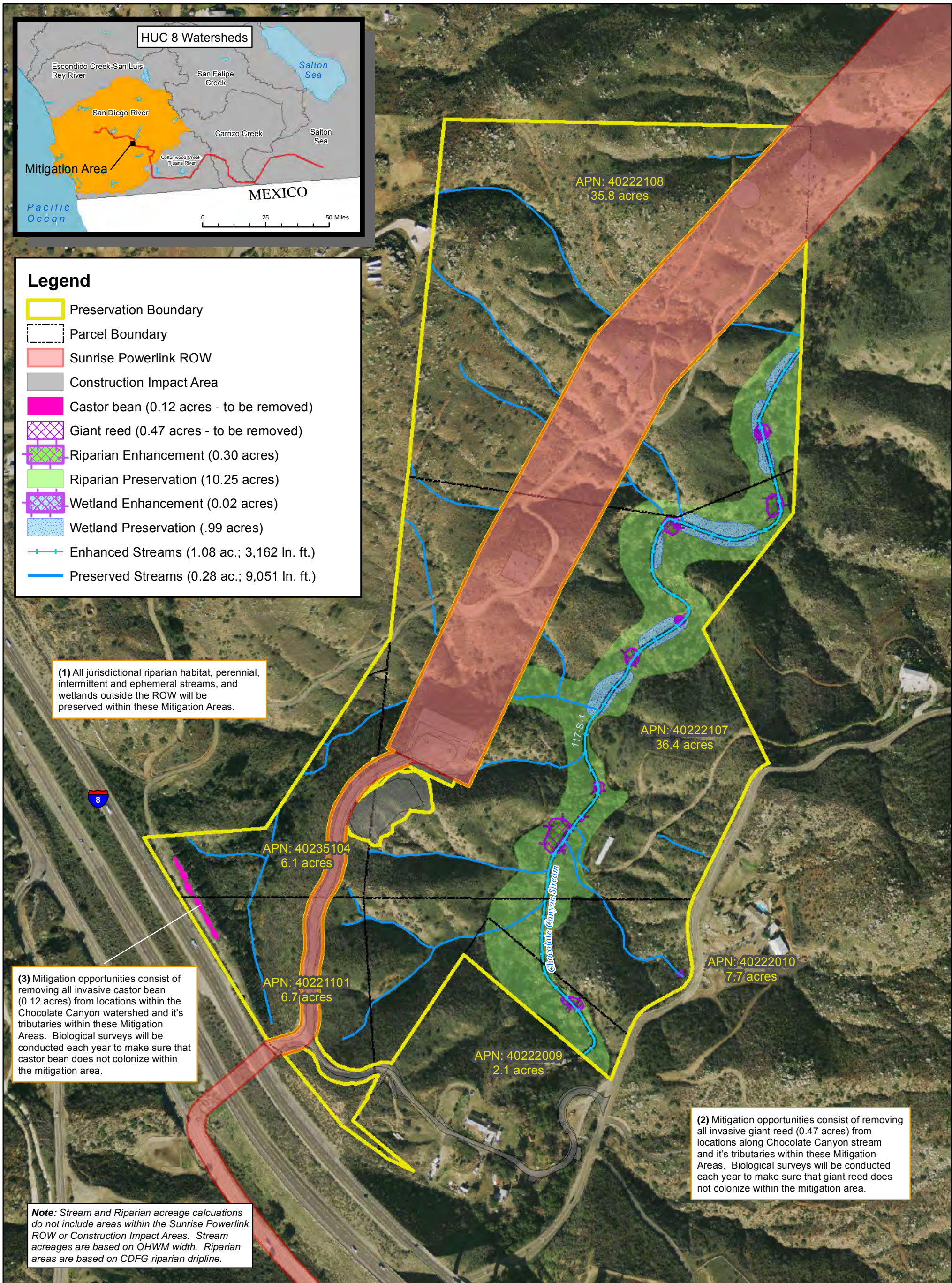
### *Biotic Structure*

Stream 117-S-1 scored a 97.2 percent for the Biotic Structure attribute. This AA received a “B” for the Percent Invasion submetric due to the presence of invasive giant reed and annual grass. However, a well-developed riparian community surrounds stream 117-S-1. These favorable conditions within the AA allowed a score of “A” for all other Biotic Structure metrics and submetrics.

## *5.2.2 Projected CRAM Scores Following Mitigation Implementation at the Chocolate Canyon Mitigation Site*

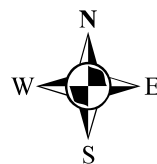
Using proposed mitigation plans and data collected at mitigation sites for the SRPL project, CRAM was used to predict how these sites may improve following mitigation activities. These projected scores are based on conditions anticipated approximately 5 years after project implementation, as not all benefits of mitigation actions may be evident immediately upon completion.

Proposed mitigation at the Chocolate Canyon Mitigation Site includes stream, wetland, and riparian enhancement through removal of invasive plant species (Figure 6). This proposed activity is expected to improve the Biotic Structure attribute for stream 117-S-1 along with adjacent wetland and riparian areas. The score for the Percent Invasion submetric is expected to improve from a “B” to an “A” following mitigation implementation. This improvement would allow the Biotic Structure attribute score to improve from a 97.2 percent to a 100.0 percent. Implementation of mitigation is not expected to result in changes to any other CRAM attributes. However, the improvement in Biotic Structure would cause the overall CRAM score for 117-S-1 to improve from an 81.0 percent to an 81.7 percent.



**Figure 6. Mitigation Activities at Chocolate Canyon Mitigation Site**

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San Diego County, California



0 150 300 600 Feet



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Map Date: November 2010  
Map By: Derek Chan  
Base Source: NAIP, 2005, San Diego County  
Filepath: L:\Acad 2000 Files\17000\17128-3\GIS\ArcMap\Mitigation\ChocolateCanyon\ChocolateCanyon\_Mitigation\_20101117.mxd

5.3.3 *Conclusions of CRAM Functional Assessment for Mitigation at the Chocolate Canyon Mitigation Site*

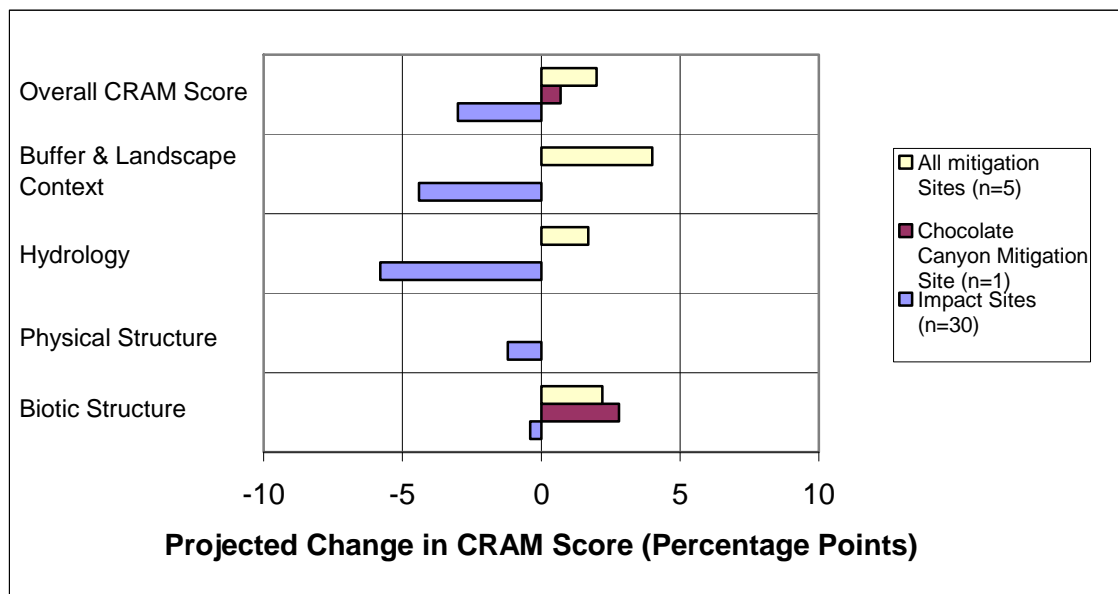
Comparing existing CRAM scores to projected scores, it is possible to consider the nature and magnitude of likely improvements to functional capacity at the Chocolate Canyon mitigation sites. CRAM scores for the Chocolate Canyon Mitigation Site are summarized in Table 6. Raw CRAM scores are presented in Appendix A, and further information on the CRAM assessments can be found in Appendix B of the Conceptual HMMP (WRA 2010b).

**Table 6. Average CRAM Attribute and Overall Scores for Proposed Mitigation Sites at the Chocolate Canyon Mitigation Site.**

CRAM Index and Attributes	Existing (Baseline) Mean Scores	Projected Post-Project Mean Scores	Projected Increase Following Mitigation Implementation (percentage points)
Overall Index Score	81.0%	81.7%	0.7
Buffer & Landscape Context	55.8%	55.8%	0
Hydrology	83.3%	83.3%	0
Physical Structure	87.5%	87.5%	0
Biotic Structure	97.2%	100.0%	2.8

All CRAM attributes at impact sites had some level of decrease as a result of the SRPL project (Table 4). Mitigation actions at the Chocolate Canyon Mitigation Site should allow improvements in the area of Biotic Structure that are apparent at Stream 117-S-1 within 5 years of mitigation implementation. As seen in Figure 7, stream mitigation actions on the Chocolate Canyon Mitigation Site will contribute to improvements in at least one area of stream impact along the ROW.

**Figure 7. Projected Average Changes in CRAM Score at Stream Impact Sites and Stream Mitigation Sites 5 Years after Mitigation Implementation**



The proposed removal of invasive vegetation in stream, wetland, and riparian areas at the Chocolate Canyon Mitigation Site is projected to result in improvements to the condition of these

areas as reflected in CRAM scores. This improvement in wetland condition would be beneficial to surrounding habitats and downstream areas by eliminating a possible source for the spread of problematic invasive species including giant reed and castor bean. Thus, mitigation actions that enhance this area of wetland function also enhance the habitat value of both the Chocolate Canyon Mitigation Site and the Conejos Creek watershed.

In conclusion, CRAM provides a basis for comparing impacts along the SRPL ROW to proposed mitigation actions. Proposed mitigation actions at the Chocolate Canyon Mitigation Site will contribute to the overall mitigation package to compensate for the areas of functionality that are impaired by the SRPL project. These mitigation actions taking place at the Chocolate Canyon Mitigation Site, in combination with other mitigation sites, demonstrate more than adequate compensation for impacts to jurisdictional areas occurring as a result of the SRPL project.

## 6.0 DETERMINATION OF CREDITS

The Chocolate Canyon Mitigation Site contains several habitat types which will contribute to the overall mitigation acreage contained in the five mitigation properties. Within this site, compensation for permanent impacts to ephemeral and intermittent streams, wetlands, and riparian habitat will be provided. Mitigation acreages and credits are discussed in more detail in the following sections.

### 6.1 Mitigation Credits within the Chocolate Canyon Mitigation Site

The Chocolate Canyon Mitigation Site provides 31 percent of the total SRPL mitigation acreage for perennial, intermittent and ephemeral streams, 5 percent of the project mitigation for wetlands, and 22 percent of the project mitigation for riparian habitat. Additional credits for these habitat types are provided by the Long Potrero, Lightner, and Suckle mitigation sites. A summary of mitigation acres provided by the Chocolate Canyon Mitigation Site is presented in Table 7 below. A summary of collective mitigation acres provided by the entire mitigation program at all five sites is presented in Section 6.2.

**Table 7. Summary of SRPL Aquatic Resource Mitigation at the Chocolate Canyon Mitigation Site**

Site	Resource Type	Mitigation Area [acres; linear feet for streams]		
		Preservation	Enhancement	Total
Chocolate Canyon Mitigation Site	Perennial, Intermittent and Ephemeral Streams	0.28 (9,051)	1.08 (3,162)	1.36 (12,213)
	Wetlands	0.99	0.02	1.01
	Riparian	10.25	0.30	10.55
<b>Totals</b>		<b>11.52</b>	<b>1.4</b>	<b>12.92</b>

### 6.2 Summary of Mitigation Credits for Entire Mitigation Program at all Sites

A summary of total mitigation for permanent and temporary impacts for each resource type is detailed in Table 8 for WOUS and in Table 9 for WOS. In addition, a summary of mitigation

activities at each mitigation site for the SRPL project is contained in Table 10. On an acreage basis, the SRPL project provides more than adequate mitigation to compensate for unavoidable permanent impacts to jurisdictional areas. In addition, enhancement and restoration activities at four of the five mitigation sites will increase the functions and services provided by jurisdictional areas at the mitigation sites. Cumulatively, this provides ample mitigation to compensate for reduced functions and services in temporarily and permanently impacted jurisdictional areas.

Proposed mitigation activities for SRPL will provide improvements in the same areas of functional capacity that are likely to be impacted by the Project. Overall, the average projected decrease of 3 CRAM percentage points at stream impact sites will be offset by an average increase of 2 percentage points at stream mitigation sites at the end of the 5-year monitoring period, together with restoration, enhancement, and preservation of these areas at a cumulative 35:1 ratio by acreage for permanent impacts and 2:1 ratio for temporary impacts. CRAM scores for the Physical Structure and Biotic Structure attributes are likely to increase as the habitat areas develop over the long-term, thus raising average overall CRAM scores further than are indicated herein for the term of the 5-year monitoring program.

Projected CRAM data at mitigation sites is intended to serve as a guide for comparison of mitigation and impacts, and should not be directly applied to mitigation ratios. The results of multiplying CRAM score by any dimension of size, such as wetland area, length, or perimeter, might distort the scaling of some metrics, weight the values of other metrics in unintended ways, and thus lead to erroneous results (CWMW 2009). Furthermore, areas of habitat preservation were not included in the CRAM analyses, but are valuable in maintaining the overall condition of their watersheds and protecting the mitigation jurisdictional features from negative external stressors such as edge effects.

**Table 8. Summary of Total Mitigation for Permanent and Temporary Impacts per Resource Type (based on Ordinary High Water Mark [OHWM])**

Resource Type	Temporary Impacts		On-Site Mitigation (acres)	Permanent Impacts Impact (acres)	Offsite Mitigation (acres)			TOTAL MITIGATION (acres)
	Impact (acres)	Mitigation Ratio			Preservation	Enhancement	Restoration	
Desert Dry Washes	6.53	1:1	6.53	2.45	84.13 (DC)	(DC)	(DC)	<b>98.13</b>
					3.43 (S)	4.04 (S)	(S)	
					(LP)	(LP)	(LP)	
					(L)	(L)	(L)	
					(CC)	(CC)	(CC)	
<b>Subtotal</b>					<b>87.56</b>	<b>4.04</b>	<b>-</b>	
Other Streams	0.55	1:1	0.55	0.35	(DC)	(DC)	(DC)	<b>4.94</b>
					(S)	(S)	(S)	
					1.39 (LP)	0.96 (LP)	(LP)	
					0.55 (L)	0.09 (L)	0.04 (L)	
					0.28 (CC)	1.08 (CC)	(CC)	
<b>Subtotal</b>					<b>2.21</b>	<b>2.14</b>	<b>0.04</b>	
Wetlands	0	2:1	0	0.08	(DC)	(DC)	(DC)	<b>18.63</b>
					(S)	0.88 (S)	(S)	
					9.92 (LP)	5.99 (LP)	(LP)	
					0.20 (L)	0.63 (L)	(L)	
					0.99 (CC)	0.02 (CC)	(CC)	
<b>Subtotal</b>					<b>11.11</b>	<b>7.52</b>	<b>-</b>	

Abbreviations for Mitigation Sites:

DC= Desert Cahuilla Mitigation Site

S= Suckle Mitigation Site

LP= Long Potrero Mitigation Site

L= Lightner Mitigation Site

CC= Chocolate Canyon Mitigation Site

**Table 9. Summary of Total Mitigation for Permanent and Temporary Impacts per Resource Type (based on Top of Bank [TOB])**

Resource Type	Temporary Impacts		On-Site Mitigation (acres)	Permanent Impacts Impact (acres)	Offsite Mitigation (acres)			TOTAL MITIGATION (Onsite and Offsite acres)
	Impact (acres)	Ratio			Preservation	Enhancement	Restoration	
Desert Dry Washes	7.30	1:1	7.22	2.72	84.13 (DC)	(DC)	(DC)	<b>98.90</b>
					3.43 (S)	4.04 (S)	(S)	
					(LP)	(LP)	(LP)	
					(L)	(L)	(L)	
					(CC)	(CC)	(CC)	
<b>Subtotal</b>				<b>87.56</b>	<b>4.04</b>	<b>-</b>		
Streams with No Riparian Vegetation	0.91	1:1	0.97	0.37	(DC)	(DC)	(DC)	<b>5.30</b>
					(S)	(S)	(S)	
					1.39 (LP)	0.96 (LP)	(LP)	
					0.55 (L)	0.09 (L)	0.04 (L)	
					0.28 (CC)	1.08 (CC)	(CC)	
<b>Subtotal</b>				<b>2.21</b>	<b>2.14</b>	<b>0.04</b>		
Streams with Riparian Vegetation <sup>1</sup>	0	2:1 or 3:1	0.02 or 0.03	2.34	(DC)	(DC)	(DC)	<b>47.01</b>
					(S)	(S)	(S)	
					12.62 (LP)	3.95 (LP)	(LP)	
					15.83 (L)	0.63 (L)	3.43 (L)	
					10.25 (CC)	0.30 (CC)	(CC)	
<b>Subtotal</b>				<b>38.70</b>	<b>4.88</b>	<b>3.43</b>		
Wetlands	0	2:1	0	0.08	(DC)	(DC)	(DC)	<b>18.63</b>
					(S)	0.88 (S)	(S)	
					9.92 (LP)	5.99 (LP)	(LP)	
					0.20 (L)	0.63 (L)	(L)	
					0.99 (CC)	0.02 (CC)	(CC)	
<b>Subtotal</b>				<b>11.11</b>	<b>7.52</b>	<b>-</b>		

Abbreviations for Mitigation Sites:

- DC= Desert Cahuilla Mitigation Site
- S= Suckle Mitigation Site
- LP= Long Potrero Mitigation Site
- L= Lightner Mitigation Site
- CC= Chocolate Canyon Mitigation Site

<sup>1</sup> Mitigation acreages for SRV's are referred to on figures and in text as "Riparian Habitat" preservation, enhancement, and restoration.

**Table 10. Summary of SRPL Aquatic Resource Mitigation**

Site	Resource Type	Mitigation Area [acres; linear feet for streams]			
		Preservation	Enhancement	Restoration	Total
Desert Cahuilla	Desert Dry Washes	84.13 (24,400)			84.13 (24,400)
	Streams				
	Wetlands				
	Riparian				
Suckle	Desert Dry Washes	3.43 (7,000)	4.04 (4,200)		7.47 (11,200)
	Streams				
	Wetlands	0.48	0.40		0.88
	Riparian				
Lightner	Desert Dry Washes				
	Intermittent and Ephemeral Streams	0.55 (17,117)	0.09 (2,751)	0.04 (1,117)	0.68 (20,985)
	Wetlands	0.20	0.63		0.83
	Riparian	15.83	0.63	3.43	19.89
Long Potrero	Desert Dry Washes				
	Intermittent and Ephemeral Streams	1.39 (16,857)	0.96 (6,054)		2.35 (22,911)
	Wetlands	9.92	5.99		15.91
	Riparian	12.62	3.95		16.57
Chocolate Canyon	Desert Dry Washes				
	Perennial and Intermittent Streams	0.28 (9,051)	1.08 (3,162)		1.36 (12,213)
	Wetlands	0.99	0.02		1.01
	Riparian	10.25	0.30		10.55
<b>Totals</b>	<b>Desert Dry Washes</b>	<b>87.56</b>	<b>4.04</b>		<b>91.60</b>
	<b>Streams</b>	<b>2.22 (43,025)</b>	<b>2.13 (11,967)</b>	<b>0.04 (1,117)</b>	<b>4.39 (56,109)</b>
	<b>Wetland</b>	<b>11.11</b>	<b>7.52</b>		<b>18.63</b>
	<b>Riparian</b>	<b>38.70</b>	<b>4.88</b>	<b>3.43</b>	<b>47.01</b>



## 7.0 MITIGATION WORK PLAN

This section of the Final HMMP is divided into two parts. The first part provides a description of mitigation implemented for this mitigation site, with maps and tables showing acreages and locations of mitigation within the site. The second section describes implementation methods for general mitigation activities that will be performed at the mitigation site. These activities are generic in nature and will be referenced in appropriate sections where applicable.

### 7.1 Activities Planned at the Mitigation Site

Preservation and enhancement activities planned for this mitigation site are described in the following sections. Details regarding site preparation and Best Management Practices (BMPs) used throughout all of the mitigation sites are described in Section 7.2. Mitigation for the loss of stream, wetland, and riparian habitat functions and services within project impact areas will occur on this site.

The following section describes the mitigation at the Chocolate Canyon Mitigation Site (Figure 6). Mitigation at Chocolate Canyon includes:

- Preservation of streams, wetlands, and riparian habitat
- Enhancement of streams, wetlands, and riparian habitat through removal of non-native, invasive plant species

Mitigation acreage within the Chocolate Canyon Mitigation Site is listed in Table 11 below. Mitigation activities planned for Chocolate Canyon are shown in Figure 8, and described further in the text below.

**Table 11. Summary of Mitigation Activity at the Chocolate Canyon Mitigation Site**

Mitigation Action	Area (acres)	Length (linear feet)
<b>Streams</b>		
Stream Preservation	0.28	9,051
Stream Enhancement and Preservation	1.08	3,162
<b>Streams Total</b>	<b>1.36</b>	<b>12,213</b>
<b>Wetlands</b>		
Wetland Preservation	0.99	NA
Wetland Enhancement and Preservation	0.02	NA
<b>Wetlands Total</b>	<b>1.01</b>	<b>NA</b>
<b>Riparian</b>		
Riparian Preservation	10.25	NA
Riparian Enhancement	0.30	NA
<b>Riparian Total</b>	<b>10.55</b>	<b>NA</b>

#### 7.1.1 Preservation

A total of 0.99 acre of wetlands, 0.28 acre of ephemeral, intermittent, and perennial streams along with 10.25 acres of riparian habitat within the Chocolate Canyon Mitigation Site will be preserved through this mitigation action. Land use restrictions and long-term financing

mechanisms will ensure that these waters and their surrounding habitats are preserved in perpetuity.

### 7.1.2 Enhancement

#### Non-native, Invasive Plant Species Removal

Non-native, invasive plant species, or weeds, will be removed from the Chocolate Canyon Mitigation Site, as feasible, within the stream channel and in the 40-foot buffer area extending laterally from the edges of stream channels, wetlands, and ponds. Giant reed and castor bean have been observed on the site, and are targets for removal, due to their ability to invade and replace native plant communities and diminish wildlife habitat (Table 12). In general, non-native, invasive plant species within the bed and banks of the channel are limited to castor bean, which is located at the top of the watershed in an upland area and giant reed, which is located within the stream channel. The rest of the canyon is primarily vegetated with dense chaparral with no significant areas with dense weeds outside of roadside disturbed areas. In addition, the canyon walls on either side of the stream channel are very steep and access in and out of the stream bed is extremely difficult. As a result of site conditions, including the limited distribution of weed species and the difficult topography, the 40-foot weed control buffer was established as a balance between effective weed control and the practical limitations of the site.

**Table 12. Non-native, Invasive Plant Species to be Controlled and the Method of Control for the Chocolate Canyon Mitigation Site**

<b>Botanical Name</b>	<b>Common Name</b>	<b>Method of Control</b>
<i>Arundo donax</i>	giant reed	Giant Reed Removal Protocol
<i>Ricinus communis</i>	castor bean	Hand/Mechanical Removal, Herbicide

Giant reed infestations will be removed from the main Chocolate Canyon perennial stream (Figure 6). At Mitigation Area 3, castor bean will be removed by hand. Methods used for removal of giant reed and castor bean are described in Section 7.2.1.

#### Sequence and Timing

Mitigation will be implemented concurrent with project impacts to jurisdictional areas within San Diego County and will not result in a temporal loss of functions and values at this location.

## 7.2 General Mitigation Implementation Methods and BMPs

This section describes general methods for implementation of mitigation activities that would occur throughout all of the mitigation sites. These activities include site preparation, weed removal, planting, and erosion control BMPs that would be implemented as applicable to a given site. In addition, all mitigation activities will avoid impacts to nesting birds and will follow the breeding season dates listed in the SRPL Final Environmental Impact Report/Environmental Impact Statement (EIR/EIS) (Aspen Environmental Group 2008).

### 7.2.1 Implementation Methods for Control of Non-native, Invasive Plant Species

Non-native, invasive plant species removal will be implemented as part of enhancement activities, during site preparation for restoration activities, and as part of long-term management

activities throughout the project alignment (Recon Environmental Inc. 2010). Non-native, invasive plant species removal will target all California Invasive Plant Council (Cal-IPC; <http://www.cal-ipc.org/ip/inventory/weedlist.php>) non-native, invasive annual and perennial plant species listed as having a severe or moderate (A or B) invasive impact with the exception of annual grass species which are abundant within reference locations. Non-native, invasive plant species removal methods to be implemented for each species are indicated in each of the invasive plant species control table (Table 6), above. Specifics on the implementation of these methods are described in more detail below.

In general and when feasible, live reproductive plant materials such as seed and rhizomes, will be removed from the site. Some areas of the site are remote and difficult to access, and it may not be feasible to remove plant material from these areas. In addition, some areas have extremely fragile habitats that could be damaged by attempting to remove large quantities of plant material. For these areas, the option of processing and disposing of plant material on-site in an appropriate manner will be determined by the land manager. In all cases, viable plant material will be processed and disposed of outside of the bed and banks of the channel. Plant material processing that may be proposed includes one or more of the methods that are listed below.

- Burning during appropriate time of year to prevent spread of fire
- Cut into manageable size and dispose of on-site to create brush piles for wildlife
- Removal of material from the site
- Burial of material

#### Weed Removal as Part of Site Preparation

Mowing will be one method used for initial removal of non-native, invasive plants to prepare enhancement areas, as appropriate. Based on the remoteness and topography of the mitigation site, mowing will be implemented using weed-eaters (or “weed-whackers”) or similar trimmers with string or metal blades. This method may be used to minimize the extent and height of non-native annual herbs and grasses. Mowing will be used only if it will not have a deleterious effect on native plant species that are interspersed with the weeds.

#### Removal of Priority Weed Species

The removal of the priority weed species at the Chocolate Canyon Mitigation Site, including castor bean, will occur by manual methods. The removal methods of giant reed, another priority species, are described in a separate section below. Manual removal is the preferred method of removing weed species from the site since ground disturbance and adverse effects to sensitive wildlife species are minimized.

Removal of castor bean will be performed monthly during the growing season, between approximately February and August, during the first year. Castor bean removal will occur four times during the growing season in monitoring year 2 and two times during the spring in monitoring years 3 through 5. The timing and methods of weed removal may be adapted by the consulting biologist depending on the weed removal results from previous years. Plant materials that are removed will be disposed of carefully to prevent regeneration or spread. Weeds will be removed before the species sets seed. When this is not feasible, seed heads will be removed from plants prior to removal of the remaining plant. Seed heads of non-native, invasive plant species will be placed in plastic trash bags and removed from the project site for proper disposal.

If manual removal methods are tried and found to be ineffective after 2 years of repeated treatment, or if the problem is too widespread for these methods to be practical, then chemical controls may be implemented as described below. All of the methods described in this section will be adapted to each species based on its morphology and phenology.

### Herbicides

Herbicides will be used when manual removal methods are not effective and may be used in conjunction with manual removal methods for species that are known to be difficult to control. The project will use glyphosate-, triclopyr-, or imazapyr- based herbicides, such as Rodeo®, or other products that are approved by the EPA for use near wetlands and streams. Herbicides will not be used when rain is predicted within 24 hours after application. The owner and applicator must comply with all state and local regulations regarding the application of herbicides.

Herbicides will be applied using a localized spot-treatment method and applied in a manner that will eliminate or reduce drift onto native plants. Herbicides may also be applied to cut stumps for large woody plants or large clumps of herbaceous weed that cannot be effectively removed.

As an alternative to commercially manufactured herbicides, the project may use an organic alternative of horticultural vinegar (20 percent) spray or common household vinegar (5 percent) spray. Herbicides may also be applied to cut stumps for large woody plants.

### Giant Reed Removal

Currently, the preferred methods of giant reed removal in Southern California are the bend-and-spray and hook methods. Due to the height of giant reed (up to 20-feet tall) and interspersed with surrounding native vegetation, sensitive species, and/or water, these methods have proven effective for remotely located, small to moderately sized infestations (Newhouser 2008). Alternatively, the cut stump or direct foliar spray method can be used in areas where giant reed stems cannot be bent. Where giant reed is removed near the edge of streams, caution must be used so as not to allow any pieces of giant reed to fall in or near intermittent or perennial streams. Timing of giant reed stem spraying and removal is extremely important. Late summer through early fall (August to October) is the most effective time of year. Follow up spraying of resprouts must be done one month following the first treatment and up to five times within the first year. Giant reed removal will then occur on an annual basis during the 5-year monitoring period or as specified by the consulting biologist.

Using the bend-and-spray method, a worker bends the giant reed stems away from the native vegetation and another worker (the applicator) sprays the stems with the approved herbicide. The person prepping the giant reed grasps the cane with two hands between stem nodes and bends or snaps the cane so that it splits longitudinally without breaking off. If done properly, over 90 percent of the bent canes will remain intact for spraying. The nodes should not be bent as they tend to break off completely. Giant reed stems must remain alive to translocate herbicide to their rhizomes and kill the plant. Next, a fan shape should be created with the bent canes on the ground. With a crew of two or three workers to bend the giant reed stems and one applicator, the removal team can rotate between three or four clumps of giant reed at a time.

The hook method allows the applicator to work solo, working the hook with the left hand (between pumping) and spraying herbicide with the right hand. Using a hook, the worker gathers up to 10 giant reed stalks to concentrate them for quicker application. This method uses the least amount of herbicide and has the least potential to overspray and risk of non-target plant species damage. The hook resembles a swimming pool rescue hook (8-foot wooden pole with

an 18-inch PVC hook with an additional side hook on top) and was designed to reach up and pull giant reed stems down away from desirable vegetation to spray them. The hook is very useful on small patches of giant reed to reach the center of the clump. According to the hook technique, the worker inserts the hook vertically into the upright canes and then turns the hook horizontally to grab approximately 10 canes. The next step is to pull the stems toward you while stepping back and sliding the hook up the canes. As you slide the hook up the stems, the giant reed stems will bend toward you and you will be able to spray the full length of the cluster of stems in the hook.

The cut-stump method may be used in remote areas where giant reed stems cannot be bent to spray or in situations where a foliar spray application poses a significant risk to aquatic species, desirable vegetation, and other non-target species. It may also be used where standing, dead giant reed poses a fire hazard and when conducting a follow-up treatment on a small amount of regrowth. Using this method, giant reed stems are cut approximately 1 foot from the ground with a chainsaw, lopper, or machete. The stem stump is then immediately painted with herbicide within 1 minute of cutting to be effective. Dye will be added to the herbicide to mark treated stumps and ensure full coverage. When feasible, all cut biomass must be mulched and/or carried off site per the specific site management plan.

### 7.2.3 *Erosion Control Measures*

Erosion control measures will be utilized in areas that involve grading and in conjunction with any mitigation activities that result in bare ground. These areas will be covered with rice straw to protect the surface from erosion. In areas where the slope is greater than 3:1 (horizontal to vertical), straw wattles, straw bales, and/or silt fence may be installed to reduce the velocity of runoff and trap sediment. Wattles, bales and silt fence will either be biodegradable or will be removed as part of the mitigation, when they are no longer needed.

## 8.0 MAINTENANCE PLAN

Maintenance activities are summarized in the following sections. The maintenance plan for the first five years (start-up period) in the HMP area is described fully in the HAP/HMP (SDG&E 2010) and summarized below.

### 8.1 Maintenance Activities within Mitigation Areas

On-going removal of non-native, invasive plant species will occur in the mitigation areas as described in 7.2.1. In addition, methods and success of controlling and removing non-native, invasive plants will be shared with surrounding land managers/owners.

### 8.2 Maintenance Activities within HMP Area

As stated in the HAP/HMP (SDG&E 2010), the following maintenance activities for wetlands and waters will take place within HMP Area's on the Chocolate Canyon Mitigation Site:

- Access control and maintenance of signage
- Control of invasive plant species
- Erosion control along maintained roads
- Fire management in coordination with local fire agencies
- Monitoring and maintenance of illegal dumping and general trash removal

In addition, the HAP/HMP (SDG&E 2010) includes ongoing tasks for general monitoring of environmental conditions, species community mapping, species surveys, and wildlife assessments. These activities will inform maintenance activities through preparation of monitoring reports.

## **9.0 MONITORING REQUIREMENTS AND PERFORMANCE CRITERIA**

### **9.1 As-built Conditions Reporting**

As-built conditions reporting will take place at the end of the 120-day establishment period and will serve to notify the agencies of the completion of construction. In addition, this will be reported as part of the first annual monitoring report for this mitigation site. As-built conditions reporting will include descriptions of enhancement activities undertaken during mitigation implementation. If enhancement activities take place during consecutive years, the reporting will occur as part of the annual reporting the first year following implementation at the mitigation site.

### **9.2 Initial Mitigation Monitoring Activities and Performance Criteria**

The purpose of the project's mitigation monitoring program is to assess the effects of enhancement activities, as well as to provide guidance for habitat management in the event of negative environmental stressors that may affect ecosystem function. The project would use CRAM to provide quantitative evaluation of mitigation site waters during the initial monitoring period, as well as qualitative monitoring that would include monitoring and mapping of non-native invasive species, unnatural or excessive erosion, and other negative environmental stressors.

Monitoring at the mitigation site would be for a minimum 5-year period, with Year 1 beginning following the completion of mitigation action at the site and the completion of preservation agreements between SDG&E and the long-term land manager. Year 1 begins following completion of the mitigation action (e.g., non-native, invasive species removal for enhancement activities). Monitoring would continue on an annual basis until the site has met all performance criteria *and* all regulatory agencies have agreed in writing that the site has met performance criteria and is ready for transfer to the long-term manager. Monitoring methods are described below.

#### *9.2.1 Quantitative CRAM Evaluation*

*Purpose:* Provide quantitative evaluation of preserved streams to inform adaptive management through comparison of CRAM scores from year-to-year.

*Methods:* CRAM methodology developed for riverine habitats in the mitigation area will be applied annually to enhanced stream reaches. CRAM AAs will remain the same from year-to-year to enable consistent comparison of performance. Evaluation of riverine wetlands using CRAM will be led by certified CRAM practitioners trained in the riverine CRAM module. The results of riverine wetland evaluations using CRAM will be presented as part of the annual monitoring reports.

*Performance Criteria:* CRAM scores will be compared to baseline CRAM scores for enhanced stream reaches. CRAM scores will meet or exceed baseline conditions by the final year of monitoring. The rate and of increase will vary based on the baseline scores for each reach, and intensity of enhancement and restoration actions. If CRAM scores decrease, reasons for the decrease will be reported as part of each annual monitoring report and management actions will be implemented

### 9.2.2 *Qualitative Monitoring for Non-native Invasive Species*

*Purpose:* To monitor conditions for non-native, invasive species that may affect the ability of the mitigation site to continue to provide adequate habitat functions and to identify and retreat any re-growth or new colonies prior to spreading.

*Methods:* The mitigation site will be surveyed during each annual monitoring visit to map and describe the occurrence of negative environmental stressors. The site will also be surveyed for the locations of non-native, invasive species populations designated as a "High Priority" species by Cal-IPC (with the exception of annual grass species). For any observed non-native invasive plant species, locations and extents of each population will be mapped, and estimates of population size (number of individuals) will be made. Other stressors to be evaluated include OHV use and anthropogenic sources of erosion and sedimentation. If environmental stressors are identified, the source of the stressor (for example, a cut fence resulting in OHV use, or off-site source population of invasive species) will be identified and described for management action.

*Performance Criteria:* Negative environmental stressors will be addressed to the greatest extent feasible through management actions as recommended in each annual monitoring report. Non-native, invasive plant species listed as having a severe or moderate (A or B) invasive impact by the Cal-IPC (with the exception of annual grass species prevalent in the area) will be managed so they do not exceed more than 5 percent cover of annual species and 0 percent cover of perennial species within waters. Non-native, annual grass species will be controlled within waters for the duration of the monitoring period, but are expected to be present due to their prolific nature within reference locations. Monitoring reports will contain a description of management activities performed each year based on previous year's management recommendations. The success of management recommendations will also be evaluated as part of the adaptive management strategy for the site (see Section 11.0 below).

### 9.2.3 *Semiannual Wildlife Surveys*

A qualified biologist will conduct semiannual surveys of mitigation areas to document the bird, wildlife, and fish use of the enhanced habitat areas. Wildlife surveys will be conducted in the spring and fall of each year; the exact timing will be determined by the consulting biologist. The surveys will be initiated after enhancement actions have occurred and will continue until the conclusion of the initial monitoring period. No performance criteria have been established for this task.

## 9.3 **Monitoring Schedule and Reporting Requirements**

With the exception of wildlife surveys, monitoring on the site will occur on a quarterly basis for the first year, bi-annually for the second year, and annually until performance criteria are met. Qualitative monitoring would be completed at the end of every year with quantitative monitoring (e.g. CRAM, vegetation transects or other data collection methods) would occur bi-annually (e.g. Year 1, 3, and 5). Wildlife surveys will be conducted twice annually throughout the 5-year monitoring period. Reporting will occur annually; reports for qualitative years (Year 2 and 4) will consist of a memorandum discussing the general condition of the site and management actions implemented in that year and/or recommended for the following year. Quantitative monitoring years (Years 1, 3, and 5) will be a full report with analysis. Each monitoring report will include a summary of the two wildlife surveys conducted in that year.

Monitoring at this mitigation site will be completed during the late spring or early summer of each monitoring year. A mitigation monitoring report will be prepared for the mitigation site to enable clear communication to the land manager at this location. The report will be submitted to the Corps, CDFG, and SWRCB by December 31 of each monitoring year.

## 10.0 LONG-TERM MANAGEMENT PLAN

Long-term management for the Chocolate Canyon Mitigation Site is described in the HAP/HMP (SDG&E 2010) for the SRPL Project, and is to be funded by a long-term endowment based on a Property Analysis Record (PAR). The timing for development of the long-term management plan is detailed below in items (b) and (c) of the Conservation Measure G-CM-17 of the BO (USFWS 2010):

*(b) SDG&E will fully fund an endowment for in-perpetuity management of all parcels acquired in (c) within 3 months of the Wildlife Agencies' approval of the final endowment amounts.*

*(c) Unless otherwise authorized by the Wildlife Agencies, no later than 18 months from the date of the revised 2010 biological and conference opinion, SDG&E will acquire and permanently preserve the nine (9) parcels identified in the September 2010 HAP (referenced by name as Nabi, Lakeside Ranch, Hamlet, El Capitan, Chocolate Canyon, Lightner, Long Potrero, Suckle, and Desert Cahuilla) in a manner consistent with the HAP and the following provisions:*

- The land-owner, land management entity, conservation easement grantee, and endowment fund manager for each property will be approved by the Wildlife Agencies. SDG&E will coordinate efforts with the Wildlife Agencies to identify potential candidates and review their qualifications to hold and manage lands and/or endowment funds. This task will be completed within 6 months of issuance of the 2010 revised biological and conference opinion.*
- SDG&E will conduct a revised Property Analysis Record (PAR) or PAR-like analysis for each property once the land management entity for individual properties has been identified and approved by the Wildlife Agencies. This revised PAR will be used to determine the final endowment amount SDG&E will provide for in-perpetuity habitat management of each property.*
- Conservation easement language, or its equivalent where an easement is not allowed by the land manager (State Parks), for all properties will be approved by the Wildlife Agencies prior to easement recordation; and*
- SDG&E will complete the required acquisition, protection, and transfer of all properties and record the required conservation easements in favor of DFG, or other entity approved by the Wildlife Agencies, no later than 18 months after the start of the ground- or vegetation-disturbing activities.*

The PAR results for all land management activities including those necessary to maintain the wetlands and streams within the site are included in the HAP/HMP (SDG&E 2010). The PAR provides the basis for long-term funding determinations. A preliminary summary of the conveyance, land use restrictions, and funding is provided in Table 13. A summary of the



preliminary long-term endowment costs for the Chocolate Canyon Mitigation Site is provided in Table 14.

### 10.1 Parties Responsible for Long-Term Management

The Chocolate Canyon Mitigation Site is likely to be conveyed to the City of San Diego; however, a final decision will not be made until the Wildlife Agencies consider and approve a long-term management entity. The entity responsible for long-term management will be identified according to the schedule provided above.

### 10.2 Incorporation with Habitat Mitigation Plan for the Chocolate Canyon Mitigation Site

Long-term management of wetlands and waters in the Chocolate Canyon Mitigation Site is fully incorporated with the long-term maintenance and monitoring described in the HAP/HMP (SDG&E 2010).

### 10.3 Activities Included in Long-Term Management

Long-term management activities are similar to maintenance activities described in the HAP/HMP (SDG&E 2010) and summarized above in Section 8.2. These activities include:

- Access control and maintenance of signage
- Control of invasive plant species
- Erosion control along maintained roads and decommissioned roads
- Fire management in coordination with local fire agencies
- Monitoring and maintenance of illegal dumping and general trash removal
- General conditions monitoring and wildlife assessment
- Vegetation mapping
- Special status species surveys
- Maintenance of a Geographic Information System (GIS) database
- Preparation of annual reports detailing management activities that occurred during the reporting year

Complete descriptions of these activities are included in the HAP/HMP (SDG&E 2010).

**Table 13. Summary of elements of Long-Term Management for the Chocolate Canyon Mitigation Site<sup>2</sup>. Details provided in HAP/HMP (SDG&E 2010) and BO.**

<i>Land Use Restrictions</i>	<i>Par Analysis</i>	<i>Funding for Long-term Maintenance</i>
Entire site would be managed for conservation purposes. Restricted access.	PAR Analysis provided in Sept. 2010 HAP/HMP (SDG&E) Funding for Endowment provided 3 months after revised PAR and land management entity selected by Wildlife Agencies, SWRCB, and Corps Final easements and site ownership conveyed to management entity no later than 18 months after ground disturbance activities.	SDG&E will provide funding for perpetual management of the site; long-term costs estimated based on a PAR analysis of site maintenance and management of biological resources approved by Wildlife Agencies. Long-term management would include control of non-native species, habitat and species monitoring, access control, and related measures. SDG&E will provide copies of the management plans that identify how access will be controlled.

<sup>2</sup> Long-term management agency subject to Corps approval.

**Table 14. Long-term Endowment Costs for the Chocolate Canyon Mitigation Site.**

Endowment Total	Yearly Average Cost: First 5 years
\$598,087	\$123,635

## **11.0 ADAPTIVE MANAGEMENT PLAN**

SDG&E will be the responsible party for implementation of management activities during the initial monitoring period. Specific maintenance and management activities will be identified based on the results of each annual monitoring visit. Maintenance and monitoring recommendations will be developed by September 15 of each year to allow time for planning and mobilization of work crews prior to the rainy season. Maintenance activities that involve work in waters and wetlands will be conducted prior to the onset of winter rains. Other maintenance activities will be conducted prior to the annual monitoring in the year following the recommendation.

As part of each annual monitoring report, maintenance and management activities implemented during the previous year will be described and the results will be evaluated under the framework of adaptive management. If management and maintenance methods are not successful in addressing negative environmental stressors identified as part of annual monitoring reports, the methods will be examined and altered to increase the potential for success based on best professional judgment and management methods that are shown to be successful based on scientific research. In some cases, success of management and maintenance activities may not be evident over the course of only one year. This will be accounted for in annual monitoring reports through evaluation of whether or not management actions are contributing to progress towards the ultimate goal. In these cases, it may be necessary to wait for two years or more before altering methods as part of an adaptive management strategy. Each annual monitoring report will contain a section dedicated to evaluation of management and maintenance actions as part of the adaptive management strategy.

### **11.1 Incorporation within Habitat Mitigation Plan for the Chocolate Canyon Mitigation Site**

The principles of adaptive management are fully incorporated into the implementation, monitoring, maintenance, and long-term management of the Chocolate Canyon Mitigation Site described in this Final HMMP.

### **11.2 Natural Occurrences**

Contingencies have been included in the financial assurances (Section 12.0) to provide a cushion for any unforeseen costs of management activities to be carried out in the event that a fire, flood, or other natural disaster should have a negative impact on preserved and/or enhanced habitat during the initial monitoring period. The 5-year habitat management work programs (described fully in the HAP/HMP [SDG&E 2010]) includes a fire management component developed in cooperation with the responsible fire agencies and in compliance with applicable State and local policies and regulations. In addition, the fire management component of the long-term management plan will be updated every 3 years. Remedial actions will be carried out during the initial monitoring period if habitat quality is reduced due to the occurrence of fire and/or other natural disasters. Remedial actions will also be carried out during long-term

management if habitat quality is reduced due to management activities. These actions are described in the HAP/HMP (SDG&E 2010) and summarized in the following section.

### **11.3 Potential Remedial Actions**

Habitat remediation consists of minor restoration of habitat from the effects of erosion, unauthorized access or removal of exotics; it not considered ecological habitat restoration or creation. This task may include seeding with native seeds, raking, or weed removal. Remedial restoration may also include the restoration of closed trails or roads. Due to the high level of disturbance and compaction, a closed road or trail can take a substantially greater amount of time to revert back to the surrounding native vegetation community without active seeding, weeding, and soil preparation. Therefore, remedial restoration for decommissioned roads and trails will be somewhat active (e.g., may include soil de-compaction, seeding with the imprinting method, more active exotic species control etc.). Habitat remediation is included during the initial monitoring (start-up) period for this site and is also an integral part of the habitat management in perpetuity.

## **12.0 FINANCIAL ASSURANCES**

### **12.1 Estimated Costs for Mitigation Measures**

#### *12.1.1 Land acquisition*

The Lightner Mitigation Site is already owned by SDG&E. Therefore, there are no additional land acquisition costs associated with this site.

#### *12.1.2 Plan Implementation*

Implementation costs for the Final HMMP are estimated to be \$59,904, as shown in Table 15 below. Implementation tasks include mobilization and removal of non-native invasive species.

#### *12.1.3 Monitoring and Maintenance for Performance Period*

Monitoring costs for the Final HMMP are estimated to be \$123,635, as shown in Table 15 below. These costs represent the first five years of monitoring. In addition, maintenance costs from the HAP/HMP (SDG&E 2010) are estimated to be \$107,233 for the first 5 years.

#### *12.1.4 Long-Term Maintenance*

Long-term endowment costs are estimated at \$598,087, as shown in Table 15 below. This endowment estimate is based on the amount of money needed to generate, on an annual basis, the annual maintenance costs (assuming a 5 percent return on the money and 3 percent inflation).

12.1.5 Remediation

Remediation costs are combined with maintenance costs in Table 15 below. Remediation efforts may include removal of non-native, invasive plants and minor stream habitat restoration, replanting and weed removal.

**Table 15. Chocolate Canyon Mitigation Site Costs**

	<b>Cost</b>
<b>First Five Years</b>	
<b>Land Acquisition Costs</b>	Acquired by SDG&E
<b>Implementation Costs for Final HMMP</b>	\$59,904
<b>5-year Monitoring Costs for Final HMMP</b>	\$123,635
<b>Maintenance/Remediation</b>	\$74,800
<b>In Perpetuity</b>	
<b>Long-term Endowment Costs</b>	\$598,087

**12.2 Form of the Letter of Credit**

Financial assurance during the initial monitoring period will be guaranteed by SDG&E through issuance of a Letter of Credit. The dollar amount of the Letter of Credit will be based on the estimated cost of mitigation implementation to be determined upon acceptance of the mitigation plan by resource agencies and is subject to final approval by the Corps. The final dollar amount will be provided by SDG&E under separate cover upon issuance of project permits. Cost estimates for both the mitigation activities and initial management of the mitigation site described in this document are in Appendix C.

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Appendix A. All CRAM Scores Collected for the Sunrise Powerlink Project

Appendix A. All CRAM Scores Collected for the Sunrise Powerlink Project.\*

CRAM ID	Category	OVERALL CRAM SCORE		Buffer and Landscape Context										Hydrology									
				Landscape Connectivity		% of AA with Buffer		Average Buffer Width		Buffer Condition		Attribute Score (Final %)		Water Source		Hydro-period/Channel Stability		Hydrologic Connectivity		Attribute Score (Final %)			
				E	P	E	P	E	P	E	P	E	P	E	P	E	P	E	P	E	P		
Existing/Projected		E	P	E	P	E	P	E	P	E	P	E	P	E	P	E	P	E	P	E	P		
5-DW-7	DDW	62.2%	58.4%	12	12	12	12	12	12	12	12	12	9	100.0%	93.3%	12	12	12	9	3	3	75.0%	66.7%
5-DW-8	DDW	71.5%	67.8%	12	12	12	12	12	12	12	12	12	9	100.0%	93.3%	12	12	12	9	9	9	91.7%	83.3%
7-DW-10	DDW	64.0%	62.0%	12	12	12	12	12	12	12	9	6	93.3%	85.4%	12	12	9	9	12	12	91.7%	91.7%	
8-DW-2	DDW	65.3%	65.3%	12	12	12	12	12	12	12	9	9	93.3%	93.3%	12	12	9	9	12	12	91.7%	91.7%	
9-DW-9	DDW	71.2%	69.2%	12	12	12	12	12	12	12	9	9	93.3%	93.3%	12	12	12	9	12	12	100.0%	91.7%	
10-DW-1	DDW	72.7%	72.7%	12	12	12	12	12	12	12	6	6	85.4%	85.4%	12	12	9	9	12	12	91.7%	91.7%	
11-DW-1	DDW	62.0%	62.0%	12	12	12	12	12	12	12	6	6	85.4%	85.4%	12	12	9	9	12	12	91.7%	91.7%	
13-DW-15	DDW	65.3%	63.3%	12	12	12	12	12	12	12	9	9	93.3%	93.3%	12	12	12	9	6	6	83.3%	75.0%	
14-DW-12	DDW	69.1%	65.3%	12	12	12	12	12	12	12	12	9	100.0%	93.3%	12	12	12	9	12	12	100.0%	91.7%	
15-DW-1	DDW	68.8%	68.8%	12	12	12	12	12	12	12	12	12	100.0%	100.0%	12	12	9	9	9	9	83.3%	83.3%	
15-DW-8	DDW	71.2%	67.4%	12	12	12	12	12	12	12	12	9	100.0%	93.3%	12	12	12	9	12	12	100.0%	91.7%	
16-DW-11	DDW	68.6%	68.6%	12	12	12	12	12	12	12	6	6	85.4%	85.4%	12	12	9	9	12	12	91.7%	91.7%	
17-DW-2	DDW	71.2%	71.2%	12	12	12	12	12	12	12	9	9	93.3%	93.3%	12	12	9	9	12	12	91.7%	91.7%	
17-DW-7	DDW	63.3%	61.2%	12	12	12	12	12	12	12	9	9	93.3%	93.3%	12	12	12	9	6	6	83.3%	75.0%	
35-S-2	ME	67.4%	67.4%	12	12	12	12	12	12	12	9	9	93.3%	93.3%	12	12	9	9	6	6	75.0%	75.0%	
35-S-4	ME	70.5%	70.5%	12	12	12	12	12	12	12	9	9	93.3%	93.3%	12	12	9	9	12	12	91.7%	91.7%	
53-S-8	ME	78.5%	74.7%	12	12	12	12	12	12	12	12	9	100.0%	93.3%	12	12	12	9	12	12	100.0%	91.7%	
54-S-10	ME	63.6%	63.6%	12	12	12	12	12	12	12	9	9	93.3%	93.3%	12	12	6	6	3	3	58.3%	58.3%	
62-S-12	ME	80.2%	80.2%	12	12	12	12	12	12	12	12	12	100.0%	100.0%	12	12	9	9	9	9	83.3%	83.3%	
79-S-1	ME	83.4%	81.3%	12	12	12	12	12	12	12	9	9	93.3%	93.3%	12	12	12	9	12	12	100.0%	91.7%	
82-S-1	I	83.3%	79.6%	12	12	12	12	12	12	12	9	12	100.0%	93.3%	12	12	12	9	12	12	100.0%	91.7%	
92-S-4	ME	72.6%	70.9%	12	12	12	12	12	12	12	12	9	100.0%	93.3%	12	12	9	9	9	9	83.3%	83.3%	
92-S-6	ME	82.6%	78.9%	12	12	12	12	12	12	12	12	9	100.0%	93.3%	12	12	12	9	12	12	100.0%	91.7%	
107-S-2	ME	72.3%	68.2%	12	12	12	12	12	12	12	9	6	93.3%	85.4%	12	12	12	9	12	12	100.0%	91.7%	
107-S-3	ME	67.8%	65.8%	12	12	12	12	12	12	12	9	6	93.3%	85.4%	12	12	9	9	3	3	66.7%	66.7%	
109-S-1	I	87.8%	49.1%	12	3	12	6	12	9	12	9	12	100.0%	46.4%	12	6	9	3	12	6	91.7%	41.7%	
111-S-9	I, W	82.0%	79.9%	12	12	12	12	12	12	12	9	9	93.3%	93.3%	12	12	12	9	3	3	75.0%	66.7%	
112-S-2	I, W	80.4%	78.4%	12	12	12	12	12	9	6	6	6	82.9%	82.9%	12	12	12	9	12	12	100.0%	91.7%	
117-S-1	P	81.0%	81.0%	3	3	12	12	12	12	12	9	9	55.8%	55.8%	9	9	9	9	12	12	83.3%	83.3%	
130-S-1	ME	69.2%	67.1%	12	12	12	12	12	12	12	9	9	93.3%	93.3%	12	12	12	9	6	6	83.3%	75.0%	
L-S-10	I	88.3%	95.8%	12	12	12	12	12	12	9	12	12	93.3%	100.0%	6	9	12	12	12	12	83.3%	91.7%	
L-S-1	I	78.5%	80.2%	12	12	12	12	12	12	9	12	12	93.3%	100.0%	12	12	12	12	12	12	100.0%	100.0%	
L-W-2	W	65.0%	69.2%	3	3	12	12	12	12	12	9	9	55.8%	55.8%	12	12	12	12	12	12	100.0%	100.0%	
LP-S-12	I	70.5%	71.2%	12	12	12	12	12	12	12	9	9	93.3%	93.3%	12	12	9	9	12	12	91.7%	91.7%	
LP-W-4**	W	59.4%	61.8%	3	3	12	12	12	12	9	12	12	55.8%	62.5%	12	12	10.5	10.5	12	12	95.8%	95.8%	
S-DW-1	DDW	68.1%	71.2%	12	12	12	12	12	12	12	9	12	93.3%	100.0%	12	12	9	9	12	12	91.7%	91.7%	
117-S-1	P	81.0%	81.7%	3	3	12	12	12	12	12	9	9	55.8%	55.8%	9	9	9	9	12	12	83.3%	83.3%	

Impact AA  
Mitigation AA

Key to Categories

DDW = Desert Dry Wash; ME = Mountain Ephemeral Stream; I = Intermittent Stream; P = Perennial Stream; W = Corps Wetland.

\* Note: The data table in Appendix A was originally included in Appendix B of the Conceptual HMMP (WRA 2010b), titled "Table B-1."

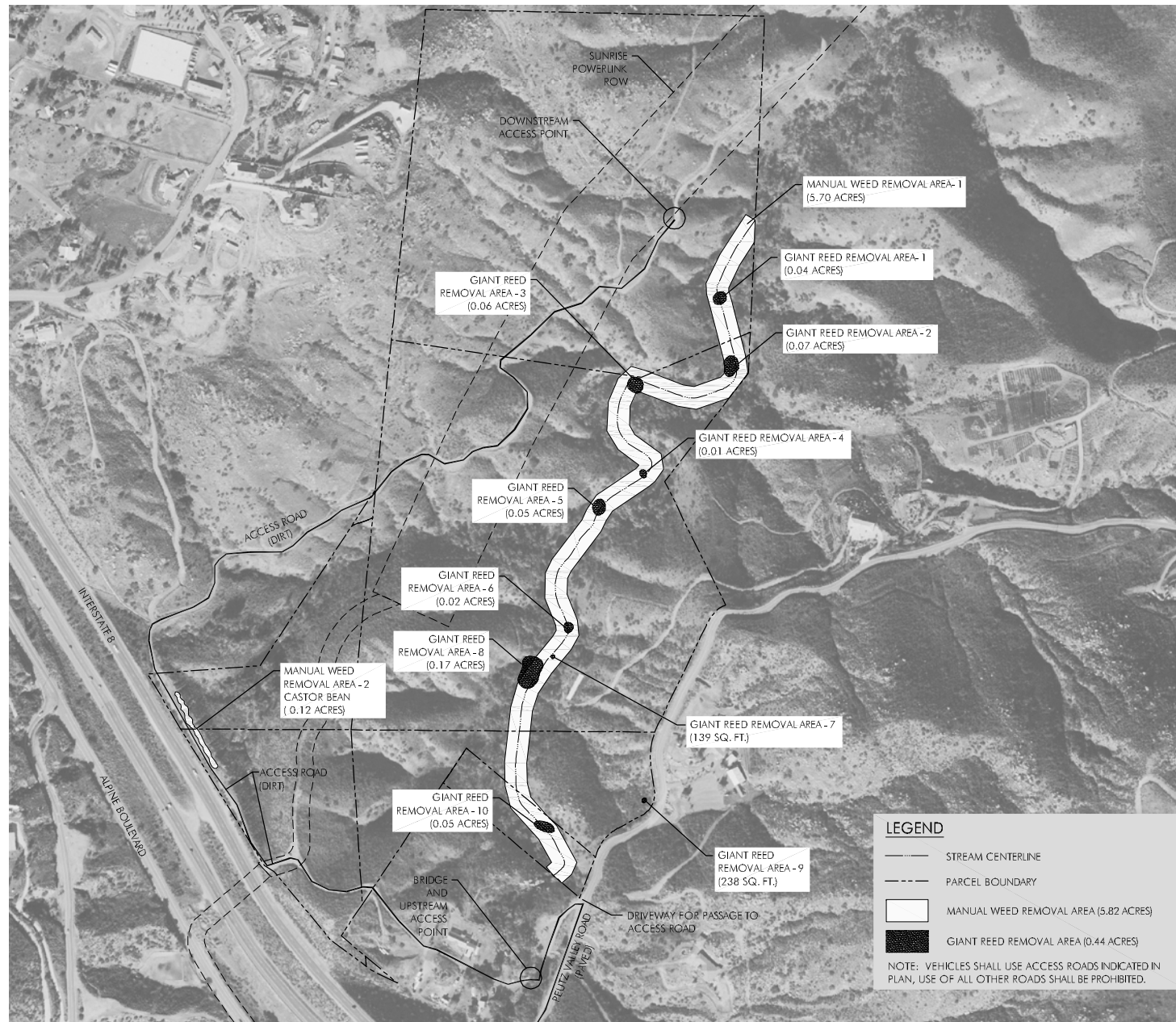
\*\* The CRAM score reported for depressional wetland (proposed mitigation site) LP-W-4 is the average of two CRAM assessments done on the same feature. This approach was requested by staff from the US Army Corps of Engineers.





Appendix B. Grading and Landscape Plans for Each Site





# 1 WEED REMOVAL PLAN

1" = 250'

## GIANT REED REMOVAL AREAS

### YEAR 1

1. ALL GIANT REED (*ARUNDO DONAX*) PLANTS WITHIN THE GIANT REED REMOVAL AREAS SHALL BE REMOVED AS DESCRIBED IN THE DRAWINGS AND SPECIFICATIONS.
2. THE CONTRACTOR SHALL COORDINATE WITH THE PROJECT BIOLOGIST TO DETERMINE THE TIMING OF THE REMOVAL AND HERBICIDE TREATMENT.
3. THE IMAZAPYR-BASED HERBICIDE HABITAT OR APPROVED EQUIVALENT SHALL BE USED FOLLOWING THE LABEL DIRECTIONS AND REQUIREMENTS. DYE SHALL BE ADDED TO THE HERBICIDE MIX TO MARK TREATED PLANTS. CONTRACTOR SHALL SUBMIT HERBICIDE INFORMATION AND THE APPLICATION REGIME FOR APPROVAL BY THE PROJECT BIOLOGIST.
4. GIANT REED REMOVAL METHODS SHALL BE DETERMINED BASED ON SITE CONDITIONS AND CONSTRAINTS. THE CONTRACTOR SHALL SUBMIT A GIANT REED REMOVAL PLAN TO THE PROJECT BIOLOGIST FOR APPROVAL PRIOR TO ANY REMOVAL ACTIVITIES. THE CONTRACTOR SHALL USE THE FOLLOWING REMOVAL METHODS:
  - A. CUT-STUMP METHOD: CONTRACTOR SHALL CUT PLANTS WITH THE USE OF CHAINSAWS, A HYDRO AXE (AN ARTICULATED TRACTOR WITH A MOWER/MULCHER MOUNTED ON FRONT), SHREDDER, OR OTHER APPROVED METHOD TO SEVER THE PLANTS AT THE BASE. HERBICIDE SHALL BE APPLIED TO THE STUMPS IMMEDIATELY AFTER CUTTING THE STEMS.
  - B. BEND AND SPRAY METHOD: CONTRACTOR SHALL BEND PLANTS BETWEEN STEM NODES NEAR THE BASE OF EACH PLANT SO THAT THEY ARE FLAT TO THE GROUND. CONTRACTOR SHALL THEN SPRAY GIANT REED PLANTS WITH HERBICIDE.
  - C. HOOK METHOD: CONTRACTOR SHALL USE A HOOK TO PULL DOWN GIANT REED CANES TO DESIRABLE POSITION. A HOOK SHALL CONSIST OF AN APPROXIMATELY 8'-LONG WOODEN POLE WITH AN 1/8" POLYVINYL CHLORIDE (PVC) HOOK ATTACHED TO THE POLE. HERBICIDE SHALL THEN BE APPLIED TO FOLIAGE.
5. GIANT REED PLANTS SHALL BE RETREATED APPROXIMATELY ONE MONTH FOLLOWING THE FIRST APPLICATION AND THEN UP TO FIVE TIMES DURING THE FIRST YEAR. EACH TREATMENT SHALL BE ONE TO TWO MONTHS APART. GIANT REED RESPROUTS SHALL BE CUT BACK PRIOR TO HERBICIDE REAPPLICATION WHENEVER FEASIBLE.
6. THE CONTRACTOR SHALL DISPOSE OF GIANT REED BIOMASS WITH APPROVAL FROM THE PROJECT BIOLOGIST. THE CONTRACTOR SHALL CONTAIN THE BIOMASS IN BAGS. THE METHOD OF ONSITE AND OFFSITE TRANSPORTATION OF REMOVING BIOMASS SHALL BE DETERMINED BASED ON THE SITE TOPOGRAPHY AND REMOTENESS.

### YEARS 2 - 5

1. GIANT REED REMOVAL SHALL OCCUR ON AN ANNUAL BASIS DURING MONITORING YEARS 2-5 UNLESS OTHERWISE SPECIFIED BY THE PROJECT BIOLOGIST. THE CONTRACTOR SHALL COORDINATE WITH THE PROJECT BIOLOGIST TO DETERMINE THE TIMING OF HERBICIDE TREATMENT TO REMOVE GIANT REED PLANTS.
2. ALL NEW GIANT REED PLANTS WHICH HAVE NEWLY ESTABLISHED ON THE SITE AND ALL GIANT REED PLANTS, WHICH HAVE NOT RESPONDED TO HERBICIDE TREATMENT THE PREVIOUS YEAR, SHALL BE TREATED WITH HERBICIDE USING THE SAME PARAMETERS DESCRIBED IN THE YEAR 1 TREATMENT GUIDELINES, UNLESS OTHERWISE SPECIFIED BY THE PROJECT BIOLOGIST.

## GENERAL SITE DESCRIPTION

1. THE MAIN STREAM CHANNEL LIES WITHIN A STEEP SLOPED CANYON. ACCESS TO AND FROM THE MITIGATION AREAS WITHIN THE STREAM CHANNEL CAN BE DIFFICULT. THE TERRAIN IS STEEP. POISON OAK (*TOXICODENDRON DIVERSILOBLUM*) AND OTHER WOODY SPECIES MAY INHIBIT MOVEMENT. THE MAIN STREAM CHANNEL IS WETTED YEAR-ROUND AND WATER DEPTH VARIES BY YEAR AND LOCATION. WATER DEPTH CAN REACH UP TO TWO-FOOT IN AREAS, OTHERWISE PASSAGE IS FEASIBLE IN MOST AREAS BY WADING WITHIN THE STREAM CHANNEL OR WALKING ALONG STREAM BANKS.
2. THE VEGETATION AT THE CHOCOLATE CANYON PROPERTY CONSISTS PRIMARILY OF NATIVE DIEGAN COASTAL SCRUB AND SOUTHERN COAST LIVE OAK RIPARIAN FOREST HABITAT, EXCEPT ALONG DISTURBED AREAS, WHICH CONTAIN RUDERAL SPECIES. SEVERAL FRESHWATER MARSHES FEATURING NATIVE WETLAND PLANT SPECIES ARE PRESENT WITHIN THE MAIN STREAM CHANNEL.
3. THE LOCAL CLIMATE CAN VARY FROM MILD TO HOT DEPENDING ON THE TIME OF YEAR. WEED REMOVAL WORK WITHIN THE SITE MAY BE DIFFICULT, DUE TO THE STEEP RUGGED TERRAIN, POTENTIALLY HOT TEMPERATURES, AND PRESENCE OF POISON OAK. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE HEALTH AND SAFETY OF WORKERS AT THE SITE.
4. THE CONTRACTOR IS RESPONSIBLE FOR PROVIDING POTABLE WATER AND PORTABLE RESTROOM FACILITIES AT THIS SITE. THE CONTRACTOR SHALL BE PROHIBITED FROM DISPOSING OF ANY HUMAN EXCREMENT AT THE SITE.

## PROTECTION OF WILDLIFE, PLANT SPECIES AND NATURAL RESOURCES

1. THE HABITAT OF THE SITE HAS THE POTENTIAL TO SUPPORT SPECIAL STATUS WILDLIFE SPECIES, INCLUDING LEAST BELLS VIREO (*VIREO BELLII PUSILLUS*) AND SOUTHWESTERN WILLOW FLYCATCHER (*EMPIDONAX TRAILLII EXTIMUS*). CONTRACTORS SHALL AVOID CONTACT WITH WILDLIFE AND NOTIFY THE PROJECT BIOLOGIST OF ANY OBSERVATIONS OF SPECIAL STATUS WILDLIFE SPECIES.
2. NO FEDERAL OR STATE PROTECTED PLANT SPECIES ARE KNOWN TO OCCUR WITHIN THE SITE; HOWEVER, THE SITE MAY SUPPORT CALIFORNIA NATIVE PLANT SOCIETY (CNPS) LISTED PLANT SPECIES. THE MAJORITY OF PLANTS NOT TARGETED FOR WEED REMOVAL ARE NATIVE AND SHALL NOT TO BE DISTURBED DURING WEED REMOVAL ACTIVITIES. THE CONTRACTOR SHALL OBTAIN A LIST OF SENSITIVE SPECIES FROM THE PROJECT BIOLOGIST.
3. WEED REMOVAL ACTIVITIES SHALL MINIMIZE DAMAGE TO THE NATIVE VEGETATION. DISTURBANCE TO SENSITIVE HABITAT OUTSIDE WEED REMOVAL AREAS SHALL BE PROHIBITED.
4. DESIGNATED ACCESS ROADS SHALL BE CONFIRMED BY THE PROJECT BIOLOGIST. USE OF OTHER ROADS SHALL BE PROHIBITED.
5. THE CONTRACTOR SHALL PROPOSE SUITABLE STAGING AREAS, WHICH SHALL BE APPROVED BY THE PROJECT BIOLOGIST. DUE TO THE STEEPNESS OF THE ADJACENT CANYON WALLS AND THE PRESENCE OF SENSITIVE VEGETATION, THERE ARE LIMITED OPPORTUNITIES FOR ESTABLISHING STAGING AREAS OR AREAS TO PLACE BRUSH PILES.
6. HERBICIDES SHALL BE SELECTED TO AVOID HARM TO SENSITIVE SPECIES AND SHALL BE APPROVED BY THE PROJECT BIOLOGIST.
7. ALL WORK SHALL COMPLY WITH PROVISIONS LISTED IN THE PROJECT HABITAT MITIGATION AND MONITORING PLAN (HMMP), FINAL ENVIRONMENTAL IMPACT REPORT/ENVIRONMENTAL IMPACT STATEMENT (FEIR/EIS), BIOLOGICAL ASSESSMENT, AND FINAL REGULATORY PERMITS.

## DISTRIBUTION OF WEEDS

1. WEED REMOVAL WILL FOCUS ON THE TREATMENT OF GIANT REED AND CASTOR BEAN. DENSE STANDS OF GIANT REED OCCUR AT SPECIFIC LOCATIONS WITHIN THE MAIN STREAM CHANNEL, AS INDICATED ON PLAN.
2. REMOVAL OF CASTOR BEAN IS CONCENTRATED IN ONE AREA, AS INDICATED ON THE PLANS, WITHIN THE PROPERTY AND IS OF MODERATE DENSITY.
3. THE CANYON SIDE-SLOPES ARE FREE OF ANY OF THE TARGETED SPECIES.

## BEST MANAGEMENT PRACTICES FOR WEED REMOVAL

1. AVOID IMPACTS TO NATIVE TREES AND SHRUBS AND ALL SENSITIVE SPECIES ON THE SITE.
2. AVOID DISTURBANCE AND DO NOT STAGE CONSTRUCTION ACTIVITIES IN WEED INFESTED AREAS.
3. AVOID AND MINIMIZE GROUND DISTURBANCE. SELECT WEED REMOVAL EQUIPMENT WHICH WILL MINIMIZE DISTURBANCE TO THE SOIL AND NATIVE VEGETATION WHENEVER POSSIBLE.
4. CLEAN VEHICLES BEFORE ENTERING OR LEAVING A WEED-INFESTED SITE OR CONSTRUCTION SITE TO PREVENT THE TRANSPORT OF SOIL AND PLANT MATERIAL.
5. REMOVE SEEDS FROM CLOTHING, FOOTWEAR, VEHICLES, AND EQUIPMENT BEFORE ENTERING AREAS WITH NO WEED INFESTATION.
6. COVER MATERIAL, INCLUDING DEAD WEED BIOMASS OR SOIL, SECURELY DURING TRANSPORT.

## MANUAL WEED REMOVAL AREAS

### YEAR 1

1. WEEDS WITHIN THE MANUAL WEED REMOVAL AREAS SHALL BE REMOVED AS DESCRIBED IN THE DRAWINGS.
2. WEED SPECIES DESIGNATED FOR MANUAL REMOVAL INCLUDE NON-NATIVE, INVASIVE PLANT SPECIES LISTED BY THE CALIFORNIA INVASIVE PLANT COUNCIL (CAL-IPC) AS HAVING A SEVERE OR MODERATE (A OR B) INVASIVE IMPACT. THESE WEED SPECIES SHALL BE DESCRIBED AND IDENTIFIED TO THE CONTRACTOR BY THE PROJECT BIOLOGIST. CONTRACTOR SHALL PROVIDE A WEED REMOVAL PLAN WHICH ADDRESSES EACH WEED SPECIES AND WEED REMOVAL LOCATION FOR APPROVAL BY THE PROJECT BIOLOGIST PRIOR TO ANY REMOVAL ACTIVITIES.
3. THE CONTRACTOR SHALL COORDINATE WITH THE PROJECT BIOLOGIST TO DETERMINE THE EXACT TIMING OF WEED REMOVAL ACTIVITIES. CONTRACTOR SHALL REMOVE SEED HEADS FROM PLANTS PRIOR TO REMOVING THE STEMS AND ROOTS, IF THE PLANTS HAVE SET SEED.
  - A. PERENNIAL WEEDS SHALL BE REMOVED ONCE A MONTH DURING THE GROWING SEASON, BETWEEN APPROXIMATELY FEBRUARY 1 TO AUGUST 31. COMMON PERENNIAL WEEDS AT THE SITE INCLUDE CASTOR BEAN (*RICINUS COMMUNIS*) AND CURLY DOCK (*RUMEX CRISPUS*).
  - B. ANNUAL WEEDS SHALL BE REMOVED TWO TIMES DURING THE SPRING, ONCE BETWEEN APPROXIMATELY FEBRUARY 1 AND APRIL 15 AND ONCE BETWEEN APRIL 16 AND JUNE 30. COMMON ANNUAL WEEDS AT THE SITE INCLUDE SAHARAN MUSTARD (*BRASSICA TOURNEFORTII*), TOCALOTE (*CENTAUREA MELITENSIS*), AND SHORTPOD MUSTARD (*HIRSCHFELDIA INCANA*).
4. WEEDS SHALL BE REMOVED WITH MANUAL TOOLS WHICH CAUSE MINIMAL GROUND DISTURBANCE. NATIVE SHRUBS OR TREES ADJACENT TO WEED REMOVAL AREAS SHALL NOT BE DISTURBED.
5. THE CONTRACTOR SHALL DISPOSE OF SEEDS, WEED CLIPPINGS AND DEAD PLANT BIOMASS WITH APPROVAL FROM THE PROJECT BIOLOGIST. THE CONTRACTOR SHALL CONTAIN SEEDS, WEED CLIPPINGS, AND DEAD PLANT BIOMASS IN BAGS. THE CONTRACTOR SHALL DISPOSE OF WEED CLIPPINGS IN DESIGNATED AREAS WITHIN THE SITE, AS FEASIBLE. THE METHOD OF ONSITE AND OFFSITE TRANSPORTATION OF REMOVING SEEDS, WEED CLIPPINGS, AND DEAD PLANT BIOMASS SHALL BE DETERMINED BASED ON THE SITE TOPOGRAPHY AND REMOTENESS.

### YEARS 2-5

1. YEAR 2: ANNUAL WEEDS SHALL BE REMOVED TWO TIMES DURING THE SPRING, ONCE BETWEEN FEBRUARY 1 AND APRIL 15 AND ONCE BETWEEN APRIL 16 AND JUNE 30. PERENNIAL WEEDS SHALL BE REMOVED FOUR TIMES DURING THE GROWING SEASON, BETWEEN FEBRUARY 1 AND AUGUST 31. THE CONTRACTOR SHALL COORDINATE WITH THE PROJECT BIOLOGIST TO DETERMINE THE EXACT TIMING OF WEED REMOVAL ACTIVITIES.
2. YEARS 3-5: WEEDS SHALL BE REMOVED TWICE ANNUALLY AT A MINIMUM. THE CONTRACTOR SHALL COORDINATE WITH THE PROJECT BIOLOGIST TO DETERMINE THE EXACT TIMING OF WEED REMOVAL ACTIVITIES.
3. WEED REMOVAL METHODS SHALL BE ADAPTED AS NECESSARY BASED ON ANNUAL MONITORING RESULTS. THE PROJECT BIOLOGIST SHALL SPECIFY CHANGES TO WEED REMOVAL METHODS BY SEPTEMBER 15 OF EACH MONITORING YEAR.



# SUNRISE POWERLINK

CHOCOLATE CANYON PROPERTY  
WATERS MITIGATION PLAN  
SAN DIEGO COUNTY, CALIFORNIA  
CORPS FILE NUMBER: 2007-00704-SAS

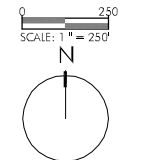
NOT FOR CONSTRUCTION



Date	Issues And Revisions	No.
11/12/10	PERMIT SET	

PROJECT #17128-3  
DRAWN BY: ICM, KET  
CHECKED BY: GJS  
ORIGINAL DRAWING SIZE: 24 X 36

SCALE: 1" = 250'



CHOCOLATE CANYON  
PROPERTY  
MITIGATION PLAN

Sheet

# L-2

Appendix C. Detailed Mitigation Implementation Cost Estimate to Support Financial Assurances

Appendix C. Mitigation Activities and Initial Management Cost Estimate at the Chocolate Canyon Mitigation Site

**1.0 Mobilization**

<b>1.0 Mobilization</b>					
<u>Item</u>					
<u>Number</u>	<u>Description</u>	<u>Quantity</u>	<u>Unit</u>	<u>Unit Cost</u>	<u>Cost</u>
1.1	Mobilization	\$25,800	% of base cost	5%	\$1,290
1.2	Surcharge for Remote Hazardous Work	n/a	allocation	n/a	\$25,000
<b>Subtotal</b>					<b>\$26,290</b>

**2.0 Removal of Non-Native, Invasive Plant Species**

<b>2.0 Removal of Non-Native, Invasive Plant Species</b>					
<u>Item</u>					
<u>Number</u>	<u>Description</u>	<u>Quantity</u>	<u>Unit</u>	<u>Unit Cost</u>	<u>Cost</u>
2.1	Giant Reed Removal	0.32	AC	\$75,000	\$24,000
2.2	Castor Bean Removal	0.12	AC	\$15,000	\$1,800
<b>Subtotal</b>					<b>\$25,800</b>

**3.0 Interim Maintenance and Monitoring (1-5 Years)**

<b>3.0 Interim Maintenance and Monitoring (1-5 Years)</b>					
<u>Item</u>					
<u>Number</u>	<u>Description</u>	<u>Quantity</u>	<u>Unit</u>	<u>Unit Cost</u>	<u>Cost</u>
3.1	Adaptive Management - Weed Removal	5	Annual	\$12,900	\$64,500
3.2	Adaptive Management - Trash Removal	5	Annual	\$109	\$545
3.3	Monitoring	5	Annual	\$24,727	\$123,635
<b>Subtotal</b>					<b>\$188,680</b>

<b>SUBTOTAL</b>	<b>\$240,770</b>
<b>15% Contingency*</b>	<b>\$17,570</b>
<b>TOTAL</b>	<b>\$258,340</b>

\*15% Contingency cost does not apply to monitoring (item 3.3)