

Compendium of Water Resources Initiatives in the Hodges Catchment

Final



Prepared for the Regional Water Management Group



City of San Diego



County of San Diego



San Diego County
Water Authority

September 2014

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Introduction

The *Compendium of Water Resource Initiatives in the Hodges Catchment* (Compendium) has been developed by the Regional Water Management Group (RWMG) of the San Diego Integrated Regional Water Management (IRWM) Program to address how the San Diego IRWM Program can work with regulators, agencies, and entities to implement integrated water management strategies that solve pressing water quality issues. The concept and need for the Compendium was developed in response to issues that arose in the San Diego IRWM Region (Region) during development of the Water Quality Improvement Plan (WQIP) for the San Dieguito Watershed, wherein there were conflicts between stakeholders due to different watershed management priorities.

The San Dieguito Watershed is one of the Region's eleven westward draining watersheds, and is located within the northern portion of the Region as shown on **Figure 1**. One of the key features of the San Dieguito Watershed that also caused conflicts during development of the WQIP is the Hodges Reservoir. The Hodges Reservoir is connected to the regional water supply system through a pipeline that connects Hodges Reservoir to Olivenhain Reservoir, and therefore to the regional water supply distribution system through a connection to the Second Aqueduct (see **Figure 2**). Hodges Reservoir is also a catchment basin that collects a majority of runoff flows within the Hodges Catchment, which is defined as the portion of the San Dieguito Watershed downstream of Sutherland Reservoir and upstream of Hodges Reservoir (see **Figure 3**). **Figures 4 through 8** provide additional information about the San Dieguito Watershed, including water bodies, flood plains, and water quality impairments (**Figure 4**), land uses (**Figure 5**), natural resources (**Figure 6**), water agencies (**Figure 7**), and wastewater agencies (**Figure 8**).

The Compendium is comprised of a series of abstracts that include information about water resources initiatives relevant to the Hodges Catchment. For purposes of the Compendium, water resources initiatives are defined as projects, programs, planning efforts, agencies, and stakeholder interest groups that have some role in the management of water in the Hodges Catchment. The purpose of the Compendium is to provide a compilation of relevant regulations, plans, programs, projects, agencies, and stakeholders that can cumulatively help to explain the current status of the Hodges Catchment and therefore set the stage for describing and understanding watershed management issues within the Hodges Catchment.

The Compendium is the initial component of a two-part study that will be used to determine potential ways in which an integrated (IRWM) approach could be used to improve outcomes and lead to more sustainable management of water resources within the San Diego IRWM Region, using the Hodges Catchment as a case study. The alignment between IRWM planning and existing water management regulations is particularly important as the State's *2013 California Water Plan* is increasing emphasis on IRWM planning as the next generation approach to water management. Given this statewide emphasis on IRWM planning, the RWMG would like to make recommendations to the California Department of Water Resources (DWR), the State Water Resources Control Board, and other regulatory bodies about ways in which an IRWM approach could be used to improve water management and therefore fulfill expectations that water managers within California move towards integrated planning strategies.

This map provides a comprehensive overview of San Diego County, California. It highlights the county's diverse landscape, from coastal areas to inland mountainous regions. Key features include:

- Cities and Towns:** San Juan, Carlsbad, San Luis Rey, San Dieguito, San Diego, Peñasquitos, Sweetwater, Otay, and Tijuana.
- Highways:** Major routes such as I-5, I-15, I-805, and I-8 are clearly marked.
- Water Bodies:** Numerous reservoirs and lakes are labeled, including Red Mountain Reservoir, Beck Reservoir, Morro Reservoir, Lake Pulgas, Lake O'Neill, Lake Henshaw, Lake Poway, and Lake Murray.
- Geographical Features:** The map shows the county's borders with Riverside County to the north, San Diego County to the east, and Mexico to the south. It also depicts the coastline and major rivers like the San Diego River and Sweetwater River.
- Infrastructure:** A network of roads and highways is shown, connecting various parts of the county.

An inset map in the top right corner provides a broader context, showing the location of San Diego County within the state of California.

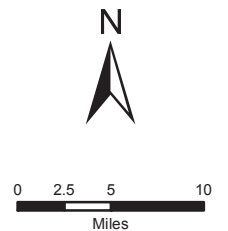
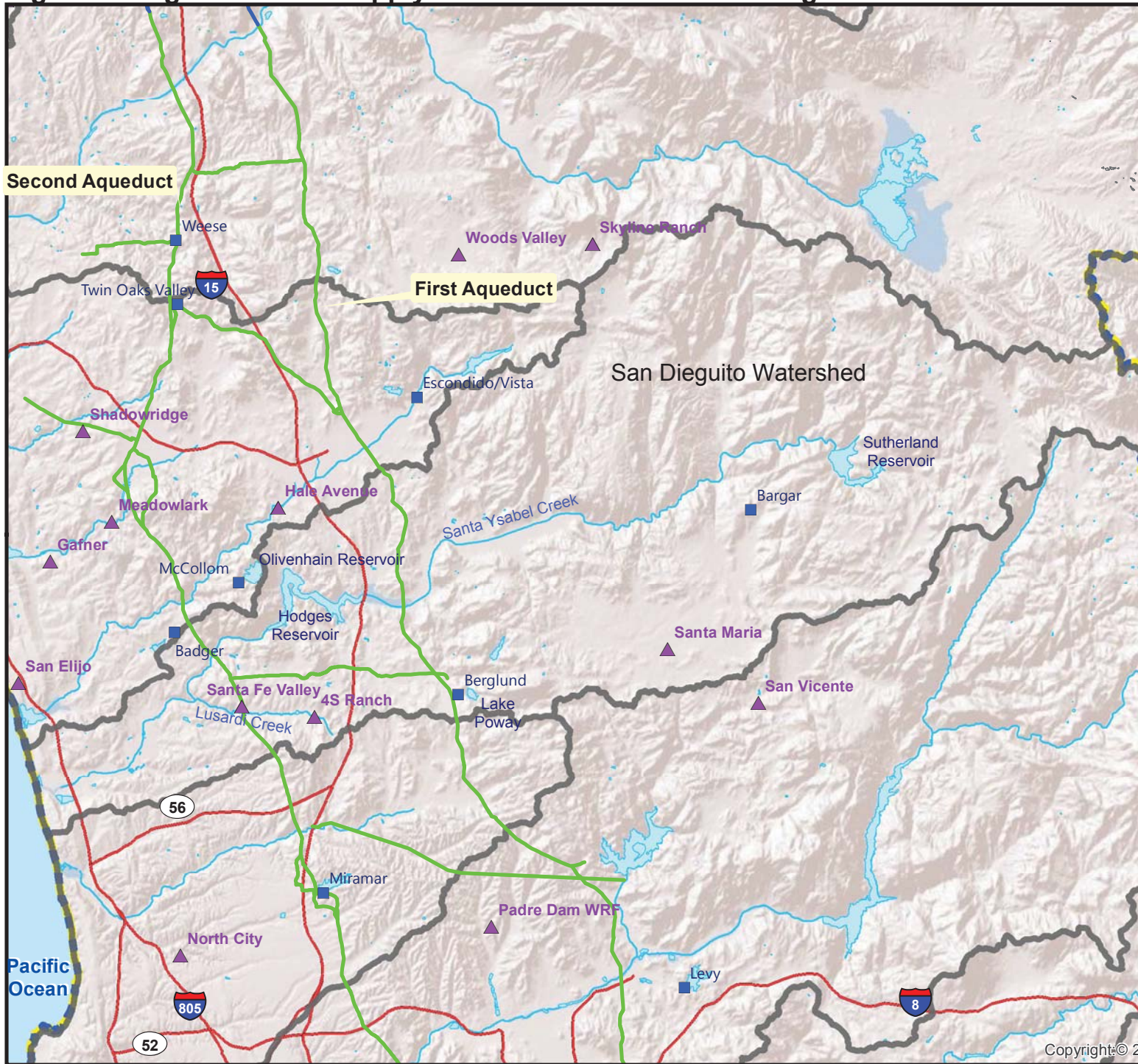


Figure 2: Regional Water Supply Infrastructure in the San Dieguito Watershed



Source: San Diego Association of Governments (SANDAG) - GIS Data Warehouse, Metropolitan Water District
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Figure 3: Hodges Catchment

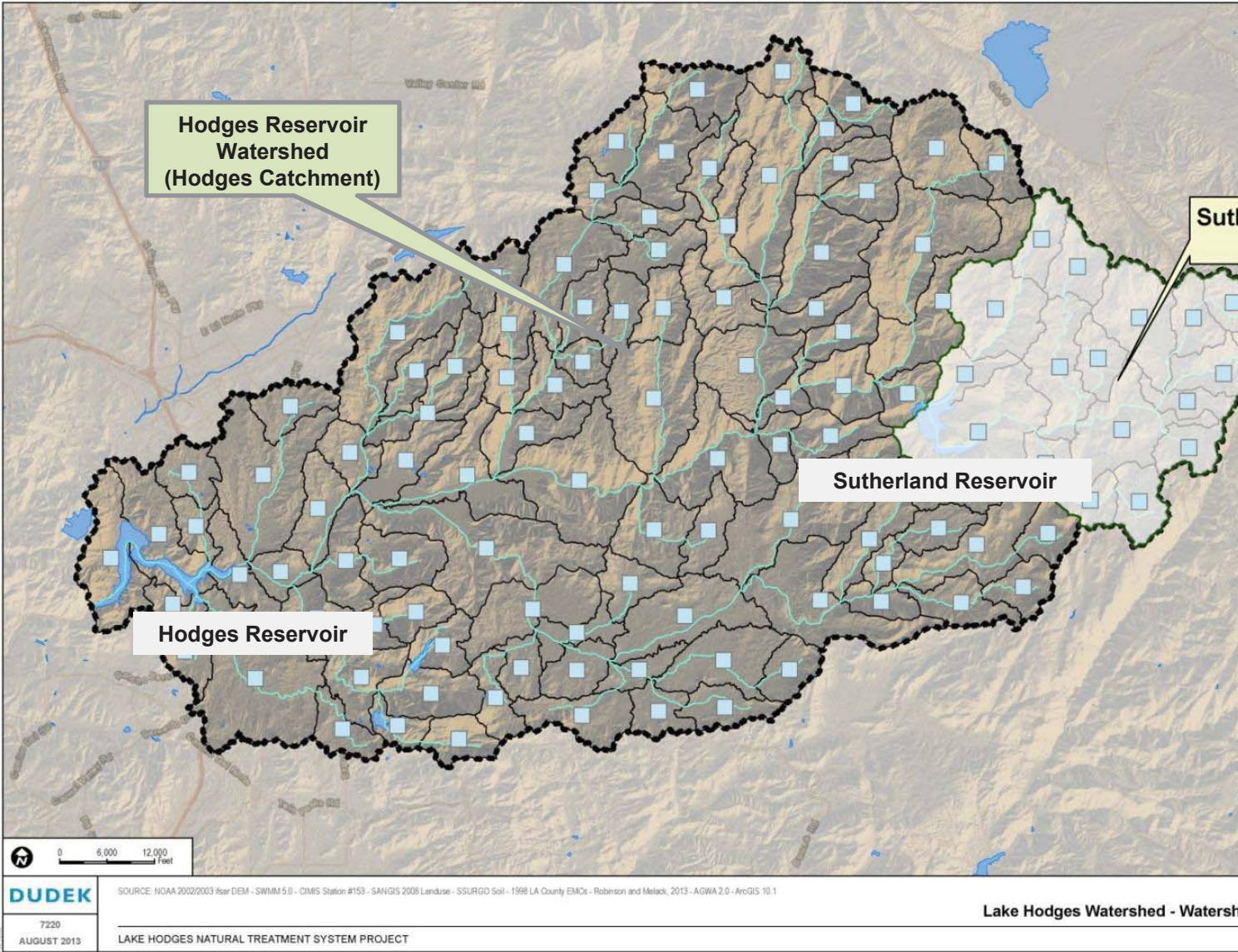


Figure 4: San Dieguito Watershed

- Water Treatment Plant
- Wastewater Treatment Plant
- ◆ Desalination Facility
- ▲ Water Reclamation Facility
- Metropolitan Aqueducts
- Water Authority Aqueducts
- San Dieguito Watershed
- 100 Year FEMA Floodplain
- Groundwater Basins
- San Diego IRWM Region
- Impaired Water Bodies (303(d) List)
- Waterbody
- Impaired Rivers (303(d) List)
- River
- Freeway

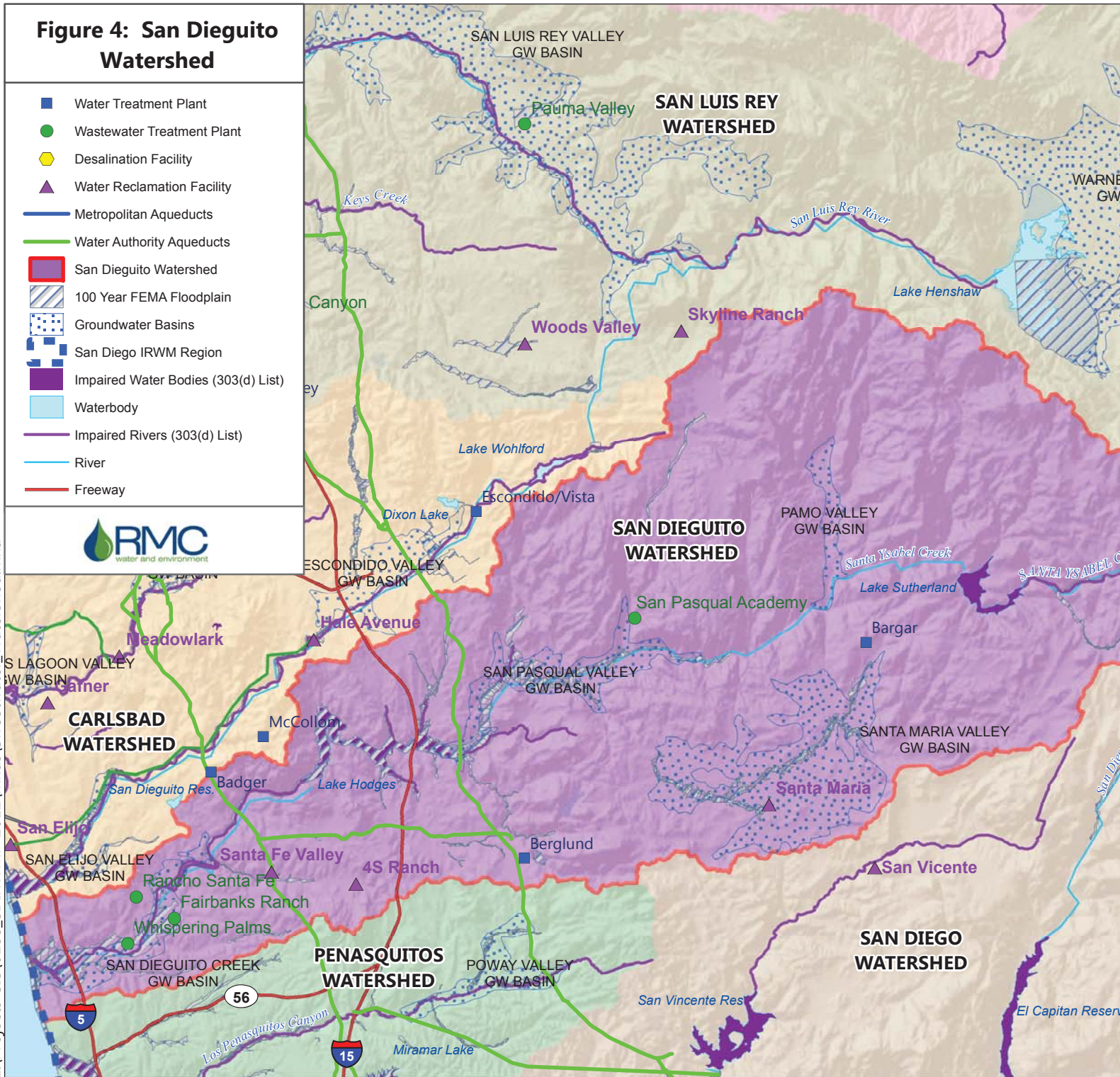
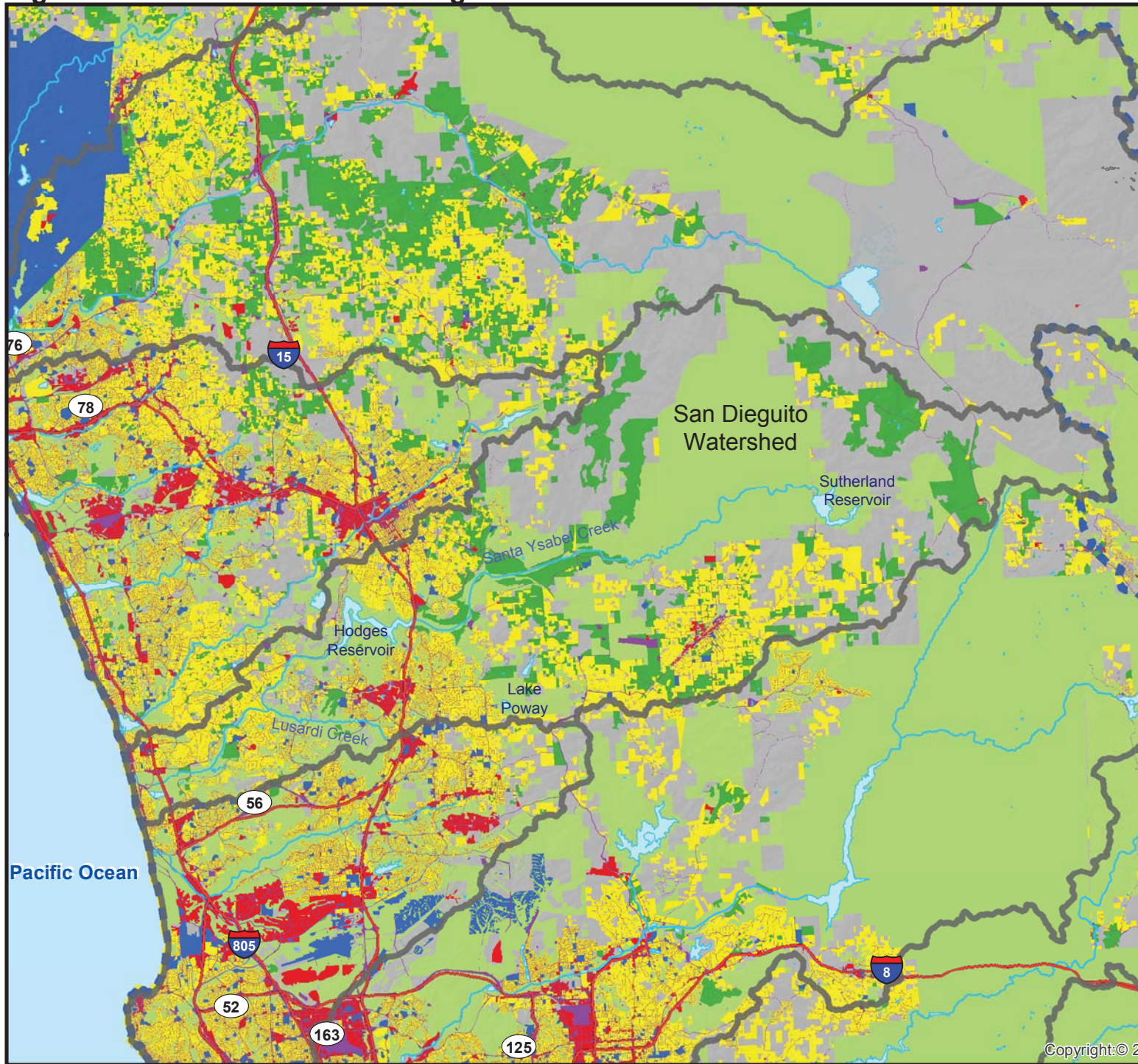
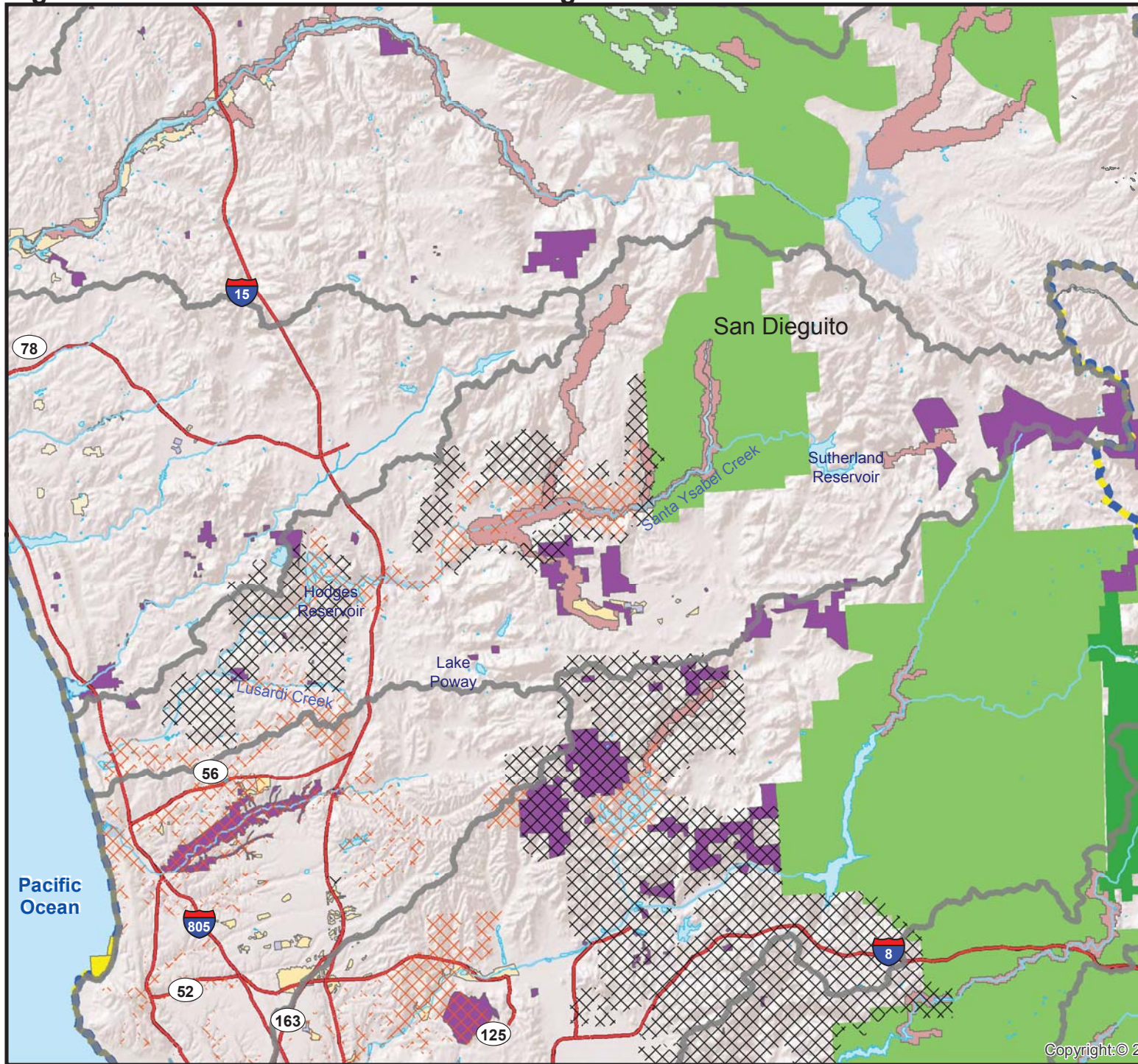


Figure 5: Land Use in the San Dieguito Watershed



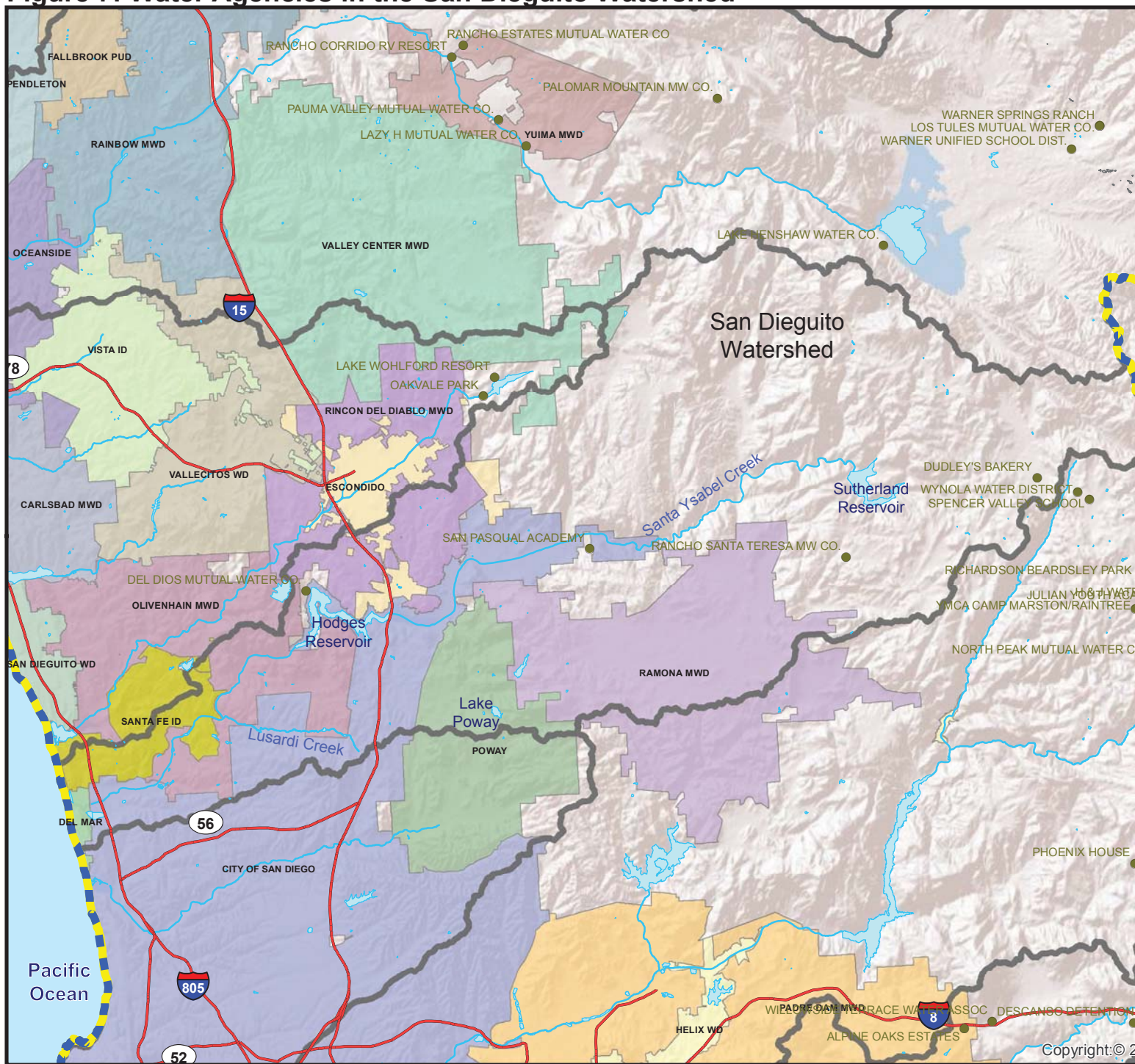
Source: San Diego Association of Governments (SANDAG) - GIS Data Warehouse
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Figure 6: Natural Resources in the San Dieguito Watershed



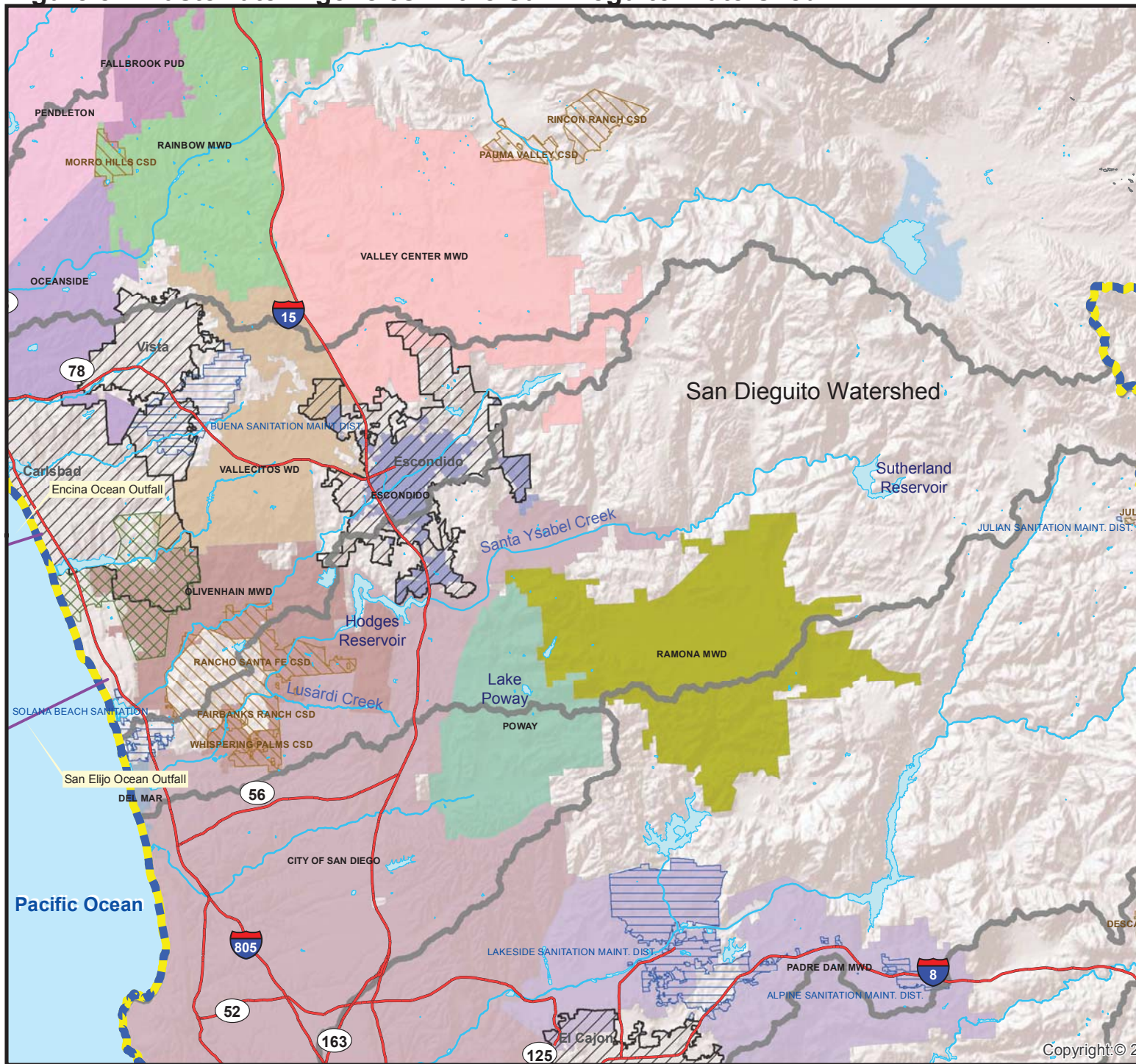
Critical Habitat, USFWS, Available: <http://criticalhabitat.fws.gov/Areas of Special Biological Significance>, SWRCB, Available: http://www.swrcb.ca.gov/water_issues/programs/ocean/asbs_areas.shtml
Parks, Cleveland Nat'l Forest, MCSP & MHPA, SANGIS, Available: http://www.sangis.org/Download_GIS_Data.htm
N:\Projects GIS\10188-003 SDIRWM Plan Update\HodgesWhitePaper\Fig3-16_NatResources_SanDieguito

Figure 7: Water Agencies in the San Dieguito Watershed



County of San Diego, Department of Environmental Health, Small Water Systems dataset, San Diego County Water Authority Member Agencies. Available: http://www.sangis.org/Download_GIS_Data.htm
 * The City of National City and South Bay Irrigation District have formed a joint powers authority, the Sweetwater Authority, to provide water supply within their jurisdictions.
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Figure 8: Wastewater Agencies in the San Diegoquito Watershed



San Diego County Water Authority Member Agencies, Community Service Districts & Sanitation Districts, Available: http://www.sangis.org/Download_GIS_Data.htm
 Note: City utility districts are based on their municipal boundaries. Data to show their actual sanitation district boundaries do not currently exist, so there may be some overlap.
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Compendium of Water Resource Initiatives in the Hodges Catchment

1 Regulatory Documents

Water Quality Control Plan for the San Diego Basin (Basin Plan),	1-2
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Jurisdictional Urban Runoff Management Plans (JURMPs) for Watershed Copermittees	1-9
Resolution R9-2007-0101, Amendment to the Water Quality Control Plan for the San Diego Basin (9) to Incorporate the Revised Conditional Waivers of Waste Discharge Requirements for Specific Types of Discharge within the San Diego Region, October 10, 2007	1-11
Water Quality Improvement Plan for the San Dieguito River Watershed	1-13
California Safe Drinking Water Act / Federal Safe Drinking Water Act (1974)	1-15

<p>Date and Title:</p> <p>Water Quality Control Plan for the San Diego Basin (Basin Plan), September 8, 1994 with amendments effective on or before April 4, 2011</p>
<p>Entity Responsible for the Initiative:</p> <p>California Regional Water Quality Control Board, San Diego Region</p>
<p>Entity's Authority or Responsibility within the Hodges Catchment:</p> <p>The State of California enacted the Dickey Water Pollution Act in 1949 and Division 7 of the 1969 California Water Code (the Porter-Cologne Water Quality Act) establish the authority of the Regional Water Quality Control Boards. Porter-Cologne required the Regional Boards to initiate development of comprehensive Regional Water Quality Control Plans. The Federal Water Pollution Control Act (the Clean Water Act) was passed in 1972 with the objective of restoring and maintaining the chemical, physical, and biological integrity of the Nation's waters to make all surface waters swimmable and fishable. These two sets of laws, at the federal and state levels, provide the authority granted to the Regional Board to develop and ensure implementation of the Basin Plan, designed to preserve, enhance, and protect the waters of the State. This authority applies to the Hodges Catchment, as well as in other watersheds throughout the San Diego Region.</p>
<p>Purpose or Goal of the Initiative:</p> <p>The purpose of the Basin Plan is to preserve and enhance water quality and protect the beneficial uses of all regional waters. The Basin Plan accomplishes this through four key functions:</p> <ul style="list-style-type: none"> • Designates beneficial uses for surface and ground waters; • Sets narrative and numeric water quality objectives that must be attained or maintained to protect the designated beneficial uses; • Describes the implementation programs to protect the beneficial uses of all waters in the San Diego Region; and • Describes surveillance and monitoring activities to evaluate the effectiveness of the Plan. <p>Additionally, the Basin Plan incorporates all applicable State and Regional Board Plans and Policies by reference. The Basin Plan sets forth five key policies for water quality management:</p> <ul style="list-style-type: none"> • Water quality objectives, beneficial uses, and water quality control plans and policies adopted by the State Water Resources Control Board and Regional Water Quality Control Board shall be an integral part of the basis for water quality management. • Water shall be reclaimed and reused to the maximum extent feasible. • Point sources and nonpoint sources of pollution shall be controlled to protect designated beneficial uses of water. • In stream beneficial uses shall be maintained, and when practical, restored, and enhanced. • A detailed and comprehensive knowledge of the beneficial uses, water quality and activities affecting water quality throughout the Region shall be maintained.

Key Relevant Information Relating to or Impacting the Hodges Catchment:

Existing beneficial uses listed for surface waters within the Hodges Catchment include (**bold** indicates a beneficial use for groundwater also):

- **Municipal and Domestic Supply (MUN)**
- **Agricultural Supply (AGR)**
- **Industrial Service Supply (IND)**
- Industrial Process Supply (PROC)
- Ground Water Recharge (GWR)-potential
- Contact Water Recreation (REC-1)
- Non-contact Water Recreation (REC-2)
- Preservation of Biological Habitats of Special Significance (BIOL)
- Warm Freshwater Habitat (WARM)
- Cold Freshwater Habitat (COLD)
- Wildlife Habitat (WILD)
- Rare, Threatened, or Endangered Species (RARE)

All beneficial uses listed above do not apply to all waters in the catchment. See Basin Plan Tables 2-2, 2-4, and 2-5 for beneficial uses applicable to Inland Surface Waters, Reservoirs and Lakes, and Ground Water, respectively.

303(d) Listings within the Hodges Catchment include:

- Cloverdale Creek – TDS, phosphorus
- Green Valley Creek – sulfate, chloride, manganese, pentachlorophenol
- Kit Carson Creek – TDS, pentachlorophenol
- Felicita Creek – TDS, aluminum
- Lake Hodges – phosphorus, color, nitrogen, turbidity, manganese, pH, mercury
- San Dieguito River – enterococcus, fecal coliform, nitrogen, phosphorus, TDS, toxicity

TMDLs affecting the Hodges Catchment include:

- Revised Total Maximum Daily Loads for Indicator Bacteria, Project I – Twenty Beaches and Creeks in the San Diego Region (Including Tecolote Creek) [Waterbody is the Pacific Ocean Shoreline at San Dieguito River/Lagoon Mouth]

Table 4-8 of the Basin Plan lists Lake Hodges as a receiving water impacted by pollution from stormwater and urban runoff (according to the Nonpoint Source Inventory Report), citing nutrients and dissolved solids. Of note: this table was in the 1st Term MS4 Permit for the San Diego Region (Order No. 90-42). Three subsequent MS4 permits have been re-issued since and more recent information pertaining to sources of pollutant in Lake Hodges has been collected under various programs.

Key Conclusions and Recommendations of the Initiative:

The Basin Plan is the principle regulatory document pertaining to water quality in the San Diego Region, setting forth water quality standards (beneficial uses and water quality objective) for the surface and ground waters in the Region, as well as plans and programs to ensure that these standards are attained or maintained. The Basin Plan incorporates all relevant State (e.g., Antidegradation Policy) and Regional (e.g., TMDLs) policies into one regulatory document. In this sense, the Basin Plan is a comprehensive tool that expresses how the Regional Board will implement the Federal Clean Water Act and State Porter Cologne Act to protect and enhance water resources in the region.

Implementation or Follow-On Actions Called Out by the Initiative:

Chapter 4 of the Basin Plan is entitled “Implementation” and addresses the control of point source pollutants, industrial waste, groundwater dewatering, dredging and disposal of dredge spoil, discharges of waste to land, control of non-point source pollution, coastal nonpoint pollution control program, erosion and sediment control, remediation of pollution, total maximum daily loads, and other programs. This chapter should be consulted for further detail related to these programs.

State Law (California Water Code section 13170 and 13170.2) and Federal Clean Water Act [Section 303(c)(1)] requires the State and Regional Boards to perform a major review of their plans periodically. Federal law specifies that this should occur every three years. Review and updates are accomplished through a comprehensive “Triennial Review” process, which includes public input in updating the Plan. Changes identified in the Triennial Review process, or any other changes or additions to the Basin Plan, necessitate a Basin Plan Amendment (BPA).

<p>Date and Title:</p> <p>Order R9-2013-0001, NPDES No. CAS0109266, National Pollutant Discharge Elimination System (NPDES) Permit and Waste Discharge Requirements for Discharges from the Municipal Separate Storm Sewer Systems (MS4s) Draining the Watersheds within the San Diego Region (MS4 Permit), Adopted on May 8, 2013, Effective on June 27, 2013</p>
<p>Entity Responsible for the Initiative:</p> <p>The California Regional Water Quality Control Board, San Diego Region is the regulatory agency responsible for developing and enforcing the provisions of the Order. The Copermittees within the San Diego Region are responsible for implementation of the provisions under the Order. Orange County and Riverside County Copermittees will be enrolled under this Permit and responsible for implementation in their watersheds and jurisdictions as their current MS4 Permits expire, Orders R9-2009-0002 on December 16, 2014 and R9-2010-0016 on November 10, 2015, respectively.</p>
<p>Entity's Authority or Responsibility within the Hodges Catchment:</p> <p>Copermittees within the San Dieguito River Watershed subject to Order R9-2013-0001 include (those with authority within the Lake Hodges catchment are in bold):</p> <ul style="list-style-type: none"> • City of Del Mar • City of Escondido • City of Poway • City of San Diego • City of Solana Beach • County of San Diego <p>Under the MS4 Permit, these agencies are required to implement water quality improvement strategies and runoff management programs that effectively prohibit non-stormwater discharges into the Copermittees' MS4s, and reduce pollutants in stormwater discharges from the Copermittees' MS4s to the maximum extent practicable. The agencies are required to ensure that adequate legal authority is in place such that they are able to develop, implement, and enforce programs and permit provisions as necessary to comply with the Permit.</p>
<p>Purpose or Goal of the Initiative:</p> <p>The MS4 Permit contains five key provisions, each with its own purpose and goal.</p> <ul style="list-style-type: none"> • Provision A – Prohibitions and Limitations <u>Purpose:</u> Describe the conditions under which stormwater and non-stormwater discharges into and from MS4s are prohibited or limited. <u>Goal:</u> Protect the water quality and designated beneficial uses of waters of the state from adverse impacts caused or contributed to by MS4 discharges. • Provision B – Water Quality Improvement Plans <u>Purpose:</u> Develop Water Quality Improvement Plans that guide the Copermittees' jurisdictional runoff management programs towards achieving the outcome of improved water quality in MS4 discharges and receiving waters. <u>Goal:</u> Further the Clean Water Act's objective to protect, preserve, enhance, and restore the water quality and designated beneficial uses of waters of the state. • Provision C – Action Levels <u>Purpose:</u> For the Copermittees to incorporate numeric action levels in the Water Quality Improvement Plans. <u>Goal:</u> To guide Water Quality Improvement Plan implementation efforts and measure progress toward the protection of water quality and designated beneficial uses of water of the state from adverse impacts caused or contributed to by MS4 discharges.

<ul style="list-style-type: none"> Provision D – Monitoring and Assessment Program Requirements <u>Purpose:</u> For the Copermittees to monitor and assess the impact on the conditions of receiving waters caused by discharges from the Copermittees’ MS4s under wet weather and dry weather conditions. <u>Goal:</u> To inform the Copermittees about the nexus between the health of receiving waters and the water quality condition of the discharges from their MS4s. Provision E – Jurisdictional Runoff Management Programs <u>Purpose:</u> For each Copermittee to implement a program to control the contribution of pollutants to and the discharges from the MS4 within its jurisdiction. <u>Goal:</u> To implement strategies that effectively prohibit non-stormwater discharges to the MS4 and reduce the discharge of pollutants in stormwater to the maximum extent practicable.
<p>Key Relevant Information Relating to or Impacting the Hodges Catchment:</p> <p>Provision B of the Order requires the watershed Copermittee’s to collaborate and develop a Water Quality Improvement Plan to address the highest priority water quality issues within the San Dieguito Watershed. The Water Quality Improvement Plan requires the Copermittees to identify the highest priority water quality condition in the watershed, develop numeric goals, strategies, and schedules to address the condition, and develop and implement monitoring and assessment programs to assess progress.</p> <p>The MS4 Permit incorporates the existing Total Maximum Daily Loads (TMDLs) that apply to the area covered by the permit at the time the permit was issued. Hodges Reservoir is scheduled to have its TMDL completed in 2019, which will address color, manganese, nitrogen, pH, phosphorus, and turbidity. Attachment E of the MS4 Permit includes the enforceable provisions of the Total Maximum Daily Load (TMDL) for Indicator Bacteria Project I – Twenty Beaches and Creeks in the San Diego Region (including Tecolote Creek). The attachment sets forth interim and final compliance requirements for the TMDL. The TMDL is a significant driver of Copermittee water quality priorities and programs in the watershed.</p>
<p>Key Conclusions and Recommendations of the Initiative:</p> <p>This iteration (fourth term) of the MS4 Permit represents a major shift in the approach to improving water quality within the San Diego Region. The Permit requires the implementation of outcome driven, watershed based programs to solve the region’s complex water quality problems. The intent of this approach is to develop and implement long term, watershed based strategies and track improvements based on environmental outcomes. This permit requires long range planning, as the Regional Board acknowledges that the water quality problems may take several permit cycles to solve.</p>
<p>Implementation or Follow-On Actions Called Out by the Initiative:</p> <p>Water Quality Improvement Plans and corresponding updates to the Jurisdictional Runoff Management Programs are in progress, with final Plans and Programs due to the Regional Board by June 27, 2015. Upon approval, Copermittees will begin implementation of the strategies and programs identified in these documents. The MS4 Permit itself is renewed and updated every five years.</p>

Date and Title:	
San Dieguito River Watershed Urban Runoff Management Plan (WURMP), March 2008	
Entity Responsible for the Initiative:	
Copermittees within the San Dieguito River Watershed subject to Order R9-2007-0001 (MS4 Permit):	
<ul style="list-style-type: none"> • City of Del Mar • City of Escondido (lead agency) • City of Poway 	<ul style="list-style-type: none"> • City of San Diego • City of Solana Beach • County of San Diego
Entity's Authority or Responsibility within the Hodges Catchment:	
The Cities of Escondido, Poway, San Diego, and the County of San Diego own and operate municipal separate storm sewer systems (MS4s) within the Lake Hodges Catchment. Under the MS4 Permit, these agencies are responsible for prohibiting non-stormwater discharges from entering or discharging from their MS4s and for reducing the pollutants in stormwater runoff to the maximum extent practicable. Through their ordinances, the agencies have authority over existing land uses that are not otherwise regulated by the Regional Board (e.g., agriculture, Phase II dischargers) with respect to the discharge of non-stormwater and pollutants in stormwater.	
Purpose or Goal of the Initiative:	
The WURMP was a requirement of Order R9-2007-0001. The MS4 Permit required collaboration between agencies to protect and enhance the water quality of receiving waters within the watershed. The San Dieguito WURMP identified and prioritized water quality problems within the watershed that were determined to be potentially attributable to discharges from MS4s and may be addressed through a cross jurisdictional approach. Activities to abate sources of pollution and restore and protect beneficial uses of receiving waters are also identified in the document.	
Key Relevant Information Relating to or Impacting the Hodges Catchment:	
Required "watershed activities" pertaining to water quality and education, were identified in the WURMP and subsequent annual reports to address the high priority water quality problems identified for the watershed. Activities relevant to the Hodges Catchment (905.2) include:	
<ul style="list-style-type: none"> • Alpha Project Trash Cleanups • I Love A Clean San Diego Trash Cleanup Sponsorship • San Diego CoastKeeper Trash Cleanup Sponsorship • Targeted Inspections (animal, landscaping, municipal, and restaurant facilities) • Municipal Rain Barrel Installation • Trash Segregation Device Installation • Irrigation Controller and Xeriscape Incentive Program 	<ul style="list-style-type: none"> • Sediment and Peak Flow Controls • Increased Trash Receptacles and Dogi-Pot Stations • Public Service Announcements • Mobile Advertising • Restaurant Inspection Outreach • Community Based Social Marketing Outreach Pilot Project

Key Conclusions and Recommendations of the Initiative:

Based on assessments performed under previous permits, historical, and current water quality data, the Copermittees determined that the high priority water quality problems in the San Dieguito River Watershed Management Area are:

1. Bacteria/Pathogens in all Hydrologic Areas
2. Nutrients in the San Pasqual Hydrologic Area

Watershed activities were developed and implemented that were intended to address the highest priority water quality problems. The WURMP also defined an effectiveness assessment strategy to be utilized in assessing watershed activities and the WURMP as a whole. Results of effectiveness assessments and new/modified activities are described in the subsequent WURMP Annual Reports for the watershed.

Implementation or Follow-On Actions Called Out by the Initiative:

The San Dieguito WURMP was a compliance document required under Order R9-2007-0001 which expired with the adoption of the subsequent Regional MS4 Permit (Order R9-2013-0001, adopted on May 8, 2013). The WURMP was implemented for the five year permit term and the Copermittees provided Annual Reports to the Regional Board each January documenting implementation, water quality changes, new activities, and effectiveness assessments. Under the new Order R9-2013-0001, the WUMRP has been replaced by the Water Quality Improvement Plans, currently under development.

Date and Title:	
Jurisdictional Urban Runoff Management Plans (JURMPs) for Watershed Copermittees: Existing JURMPs were developed in 2008 under Order R9-2007-0001 and updated annually; under Order R9-2013-0001, the agencies are currently updating their Jurisdictional Runoff Management Programs (JRMPs) in accordance with strategies developed in the Water Quality Improvement Plan.	
Entity Responsible for the Initiative:	
Each Copermittee within the San Dieguito River Watershed subject to Orders R9-2007-0001 (“old” MS4 permit) and R9-2013-0001 (“new” MS4 Permit) must have a JURMP under the old MS4 Permit and a JURMP under the new MS4 Permit. These agencies include (agencies with responsibilities in the Hodges Catchment are in bold):	
<ul style="list-style-type: none"> • City of Del Mar • City of Escondido • City of Poway 	<ul style="list-style-type: none"> • City of San Diego • City of Solana Beach • County of San Diego
Entity’s Authority or Responsibility within the Hodges Catchment:	
The Cities of Escondido, Poway, San Diego, and the County of San Diego own and operate municipal separate storm sewer systems (MS4s) within the Lake Hodges Catchment. Under the MS4 Permits, these agencies are responsible for prohibiting non-stormwater discharges from entering or discharging from their MS4s and for reducing the pollutants in stormwater runoff to the maximum extent practicable. Through their ordinances, the agencies have authority over existing land uses that are not otherwise regulated by the Regional Board (e.g., agriculture, Phase II dischargers) with respect to the discharge of non-stormwater and pollutants in stormwater. Areas of responsibility include municipal facilities and operations, industrial/commercial facilities, construction and new development, and residential areas. Under the new MS4 Permit, agencies are required to develop and implement enforcement response plans that detail an escalating enforcement process to be used in establishing and enforcing urban runoff and stormwater requirements.	
Purpose or Goal of the Initiative:	
The purpose of the Jurisdictional Runoff Management Programs is for each Copermittee to implement a program to control the contribution of pollutants to and the discharges from the MS4 within its jurisdiction. The goal of the JRMPs is to implement strategies that effectively prohibit non-stormwater discharges to the MS4 and reduce the discharge of pollutant in stormwater to the maximum extent practicable.	
The JRMPs consist of eight key elements:	
<ul style="list-style-type: none"> • Legal Authority Establishment and Enforcement • Illicit Discharge Detection and Elimination • Development Planning 	<ul style="list-style-type: none"> • Construction Management • Existing Development Management • Enforcement Response Plans • Public Education and Participation • Fiscal Analysis

<p>Key Relevant Information Relating to or Impacting the Hodges Catchment:</p> <p>The agencies within the Lake Hodges Catchment are responsible for effectively prohibiting the discharge of pollutants into and from their MS4 during dry weather. Further, they are responsible for reducing pollutants in stormwater to the maximum extent practicable. The activities implemented to meet these requirements may benefit water quality within Lake Hodges. However, there are key areas within the Lake Hodges Catchment that the Copermittees do not have authority with respect to stormwater and non-stormwater discharges. Discharges such as runoff from agricultural land uses; Federal/State facilities; Caltrans; and Phase II permittees are regulated separately by the State or Regional Boards and do not fall under the authority of the Copermittees. For example, agricultural land uses generally operate under a conditional waiver from the Regional Board; Caltrans operates under its own MS4 Permit issued by the State Water Resources Control Board; and Phase II permittees (e.g., school districts, transit authorities) operate under a MS4 Permit issued by the State Water Resources Control Board to operators of small MS4s.</p>
<p>Key Conclusions and Recommendations of the Initiative:</p> <p>The Copermittees' JRMPs detail the plans and programs that the agencies will implement to address non-stormwater and stormwater discharges within their jurisdiction in accordance with requirements in their MS4 Permit. These programs are assessed periodically and updated as need during the permit term.</p>
<p>Implementation or Follow-On Actions Called Out by the Initiative:</p> <p>Under the new MS4 Permit, agencies are required to update their JRMPs to be consistent with and implement strategies developed in the Water Quality Improvement Plans. All JRMPs must be updated and submitted to the Regional Board concurrent with development and submittal of the Water Quality Improvement Plans. Both final documents are due to the Regional Board by June 27, 2015.</p>

<p>Date and Title:</p> <p>Resolution R9-2007-0101, Amendment to the Water Quality Control Plan for the San Diego Basin (9) to Incorporate the Revised Conditional Waivers of Waste Discharge Requirements for Specific Types of Discharge within the San Diego Region, October 10, 2007</p> <p>Conditional Waiver #4 – Discharges from Agricultural and Nursery Operations (incorporated into the Basin Plan under Resolution R9-2007-0101</p> <p>Tentative Order No. R9-2014-TENT, Draft General Waste Discharge Requirements for Discharges of Waste from Commercial Agricultural and Nursery Operations within the San Diego Region, January 23, 2014</p>
<p>Entity Responsible for the Initiative:</p> <p>California Regional Water Quality Control Board, San Diego Region</p>
<p>Entity's Authority or Responsibility within the Hodges Catchment:</p> <p>Water Code section 13260(a) and (c) require persons proposing to discharge waste (as defined in Water Code section 13050(d) or proposing to make a material change in the character, location, or volume of a discharge to file a report of waste discharge (ROWD) with the appropriate Regional Board. Water Code section 13264 prohibits persons from initiating any new discharge of waste or making any material changes in any discharge prior to the filing of a ROWD and being issued waste discharge requirements (WDRs) by the appropriate Regional Board. Under authority of Water Code 13263(d), the San Diego Water Board may prescribe WDRs although no ROWD has been filed. Pursuant to Water Code section 13263(i), the San Diego Water Board may prescribe general WDRs for a category of discharges if four specific criteria applicable to the discharges in that category are met. Discharges of waste from commercial agricultural and nursery operations meet the four criteria in Water Code section 13263; therefore, regulation under general WDRs is deemed appropriate. ☐</p>
<p>Purpose or Goal of the Initiative:</p> <p>Resolution R9-2007-0101 incorporated Conditional Waiver #4 into the San Diego Basin Plan. This established a waiver of waste discharge requirements for agricultural and nursery operations within the San Diego Region. The purpose of the Conditional Waiver is to provide a mechanism for the Regional Water Quality Control Board to regulate discharges from agricultural and nursery operations within the San Diego Region in the most effective, efficient manner possible. The conditional waiver applies to discharges of plant crop residues to land, stormwater runoff, amendments/mulches to soil, agricultural irrigation return water, and nursery irrigation return water. Under the waiver, the owners/operators were required to submit a Notice of Intent by January 1, 2011, either as an individual operation or as part of a monitoring group. Monitoring and reporting were required beginning in 2012.</p> <p>In early 2014, the Regional Water Quality Control Board issued Tentative Order No. R9-2014-TENT, Draft General Waste Discharge Requirements for Discharges of Waste from Commercial Agricultural and Nursery Operations within the San Diego Region. The purpose of the tentative order is to replace Conditional Waiver #4, which expires in 2014. The tentative order establishes specific waste discharge requirements for commercial agricultural and nursery operations, while continuing to provide an option for discharges to be enrolled under a conditional waiver program. The Regional Water Quality Control Board intends to adopt the tentative order in late 2014 or early 2015.</p>

Key Relevant Information Relating to or Impacting the Hodges Catchment:
<p>It appears that most operators of agricultural and nursery operations within the San Diego Region have chosen to participate in a collective monitoring program, as allowed under the waiver program, to obtain proper coverage under Conditional Waiver #4. The San Diego Irrigated Land Group, operated by the San Diego County Farm Bureau has the largest enrollment. It is likely that most operators within the Hodges Catchment are members of this group. Monitoring reports containing information specific to discharges from agricultural and nursery operations are filed annually with the Regional Water Quality Control Board, beginning in December 2012. These reports may provide useful information related to water quality in the San Dieguito River and Lake Hodges.</p>
Key Conclusions and Recommendations of the Initiative:
<p>To be covered under the current conditional waiver, agricultural and nursery operations must file a Notice of Intent to comply with specific conditions applicable to their discharges related to facility design and management; enrollment and education; application of compost as a fertilizer, amendment, or mulch to soil; application of products used in agricultural and nursery operation; inspection and reporting; and specific conditions for agricultural and nursery operations. Those enrolled must perform periodic water quality monitoring, either individually or as a group.</p> <p>Upon adoption of Tentative Order R9-2014-TENT, those enrolled under the current waiver program will be required to comply with the provisions of the new general waste discharge requirements, including BMP implementation and continued monitoring.</p>
Implementation or Follow-On Actions Called Out by the Initiative:
<p>The recently issued Tentative Order R9-2014-TENT is in draft form. The Regional Board has engaged stakeholders, with initial meetings and an informal comment period in January and February 2014. It is expected that the Regional Board will continue the stakeholder process, potentially including meetings with stakeholders, future workshops, and formal public comment periods. Considering the large amount of agricultural lands in the Lake Hodges Catchment, it may be beneficial to participate in the stakeholder process over the next year.</p>

<p>Date and Title:</p> <p>Water Quality Improvement Plan for the San Dieguito River Watershed</p> <ul style="list-style-type: none"> • Part I (Priority Water Quality Conditions, Potential Strategies) in DRAFT, April 2014; • Part II (numeric goals/schedules, strategies/schedules) is <u>due</u> to the Regional Water Quality Control Board (RWQCB) in December 2014; • Full Water Quality Improvement Plan <u>due</u> to the RWQCB in June 2015.
<p>Entity Responsible for the Initiative:</p> <p>Copermittees within the San Dieguito River Watershed developing the Water Quality Improvement Plan according to Order R9-2013-0001 (MS4 Permit) include (agencies within the Hodges Catchment are in bold):</p> <ul style="list-style-type: none"> • City of Del Mar • City of Escondido • City of Poway • City of San Diego (lead agency) • City of Solana Beach • County of San Diego <p>Caltrans is also participating in the development of the Water Quality Improvement Plan. Collectively these seven agencies are referred to as the Responsible Agencies (RAs).</p>
<p>Entity's Authority or Responsibility within the Hodges Catchment:</p> <p>The Cities of Escondido, Poway, San Diego, and the County of San Diego own and operate municipal separate storm sewer systems (MS4s) within the Lake Hodges Catchment. Under the MS4 Permit, the agencies are responsible for prohibiting non-stormwater discharges from entering or discharging from their MS4s and for reducing the pollutants in stormwater runoff to the maximum extent practicable. Through their ordinances, agencies have authority over existing land uses not otherwise regulated by the Regional Water Quality Control Board (e.g., agriculture, Phase II dischargers) with respect to the discharge of non-stormwater and pollutants in stormwater. The agencies are participating in the development of the Water Quality Improvement Plan for the San Dieguito Watershed.</p>
<p>Purpose or Goal of the Initiative:</p> <p>The purpose of the Water Quality Improvement Plans is to serve as a watershed based planning document to guide the Copermittees' jurisdictional runoff management programs towards achieving the outcome of improved water quality in MS4 discharges and receiving waters. The goal of the Water Quality Improvement Plans is to further the Clean Water Act's objective to protect, preserve, enhance, and restore the water quality and designated beneficial uses of waters of the state. Development of the Water Quality Improvement Plans will entail:</p> <ul style="list-style-type: none"> • evaluation of conditions within the watershed to develop the priority and highest priority water quality conditions in the watershed; • development of numeric goals and schedules to assess progress; • development of strategies to address the highest priority water quality conditions; • design and implementation of a watershed monitoring program to assess progress; • implementation of an adaptive management process to facilitate program enhancements through and beyond the permit term.
<p>Key Relevant Information Relating to or Impacting the Hodges Catchment:</p> <p>The first draft deliverable was submitted to the Regional Water Quality Control Board in May 2014</p>

and was released for a 30 day public comment period, ending on June 13, 2014. This initial draft deliverable details the process used to select the priority water quality conditions and ultimately select the highest priority water quality condition(s) for the watershed. Potential strategies to address the highest priority water quality conditions are also presented. In this report, Municipal and Domestic Supply (MUN) and Non-contact Water Recreation (REC-2) beneficial uses were noted as impaired in Lake Hodges. Impairment listings include phosphorus, color, nitrogen, turbidity, manganese, pH, and mercury. Results of the receiving water and MS4 water quality assessments are considered to develop the list of priority water quality conditions for the watershed. For the catchment above Lake Hodges, priority conditions include:

- potential impairment of WARM in Cloverdale Creek due to eutrophic conditions;
- impairment of AGR in Cloverdale Creek due to total dissolved solids;
- impairment of MUN in Green Valley Creek due to chloride and sulfates;
- impairment of MUN in Kit Carson Creek due to total dissolved solids;
- impairment of MUN in Felicita Creek due to total dissolved solids;
- potential impairment of REC-1 above Lake Hodges due to fecal coliform and enterococcus; and
- impairment of MUN in Lake Hodges due to color and eutrophic conditions.

The report identifies and considers data gaps in the watershed, including data gaps above Lake Hodges pertaining to MUN, AGR, WARM, and REC-1 beneficial uses.

With these assessments and other similar assessments performed throughout the watershed, the report then identifies the highest priority water quality conditions for the San Dieguito Watershed as a whole:

- potential impairment of REC-1 at the Pacific Ocean Shoreline by indicator bacteria during wet weather above the impoundment at Lake Hodges, and
- potential impairment of REC-1 at the Pacific Ocean Shoreline by indicator bacteria during wet and dry conditions below the impoundment at Lake Hodges.

Key Conclusions and Recommendations of the Initiative:

The goal will be accomplished through an adaptive planning and management process that identifies the highest priority water quality conditions within a watershed and implements strategies through the jurisdictional runoff management programs to achieve improvements in the quality of discharges from the MS4s and receiving waters.

Implementation or Follow-On Actions Called Out by the Initiative:

As each deliverable (Part I, Part II, and Final Report) are submitted to the Regional Water Quality Control Board, the documents will then be put out for a formal 30 day public comment period. Once the final Water Quality Improvement Plans are approved by the Regional Water Quality Control Board, jurisdictions will begin/continue implementation of programs in support of the strategies developed in the Water Quality Improvement Plan. The watershed stakeholders will implement an adaptive/iterative process to improve and modify the Water Quality Improvement Plan moving forward, with revisions occurring as part of required Annual Reports and as part of the Report of Waste Discharge, prior to permit re-issuance.

Date and Title: California Safe Drinking Water Act / Federal Safe Drinking Water Act (1974)
Entity Responsible for the Initiative: State Water Resources Control Board Division of Drinking Water / Federal Environmental Protection Agency
Entity's Authority or Responsibility within the Hodges Catchment: The State Water Resources Control Board-Division of Drinking Water has primary authority over whether and how Hodges Reservoir can be used as a source of supply for drinking water. Water which is used for drinking purposes and originates from the Hodges Reservoir is therefore regulated by State and Federal Safe Drinking Water Acts and their associated regulations
Purpose or Goal of the Initiative: The purpose of these Safe Drinking Water Acts is to safeguard public health by regulating drinking water supply. Both the state and federal Acts include what is a public water system subject to the requirements of the SDWA, courses of action in the event of a violation, drinking standards for contaminants and requirements for treating surface water supplies.
Key Relevant Information Relating to or Impacting the Hodges Catchment: The State and Federal Acts set maximum contaminant levels (MCLs) for a number of constituents, including total coliforms, organic and inorganic chemicals, and disinfection byproducts as well as the surface water treatment rule. State regulations must be at least as stringent as the Federal regulations. Many California requirements are more stringent than the Federal requirements. If public water systems fail to meet the standards, enforcement actions may be taken. Monitoring frequency can vary depending on the water source and the results of previous samples. Surface water is generally monitored more frequently than groundwater because it faces greater exposure to constituents of concern, while monitoring may occur less frequently if previous testing shows a history or low or non-detectable levels of a constituent. The California Regulations include provisions which mandate monitoring contaminants, including the type of contaminant, frequency and method of sampling and testing, and the reporting of results. The California Act also includes requirements for notifying the public about the quality of water delivered.
Key Conclusions and Recommendations of the Initiative: The California Act finds that each individual has a right to safe drinking water. The Federal Act gives authority to the Administrator to establish a new MCL for a contaminant if it is determined that the contaminant 1) may have an adverse effect on a persons' health, 2) is known to occur or there is a substantial likelihood to occur there in frequencies and at a level affecting public health, and 3) regulation of the contaminant presents a meaningful opportunity for health risk reduction. The California Act gives similar authority to the State to adopt standards. Emerging contaminants often may need to be addressed before a final standard can be adopted. The Federal Act may require monitoring for unregulated constituents to determine if there may be water quality issues. The California Act allows the adoption of notification levels based on health effects before the adoption of a final drinking water standard. One set of emerging contaminants that are currently being investigated includes algae toxins. This is a potential concern for water suppliers using Hodges reservoir

Implementation or Follow-On Actions Called Out by the Initiative:
Water suppliers using Hodges Reservoir are required to treat the water in compliance with the Surface Water Treatment Rule. All agencies currently are in compliance with the rule, but poor water quality in the source water creates treatment challenges which are borne by the downstream agencies as well as challenges associated with algae growth in the reservoir.

Compendium of Water Resource Initiatives in the Hodges Catchment

2 Watershed Plans & Programs

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Date and Title: San Diego Integrated Regional Water Management Plan (IRWM Plan), September 2013
Entity Responsible for the Initiative: Regional Water Management Group (The City of San Diego, County of San Diego, San Diego County Water Authority).
Entity's Authority or Responsibility within the Hodges Catchment: The Regional Water Management Group (RWMG) is tasked with drafting and implementing the Region's Integrated Regional Water Management Plan. The San Diego IRWM Region (Region) encompasses 11 watersheds, including the San Dieguito Watershed and the Hodges Catchment (see Figure 1).
Purpose or Goal of the Initiative: The purpose of the IRWMP is to develop long-term water supply reliability, improve water quality, and protect natural resources within the Region. The IRWM Plan is an interdisciplinary effort between water retailers, wastewater agencies, stormwater and flood managers, and many other stakeholders within the Region. The IRWM Plan identifies projects and programs which will help reach identified regional goals and objectives.
Key Relevant Information Relating to or Impacting the Hodges Catchment: Hodges Reservoir is identified as an important piece of the Region's water supply infrastructure. Within the IRWM Plan, there are several strategies that may impact the Hodges Reservoir and Catchment. Urban water use efficiency may reduce flows (runoff) that enter Hodges Reservoir, while infrastructure improvements may increase the drinking water quality of Hodges Reservoir water.
Key Conclusions and Recommendations of the Initiative: One of the four regional goals outlined in the Plan is to protect and enhance water quality. To help meet this goal, several objectives were developed including enhancing natural hydrologic processes, reducing pollutant sources, and maintaining a reliable water management infrastructure system. The water quality within Hodges Reservoir may improve if these objectives are met.
Implementation or Follow-On Actions Called Out by the Initiative: Many implementation actions include convening workgroups and workshops or collecting and analyzing information to address identified IRWM Plan Objectives.

<p>Date and Title: San Dieguito Watershed Management Plan, Final Report, September 2006</p>
<p>Entity Responsible for the Initiative: City of San Diego</p>
<p>Entity's Authority or Responsibility within the Hodges Catchment: The City of San Diego has jurisdiction over approximately 176,642 acres of land in the San Dieguito Watershed, approximately half of which is within the Hodges Catchment (see Figure 3). The City owns Lake Hodges.</p>
<p>Purpose or Goal of the Initiative: The purpose of developing the San Dieguito Watershed Management Plan (WMP) was to maintain and enhance the long-term health of the watershed's resources while balancing the effects of urbanization and changes in land use. The WMP was prepared in three stages:</p> <ul style="list-style-type: none"> • the first stage included gathering and summarizing information on the existing conditions within the watershed. • the second stage identified concerns and goals of the watershed; and • the third stage involved developing a framework and strategic action plan for watershed management. (City of San Diego, 2006)
<p>Key Relevant Information Relating to or Impacting the Hodges Catchment: Watershed issues and goals were developed in close coordination with stakeholders, including representatives from the community groups, professional consultants, governmental jurisdictions, agriculture, environmental conservationists, and water agencies. The issues affecting the watershed were organized into groups:</p> <ul style="list-style-type: none"> • Water Quality Modifications, • Physical Modifications, • Hydrological Modifications, • Invasive Species, • Water Use, and • Others. <p>The issues were evaluated and placed into a matrix based on their effect on the watershed functions of Water Quality, Water Supply, Biological Resources and Habitat, and Social and Community Resources. The information is summarized in Tables 3.1-4 to 3.1-6 of the WMP.</p> <p>The WMP identifies the following priority constituents of concern in the watershed: nutrients/eutrophication/dissolved oxygen; silt/sediment; toxicity; pathogens; salinity/dissolved solids; and litter/trash.</p>

Key Conclusions and Recommendations of the Initiative:

The protection of the water supply and water quality of Lake Hodges, its groundwater basin, and its tributary drainages is a major priority in the watershed to ensure local and regional water supply.

Water quality issues identified include nutrients, erosion, toxicity, pathogens, salinity, and trash. Strategies were developed to address these issues including: limiting impervious surfaces; reducing discharges contributing to impairments; evaluating, implementing, and monitoring Best Management Practices; limiting erosion; and controlling litter.

Increased demand relative to available water supply, reducing reliance on imported sources, and protecting groundwater were important issues identified during stakeholder meetings. Stakeholders identified potential strategies to reduce these problems including: water conservation, reclaimed water use, minimizing runoff, and maximizing infiltration.

Stressors were identified that affect the quality of native biological resources and habitat including: new development, narrow buffers near urban development, agriculture, invasive plants and non-native animals, fire, and sedimentation. Strategies developed to address these concerns include: preservation of native habitat, maintaining natural stream flows, restoration of degraded habitat areas, minimization of the impacts of development, and public outreach.

Implementation or Follow-On Actions Called Out by the Initiative:

The stakeholders identified one immediate action necessary to effectively implement the WMP. There is a need for an administrative champion, Board, and/or other structured group to coordinate the implementation of the WMP.

Date and Title: San Dieguito River Park Concept Plan, 15 February 2002.
Entity Responsible for the Initiative: The San Dieguito River Valley Regional Open Space Park Joint Powers Authority (JPA).
Entity's Authority or Responsibility within the Hodges Catchment: The JPA is empowered to plan and maintain the San Dieguito River Park. As such, it is responsible for overseeing the implementation of the Concept Plan within the Focused Planning Area (FPA). The FPA extends 55 miles from the desert just east of Volcan Mountain to the ocean at Del Mar, which includes the Hodges Catchment.
Purpose or Goal of the Initiative: The purpose of the Concept Plan is to formally establish the vision and goals for the future use of the San Dieguito River Valley. This includes outlining goals, objectives, and development standards for the FPA as well as developing and implementing proposals to ensure the preservation and protection of the sensitive resources within the FPA.
Key Relevant Information Relating to or Impacting the Hodges Catchment: Hodges Reservoir supports a number of recreational activities including fishing, boating, and windsurfing. There are also large estate developments along the steep northern slopes of the Hodges Catchment to the north and south; the steep southern slopes along the Hodges Catchment remain undisturbed. Urban development encroaches into the southeastern end of the Hodges Catchment. There is also significant cultural significance around Hodges Reservoir.
Key Conclusions and Recommendations of the Initiative: The Concept Plan recommends acquisition of areas of significant resource around Hodges Reservoir in an effort to preserve the viewshed, particularly the ridgelines of the mountains surrounding the reservoir. In addition, any development proposal must include adequate mitigation measures to protect the unique cultural resources within the area. The Plan also recommends opening the facilities at Hodges Reservoir year-round to allow for more public access. While the acquisition and preservation measures may help protect the quality of Hodges Reservoir, allowing year-round public access may negatively affect its quality.
Implementation or Follow-On Actions Called Out by the Initiative: Individual master plans for each of the landscape units, including Hodges Reservoir, will be developed and further define the proposals outlined in the Concept Plan. Other future planning activities include identification of funding sources, development of volunteer programs, and preparation of resource management plans for JPA-owned properties.

Date and Title: Watershed Sanitary Survey, 2010.
Entity Responsible for the Initiative: The City of San Diego.
Entity's Authority or Responsibility within the Hodges Catchment: The City of San Diego provides municipal water supply to its service customers through imported water from San Diego County Water Authority and nine local reservoirs, one of which is Hodges Reservoir. The City owns Hodges Reservoir and is responsible for its operation and maintenance.
Purpose or Goal of the Initiative: The purpose of the Watershed Sanitary Survey is to identify actual or potential sources of contamination, or any other watershed-related factor, which might adversely affect the quality of water used for domestic drinking water. The Survey also provides general recommendations for improving watershed management practices to protect the quality of the surface waters entering the reservoirs.
Key Relevant Information Relating to or Impacting the Hodges Catchment: Hodges Reservoir is not connected to the Colorado River Aqueduct. However, because private boating is allowed on the Reservoir, veliger and adult Dreissena mussel population monitoring is being conducted. The severity of fires has increased, with 76,693 more acres burned within the watershed from 2006-2010 than from 2001-2005. However, source water quality data indicates little change in parameters since 2005, with a decline in MTBE values, all non-detect.
Key Conclusions and Recommendations of the Initiative: A majority of the land area within the source water boundaries for Hodges Reservoir has steep slopes which are highly susceptible to erosion, especially if vegetation is disturbed. This can greatly affect the water quality of Hodges Reservoir. Urban development continues to pose the greatest potential concerns for chronic water quality degradation in the Hodges system. The greatest concern for acute water quality degradation is wastewater spills and fires, particularly if such events are large, severe, or occur in sensitive areas.
Implementation or Follow-On Actions Called Out by the Initiative: One follow-on action outlined in the Survey includes formulating a watershed land strategy to acquire parcels, conservation easements, or development rights for lands proximal to the source waters that, if preserved, would protect water quality.

Date and Title: San Diego County Water Authority Drought Management Plan (DMP), 2006
Entity Responsible for the Initiative: San Diego County Water Authority (SDCWA)
Entity's Authority or Responsibility within the Hodges Catchment: SDCWA is the imported water wholesaler for San Diego County, and provides imported water to its 24 member agencies, including the City of San Diego, and other water agencies within the Hodges Catchment.
Purpose or Goal of the Initiative: The DMP outlines drought responses and triggers, and identifies actions that SDCWA can implement to mitigate drought impacts on supplies. It provides the basis for the Model Drought Response Conservation Program Ordinance, which can be used by SDCWA member agencies to provide a template for potential drought response actions.
Key Relevant Information Relating to or Impacting the Hodges Catchment: <p>The DMP consists of three stages of drought response: 1) voluntary supply management, 2) supply enhancement, and 3) mandatory cutbacks. These responses are designed to minimize economic impacts of drought restrictions on the region. In Stage 3, an allocation methodology is described that provides the ways in which SDCWA will allocate available supplies to its member agencies in the event of reaching a Stage 3 drought. Agencies that increase local supplies or local supply reliability through implementation of projects are provided a greater allocation than they would normally have received under Stage 3 allocations.</p> <p>Many of the Urban Water Management Plans (UWMPs) included in the Compendium (see following pages) incorporated the DMP in their water shortage contingency analyses. These analyses address supply shortages due to a catastrophe, drought, or other situations. The DMP also summarizes SDCWA's Integrated Contingency Plan (ICP) and Emergency Storage Program (ESP), which address catastrophic water shortages that could occur when a disaster, such as an earthquake or a prolonged, severe drought, results in insufficient water available to meet the Region's needs or eliminates access to imported water supplies.</p> <p>The Voluntary stage is triggered with the Metropolitan Water District of Southern California (MWD), which supplies imported water to SDCWA for sale to the 24 member agencies, begins to withdraw water from storage due to supply shortages to meet normal demands. The Supply Enhancement stage is triggered when MWD reduces deliveries to its member agencies (including SDCWA) – this generally would occur in year 3 or 4 of a dry period. The third stage, Mandatory Cutbacks, is triggered once supply enhancement is no longer possible due to supply shortages or cost. This final stage could include utilization of ESP supplies, though this is recommended only during a severe hydrologic drought.</p> <p>The DMP outlines five phases of drought response: 1) Normal Periods, in which water supplies generally match demands; 2) Phase One, in which MWD begins to remove water from storage due to shortages in supply (triggers Voluntary stage); 3) Phase Two, in which MWD begins to restrict water deliveries to its member agencies (triggers Supply Enhancement) but SDCWA still has sufficient supplies to meet demand; 4) Phase Three, which would occur in year 4 or 5 of a drought and SDCWA is no longer able to meet demand (triggers Mandatory Cutbacks); 5) Phase Four, in which MWD is</p>

implementing significant restrictions in deliveries, and SDCWA is forced to pass most of these shortages on to its member agencies (SDCWA supplemental supplies insufficient to address majority of shortages). Under Phase Four, water is reserved for health and safety purposes.
Key Conclusions and Recommendations of the Initiative: <p>Implementation of planned water supply reliability projects will reduce the potential for high rationing levels as seen in previous droughts. The DMP provides for both water allocations during restrictions, and means to avoid rationing, and should be used as guidance for SDCWA and its member agencies for drought planning and response.</p>
Implementation or Follow-On Actions Called Out by the Initiative: <p>The DMP calls for implementation of drought responses when triggered, and implementation of the recommended communication strategy to coordinate drought response across member agencies, the public, and the media.</p>

Date and Title: City of San Diego 2010 Urban Water Management Plan (UWMP) , May 2011
Entity Responsible for the Initiative: City of San Diego (City)
Entity's Authority or Responsibility within the Hodges Catchment: The City of San Diego provides water and wastewater services within its service area. The City also owns the Hodges Reservoir and land surrounding the reservoir.
Purpose or Goal of the Initiative: The purpose of the UWMP is to describe the City's water supply sources and projected water demands in accordance with the Urban Water Management Planning Act and also to serve as a long-term planning document for the City and its residents. The 2010 UWMP also includes conservation measures as required by Senate Bill X7-7, which mandates jurisdictions to reduce per-capita water demands by 20% by 2020.
Key Relevant Information Relating to or Impacting the Hodges Catchment: OMWD provides potable water and recycled water within its service area. OMWD is a member agency of the San Diego County Water Authority (SDCWA), from which it purchases treated and raw imported water supplies. The UWMP explains that the San Diego County Water Authority's (SDCWA's) Emergency Storage Project (ESP) includes a series of projects involving Hodges Reservoir (referred to as the "Lake Hodges Projects"). The Lake Hodges Projects will connect Hodges Reservoir to the Olivenhain Reservoir (owned by SDCWA and Olivenhain Municipal Water District), thereby allowing the City to access 20,000 acre-feet of water in Hodges Reservoir and allow water from Hodges Reservoir to be distributed throughout the San Diego Region through the ESP facilities. The Hodges Projects will also help to maintain water levels within Hodges Reservoir and allow access to water in rainy seasons given that currently during rainy seasons water may spill over Hodges Dam.
Key Conclusions and Recommendations of the Initiative: The UWMP includes a variety of information about water supply and reliability planning, including efforts to diversify water supplies. Such efforts include potable reuse efforts as well as implementing components of the ESP, which will help to regionally manage local water resources.
Implementation or Follow-On Actions Called Out by the Initiative: The main actions called out by the UWMP involve conservation measures that will reduce the City's per capita water demands by 20% by 2020 and implementation of efforts to diversify local water supplies. These conservation measures could potentially impact the Hodges Reservoir by reducing pollutant loading into the reservoir if the 20% conservation measures include reduced outdoor irrigation and therefore reduced runoff.

Date and Title: City of Escondido 2010 Urban Water Management Plan (UWMP) , July 2011
Entity Responsible for the Initiative: City of Escondido
Entity's Authority or Responsibility within the Hodges Catchment: The City of Escondido has authority over its jurisdictional areas, which are located north of Hodges Reservoir. The City of Escondido supplies potable water and recycled water throughout its service area and also operates wastewater facilities. The City is also responsible for stormwater management within its jurisdiction, including portions of the Hodges Catchment.
Purpose or Goal of the Initiative: The purpose of the UWMP is to describe the City's water supply sources and projected water demands in accordance with the Urban Water Management Planning Act. The UWMP also includes conservation measures as required by Senate Bill X7-7, which mandates jurisdictions to reduce per-capita water demands by 20% by 2020.
Key Relevant Information Relating to or Impacting the Hodges Catchment: The conservation measures explained in the 2010 UWMP have the potential to impact the Hodges Catchment by reducing flows (runoff) that enter Hodges Reservoir. Further, the 2010 UWMP explains that the City plans to implement indirect potable reuse (IPR) in the future as a water supply. IPR could impact the Hodges Catchment by reducing salt loading into the catchment due to advanced water treatment facilities.
Key Conclusions and Recommendations of the Initiative: The City currently relies highly on purchased water from the San Diego County Water Authority (imported water). In the future the City intends to diversify its water supply portfolio by increasing local surface water and recycled water and implementing IPR.
Implementation or Follow-On Actions Called Out by the Initiative: The main actions called out by the UWMP involve conservation measures that will reduce the City's per capita water demands by 20% by 2020. These conservation measures could potentially impact the Hodges Reservoir by reducing pollutant loading into the reservoir if the 20% conservation measures include reduced outdoor irrigation and therefore reduced runoff.

Date and Title: City of Poway 2010 Urban Water Management Plan (UWMP) , June 2011
Entity Responsible for the Initiative: City of Poway
Entity's Authority or Responsibility within the Hodges Catchment: <p>The City of Poway has authority over its jurisdictional areas, which are located upstream and south of Hodges Reservoir. The City of Poway supplies potable water throughout its service area and also delivers recycled water that is purchased from the City of San Diego. The City of Poway catches small amounts of rain water and runoff in Lake Poway, but supplies are considered minimal and are not a planned source of water. The City is also responsible for stormwater management within its jurisdiction, including portions of the Hodges Catchment.</p>
Purpose or Goal of the Initiative: <p>The purpose of the UWMP is to describe the City's water supply sources and projected water demands in accordance with the Urban Water Management Planning Act. The UWMP is also to serve as a planning document for the City of Poway and regional decision makers, and to provide the public with information about water service in the City of Poway. The 2010 UWMP also includes conservation measures as required by Senate Bill X7-7, which mandates jurisdictions to reduce per-capita water demands by 20% by 2020.</p>
Key Relevant Information Relating to or Impacting the Hodges Catchment: <p>The UWMP explains that the northern portion of the City of Poway flows into the San Dieguito River and Hodges Reservoir, while the southern portion of the City flows into Los Peñasquitos Creek. The UWMP explains that while surface water flows into Lake Poway are minimal, by agreement with the City of San Diego, 50 percent of seasonal stream flow into Lake Poway must be passed on to the City of San Diego – unless conditions are very wet and Hodges Reservoir overflows.</p> <p>The UWMP acknowledges that part of the City's Water Use Reduction Plan is to reduce and infiltrate runoff. These activities could reduce flows into Hodges Reservoir if they take place in the northern portion of the City.</p>
Key Conclusions and Recommendations of the Initiative: <p>The City currently relies highly on purchased potable water from the San Diego County Water Authority and purchased recycled water from the City of San Diego. The UWMP acknowledges that other sources of supply are not realistic, and it is not likely that the City will develop other forms of supply such as recycled water.</p>
Implementation or Follow-On Actions Called Out by the Initiative: <p>The main actions called out by the UWMP involve conservation measures that will reduce the City's per capita water demands by 20% by 2020. These conservation measures could potentially impact the Hodges Reservoir by reducing pollutant loading into the reservoir if the 20% conservation measures include reduced outdoor irrigation and therefore reduced runoff.</p>

Date and Title: Ramona Municipal Water District 2010 Urban Water Management Plan (UWMP) , December 2011
Entity Responsible for the Initiative: Ramona Municipal Water District (Ramona)
Entity's Authority or Responsibility within the Hodges Catchment: Ramona provides water and wastewater services within its service area, which is located upstream of Hodges Reservoir. Ramona provides water for urban and agricultural uses to unincorporated areas in the central area of San Diego County, including the census designated places of Ramona and San Diego Country Estates.
Purpose or Goal of the Initiative: The purpose of the UWMP is to describe Ramona's water supply sources and projected water demands in accordance with the Urban Water Management Planning Act. The UWMP also includes conservation measures as required by Senate Bill X7-7, which mandates jurisdictions to reduce per-capita water demands by 20% by 2020.
Key Relevant Information Relating to or Impacting the Hodges Catchment: Ramona provides water supplies within its service area from several sources including imported water, surface water, groundwater, and recycled water. Surface water is provided from Sutherland Reservoir (outside of Hodges Catchment) and Lake Ramona, which is located within the Hodges Catchment. Lake Ramona contains minimal amounts of stormwater runoff and mostly contains imported water purchased from the San Diego County Water Authority. This water is largely supplied to agricultural customers. The UWMP states that while Ramona has groundwater wells, these wells are largely unused due to nitrate issues; however, there are many private groundwater wells in the service area.
Key Conclusions and Recommendations of the Initiative: Ramona currently relies largely on imported water from the Water Authority. Ramona has a water treatment plant; however, this plant is not currently in use. If the treatment plant is used in the future, the UWMP states that the primary water source would likely be untreated water from Sutherland Reservoir. In the future, Ramona will continue to rely upon imported water and locally-produced recycled water for golf and agricultural users.
Implementation or Follow-On Actions Called Out by the Initiative: The main actions called out by the UWMP involve conservation measures and expanded recycled water use that will reduce Ramona's per capita water demands by 20% by 2020. These conservation measures could potentially impact the Hodges Reservoir by reducing pollutant loading into the reservoir if the 20% conservation measures include reduced outdoor irrigation and therefore reduced runoff.

Date and Title: Rincon del Diablo Municipal Water District 2010 Urban Water Management Plan (UWMP) , June 2011
Entity Responsible for the Initiative: Rincon del Diablo Municipal Water District (Rincon)
Entity's Authority or Responsibility within the Hodges Catchment: Rincon provides water and recycled water within its service area, which is located north of Hodges Reservoir. Rincon is a special district and provides water and fire protection service within specific boundaries.
Purpose or Goal of the Initiative: The purpose of the UWMP is to describe Rincon's water supply sources and projected water demands in accordance with the Urban Water Management Planning Act. The 2010 UWMP also includes conservation measures as required by Senate Bill X7-7, which mandates jurisdictions to reduce per-capita water demands by 20% by 2020.
Key Relevant Information Relating to or Impacting the Hodges Catchment: Rincon provides potable water and recycled water within its service area, but does not have authority over stormwater or land use. Recycled water provided within Rincon's service area is produced by the City of Escondido. The conservation measures explained in the 2010 UWMP have the potential to impact the Hodges Catchment by reducing flows (runoff) that enter Hodges Reservoir. Expanded use of recycled water also has the potential to impact the Hodges Catchment by increasing salt and nutrient loading.
Key Conclusions and Recommendations of the Initiative: The UWMP acknowledges that Rincon is making efforts to expand recycled water supplies through coordination with other agencies in northern San Diego County.
Implementation or Follow-On Actions Called Out by the Initiative: The main actions called out by the UWMP involve conservation measures and expanded recycled water infrastructure that will reduce Rincon's per capita water demands by 20% by 2020. These conservation measures could potentially impact the Hodges Reservoir by reducing pollutant loading into the reservoir if the 20% conservation measures include reduced outdoor irrigation and therefore reduced runoff.

Date and Title: San Dieguito Water District Urban Water Management Plan (UWMP), June 2011
Entity Responsible for the Initiative: San Dieguito Water District (SDWD)
Entity's Authority or Responsibility within the Hodges Catchment: SDWD supplies potable and recycled water to customers in the City of Encinitas, including the communities of Old Encinitas, Cardiff-by-the-Sea, New Encinitas, and Leucadia.
Purpose or Goal of the Initiative: The UWMP was developed in compliance with the California Urban Water Management Planning Act, and describes SDWD's water supplies and demands projected into the future for planning purposes. The UWMP identifies water management goals, issues, and needs, including compliance goals to meet the 20% reduction in per-capita urban water use mandated by Senate Bill X7-7 (SBX7-7).
Key Relevant Information Relating to or Impacting the Hodges Catchment: SDWD receives local surface water supplies from Hodges Reservoir, raw imported water from the San Diego County Water Authority (SDCWA), and treated water from SDCWA. Recycled water is purchased from San Elijo Joint Powers Authority (SEJPA). Through an agreement with the City of San Diego and Santa Fe Irrigation District (SFID), SDWD will receive 2,432 AFY of surface water from the estimated annual yield of Hodges Reservoir, which is 11,400 AFY. At the time the UWMP was written, this agreement was still under discussion. The actual amount of water available from Hodges Reservoir varies significantly depending on hydrologic conditions – for example, during the 1977-1978 drought, imported water was 95% of supplies, while in 1985, Hodges supplied 59% of supplies. Raw water owned by SDWD is treated at the R.E. Badger Filtration Plant, which is jointly owned by SDWD and SFID. Raw water is also stored in the San Dieguito Reservoir, also jointly owned with SFID.
Key Conclusions and Recommendations of the Initiative: The UWMP emphasizes drought response and management. It includes the Drought Response Conservation Ordinance, which outlines SDWD's process for declaring and increasing drought levels, and what such declarations would mean in terms of water use restrictions for customers.
Implementation or Follow-On Actions Called Out by the Initiative: SDWD will implement monthly billing to improve leak detection. It may also implement allocation-based rate structure to reduce per-capita use to achieve SDWD's SBX7-7 goals. The SBX7-7 goals could potentially impact the Hodges Reservoir by reducing pollutant loading into the reservoir if the 20% conservation measures include reduced outdoor irrigation and therefore reduced runoff.

Date and Title: Santa Fe Irrigation District 2010 Urban Water Management Plan (UWMP), June 2011
Entity Responsible for the Initiative: Santa Fe Irrigation District (SFID)
Entity's Authority or Responsibility within the Hodges Catchment: SFID serves water to customers downstream of Hodges Reservoir. Hodges Reservoir stores local surface water used as part of SFID's potable water supplies.
Purpose or Goal of the Initiative: The purpose of the UWMP is to describe SFID's water supplies and projected demands in accordance with the California Urban Water Management Planning Act of 1983 and Water Conservation Act of 2009 (Senate Bill X7-7 or SBX7-7). The UWMP provides long-term planning for water management within SFID's service area. It also includes conservation goals that will help SFID meet the 20% reduction in per-capita urban use mandated by SBX7-7.
Key Relevant Information Relating to or Impacting the Hodges Catchment: <p>SFID provides potable and recycled water to portions of the City of Solana Beach and the communities of Rancho Santa Fe and Fairbanks Ranch. SFID is one of 24 member agencies of the San Diego County Water Authority from which it purchases imported raw and treated water to meet demand that cannot be served by runoff captured by Hodges Reservoir. SFID purchases recycled water from SEJPA.</p> <p>The UWMP describes how Hodges Reservoir captures local runoff that is then used to supply SFID. It notes that the Hodges Reservoir is included in the Emergency Storage Project (ESP), but that operation of the Hodges portion of the ESP is not anticipated to impact SFID's use of the reservoir or availability of SFID supplies stored in the reservoir. SFID's portion of water supplied by Hodges Reservoir can be pumped either directly to the R.E. Badger Filtration Plant (Badger Plant) for treatment, or to San Dieguito Reservoir, where the raw water is pre-treated prior to delivery to the Badger Plant. Pretreatment may be required to address water quality problems from eutrophication in Hodges Reservoir during summer and high runoff volumes during winter. Water quality issues at Hodges Reservoir that impact treatability include total organic carbon (TOC), coliform bacteria, iron, manganese, TDS, dissolved oxygen (DO) levels, <i>Cryptosporidium sp.</i> and <i>Giardia sp.</i>, and algae. Poor source water quality creates treatment challenges at Badger, and water quality constituents of concern can change dramatically between seasons and during and after storm events. Treatment challenges in spring and summer are related to algae blooms, iron, manganese, and sulfides, while challenges in winter generally include turbidity and loading of organics.</p> <p>Hodges Reservoir supplies approximately 26% of SFID's supplies. SFID shares surface water rights to Hodges Reservoir with San Dieguito Water District (SDWD) and the City of San Diego. Through a joint agreement, annual yield from Hodges Reservoir is 11,400 AFY, of which SFID and SDWD share the first 5,700 AFY, the City of San Diego has rights to the remaining 5,700 AFY, and any excess runoff is split 50% to the City of San Diego, and the remaining 50% shared by SFID and SDWD. SFID and SDWD have an agreement in which SFID receives 57.3% of their shared allotment, and SDWD receives 42.7%. SFID therefore has the right to 3,268 AFY runoff stored in Hodges Reservoir.</p>

<p>Key Conclusions and Recommendations of the Initiative:</p> <p>SFID has implemented supply diversification to improve supply reliability. It is currently expanding its recycled water system to increase recycled water use.</p>
<p>Implementation or Follow-On Actions Called Out by the Initiative:</p> <p>The UWMP suggests that increased mixing between Hodges Reservoir and Olivenhain Reservoir through operation of the ESP may improve water quality in Hodges Reservoir. It also notes that SDCWA has sought funding to explore projects that may improve water quality at Hodges Reservoir. Actions that can be implemented by SFID include continued conservation efforts to ensure SFID meets its SBX7-7 goals despite projected growth, and continued expansion of SFID's recycled water system. The SBX7-7 goals could potentially impact the Hodges Reservoir by reducing pollutant loading into the reservoir if the 20% conservation measures include reduced outdoor irrigation and therefore reduced runoff.</p>

Date and Title: City of San Diego Recycled Water Master Plan Update, August 2011 (last updated in 2005)
Entity Responsible for the Initiative: The City of San Diego.
Entity's Authority or Responsibility within the Hodges Catchment: The City of San Diego provides municipal water supply to its service customers through imported water from San Diego County Water Authority and nine local reservoirs, one of which is Hodges Reservoir. The City owns Hodges Reservoir and is responsible for its operation and maintenance.
Purpose or Goal of the Initiative: The purpose of the Recycled Water Master Plan is to define, encourage, and develop the use of reclaimed water within the boundaries of the City of San Diego. The 2010 Update was completed in conjunction with the Recycled Water Study; this Study recommends non-potable reuse and indirect potable reuse (IPR) projects. The 2010 Update evaluates opportunities to maximize non-potable reuse if the IPR projects in the Recycled Water Study are not pursued. The 2010 Update describes the existing non-potable system and near-term expansions, and identifies potential long-term non-potable reuse expansion concepts.
Key Relevant Information Relating to or Impacting the Hodges Catchment: The 2010 Update identifies non-potable reuse demand focus areas, one of which lies directly south of Hodges Reservoir. The Rancho Bernardo/I-15 Corridor encompasses the northeastern portion of the City's service area and is estimated to demand approximately 2,600 AFY of recycled water. Recycled water for this focus area would potentially come from the North City Water Reclamation Plant (NCWRP) or from a satellite plant located east of Hodges Reservoir.
Key Conclusions and Recommendations of the Initiative: One of the conclusions of the 2010 Update relating to the Hodges Catchment is that the Rancho Bernardo/I-15 Corridor focus area should be served recycled water with the satellite plant supply rather than from the NCWRP. The satellite plant supply option will require less pipe length than delivering water from the NCWRP primarily because the northern pipe extension from the NCWRP system to serve Rancho Bernardo/I-15 Corridor area would not be required if the satellite plant were constructed. Increased use of recycled water within the Hodges Catchment may decrease the amount of water flowing into the Reservoir.
Implementation or Follow-On Actions Called Out by the Initiative: The Update recommends two follow-on actions that should be completed prior to implementation of expanded non-potable distribution system concepts. These include completing the Recycled Water Study and completing the Water Purification Demonstration Project to determine feasibility of indirect potable reuse projects for the City.

Date and Title: City of Escondido Recycled Water Master Plan, June 2011
Entity Responsible for the Initiative: The City of Escondido.
Entity's Authority or Responsibility within the Hodges Catchment: The City of Escondido has authority over its jurisdictional areas, which are located north of Hodges Reservoir. The City of Escondido supplies potable water and recycled water throughout its service area and also operates wastewater facilities. The City is also responsible for stormwater management within its jurisdiction, including portions of the Hodges Catchment.
Purpose or Goal of the Initiative: The purpose of the Recycled Water Master Plan is to review the recycled water system within the City of Escondido and provide recommendations for system upgrades and improvements, particularly to the Hale Avenue Resource Recovery Facility (HARRF). The HARRF is the sole source of recycled water for the City and serves approximately 81 meters. These customers account for approximately 4 million gallons per day of beneficial reuse.
Key Relevant Information Relating to or Impacting the Hodges Catchment: The HARRF, as well as the City's service area for recycled water, is located north of the Hodges Reservoir.
Key Conclusions and Recommendations of the Initiative: The Plan recommends a phased approach to expanding the HARRF system capacity. Initially, it is recommended that the system be expanded to a capacity of 9 million gallons per day (MGD) to serve additional recycled water demands. Phase II increases capacity to 13.5 MGD to meet further demands, which requires incorporating tertiary treatment. Phase III would expand capacity to 18 MGD which would include adding two large pumps and upgrading the booster system. Increased use of recycled water will likely decrease treated wastewater flows into Hodges Reservoir.
Implementation or Follow-On Actions Called Out by the Initiative: The Master Plan recommends a proposed Capital Improvement Program based on the findings. This Program includes cost estimates for pipelines, booster pump stations, and storage tanks. In addition, the Program outlines the improvements and costs associated with each of the expansion phases.

Date and Title: Santa Fe Irrigation District Recycled Water Master Plan, August 2005.
Entity Responsible for the Initiative: Santa Fe Irrigation District.
Entity's Authority or Responsibility within the Hodges Catchment: The Santa Fe Irrigation District has little authority within the Hodges Catchment. The District does, however, have rights to surface water from Hodges Reservoir, which provides about 30% of the District's total supply.
Purpose or Goal of the Initiative: The purpose of the Recycled Water Master Plan (Plan) is to evaluate and document potential recycled water supply sources and the distribution of recycled water within the Santa Fe Irrigation District service area. The Plan also addresses recycled water goals for the District, which include developing a recycled water delivery goal and distribution system planning criteria, documenting existing District recycled water customers and demand, and identifying potential future recycled water customers.
Key Relevant Information Relating to or Impacting the Hodges Catchment: The District receives most of its water from imported sources, with the remainder supplemented from Hodges Reservoir. Given the high costs of imported water, the District maximizes its use of local supplies to the extent possible.
Key Conclusions and Recommendations of the Initiative: The Plan provides several recommendations for recycled water supply alternatives, including San Elijo Joint Powers Authority supply alternatives, the City of San Diego supply alternative, and the local community service districts supply alternative. Each of these supply alternatives have outlined alternative distribution systems, for which the Plan provides cost estimates. Increased use of recycled water within the District would likely not affect the amount of Hodges Reservoir water used by the District, as the District would offset imported water with recycled water due to high imported water costs. However, increased recycled water use may decrease the inflow into Hodges Reservoir.
Implementation or Follow-On Actions Called Out by the Initiative: The Master Plan outlines an implementation approach, which includes entering into a long-term agreement with another City or agency. The Plan outlines potential recycled water combination projects and options to allow the District to begin discussions with selected agencies to determine if there is a mutual benefit and consensus to proceed further. The Plan states that a distribution system can be constructed to initially supply the Rancho Santa Fe Golf Course and then be expanded later to other areas that will potentially benefit the District most.

Date and Title: San Pasqual Valley Groundwater Basin Salt and Nutrient Management Plan, March 2014.
Entity Responsible for the Initiative: The City of San Diego.
Entity's Authority or Responsibility within the Hodges Catchment: The City of San Diego provides municipal water supply to its service customers through imported water from San Diego County Water Authority and nine local reservoirs, one of which is Hodges Reservoir. The City owns Hodges Reservoir and is responsible for its operation and maintenance.
Purpose or Goal of the Initiative: The purpose of the Salt and Nutrient Management Plan (SNMP) is to identify water quality constituents and assess sources and loads for those identified constituents. The Plan also identifies, evaluates, and recommends implementation strategies aimed at achieving compliance with Basin Plan groundwater Water Quality Objectives.
Key Relevant Information Relating to or Impacting the Hodges Catchment: Generally, the eastern end of the groundwater basin is a recharge area, while the western end is the discharge area with discharge to streams and Hodges Reservoir. In 2010, groundwater levels at the western end of the basin near Hodges Reservoir measured approximately 6 feet below ground surface. Due to agricultural and domestic groundwater pumping, there is seasonal decline in groundwater levels, with lowest levels in late summer.
Key Conclusions and Recommendations of the Initiative: The Plan recommends a number of nutrient and salinity management measures to that will help the basin achieve compliance with listed Water Quality Objectives. For instance, to address nutrient loading in the area, an educational and technical assistance outreach program is recommended to support landowners. Stormwater management is also recommended. Controlling the discharge of sediments and nutrients in stormwater from both urban stormwater drainage and agricultural runoff is recommended. These programs may help reduce the amount of nutrients flowing into Hodges Reservoir, thereby increasing quality.
Implementation or Follow-On Actions Called Out by the Initiative: The SNMP includes an Implementation Plan with selected long-term management strategies. Some of the highest priority actions include nutrient management on City-leased lands, nutrient management outreach for private lands, and stormwater management.

Date and Title: San Pasqual Groundwater Management Plan, November 2007.
Entity Responsible for the Initiative: The City of San Diego.
Entity's Authority or Responsibility within the Hodges Catchment: The City of San Diego provides municipal water supply to its service customers through imported water from San Diego County Water Authority and nine local reservoirs, one of which is Hodges Reservoir. The City owns Hodges Reservoir and is responsible for its operation and maintenance.
Purpose or Goal of the Initiative: The goal of the Groundwater Management Plan is to understand and enhance the long-term sustainability and quality of groundwater within the basin, and protect this groundwater resource for beneficial uses including water supply, agriculture, and the environment. The purpose of the Plan is to serve as the initial framework for coordinating activities to improve management of the groundwater.
Key Relevant Information Relating to or Impacting the Hodges Catchment: The groundwater basin is bounded by Hodges Reservoir to the southwest and the Peninsular Ranges to the northeast. Generally, groundwater is deeper on the eastern edge of the basin near Santa Ysabel and Santa Maria Creeks and shallower on the western edge near Hodges Reservoir. Groundwater levels near Hodges Reservoir are steady regardless of hydrologic year type.
Key Conclusions and Recommendations of the Initiative: One of the conclusions of the Plan is that the interaction between groundwater and surface water has not been extensively studied within the basin. The primary occurrence of surface water and groundwater interaction occurs at Hodges Reservoir as a result of underflow from the basin to the Reservoir. The existence of plants that obtain water from a permanent ground supply around Hodges Reservoir necessitates the need for active monitoring of this interaction.
Implementation or Follow-On Actions Called Out by the Initiative: The Plan calls for regular summarization of groundwater and Hodges Reservoir water quality in the bi-annual State of the Basin assessment. Further action includes summarizing surface water quality data from existing City of San Diego monitoring points in the bi-annual assessments.

Date and Title: San Pasqual Valley Plan, 1995, revised February 2006.
Entity Responsible for the Initiative: The City of San Diego
Entity's Authority or Responsibility within the Hodges Catchment: The City of San Diego provides municipal water supply to its service customers through imported water from San Diego County Water Authority and nine local reservoirs, one of which is Hodges Reservoir. The City owns Hodges Reservoir and is responsible for its operation and maintenance.
Purpose or Goal of the Initiative: The purpose of the San Pasqual Valley Plan is to provide guidance for the growth, development, and conservation of the planning area over a 15-year planning horizon. The Plan describes a course of action and is designed to influence and determine decisions regarding land use and development. The Plan proposes specific goals and recommendations and identifies how implementation will affect public services and facilities.
Key Relevant Information Relating to or Impacting the Hodges Catchment: The Hodges Reservoir is the sixth largest reservoir within the City of San Diego's system with an estimated 33,500 acre-feet of storage capacity. Water from Hodges Reservoir is delivered to San Dieguito and Santa Fe Irrigation Districts.
Key Conclusions and Recommendations of the Initiative: The Plan recommends 3 new policies relating to Hodges Reservoir, one of which is that the City shall maintain the water quality in Hodges Reservoir at a level consistent with municipal water supply needs. The Plan also states that the City shall regulate activities that are proven to be detrimental to Hodges Reservoir.
Implementation or Follow-On Actions Called Out by the Initiative: The Plan calls for a re-evaluation of San Pasqual Valley activities after completion of the Watershed Sanitary Survey (which was published in 1996). Activities proven to be detrimental to maintaining useable water quality should be regulated and based upon the State Regional Board's standards and Soil Conservation Service's best management practices.

Date and Title: City of San Diego Watershed Asset Management Plan (WAMP), July 19, 2013 (Appendix E contains the Watershed Asset Management Plan for the San Dieguito Watershed)
Entity Responsible for the Initiative: City of San Diego, Transportation and Stormwater Division
Entity's Authority or Responsibility within the Hodges Catchment: The City of San Diego has jurisdiction over approximately 176,642 acres of land in the San Dieguito Watershed, approximately half of which is within the Hodges Catchment. The City owns Lake Hodges.
Purpose or Goal of the Initiative: The Watershed Asset Management Plan (WAMP) documents the current state of assets (e.g., asset inventory, valuation, condition, risk) and projects the long-range asset renewal (rehabilitation and replacement) requirements for the City of San Diego Storm Water Division. The asset management plans are aligned with watershed management plans. A WAMP is included for six watersheds located within the City, including the San Dieguito Watershed. The WAMP for each watershed is intended to serve as a roadmap for the watershed, fostering prioritization of activities to address flood control and water quality needs.
Key Relevant Information Relating to or Impacting the Hodges Catchment: Table E-2 identifies the baseline high priority water quality problems for the watershed, identifying five pollutants for the five hydrologic areas (HA) as follows: <ul style="list-style-type: none"> • Solana Beach HA – 905.1 – bacteria • Hodges HA – 905.2 – bacteria • San Pasqual HA – 905.3 – bacteria, nutrients • Santa Maria Valley HA – 905.4 – bacteria • Santa Ysabel Valley HA – 905.5 - bacteria Hard, natural, and soft assets are quantified for the watershed, as well as value and condition for these types of assets.
Key Conclusions and Recommendations of the Initiative: Section 10 of the WAMP provides general recommendations pertaining to actions to be taken and projects to be completed for the City to achieve a desired level of service. These include: <ol style="list-style-type: none"> 1. Continue to improve the asset management plan on an annual basis by refining data to increase the level of confidence, and to effectively manage assets at the appropriate hierarchy. 2. Continue to develop a drainage master plan that assesses the hydraulic capacity of the storm drain pipes and inlets, and identifies under-capacity areas and the degree to which they are under capacity. 3. During all planning efforts – flood risk management, NPDES compliance, and TMDL implementation, create cross-functional teams that seek out opportunities to find synergy between projects and program elements that achieve multiple benefits of flood risk management and water quality improvement, if feasible.

4. Complete the Water Quality Improvement Plans and further refine the scheduling of the planning/design and construction costs for CLRP/WQIP BMPs to achieve water quality compliance.
5. While doing routine field inspections, measure the following and input this information into the GEO-SAP system: inlet size and material; pipe size, invert depths, and material; channel size, geometry, material, and depths.
6. Continue to conduct condition assessments of assets (e.g., outfalls) and incorporate the results into future WAMP updates.
7. Include right-of-way as assets in WAMP updates for use as potential future BMPs (e.g. green streets).
8. For mitigation sites developed in response to permitting or other environmental requirements, capture the mitigation sites as assets with specific levels of service tied to the mitigation requirements and project life cycle costs for such assets in the updated WAMPs.
9. Allocate O&M budgets by asset categories and watershed to the extent practicable. Set up a staff charging system that aligns staff time and expenses to specific assets. This will allow for better tracking of costs to perform O&M activities needed to maintain asset LOS.
10. Refine cost categories during future WAMP updates to allocate planning costs, which includes environmental document development and reviews, for capital and maintenance projects into operations and maintenance and program budgets rather than capital budgets, as appropriate.
11. Apply the WAMP to proactively drive future decisions and actions.
12. Document business process flows (e.g., Division budget planning process, etc.) and capture critical asset data and processes. By doing so, the Division will be able to identify areas of potential efficiency gains and specific resources needed to perform the activities.
13. Continue refining the asset inventory (i.e., specific assets) and apply the process down to the appropriate level of the asset hierarchy.
14. Develop and incorporate a process or structure to stratify CLRP activities that are associated with LOS 13a and 13b. Each CLRP activity should be established as a tertiary LOS.
15. Review high risk (based on BRE score) assets shown in each appendix and develop management strategies to promote efficiency to lower risk.
16. Identify assets where additional maintenance or rehabilitation would cost effectively extend that asset's useful life. Adequate and timely maintenance will result in maintaining the asset's level of service.
17. Educate and train staff on the implementation of the WAMP.
18. Perform a cost of service study and identify a dedicated funding source.

Implementation or Follow-On Actions Called Out by the Initiative:

Recommendations and projected costs specific to managing the hard, natural, and soft assets in the San Dieguito Watershed are included in Table E-10 of the WAMP and summarized in the preceding section.

Date and Title: San Dieguito River Valley Invasive Species Management Program
Entity Responsible for the Initiative: San Dieguito River Valley Conservancy
Entity's Authority or Responsibility within the Hodges Catchment: The San Dieguito River Valley Conservancy is a non-profit working within the San Dieguito Watershed to ensure sustainable management of the region's natural resources and partners with local citizens, landowners, government, and other non-governmental agencies. The Conservancy priorities protection work within the San Dieguito River corridor, including the Hodges Catchment.
Purpose or Goal of the Initiative: Many invasive species out-compete native plants, degrade water quality, increase the risk of flooding, alter flow regimes, and provide little to value to wildlife. The purpose of the Invasive Species Management Program is to combat invasive species through the watershed with grant funding and public education. The Program is a collaborative effort between the San Dieguito River Valley Conservancy, the San Dieguito River Park, and other local agencies.
Key Relevant Information Relating to or Impacting the Hodges Catchment: One of the projects within the Program is the Cactus scrub restoration at Lake Hodges/Bernardo Mountain. This completed project involved chemically treating non-native grasses and other annual plants, planting and seeding coastal sage scrub species, and planting prickly pear. A second project removed eucalyptus and chemically treated non-native species, planted riparian trees and shrubs and coastal sage scrubs species in Del Dios Gorge, downstream of Hodges Reservoir.
Key Conclusions and Recommendations of the Initiative: Not Applicable
Implementation or Follow-On Actions Called Out by the Initiative: Not Applicable

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Compendium of Water Resource Initiatives in the Hodges Catchment

3 Reservoir Plans & Programs

Lake Hodges Projects Reservoir Regulation Manual	3-2
Hodges Reservoir Water Quality Improvements Plan.....	3-3

Date and Title: Lake Hodges Projects Reservoir Regulation Manual, April 2008
Entity Responsible for the Initiative: San Diego County Water Authority, Operations and Maintenance Department
Entity's Authority or Responsibility within the Hodges Catchment: The San Diego County Water Authority is tasked with providing a safe and reliable supply of water to its member agencies serving the San Diego region. The City of San Diego, who owns, operates, and maintains Hodges Reservoir, is one of the member agencies of the San Diego County Water Authority. As such, the Authority has some oversight responsibility within the Hodges Catchment.
Purpose or Goal of the Initiative: The Reservoir Regulation Manual provides plans for water storage and pumped storage operations of the Lake Hodges Projects, Phase 3 of the Emergency Shortage Project. The Manual documents water storage operations of the Hodges Reservoir following completion of the Emergency Storage Project, particularly after the completion of the San Vicente Dam Raise project.
Key Relevant Information Relating to or Impacting the Hodges Catchment: <p>The Manual outlines the general operating requirements of Hodges Reservoir based on a series of agreements between the City of San Diego and the San Diego County Water Authority. According to a 2003 Principles of Understanding document, the Water Authority and the City will cooperate to maximize local yield by minimizing emergency storage in the Reservoir between October 1 and March 1 of each year. Pursuant to a 1998 Joint Use Agreement, the Water Authority may use City water stored in Hodges Reservoir during a water shortage emergency to meet regional water needs. This water will be restored with imported water following the cessation of the emergency event at no cost to the City.</p> <p>The Manual also includes information about water quality parameters that limit the introduction of water from Hodges Reservoir to Olivenhain Reservoir and also limit the introduction of water from Olivenhain Reservoir into the regional water supply system via Pipeline 5 (see Table C.3).</p>
Key Conclusions and Recommendations of the Initiative: Not Applicable
Implementation or Follow-On Actions Called Out by the Initiative: Not Applicable

Title: Hodges Reservoir Water Quality Improvements Plan Please note that as evident in <i>Section 4, Projects</i> , the Water Quality Improvements Plan is being implemented through various projects in the Region.
Entity Responsible for the Initiative: The City of San Diego
Entity's Authority or Responsibility within the Hodges Catchment: The City of San Diego provides municipal water supply to its service customers through imported water from San Diego County Water Authority and nine local reservoirs, one of which is Hodges Reservoir. The City owns Hodges Reservoir and is responsible for its operation and maintenance.
Purpose or Goal of the Initiative: The purpose of the Plan is to allow water from Hodges Reservoir to serve both the needs of local supply and imported water. The Plan will investigate and demonstrate options for improving water quality including hypolimnetic oxygenation, aeration, mixing, selective withdrawal, and reservoir operation strategies, as well as runoff controls, wetlands creation, and watershed management. The Plan will include review of all reasonable options, selection of viable options, and academic and professional review of the options.
Key Relevant Information Relating to or Impacting the Hodges Catchment: The Plan will directly impact the Hodges Catchment, as it will propose actions and programs to mitigate negative water quality effects within Hodges Reservoir. These actions will protect and enhance the local and regional water supplies, aquatic habitat, and recreational benefits.
Key Conclusions and Recommendations of the Initiative: Not Applicable
Implementation or Follow-On Actions Called Out by the Initiative: Not Applicable

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Compendium of Water Resource Initiatives in the Hodges Catchment

4 Projects

Proposition 50 Project: Lake Hodges Natural Treatment System Conceptual Design..... 4-2

Proposition 50 Project: Biofiltration Wetland Creation and Education Program..... 4-3

Proposition 84 Round 1 Project: Lake Hodges Water Quality and Quagga Mitigation Measures 4-4

Hodges Reservoir Oxygenation System (HOS) Project 4-5

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Title: Proposition 50 Project: Lake Hodges Natural Treatment System Conceptual Design Note: this project is currently being implemented
Entity Responsible for the Initiative: San Dieguito River Valley Conservancy. Partners include the city of San Diego and Santa Fe ID.
Entity's Authority or Responsibility within the Hodges Catchment: The San Dieguito River Valley Conservancy is a non-profit 501(c)(3) organization that is dedicated to preserving, protecting and restoring natural and cultural resources within the San Dieguito watershed. The conservancy is run by its Board of Directors, with assistance from an Advisory Committee. The conservancy partners with non-profits, stakeholders and the San Dieguito River Park Joint Powers Authority.
Purpose or Goal of the Initiative: The goal of the project is to develop a model and evaluate nutrient loading from various sources on the Hodges watershed and propose an initial design and a work plan for the reduction of pollutant loads to Hodges Reservoir. The model was based on existing land uses within the catchment and was calibrated based on actual water quality data. Natural treatment systems, such as restored and constructed wetlands are an established cost-effective and environmentally sound way to reduce pollutant loading.
Key Relevant Information Relating to or Impacting the Hodges Catchment: Further actions based on the recommendations of this project will likely increase the quality of Hodges Reservoir by naturally capturing and treating runoff water into Hodges Reservoir.
Key Conclusions and Recommendations of the Initiative: The modeling determined that loading of nitrogen and phosphorus from the watershed were present in the water in Felicita, Cloverdale, Kit Carson and Green Valley Creeks in the Hodges catchment. While the majority of the loading is coming from agriculture, urban runoff also contributes nutrients to the waters within the Hodges catchment. The study recommended a constructed wetlands near the discharge point of Kit Carson Creek into Hodges Reservoir and a detention basin and constructed wetlands along Santa Ysabel Creek.
Implementation or Follow-On Actions Called Out by the Initiative: The next steps to the proposed natural treatment systems preliminary design will be to modify the proposed design to align this project with the Proposition 84 funded water quality project. The Proposition 84 project also proposed a similar wetlands in the same vicinity. Combining the two projects will be more cost effect and help create more integrated watershed and reservoir projects

Title: Proposition 50 Project: Biofiltration Wetland Creation and Education Program Note: this project has been completed
Entity Responsible for the Initiative: Zoological Society of San Diego
Entity's Authority or Responsibility within the Hodges Catchment: The Zoological Society of San Diego has a responsibility to manage water quality within the Safari Park located within the Hodges Catchment.
Purpose or Goal of the Initiative: The project developed a biofiltration wetland within Safari Park, which is being used to improve water quality of runoff within the Park through natural biological filtration, enhance wetlands habitat, and reduce water consumption. The constructed wetlands act as biological filters that are very effective at removing high biological oxygen demand (BOD), total suspended solids, organic nitrogen, and nitrates. In addition to providing habitat, the project also serves to educate visitors about water conservation and the importance of conserving wetlands.
Key Relevant Information Relating to or Impacting the Hodges Catchment: The project can capture and treat runoff from the Safari Park, which is located in the Hodges Catchment.
Key Conclusions and Recommendations of the Initiative: Not Applicable
Implementation or Follow-On Actions Called Out by the Initiative: The Zoological Society continues to operate and maintain the wetlands, collect samples to demonstrate the treatment effectiveness of the wetlands, and use the facility for public outreach.

Title: Proposition 84 Round 1 Project: Lake Hodges Water Quality and Quagga Mitigation Measures Note: this project is currently being implemented
Entity Responsible for the Initiative: San Diego County Water Authority. Partners include the city of San Diego and Santa Fe ID. The Water Authority is the lead for managing the grant and the Quagga Mitigation Measures Study. The city of San Diego is the lead for the Water Quality study.
Entity's Authority or Responsibility within the Hodges Catchment: The San Diego County Water Authority is tasked with providing a safe and reliable supply of water to its member agencies serving the San Diego region. The City of San Diego, who owns, operates, and maintains Hodges Reservoir, is one of the member agencies of the San Diego County Water Authority. As such, the Authority has some oversight responsibility within the Hodges Catchment. The city of San Diego is responsible for managing water quality
Purpose or Goal of the Initiative: The project involves evaluating the methods available to improve water quality within Hodges Reservoir. The project is also assessing potential vulnerabilities from quagga mussels, and will prioritize the implementation, design, and construction of limited control measures to address this invasive species within the pumped storage system.
Key Relevant Information Relating to or Impacting the Hodges Catchment: Water quality concerns and potential solutions for Hodges Reservoir are better understood as a result of this project. In addition, water supply, treatment and pumped storage infrastructure reliability at Hodges Reservoir will likely be improved as a result of implementing control measures to address quagga mussels, which can foul infrastructure.
Key Conclusions and Recommendations of the Initiative: The city of San Diego has completed the Lake Hodges Reservoir Water Quality Assessment Study, Conceptual Planning Report. The report proposed three priority projects for implementation to improve water quality within the reservoir. These include the Reservoir Hypolimnetic Oxygenation System (HOS), Mid Lake Vigorous Epilimnetic Mixing (VEM), and Upper Wetlands for algae corralling and wetlands filters ,
Implementation or Follow-On Actions Called Out by the Initiative: The city of San Diego has applied for grant funding for the HOS system through the Proposition 84 drought round of grant funding. The city of San Diego will coordinate with the San Dieguito River Valley Conservancy to combine their wetlands option with the River Valley Conservancy's proposed watershed based wetlands projects.

Title: Hodges Reservoir Oxygenation System (HOS) Project
Entity Responsible for the Initiative: The City of San Diego
Entity's Authority or Responsibility within the Hodges Catchment: The City of San Diego provides municipal water supply to its service customers through imported water from San Diego County Water Authority and nine local reservoirs, one of which is Hodges Reservoir. The City owns Hodges Reservoir and is responsible for its operation and maintenance.
Purpose or Goal of the Initiative: The purpose of the project is to reduce and control excessive algal productivity, reduce methyl mercury concentrations, increase the oxygen concentration and manage nutrients in the Hodges Reservoir by adding pure or nearly pure oxygen gas into the deep portion of the Reservoir to make up for that lost by bacterial decay of algae. The project has two main objectives: 1) develop an in-lake management Oxygenation System (HOS) to manage and control excessive algal productivity, internal nutrient cycling, and production of methylmercury and 2) improve water quality in the reservoir.
Key Relevant Information Relating to or Impacting the Hodges Catchment: This project will directly improve the water quality within Hodges Reservoir by injecting oxygen into the deeper portions of the Reservoir. The poor quality of the Reservoir has been a deterrent to adding water to the reservoir for emergency storage, thus improving the quality will allow for the use of stored water for emergency drought relief and ensure compliance with drinking water standards.
Key Conclusions and Recommendations of the Initiative: Not Applicable
Implementation or Follow-On Actions Called Out by the Initiative: The city is waiting to see if this project will be partially funded through Proposition 84

Title: Hodges Reservoir Water Quality Improvements Note: this project has been implemented
Entity Responsible for the Initiative: San Diego County Water Authority
Entity's Authority or Responsibility within the Hodges Catchment: The San Diego County Water Authority is tasked with providing a safe and reliable supply of water to its member agencies serving the San Diego region. The City of San Diego, who owns, operates, and maintains Hodges Reservoir, is one of the member agencies of the San Diego County Water Authority. As such, the Authority has some oversight responsibility within the Hodges Catchment.
Purpose or Goal of the Initiative: The purpose of the project is to improve the water quality at Hodges Reservoir. The project includes a feasibility study and has the potential for limited design and implementation of effective and efficient methods to improve the water quality of Hodges Reservoir with the aim of both increased source water usability and reduced operational costs.
Key Relevant Information Relating to or Impacting the Hodges Catchment: The project will directly impact Hodges Reservoir by identifying strategies to improve water quality. Methods that may be evaluated include an environmental runoff diversion system (ERDS), turbidity curtains, hypolimnetic aeration, and increased circulation within the water body. The study will also provide capital improvement recommendations that can be installed within the Reservoir, pump station, and adjacent river. In addition, the study will evaluate costs for purchase, installation, and maintenance, and evaluate potential locations for equipment installation.
Key Conclusions and Recommendations of the Initiative: Not Applicable
Implementation or Follow-On Actions Called Out by the Initiative: Not Applicable

Title: Hodges Reservoir Water Quality Improvements Implementation Projects Note: this project has been implemented
Entity Responsible for the Initiative: The City of San Diego
Entity's Authority or Responsibility within the Hodges Catchment: The City of San Diego provides municipal water supply to its service customers through imported water from San Diego County Water Authority and nine local reservoirs, one of which is Hodges Reservoir. The City owns Hodges Reservoir and is responsible for its operation and maintenance.
Purpose or Goal of the Initiative: The purpose of the project is to improve the water quality in Hodges Reservoir. The project includes the implementation of a set of coordinated multi-agency actions and projects that will allow water from the Hodges Reservoir to meet both local supply and imported storage needs. The actions and programs to be implemented will be based on the findings in the Hodges Reservoir Water Quality Improvements Plan.
Key Relevant Information Relating to or Impacting the Hodges Catchment: This project will directly improve the water quality within Hodges Reservoir by implementing a suite of coordinated activities aimed at improving quality. Some of these actions may include hypolimnetic oxygenation, aeration, mixing, selective withdrawal, and reservoir operation strategies, as well as runoff controls, wetlands creation, and watershed management.
Key Conclusions and Recommendations of the Initiative: Not Applicable
Implementation or Follow-On Actions Called Out by the Initiative: Not Applicable

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Compendium of Water Resource Initiatives in the Hodges Catchment

5 Stakeholders

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San Dieguito River Valley Conservancy	5-14
San Diego Coastkeeper	5-15

Stakeholder Name: San Dieguito Watershed Council
About the Entity: <p>The San Dieguito Watershed Council was formed a year after the San Dieguito Watershed Management Plan was finalized. The Council was formed to implement the Plan through a coalition of stakeholders, including the San Dieguito River Valley Conservancy and the San Dieguito River Park. There are 15 members, including:</p> <ul style="list-style-type: none"> • California Coastal Commission • Cleveland National Forest • City of Del Mar • City of Escondido • City of Poway • City of San Diego • City of Solana Beach • County of San Diego • Friends of the San Dieguito River Valley • San Diego County Farm Bureau • San Diego County Water Authority • San Diego Regional Water Quality Control Board • San Dieguito River Park Joint Powers Authority • San Dieguito River Valley Conservancy • Santa Fe Irrigation District <p>The Council convenes Working Groups, which are tasked with further defining and seeking funding for specific tasks outlined in the Watershed Management Plan. Topics currently being addressed include invasive species management, the improvement of water quality using wetland treatment areas, and public outreach, specifically regarding how citizens can protect water quality.</p>
Entity's Authority or Responsibility within the Hodges Catchment: <p>The Council is responsible for the San Dieguito Watershed through the Watershed Management Plan. The Hodges Catchment falls within the San Dieguito Watershed.</p>
Key Relevant Information Relating to or Impacting the Hodges Catchment: <p>The Council is currently very focused on improving water quality within the watershed, as well as educating the public about water quality. Increasing public awareness of this issue will likely help Hodges Reservoir maintain or improve current quality levels. In addition, the Council is concerned with invasive species management, which may continue to improve the quality within Hodges Reservoir.</p>
Key Conclusions and Recommendations of the Initiative: <p>Not Applicable</p>
Implementation or Follow-On Actions Called Out by the Initiative: <p>Not Applicable</p>

Stakeholder Name: California Regional Water Quality Control Board, San Diego Region
Entity Responsible for the Initiative: The California Regional Water Quality Control Board, San Diego Region is one of nine Regional Boards in California established under the State Water Resources Control Board, an agency within the California Environmental Protection Agency.
Entity's Authority or Responsibility within the Hodges Catchment: The State of California enacted the Dickey Water Pollution Act in 1949, establishing the State Water Resources Control Board and the nine Regional Water Pollution Control Boards in the state. Division 7 of the 1969 California Water Code (the Porter-Cologne Water Quality Act) was later adopted by the State, broadening the authority and changing the name of the Boards to the Regional Water Quality Control Boards. The Federal Water Pollution Control Act (also known as the Clean Water Act) was passed in 1972 with the objective of restoring and maintaining the chemical, physical, and biological integrity of the Nation's waters to make all surface waters swimmable and fishable. These two sets of laws, at the federal and state levels, provide the authority granted to the Regional Water Quality Control Board to preserve, protect, enhance, and restore California's water resources.
Purpose or Goal of the Initiative: <p>The Mission of the California Water Boards is to preserve, enhance, and restore the quality of California's water resources, and ensure their proper allocation and efficient use for the benefit of present and future generations.</p> <p>The California Regional Water Quality Control Board, San Diego Region, recently adopted its Practical Vision entitled Healthy Waters, Healthy People (2013). The Practical Vision statement is "Healthy waters realized through collaborative, outcome-focused efforts that support both human uses and sustainable ecosystems." The Practical Vision expresses the mindset and approach that the Regional Board will follow in the coming years that will achieve healthy waters through implementation of the Water Quality Control Plan for the San Diego Basin.</p>
Key Relevant Information Relating to or Impacting the Hodges Catchment: <p>The Practical Vision is comprised of five chapters, all of which are relevant to waters and the various interests within the Hodges Catchment. Each chapter identifies key actions or projects that the Regional Water Quality Control Board is committed to over the seven year timeframe of the Practical Vision. The chapters are:</p> <ul style="list-style-type: none"> • Chapter 1: Strategizing for Healthy Waters • Chapter 2: Monitoring and Assessment • Chapter 3: Recovery of Stream, Wetland, and Riparian Systems • Chapter 4: Proactive Public Outreach and Communication • Chapter 5: Strategy for Achieving a Sustainable Local Water Supply.

Key Conclusions and Recommendations of the Initiative:
The Practical Vision is about ensuring that the staff, funding, authority, tools, and influence of the Regional Board are put to the best possible use to ensure that the Board effectively works to protect and restore the chemical, physical, and biological integrity of waters in the San Diego Region. The Regional Board will work to establish strategic priorities within the Region, set measurable goals reflective of meaningful environmental outcomes, and evaluate progress towards meeting those goals.
Implementation or Follow-On Actions Called Out by the Initiative:
To help in its mission, the Regional Board is seeking monitoring and assessment information and has named multiple projects it will implement/support in the next seven years, including Regional Groundwater Monitoring and Assessment. Multiple projects have also been developed to support recovery of stream, wetlands, and riparian systems, as well as public outreach and communication. With respect to the strategy for achieving a sustainable local water supply, the Regional Board has committed to seven key projects or programs over the next seven years: <ul style="list-style-type: none">• Water Purveyor Outreach,• Salt and Nutrient Management Planning Implementation Project,• Investigate Revisions of the Nitrate Water Quality Objective for Ground Water Resources,• Recycled Water Reuse,• Low Impact Development,• Desalination, and• Water Conservation.

Stakeholder Name:	
Regional Stormwater Copermittees named in Order R9-2013-0001, owners and operators of large Municipal Separate Storm Sewer Systems within the San Diego Region	
Entity Responsible for the Initiative:	
The California Regional Water Quality Control Board, San Diego Region adopted Order R9-2013-0001 (MS4 Permit) in May 2013.	
San Diego County Copermittees under the current San Diego Regional MS4 Permit (Order R9-2013-0001) include (Copermittees within the Hodges Catchment are in bold):	
<ul style="list-style-type: none"> • City of Carlsbad • City of Chula Vista • City of Coronado • City of Del Mar • City of El Cajon • City of Encinitas • City of Escondido • City of Imperial Beach • City of La Mesa • City of Lemon Grove • City of National City 	<ul style="list-style-type: none"> • City of Oceanside • City of Poway • City of San Diego • City of San Marcos • City of Santee • City of Solana Beach • City of Vista • County of San Diego • San Diego County Regional Airport Authority • San Diego Unified Port District
Orange County Copermittees to be enrolled under the San Diego Regional MS4 Permit (Order R9-2013-0001) upon expiration of their current MS4 Permits* include:	
<ul style="list-style-type: none"> • City of Aliso Viejo • City of Dana Point • City of Laguna Beach • City of Laguna Hills • City of Laguna Niguel • City of Lake Forest • City of Mission Viejo 	<ul style="list-style-type: none"> • City of Rancho Santa Margarita • City of San Clemente • City of San Juan Capistrano • City of Laguna Woods • County of Orange • Orange County Flood Control District
Riverside County Copermittees to be enrolled under the San Diego Regional MS4 Permit (Order R9-2013-0001) upon expiration of their current MS4 Permits* include:	
<ul style="list-style-type: none"> • City of Murrieta • City of Temecula • City of Wildomar 	<ul style="list-style-type: none"> • County of Riverside • Riverside County Flood Control and Water Conservation District
Entity's Authority or Responsibility within the Hodges Catchment:	
The Cities of Escondido, Poway, San Diego, and the County of San Diego own and operate municipal separate storm sewer systems (MS4s) within the Lake Hodges Catchment. Under the MS4 Permit, the agencies are responsible for prohibiting non-stormwater discharges from entering or discharging from their MS4s and for reducing the pollutants in stormwater runoff to the maximum extent practicable. Through their ordinances, agencies have authority over existing land uses not otherwise regulated by the Regional Water Quality Control Board (e.g., agriculture, Phase II dischargers) with respect to the discharge of non-stormwater and pollutants in stormwater.	

Purpose or Goal of the Initiative: N/A
Key Relevant Information Relating to or Impacting the Hodges Catchment: <p>The agencies within the Lake Hodges Catchment are responsible for effectively prohibiting the discharge of pollutants into and from their MS4 during dry weather. Further, they are responsible for reducing pollutants in stormwater to the maximum extent practicable. The activities implemented to meet these requirements may benefit water quality within Lake Hodges. However, there are key areas within the Lake Hodges Catchment that the Copermittees do not have authority with respect to stormwater and non-stormwater discharges. Discharges such as runoff from agricultural land uses; Federal/State facilities; Caltrans; and Phase II permittees are regulated separately by the State or Regional Water Boards and do not fall under the authority of the Copermittees. For example, agricultural land uses generally operate under a conditional waiver from the Regional Water Quality Control Board; Caltrans operates under its own MS4 Permit issued by the State Water Resources Control Board; and Phase II permittees (e.g., school districts, transit authorities) operate under a MS4 Permit issued by the State Water Resources Control Board to operators of small MS4s (Phase II MS4 Permit).</p>
Key Conclusions and Recommendations of the Initiative: N/A
Implementation or Follow-On Actions Called Out by the Initiative: N/A

Stakeholder Name: The San Diego County Water Authority
About the Entity: <p>The San Diego County Water Authority is a public agency serving the San Diego region as a wholesale supplier of water from the Colorado River and Northern California. The Authority purchases this water from the Metropolitan Water District of Southern California. The Authority's mission is to provide a safe and reliable supply of water to its 24 member agencies serving the San Diego region. The Authority is run by a 35 member Board of Directors and has three core values: 1) providing a safe and reliable water supply, 2) diversifying the region's water supply sources, and 3) building, maintaining, and operating critical water facilities in a cost-effective and environmentally sensitive manner.</p>
Entity's Authority or Responsibility within the Hodges Catchment: <p>The San Diego County Water Authority is tasked with providing a safe and reliable supply of water to its member agencies serving the San Diego region. The City of San Diego, who owns, operates, and maintains Hodges Reservoir, is one of the member agencies of the San Diego County Water Authority. As such, the Authority has some oversight responsibility within the Hodges Catchment.</p>
Key Relevant Information Relating to or Impacting the Hodges Catchment: <p>The Authority is committed to diversifying the region's water supply sources to increase reliability and resiliency. To this end, the Authority is executing a long-term strategy to diversify the region's supply sources, make major investments in the region's water delivery and storage system, and improve water-use efficiency. This may impact the Hodges Catchment, as the Authority may look to Hodges Reservoir as a part of supply diversification by increasing yield from the Reservoir.</p> <p>As part of the Emergency Storage Project (ESP), the Water Authority constructed the Olivenhain Reservoir and connected it to the Water Authority's aqueduct system. The Water Authority has rights to storage in Hodges Reservoir and owns Olivenhain Reservoir. The Water Authority may use this storage as carryover storage and may call on it in the event of an emergency. The Water Authority owns a pumped storage facility between Hodges and Olivenhain Reservoir, which is used to store energy and meet peak energy demands.</p>
Key Conclusions and Recommendations of the Initiative: Not Applicable
Implementation or Follow-On Actions Called Out by the Initiative: Not Applicable

Stakeholder Name: City of San Diego
About the Entity: <p>The City of San Diego includes several departments that are involved in water management throughout the Region, including the Public Utilities Department, the Transportation and Stormwater Department, and the Real Estate Assets Department. The San Diego Public Utilities Department is most heavily involved in management of the Hodges Catchment due to its ownership of Hodges Reservoir.</p> <p>The San Diego Public Utilities Department's mission is to ensure quality, reliability, and sustainability of water, wastewater, and recycled water services for the benefit of the ratepayers and citizens served. They are guided by a number of principles including environmental stewardship, fiscal responsibility, and continuous improvement. The Department provides safe, healthful drinking water to the 1.3 million residents of San Diego and regional wastewater treatment and disposal services for more than 2 million residents of San Diego County.</p>
Entity's Authority or Responsibility within the Hodges Catchment: <p>The San Diego Public Utilities Department provides municipal water supply to its service customers through imported water from San Diego County Water Authority and nine local reservoirs, one of which is Hodges Reservoir. The City owns Hodges Reservoir and is responsible for its operation and maintenance.</p>
Key Relevant Information Relating to or Impacting the Hodges Catchment: <p>Because the City of San Diego is responsible for the operation and maintenance of Hodges Reservoir, the Utilities Department has the authority to institute changes to the Reservoir, including water quality programs, operation policies, and other projects. One such project is the Lake Hodges Projects, which connected Hodges Reservoir to Olivenhain Reservoir in 2011.</p>
Key Conclusions and Recommendations of the Initiative: Not Applicable
Implementation or Follow-On Actions Called Out by the Initiative: Not Applicable

Stakeholder Name: San Dieguito Water District (SDWD)
About the Entity: <p>SDWD is the potable and recycled water supplier to Old Encinitas, Cardiff-by-the-Sea, Leucadia, and portions of New Encinitas. It is a subsidiary district of the City of Encinitas, and the City Council members also serve as the Board of Directors. SDWD serves over 38,900 people through 11,400 service connections, and seeks to provide safe and reliable water to customers. SDWD's supplies comprise local runoff collected at Hodges Reservoir, purchased imported raw water from San Diego County Water Authority (SDCWA), and recycled water from the San Elijo Joint Powers Authority (SEJPA). SDCWA, Vallecitos Water District, Olivenhain Municipal Water District (OMWD), and Rincon del Diablo Municipal Water District have partnered as a regional alliance to track progress towards meeting water conservation goals.</p> <p>SDWD co-owns the 40 mgd R. E. Badger Filtration System with Santa Fe Irrigation District (SFID) to treat its raw water supplies to potable. It also co-owns the 1,100 AF San Dieguito Reservoir (raw water) and a 13-million gallon treated water reservoir with SFID. SDWD co-owns another 3-million gallon treated water reservoir with OMWD. Two additional underground treated water reservoirs, totaling 10 million gallons of storage, are wholly owned by SDWD.</p>
Entity's Authority or Responsibility within the Hodges Catchment: SDWD, SFID, and the City of San Diego each have surface water rights to Hodges Reservoir.
Key Relevant Information Relating to or Impacting the Hodges Catchment: SDWD has rights to approximately 2,432 AFY surface water from Hodges Reservoir (approximately 21.3% of annual yield). SDWD and SFID share the first 50% of annual yield of Hodges Reservoir, and the City of San Diego owns the remaining 50% annual yield.
Key Conclusions and Recommendations of the Initiative: Not Applicable
Implementation or Follow-On Actions Called Out by the Initiative: Not Applicable

Stakeholder Name: Santa Fe Irrigation District
About the Entity: <p>The Santa Fe Irrigation District is a potable and recycled water service provider serving roughly 16 square miles in northern San Diego County. Their service area covers both coastal and inland communities, with approximately 80% of the District's water demand stemming from residential needs. The District provides potable water service for residential, commercial, institutional, and agricultural customers and recycled water for irrigation of public common areas, golf courses, schools, businesses, and Caltrans. The District owns and operates a distribution system with over 150 miles of pipelines, as well as a 6 million gallon treated water storage reservoir. The District is a public agency governed by a 5-member publicly elected Board of Directors, who is responsible for the District's policies and decision-making.</p> <p>Santa FE ID co-owns the 40 mgd R. E. Badger Filtration System with San Dieguito Water District (SDWD) to treat its raw water supplies to potable. It also co-owns the 1,100 AF San Dieguito Reservoir (raw water) and a 13-million gallon treated water reservoir with SDWD.</p>
Entity's Authority or Responsibility within the Hodges Catchment: <p>The Santa Fe Irrigation District has little authority within the Hodges Catchment. The District does, however, have rights to surface water from Hodges Reservoir, which provides about 30% of the District's total supply. SFID and SDWD share 50% of the runoff from the Hodges Catchment with the other 50% going to the city of San Diego.</p>
Key Relevant Information Relating to or Impacting the Hodges Catchment: <p>About 30% of the District's supply comes from Hodges Reservoir, with the remaining coming from imported water supplied by the San Diego County Water Authority. Given current and probable future drought conditions, the District may look to increase local supplies and reduce its reliance on imported water. SFID operates the Badger Treatment Plant. The operation of the treatment plant is impacted by poor water quality in Hodges Reservoir. In order to use the Hodges water, SFID constructed a natural treatment system in San Dieguito Reservoir. Water from Hodges is transferred to San Dieguito reservoir where it is treated through oxygenation and a natural treatment system before delivery to the Badger Filtration Plant,</p>
Key Conclusions and Recommendations of the Initiative: Not Applicable
Implementation or Follow-On Actions Called Out by the Initiative: Not Applicable

Stakeholder Name: Olivenhain Municipal Water District
About the Entity: <p>The Olivenhain Municipal Water District is a public agency providing water, wastewater services, recycled water, hydroelectricity, and the operation of the Elfin Forest Recreational Reserve. The mission of the District is to provide safe, reliable, high-quality drinking water while exceeding all regulatory requirements in a cost-effective and environmentally responsive manner. All water purchased and used by the District is imported and comes from the San Diego County Water Authority. The District currently serves a population of approximately 80,000 residents in northern San Diego County, operating 17 water storage reservoirs with a capacity of nearly 80 million gallons and a water treatment plant that can treat up to 34 million gallons of water per day. The District is also a part of the San Diego County Emergency Storage Project.</p>
Entity's Authority or Responsibility within the Hodges Catchment: <p>The Olivenhain Municipal Water District has no authority within the Hodges Catchment. Olivenhain MWD has the ability to take raw water from the Olivenhain Reservoir which was constructed as part of the Water Authority's Emergency Storage Project. This project connected Olivenhain, San Vicente, and Hodges Reservoirs so that that water can continue to flow throughout the region even if the imported water supply is disrupted. Under normal operations Olivenhain MWD takes water for their treatment plant through a raw water pipeline connected to the aqueduct.</p>
Key Relevant Information Relating to or Impacting the Hodges Catchment: <p>Through the Emergency Supply Project, the District is connected to Hodges Reservoir. The Reservoir and Catchment would be impacted in emergency years, when the Emergency Supply Project will be turned on. Olivenhain could coordinate with the City of San Diego to use some of the water in Hodges Reservoir during emergency years. It would be challenging for Olivenhain MWD's treatment plant to treat water from Hodges Reservoir.</p>
Key Conclusions and Recommendations of the Initiative: Not Applicable
Implementation or Follow-On Actions Called Out by the Initiative: Not Applicable

Stakeholder Name: Rincon del Diablo Municipal Water District
About the Entity: <p>The Rincon del Diablo Municipal Water District (District) works to deliver quality water to meet present and future needs in an environmentally and economically responsible manner, maintain infrastructure integrity, foster conservation, and maintain excellence in service as stewards of a natural resource for the public trust. The District's customers are partially located within the cities of Escondido, San Marcos, and San Diego, and within various unincorporated areas of San Diego County. Governed by a five-member Board of Directors, the District delivers potable and recycled water to a population of 30,000 through nearly 8,000 connections representing residential, agricultural, landscape, and commercial/industrial water users.</p>
Entity's Authority or Responsibility within the Hodges Catchment: <p>The District's service area falls within the Hodges Catchment, with a portion just north of Hodges Reservoir and another portion upstream of the Reservoir. While the District has no direct authority over Hodges Reservoir, its practices and policies have the potential to affect both the Reservoir and the Catchment.</p>
Key Relevant Information Relating to or Impacting the Hodges Catchment: <p>The District has a conservation program, which includes turf replacement, home water tours to identify water saving opportunities, and rebate opportunities for residential and commercial/multi-family customers. These conservation initiatives have the potential to decrease runoff into Hodges Reservoir. With this decreased inflow, there may also be an increase in the quality of Hodges Reservoir, as the runoff is likely high in pollutants.</p>
Key Conclusions and Recommendations of the Initiative: Not Applicable
Implementation or Follow-On Actions Called Out by the Initiative: Not Applicable

Stakeholder Name: San Diego County Farm Bureau, individual owners of agricultural and nursery operations
Entity Responsible for the Initiative: N/A
Entity's Authority or Responsibility within the Hodges Catchment: <p>Nearly 14% of the land use within the San Dieguito Watershed is agriculture, equating to over 30,000 acres. This is the fourth most predominant land use behind vacant/undeveloped land (39.14%), open space/recreation (23.64%), and residential (17.83%). Large tracts of agricultural land use exist in the northern part of the Lake Hodges Catchment, while smaller, more diffuse agricultural operations are present in the southern portion. (San Dieguito River Watershed Management Area Water Quality Improvement Plan, Draft, April 2014)</p>
Purpose or Goal of the Initiative: <p>The San Diego County Farm Bureau is a non-profit organization representing more than 5,000 members in San Diego County. <i>The mission of the Farm Bureau of San Diego County is to represent San Diego agriculture through public relations, education, and public policy advocacy in order to promote the economic viability of agriculture balanced with appropriate management of natural resources. In San Diego County, the Farm Bureau is the leading advocate for the farm community and works with elected officials, government agencies, educators, the public, and the media.</i> (www.sdfarmbureau.org)</p>
Key Relevant Information Relating to or Impacting the Hodges Catchment: <p>The Farm Bureau leads the San Diego Irrigated Lands Group, a collective monitoring group convened to provide water quality testing and reporting to comply with directives from the Regional Water Quality Control Board. Individual operators within the Lake Hodges Catchment may or may not be part of the San Diego Irrigated Lands Group. However, monitoring is required under Conditional Waiver #4 and may be required when the Regional Board issues new waste discharge requirements. A new tentative order (R9-2014-TENT) was released by the Regional board in early 2014, but has not been finalized.</p>
Key Conclusions and Recommendations of the Initiative: <p>Agriculture is a significant land use within the Lake Hodges Catchment and may impact the quality of surface and ground waters within the watershed. More information is needed to assess their potential contribution.</p>
Implementation or Follow-On Actions Called Out by the Initiative: N/A

Stakeholder Name: San Dieguito River Valley Conservancy
About the Entity: <p>The San Dieguito River Valley Conservancy is a non-profit, citizen-based organization helping to implement the San Dieguito River Park and its Coast to Crest Trail stretching 70 miles from the Volcan Mountain near Julian to the ocean between Del Mar and Solano Beach. The Conservancy is led by a citizen Board of Directors and is supported by more than 1,200 members. The mission of the Conservancy is to preserve, protect, and share the natural and cultural resources of the San Dieguito River Valley through collaboration efforts to acquire lands, complete trails, restore habitats, establish educational programs, create interpretive centers, encourage recreation, and mobilize public support.</p>
Entity's Authority or Responsibility within the Hodges Catchment: <p>The Conservancy is responsible for the Hodges Catchment through its management of the San Dieguito River Park.</p>
Key Relevant Information Relating to or Impacting the Hodges Catchment: <p>The Conservancy is dedicated to sustainable management of the natural resources of the San Dieguito Watershed, with priority given to the protection of the San Dieguito River corridor. Nearly 605% of the 92,000 acres within the Planning Area for the San Dieguito River Park is in protected public ownership, including much of the land around Hodges Reservoir.</p>
Key Conclusions and Recommendations of the Initiative: <p>Not Applicable</p>
Implementation or Follow-On Actions Called Out by the Initiative: <p>Not Applicable</p>

Stakeholder Name: San Diego Coastkeeper
About the Entity: <p>The San Diego Coastkeeper works to protect and restore fishable, swimmable, and drinkable waters in San Diego County. Coastkeeper seeks to be impactful, thoughtful, courageous, transparent, innovative, collaborative, passionate, and exemplary. Through its work, Coastkeeper has helped reduce countywide beach advisories by 77% since 2000 and reduce sewage spills in the City of San Diego by 90% since 2001. Coastkeeper has a Strategic Plan, which outlines future actions for the organization. The goals of the Plan include 1) engaging the community and using internal mechanisms to find and fix six or more significant water quality programs in San Diego County, 2) building a coalition and creating an enforcement framework for marine protected areas, 3) reducing sewage discharge into the ocean by supporting wastewater recycling in the City of San Diego, and 4) funding Coastkeeper programs fully and building at least a three-month cash reserve.</p>
Entity's Authority or Responsibility within the Hodges Catchment: <p>The San Diego Coastkeeper works within San Diego County, which includes Hodges Reservoir. Because Hodges Reservoir is a drinking water source, Coastkeeper has authority to protect its drinkability.</p>
Key Relevant Information Relating to or Impacting the Hodges Catchment: <p>Coastkeeper has the state's largest volunteer water quality monitoring program, training more than 100 volunteers yearly to test waters in nine of the 11 watersheds in San Diego County, including the San Dieguito watershed and Hodges Catchment. Several actions within the Strategic Plan may impact the Hodges Catchment and include fixing identified stormwater problems, supporting low-impact development, and improving and depending laws to protect San Diego water quality.</p>
Key Conclusions and Recommendations of the Initiative: Not Applicable
Implementation or Follow-On Actions Called Out by the Initiative: Not Applicable

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