

CHAPTER 1: INTRODUCTION

CONTENTS

1.1	Introduction to Integrated Regional Water Management Planning.....	2
1.2	What is an IRWM Plan?.....	3
1.3	Legislative Background	4
1.4	IRWM Efforts in the Santa Cruz Region 2005 - 2014	4
1.4.1	IRWM Implementation Grant	5
1.4.2	IRWM Planning Grant	7
1.4.3	IRWM Disadvantaged Community Outreach Pilot Project	9
1.5	IRWM Plan 2014 Purpose and Format.....	10

FIGURES

Figure 1 - 1	Timeline of Integrated Regional Water Management (IRWM) Program and Related Efforts... 5
Figure 1 - 2	Santa Cruz IRWM Completed Projects 2008 - 2013..... 7

1.1 INTRODUCTION TO INTEGRATED REGIONAL WATER MANAGEMENT PLANNING

Integrated Regional Water Management (IRWM) planning is a statewide initiative by California's resource management agencies to promote collaborative, local solutions to water management challenges. IRWM enables regions to identify, integrate and implement water management measures appropriate for their needs. The fundamental principle of IRWM is that regional water managers are best suited and best positioned to manage water resources. While large, inter-regional water management systems, such as the state Water Project, Central Valley Project, and large flood management systems are essential for California, the majority of the state's water resource management investments are made at the local and regional level. This is particularly evident in Santa Cruz, a region that does not rely on any imported water.

The IRWM program provides a set of broad, planning guidelines that guide IRWM plan development, but the specific details of the plan are left to local jurisdictions to develop. In contrast to traditional top-down planning, this approach enables regions determine their own objectives and supports implementation of a broad portfolio of resource management strategies that facilitate the implementation of projects with multiple benefits specific to local needs. IRWM promotes policies and practices to ensure sustainable water use, reliable water supply, better water quality, environmental stewardship, efficient urban development, protection of agriculture, and a strong economy. The California Water Plan (2009) is the state's blueprint for managing water resources, and it identifies the promotion and expansion of IRWM as a primary statewide objective with the goals of "providing long-term, reliable water supplies for all users at the lowest reasonable cost and with highest possible benefits for economic development, environmental quality, and other societal objectives." To make this objective a reality, significant voter-approved bond funding has been made available through the State Water Resources Control Board and the Department of Water Resources to support IRWM planning and project implementation.

Collaborative, regional water planning is not a new concept in Santa Cruz County, where local water districts, cities and the County have been implementing such solutions to challenging resource problems for decades. Santa Cruz County is in a unique position to demonstrate the benefits of collaboration in restoring watersheds. It is a small county with relatively small watersheds, most of which are contained entirely within the county boundaries. The forerunner to IRWM was a planning study completed in 1985 for the Water Policy and Planning Task Force, the land use and water agencies in the county, which sought to plan for current and future water demands in a manner that ensured environmental protection. This report quantified various water supply and demand projections and delineated several recommended regional water supply system alternatives.

This spirit of collaboration more recently was displayed through the development of the Integrated Watershed Restoration Program (IWRP), a program with a similar acronym to IRWM and a similar intent to foster a collaborative, regional approach to watershed restoration. Beginning in the late 1990s, eight watershed restoration plans and a number of other related assessments were developed for seven watersheds in Santa Cruz County. Anticipating the completion of the plans, the focus turned to ways to effectively implement the recommended projects and programs, given the numerous stumbling blocks that typically hamper watershed restoration efforts. Wanting to alleviate some of these stumbling blocks, staff from the Resource Conservation District of Santa Cruz County (RCD), Coastal Conservancy, California Department of Fish and Game, Coastal Watershed Council, and the City and County of Santa

Cruz began brainstorming possible solutions. They recognized that watershed restoration would be more effective as a coordinated county-wide effort and in May 2002 they developed the concept for IWRP. The goal of IWRP is to support local watershed partners in developing projects and to coordinate agencies that provide technical assistance, permits, and funds. Such coordination will reduce the staff time required while helping to ensure that critical projects are identified, funded, and permitted. Over 43 projects have been implemented to date through the IWRP program.

Collaboration continued in Santa Cruz in response to Chapter 8 of the voter-approved Proposition 50, which called for the development of so-called integrated regional water management (IRWM) plans. An IRWM Plan for the Santa Cruz Region was adopted in 2005 by eight partner agencies¹. A new updated IRWM Plan has now been prepared. The Santa Cruz IRWM Plan integrates various studies and programs to provide a framework for managing this region's water and water-related resources. The Plan includes strategies for developing and implementing policies and projects to ensure sustainable water use, reliable water supply, better water quality, improved flood protection and stormwater management, and environmental stewardship. The Santa Cruz IRWMP provides a collaborative planning process to foster communication, strengthen partnerships, support long-term planning, and provide a process to solicit, evaluate, and implement studies and projects that yield multiple benefits for water supply, water quality, and natural resources.

Due to Santa Cruz's history of collaborative resource planning, IRWM planning is seen less as an impetus for collaboration, and more as a vehicle for defining our region's priorities outside of a regulatory context. Also, practically, IRWM is a mechanism for potentially accessing grant funding. In order to accomplish the latter, the updated Plan must address a variety of standards identified in the 2012 IRWM Guidelines.

1.2 WHAT IS AN IRWM PLAN?

An IRWM Plan is a locally-derived, comprehensive, non-regulatory water resources planning document that crosses jurisdictional, watershed, and political boundaries; involves multiple agencies, stakeholders, individuals, and groups; and attempts to address the issues and differing perspectives of all the entities involved through mutually beneficial solutions. IRWM Plans identify integrated projects that achieve multiple benefits and address regional objectives set forth within the IRWM Plan.

The traditional approach to water resource management has typically involved separate entities individually managing different aspects of the hydrologic cycle, i.e., water supply, water quality, flood management, and natural resources management. In contrast, the main objective of IRWM planning is to consider the hydrologic system as a whole and to identify and implement projects with multiple benefits across that system. The IRWM planning process brings together water supply and natural resource managers, stormwater engineers, and water quality specialists along with other community stakeholders. The multiple perspectives that each group provides allows for collaborative planning where ideally benefits from collaborative projects are greater than what would have been realized if implemented individually.

¹ 2005 Plan Partner Agencies Include: Soquel Creek Water District; Scotts Valley Water District; Davenport Sanitation District; City of Santa Cruz; City of Watsonville; Santa Cruz Sanitation District; Resource Conservation District of Santa Cruz County; and, County of Santa Cruz – Environmental Health Services and Department of Public Works.

1.3 LEGISLATIVE BACKGROUND

Over the past decade California voters have approved several statewide bond measures providing billions of dollars to support local and regional water management activities. In November of 2002, California voters passed Proposition 50 (the Water Security, Clean Drinking Water, Coastal and Beach Protection Act), which established the IRWM Program. In November 2006, California voters passed Proposition 84, the Safe Drinking Water, Water Quality and Supply, Flood Control, River and Coastal Protection Act of 2006 which provides \$5.388 billion to support various water resource needs in the State. This includes \$1 billion in funding for the IRWM Grant Program statewide; \$52 million is allocated for the Central Coast Funding Area which extends from Santa Barbara to Santa Cruz counties. Proposition 1E, the Disaster Preparedness and Flood Prevention Bond Act of 2006, also passed in 2006, authorized \$4.09 billion in bonds to rebuild and repair vulnerable flood control structures to protect homes and prevent loss of life from flood-related disasters; and to protect California's drinking water supply system by rebuilding delta levees that are vulnerable to earthquakes and storms. To be eligible for IRWM grant funds through Proposition 84 or Proposition 1E, a project must be contained within an adopted IRWM Plan. According to the California Water Code §10540(c), an IRWM Plan must address at a minimum all of the following:

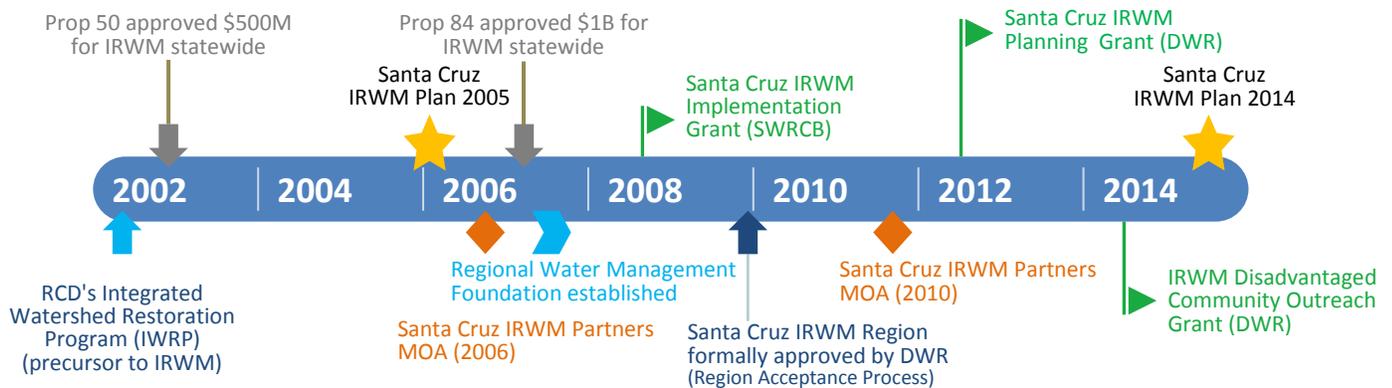
- Protection and improvement of water supply reliability, including identification of feasible agricultural and urban water use efficiency strategies.
- Identification and consideration of the drinking water quality of communities within the area of the plan.
- Protection and improvement of water quality within the area of the plan, consistent with the relevant basin plan.
- Identification of any significant threats to groundwater resources from overdraft.
- Protection, restoration, and improvement of stewardship of aquatic, riparian, and watershed resources within the region.
- Protection of groundwater resources from contamination.
- Identification and consideration of the water-related needs of disadvantaged communities in the area within the boundaries of the plan.

1.4 IRWM EFFORTS IN THE SANTA CRUZ REGION 2005 - 2014

In 2005, eight partner agencies (now referred to as the Regional Water Management Group) financed, developed and adopted the Integrated Regional Water Management Plan (IRWM Plan) for Northern Santa Cruz County. The main impetus for this Plan was a funding opportunity through Proposition 50, although it was the realization of over a decade of coordinated water resources planning in Santa Cruz County. Now simply called the Santa Cruz IRWM Plan, the Plan follows the state's vision of IRWM as a collaborative planning initiative to promote an informed, locally-driven, and consensus-based approach to regional water resources management.

In October 2005, the region completed its initial Integrated Regional Water Management Plan. The IRWM Plan identifies the region's conditions, issues, needs, goals and objectives, resource management strategies and priorities, and projects (e.g., construction, technical studies, research, pilot projects).

Figure 1 - 1 Timeline of Integrated Regional Water Management (IRWM) Program and Related Efforts



1.4.1 IRWM IMPLEMENTATION GRANT

In 2006, the Santa Cruz IRWM region successfully applied for a \$12.5 million Proposition 50 Round 1, Step 2 Implementation Grant from the State Water Resources Control Board (State Water Board). The IRWM grant funds 16 components which includes administration and coordination (Component 1) and projects that were designated as “high priority” and selected through a regional public process from 55 projects identified in the region’s initial IRWM Plan (grant Components 2 – 16). The grant was awarded in 2007 and was executed and initiated in April 2008 (Grant Agreement No. 07-507-550-0).

In 2007, the Regional Water Management Foundation (RWMF) was established to provide an organizational structure to support the implementation of the Santa Cruz IRWM Plan. The RWMF is a subsidiary of the Community Foundation Santa Cruz County. The RWMF served as the grantee and provided the grant administration and coordination; eight local agency partners (sub-grantees) provided the lead role in the implementation, oversight and management of their respective components (projects).

The funded projects serve to protect communities from drought, protect and improve water quality, and improve local water security. The funded components and lead agencies include:

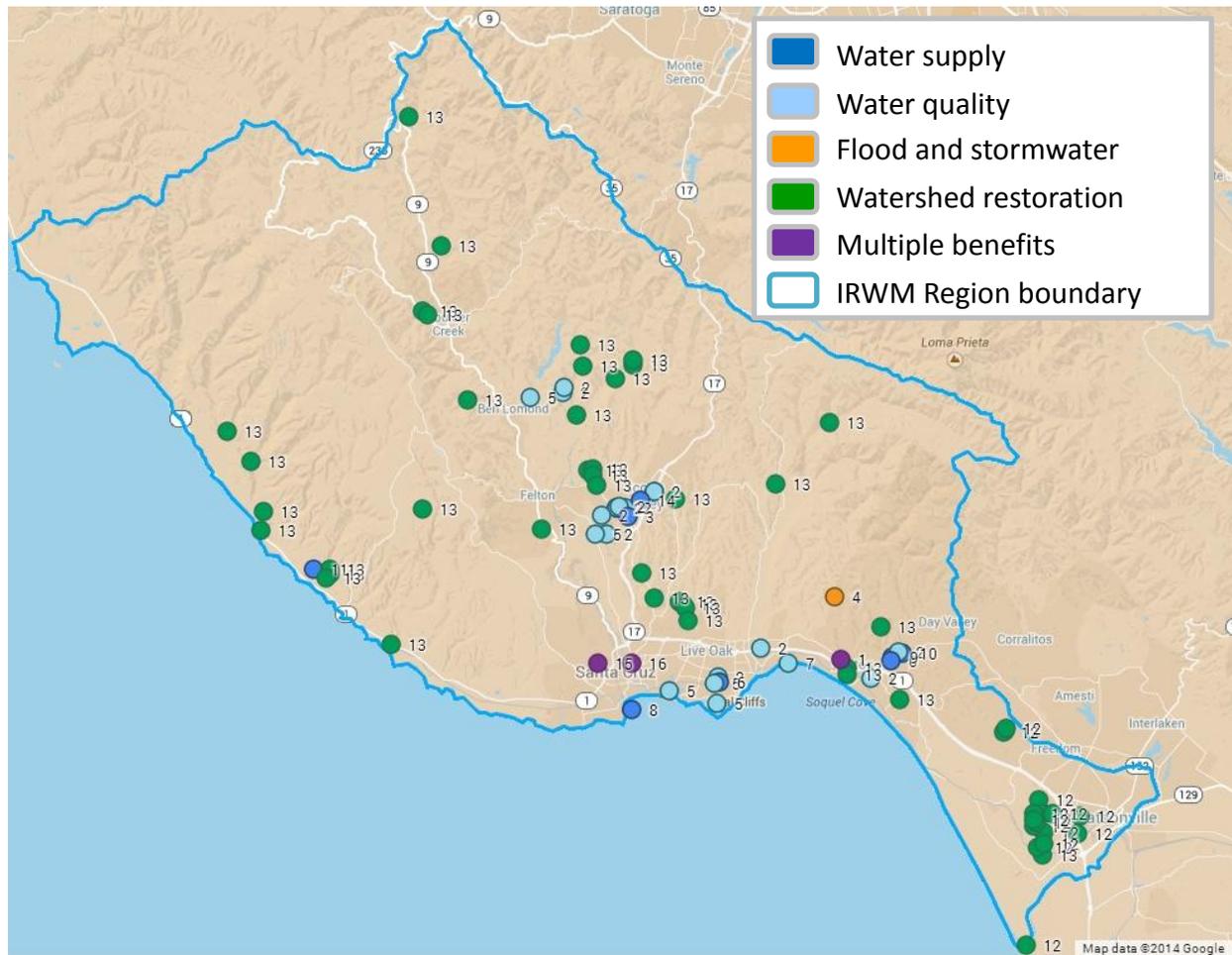
1. Manage Implementation and Administration of the Grant (Regional Water Management Foundation)
2. Abandoned Well Destruction Program (County of Santa Cruz, Environmental Health Services)
3. Conjunctive Use and Enhanced Aquifer Recharge (County of Santa Cruz, Environmental Health Services)
4. Aptos Watershed Drainage Master Plan (County of Santa Cruz, Public Works)
5. Santa Cruz County Stormwater Pollution Prevention Program (County of Santa Cruz, Public Works)
6. Groundwater Recharge and Policies (County of Santa Cruz, Environmental Health Services)
7. Sewer Main Relocation New Brighton/Seacliff State Beaches (County of Santa Cruz, Sanitation District)
8. Intake study for Desalination Facility (City of Santa Cruz Water Dept., Soquel Creek Water District)
9. Polo Grounds Well, Treatment Plant, Pipelines, and Water Conservation (Soquel Creek Water District)
10. Groundwater Monitoring Wells in the Aromas and Purisima Formations (Soquel Creek Water District)
11. Davenport Drinking Water Improvement (County of Santa Cruz, Davenport County Sanitation District)

12. Watsonville Sloughs Integrated Watershed Restoration (Resource Conservation District Santa Cruz Co.)
13. Integrated Watershed Restoration Program, Phase 2 (Resource Conservation District Santa Cruz County)
14. Scotts Valley Recycled Water Distribution System (Scotts Valley Water District)
15. Coordinated Monitoring Program (County of Santa Cruz, Environmental Health Services)
16. Improve Integration of Regional Water Management (Co. of Santa Cruz, Environmental Health Services)

Several of components, particularly 12 and 13, feature multi-benefit projects with on-the ground improvements in more than one location. In total, 65 projects were completed at more than 80 sites throughout the County. Implementation occurred from April 2008 – September 2013. The total cost of the implementation of the 16 components was over \$30 million; the State Water Board IRWM grant contribution totaled \$12.5 million and the matching funds totaled \$17.8 million. The IRWM grant funding was effectively leveraged as the contributed local match funds accounted for approximately 60 percent of the total project costs. Figure 1-1 provides map of completed projects. Insert. A summary of the 16 projects is available at www.SantaCruzIRWMP.org.

This grant was instrumental in fostering the efforts of the Santa Cruz IRWM region by putting the Plan into action with the implementation of high priority projects throughout the region. Its successful implementation served to strengthen existing partnership and create new partnerships amongst local agencies and stakeholders. Through the successful implementation of IRWM projects the region is incrementally addressing the key water supply, water quality, and environmental challenges facing the region.

Figure 1 - 2 Santa Cruz IRWM Completed Projects 2008 - 2013



1.4.2 IRWM PLANNING GRANT

In 2011, the California Department of Water Resources awarded \$999,750 to the Regional Water Management Foundation on behalf of the Santa Cruz Region to update the 2005 IRWM Plan and complete key technical studies to guide water resources management. This grant supports work to improve and expand the Plan to meet local needs and the state's IRWM Plan Standards. The proposed technical studies provide critical information to evaluate resource management strategies to address the water resource challenges facing the Region. Local partners on this grant include Santa Cruz County, Scotts Valley Water District, Central Water District, and the Resource Conservation District of Santa Cruz County.

The Santa Cruz IRWM partners share the responsibility and challenge of identifying solutions to sustainably manage local water resources. The Plan presents strategies for developing and implementing policies and projects to ensure sustainable water use, reliable water supply, better water quality, improved flood protection and stormwater management, and environmental stewardship. Santa Cruz County Water Resources Division led the effort to update the Plan, including the development of the IRWM Conceptual Framework. The County also led the work to identify and

incorporate climate change response strategies. \$165,500 in grant funds supported the development of the Plan and climate change strategies.

In addition, the grant supports the following four technical studies (Lead Agency; Grant Amount):

Aromas and Purisima Groundwater Basin Management Study (Central Water District; \$200,000). This planning and feasibility analysis examined the potential for redistribution of groundwater pumping between the Aromas and Purisima Formations near the boundary of the Central Water District and Soquel Creek Water District. Groundwater from both aquifers is currently the sole source of water supply for both Districts. The Aromas is subject to seawater intrusion, elevated levels of hexavalent chromium (Cr-6), and groundwater overdraft. This study evaluated the potential to shift pumping from the Aromas to inland portions of the Purisima to balance the pumping and potential treatment costs for Cr-6 removal. This study was completed in 2014. The findings informed the Plan and resulted in project included on the IRWM Plan 2014 Project List.

Santa Margarita Groundwater Model Update (Scotts Valley Water District; \$221,519). Groundwater levels in Scotts Valley area have declined over 200 feet in the past 30 years. The District relies upon a groundwater model and other monitoring data to inform its groundwater management. SVWD is updating, calibrating, and improving the existing groundwater basin model to more accurately evaluate groundwater-surface water interactions. This will inform the District's efforts to restore groundwater levels and increase stream baseflow (summertime) which is key to habitat determinant for salmonids. This work will be completed in 2014. Work thus far has informed the Plan and resulted in new projects from Scotts Valley Water District that are included on the IRWM Plan 2014 Project List.

Conjunctive Use and Water Transfers - Phase II (Santa Cruz County; \$164,500). Phase I technical studies (2008-11) evaluated the feasibility of large-scale water exchanges and aquifer recharge to mitigate the water management problems in the Region, as well as the potential for interties among local water agencies. Phase II builds upon Phase I to identify specific groundwater recharge strategies/projects, develop preliminary designs, and address legal and regulatory constraints. Work thus far has informed the Plan a regional interties project that is on the IRWM Plan 2014 Project List.

Watsonville Sloughs Hydrologic Study (Resource Conservation District; \$199,056). This study provided essential information to develop and implement strategies to improve this wetland ecosystem. Proposed projects have been repeatedly delayed due to the lack of critical information on the hydrologic functioning of this complex system. A hydrologic assessment of surface and shallow groundwater flows in the sloughs was completed and is supporting the development of resource management strategies to enhance water supply, flood management, ecosystem restoration, water quality, and recreational opportunities. This is an interregional study that also has benefits the neighboring Pajaro River Watershed IRWM Region. This study was completed in 2014. It is informing several proposed projects in the Watsonville Sloughs that were added to the IRWM Plan 2014 Project List.

Funding from this grant was important to supporting the ongoing planning efforts of the Santa Cruz IRWM region.

1.4.3 IRWM DISADVANTAGED COMMUNITY OUTREACH PILOT PROJECT

In 2013, Santa Cruz was one of seven IRWM regions in the state awarded an IRWM Planning Grant for Disadvantaged Community Outreach. The region received \$100,000 from DWR to support this effort. This work is currently in progress and will be completed in December 2014. Results of the work will be included as an addendum to the 2014 Plan in 2015.

This effort is intended to identify and advance projects to meet water needs in Watsonville and Davenport. Work currently underway includes DAC identification and assessment. An important element of this work includes the identification and assessment of other impoverished or socially vulnerable communities beyond Watsonville and Davenport. Through this task DACs in the IRWM region not previously identified nor engaged in IRWM efforts will be identified and assessed. Census data, mapping tools, and local community knowledge are being employed to identify and assess DACs. This task may result in identifying other economically disadvantaged pockets in the region that may not meet the DAC criteria based upon census data, but may warrant further assessment and outreach for engagement in IRWM planning efforts.

In 2014, the RWMG with assistance from Environmental Justice Coalition for Water (EJCW) and support from the University of California at Davis (UCD) Center for Regional Change (CRC) began mapping socially vulnerable communities. CRC is utilizing the Communities Environmental Health Screening Tool CalEnviroScreen Version 2.0 to identify communities that are disproportionately burdened by multiple sources of pollution. CRC is also using its Regional Opportunity Index (ROI) to identify people and places with the greatest need. This will inform targeted outreach to engage these communities in the IRWM planning process and, as resources allow, technical support to enable project readiness.

The Region is currently conducting outreach to engage key DAC community contacts to empower and engage DACs in the IRWM planning process. This includes conducting community outreach by convening working groups of interested community members to participate in meetings, and interviews or discussions to identify and evaluate water resource needs and priorities. As the needs and priorities of DACs are identified, work will continue to provide the critical support necessary to enable project readiness in IRWM planning and implementation. This includes the review and prioritization of projects and needs; an assessment of planning, feasibility and pre-design activities to enable project readiness; meetings to identify and gather project data and to investigate partnerships with conservation organizations and local governments; and exploring project integration of multi-benefit projects. This work to date has already informed the 2014 Plan. Davenport and Watsonville have multiple projects on the 2014 IRWM Plan list of projects.



Aerial view of the Santa Cruz region (photo: Robert Campbell)

1.5 IRWM PLAN 2014 PURPOSE AND FORMAT

In 2012, the California Department of Water Resources has established a set of guidelines that establish the general purpose, procedure and criteria that DWR will use to implement the IRWM grant program. Key components of the guidelines are the sixteen IRWM Plan Standards, which describe what must be included in an IRWM Plan. Generally, those standards require that an IRWM Plan:

- Clearly describe water resources related goals,
- Establish water resources management objectives and measurable targets,
- Provide geographic, political and jurisdictional context,
- Identify and evaluate appropriate water resources management strategies,
- Identify opportunities for integrating proposed water supply, water quality, aquatic ecosystem and flood management strategies,
- Identify priority strategies and methods by which success will be measured,
- Describe relationships between the IRWM and local land use and water supply planning,
- Assess the region's vulnerability to impacts from climate change, and identify high-priority adaptation strategies, and,
- Provide a mechanism for comprehensive stakeholder input to water resources planning.

To facilitate plan review, this IRWM Plan is organized in accordance with IRWM Plan Standards established within Appendix A of the July 2012 versions of the DWR Planning Guidelines. Although regional actions often provide the best avenue to implementing water related efforts, other actions are

still best implemented by individual jurisdictions and/or sub-regional associations or partnerships. This Plan focuses on identifying the efforts, goals and objectives of stakeholders overall while not attempting to dictate the specific method of implementation for the various activities that are ongoing within the region. Key to this Plan is an IRWM conceptual framework that informed the development of Goal and Objectives (Chapter 4) and priority Resource Management Strategies (Chapter 5). It also informed the identification of performance metrics and measurements to gauge effectiveness and system responses that informed Plan Performance and Monitoring (Chapter 8), and updating and modifying IRWM approaches to adapt to change.