

Santa Cruz IRWM Region Prop 84 IRWM Planning Grant Application

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Work Plan - *Background Section*

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BACKGROUND

1.1 Regional Water Management Group

The Regional Water Management Group (RWMG) for the Santa Cruz Integrated Regional Water Management (IRWM) region includes governmental and non-governmental organizations with authority or interest in water and water-related issues. More than 50 agencies, special districts and organizations comprise the RWMG. The RWMG consists of the appropriate entities to achieve the Santa Cruz IRWM Plan objectives because the participants constitute the major water suppliers, stormwater and wastewater managers, and habitat restoration leaders in the region. Participants and stakeholders includes agencies and organizations addressing issues of water supply, water quality, flood management, stormwater, wastewater, land use, and natural resources management. These include research institutions, agricultural organizations, environmental organizations, business groups, watershed groups, federal, state, and local agencies and other interested parties. **Figure 1** shows a map of the IRWM Planning Region Boundaries and Major Watersheds. Participants are broadly categorized as follows:

- **Partner Agencies:** Includes public agencies with an elected or publicly appointed governing Board that has adopted the IRWM Plan and/or is intimately involved in the Plan development and implementation. Partner agencies receive taxpayer support either through taxes, user charges, or fees and have the authority, obligation, and responsibility to carry out water resources management on a long term basis. The partner agencies welcome and encourage the participation of other affiliates and stakeholders in water resources management, but the partners also recognize that they are ultimately responsible for the outcome and success of integrated regional water management in the region.
- **Implementation Affiliates:** Includes entities that are not partner agencies, but play an active role in the IRWM Plan development or a direct role in IRWM project implementation. This includes entities that may not have formally adopted the IRWM Plan, but who are closely involved in its development and/or implementation. Eligible affiliates may become partner agencies with a higher level of involvement.
- **Interested Stakeholders:** Includes entities that do not necessarily have a direct role in project implementation, but facilitate those efforts or may have an interest in the IRWM efforts.

Partner Agencies 2005 – 2010

- County of Santa Cruz, Environmental Health Services
- City of Santa Cruz, Water Department
- Soquel Creek Water District
- Resource Conservation District of Santa Cruz County
- County of Santa Cruz, Sanitation District
- County of Santa Cruz, Davenport Sanitation District
- Scotts Valley Water District
- County of Santa Cruz, Public Works
- City of Watsonville

Figure 2 presents a map of Partner Agencies jurisdictional boundaries. A brief description of the Partner Agencies is presented below.

Resource Conservation District of Santa Cruz County

The Resource Conservation District of Santa Cruz County (RCD) helps people protect, conserve, and restore natural resources through information, education, technical assistance, and grant-funded financial assistance. The RCD assists local watershed groups with implementation of resource enhancement projects, and collaborates with agencies such as the County of Santa Cruz, USDA Natural Resources Conservation Service, Coastal Conservancy, Regional Water Quality Control Board, California Department of Fish and Game, NOAA Fisheries, and others to coordinate strategic planning, implementation, and funding of habitat restoration and water quality projects. The RCD administers and manages the Integrated Watershed Restoration Program (IWRP) and services over 260,000 acres, providing conservation assistance to property owners, cooperating agencies, organizations, groups, and government.

Soquel Creek Water District

The Soquel Creek Water District (SqCWD) provides potable drinking water and groundwater resource management in mid-Santa Cruz County. SqCWD serves a population of more than 49,000 through approximately 15,000 connections. Ninety percent of the SqCWD's customers are residential, and there are no agricultural connections to the system. The District receives 100 percent of its water from two groundwater aquifers, the Purisima Formation and the Aromas Red Sands, and currently operates 16 production wells with an estimated production capacity of over 15 million gallons per day. Annual production currently 4,795 AFY. In response to reported conditions of overdraft and seawater intrusion, the District became active in groundwater management in the early 1980's and adopted an AB3030 groundwater management plan in 1996 under a Joint Powers Agreement with Central Water District.

Scotts Valley Water District

Scotts Valley Water District (SVWD) is the public agency responsible for the management and supply of water to the 11,300 residents in Scotts Valley area. Annual production is 1,700 AFY. District's 3,700 connections predominately service single and multi-family residential purposes, accounting for about two-thirds of the total demand. SVWD relies solely on groundwater

sources from the Santa Margarita Groundwater Basin, which is designated as a “sole source aquifer” by the USEPA. SVWD addresses the groundwater shortfall with a variety of management actions including groundwater exploration, modeling, water conservation planning, artificial recharge investigations, and wastewater recycling. The District initiated recycled water use in 2002. SVWD released its groundwater management plan in 1994 and prepares annual updates. The District participates in the Santa Margarita Groundwater Basin Advisory Committee.

City of Santa Cruz

The City of Santa Cruz provides water service to an area approximately 30 square miles in size, including the entire City and adjoining unincorporated areas. The current sources of water supply include surface water from the San Lorenzo Watershed (60-80%), surface water from north coast streams (20-30%) and a well field in the Live Oak area. The Santa Cruz Water Department serves over 95,000 customers, which is approximately 1/3 of the county’s population. Per-capita residential usage is among the lowest in the state, 76 gallons per person per day, compared to statewide and Central Coast figures of 130 and 113 gallons respectively. Conservation programs are expected to achieve an annual demand reduction of 280 million gallons by 2010. The City has completed several alternative supply studies and an Integrated Water Plan (2003). It is now actively pursuing a desalination strategy with Soquel Creek Water District to provide additional water supply during drought years. The City has an active watershed management program. The City operates and maintains a regional wastewater treatment and disposal facility, and is implementing a comprehensive stormwater management program.

City of Watsonville

Although not all of the City of Watsonville lies within the planning region, significant portions of the City within the Watsonville Sloughs watershed are covered in the Santa Cruz IRWM Plan. Watsonville has 15,000 service connections. Twelve groundwater wells currently provide the city and the surrounding service area with approximately 7,620 AFY, an equivalent of approximately 14% of groundwater pumped from the Pajaro Valley Basin. Water is also diverted from two creeks north of the city limits. Surface diversions are piped to the Corralitos Filter Plant, which currently produces approximately 340 acre-feet of water per year, though it has a higher capacity. The City’s potable water distribution system is comprised of 152 miles of pipeline, eight reservoirs or water storage facilities, and ten pumping stations. Approximately 35% of the City’s water customers live outside the City limits.

County of Santa Cruz, Environmental Health Services

Environmental Health Services (EHS) coordinates the County’s water resource management efforts. EHS staff monitor bacteria, nitrate and flow at ocean beaches, coastal lagoons coastal streams and storm drains. Staff maintain a database on streamflow and water quality, oversee hazardous materials facilities operations and cleanups, oversee 130 small water systems, regulate installation of new wells, ensure adequate water supply for new development using individual water systems, and oversee onsite wastewater treatment systems. EHS has oversight

of water conservation; groundwater supply and recharge programs and provides staff support to the County Water Advisory Commission and the County Fish and Game Advisory Commission. Additionally, EHS participates in regional monitoring efforts conducted by the Monterey Bay National Marine Sanctuary, the Regional Water Board and others; reviews water rights applications; reviews timber harvest proposals; oversees large woody material management efforts; and, promotes stream habitat improvement projects.

County of Santa Cruz, Department of Public Works

Public Works is responsible for the following areas of water resource management: compliance monitoring for sewage discharge requirements of commercial and industrial waste dischargers; maintenance and upgrade of sewage collection systems and small plants; operation of the Household Hazardous Waste Program; maintenance, improvement, and operation of drainage facilities, including silt and grease traps, and flood control channels; maintenance and improvement of roads, including drainage and erosion control features; assessment and repair of road-related sediment sources and conditions for fish passage; operation of the ALERT Flood Warning system for key watersheds; coordination and implementation of the stormwater management program; and, direction of groundwater monitoring and operations at County landfills.

Santa Cruz County Sanitation District

The Santa Cruz County Sanitation District provides sewage collection, treatment and disposal services to the Live Oak, Capitola, Soquel, and Aptos areas. The District currently maintains 31,233 connections. Sewage is transported from the Lode Street facility near Capitola to the wastewater treatment plant at Neary Lagoon, which is owned and operated by the City of Santa Cruz. The District administers, maintains, and improves sanitary sewer facilities.

Davenport Sanitation District

The Davenport Sanitation District is a public agency providing clean drinking water and sewage collection, treatment and disposal services to the town of Davenport. There are currently 89 sanitary sewer connections and 108 water service connections, serving a population of about 500.

Table 1. Local Agencies with Statutory Authority

Local Agency	Nature of Statutory Authority	Number of Connections	Water Source	Involved in IRWM Planning	Involved in IRWM Implementation
SCWD ²	City of Santa Cruz Water Department and Soquel Creek Water District have joined forces to study the viability of desalination as part of supply portfolio	39,300	Memorandum of Agreement to study potential for ocean desalination	X	X
City of Santa Cruz Water Department	Provides drinking water and water resources management to City residents and some in the North Coast; provides regional wastewater treatment; stormwater management and climate action strategies	24,300	Live Oak Wells (3%), Lake Lomond Reservoir (16%), San Lorenzo River (48%), North Coast Streams (32%)	X	X
Soquel Creek Water District	Provides drinking water and groundwater resource management within its service area in mid-Santa Cruz County. Adopted AB 3030 Groundwater Management Plan in conjunction with Central Water District under a Joint Powers Agreement in compliance with SB 1938.	15,000	Aromas Red Sands Aquifer (35%) and Purisima Formation (65%)	X	X
City of Watsonville Public Utilities Department	Provides drinking water to residents in and around the City; wastewater treatment, water recycling, stormwater management, wetlands, parks, nature center and natural areas management (A Disadvantaged Community)	15,000	Pajaro Groundwater basin 89%, surface water Corralitos Creek 11%	X	X
San Lorenzo Valley Water District	Provides drinking water and watershed management to the communities of Boulder Creek, Brookdale, Ben Lomond, Zayante, part of Scotts Valley, Manana Woods and Felton; provides wastewater treatment for Bear Creek Estates	7,385	Santa Margarita Groundwater Basin and San Lorenzo River Tributaries		X

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Local Agency	Nature of Statutory Authority	Number of Connections	Water Source	Involved in IRWM Planning	Involved in IRWM Implementation
Scotts Valley Water District	Provides drinking water, recycled water and groundwater resource management within its service area	3,600	Santa Margarita Groundwater Basin	X	X
Central Water District	Provides drinking water and groundwater resource management within its service area in mid-Santa Cruz County. Adopted AB 3030 Groundwater Management Plan in conjunction with Soquel Creek Water District under Joint Powers Agreement in compliance with SB 1938.	800	Five wells in Purisima and Aromas Red Sands	X	
Lompico Water District	Provides drinking water to the Community of Lompico in the San Lorenzo River Watershed	500	Lompico Creek, Santa Margarita Groundwater Basin		
Davenport County Sanitation District	Provides treated drinking water and sewage collection, treatment and disposal services to the unincorporated town of Davenport, a Disadvantaged Community	100	San Vicente Creek	X	X
City of Scotts Valley	Provides wastewater treatment and produces recycled water for distribution by Scotts Valley Water District. Manages stormwater within the City Limits.	0	Not a water supplier		
County of Santa Cruz	County staff work closely with the water agencies on water supply planning, groundwater and surface water, and watershed management, water conservation, water quality protection, stormwater management, monitoring, and oversight of small water systems	0	Not a water supplier	X	X

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Implementation Affiliates

- Regional Water Management Foundation
- Community Foundation of Santa Cruz County
- Watsonville Wetlands Watch
- City of Scotts Valley
- CalFire
- Coastal Watershed Council
- City of Capitola
- Natural Resources Conservation Service
- San Lorenzo Valley Water District
- Central Water District
- Ecology Action
- Cal Poly Swanton Ranch
- CA Dept. of Parks and Recreation
- Arana Gulch Watershed Alliance
- Bureau of Land Management
- Scotts Creek Watershed Council

Interested Stakeholders

- NOAA Fisheries
- U.S. Army Corps of Engineers
- Monterey Bay National Marine Sanctuary
- U.S. Fish and Wildlife
- Central Coast Regional Water Quality Control Board
- California Coastal Commission
- Santa Cruz Port District
- Surfrider Foundation
- Monterey Coastkeeper
- The Otter Project
- Action Pajaro Valley
- Land Trust of Santa Cruz County
- Santa Cruz County Farm Bureau
- Save our Shores
- Pajaro Valley IRWM Group
- Bay Area IRWM Group
- The Valley Women's Club of San Lorenzo Valley
- California Dept. of Fish and Game
- California Coastal Conservancy
- Sierra Club
- O'Neill Sea Odyssey
- Friends of Pajaro Dunes
- Center for Integrated Water Research

RWGM Governance

The RWGM currently operates under a Memorandum of Agreement (MOA) signed by partner agencies in June 2006. The MOA establishes the institutional framework to implement the IRWM Plan under the context of a single, regional grant agreement. Key excerpts from the MOA are included here, which describe the governance structure, how decisions are made, and how the structure facilitates sustained development of regional water management.

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1.b The Partner Agencies will utilize a Steering Committee comprised of at least three regional water managers to oversee preparation of the grant application and implementation of the IRWM Plan. The Steering Committee is appointed by the larger representative group of Partner Agencies and currently consists of John Ricker, Santa Cruz County, Laura Brown, Soquel Creek Water District, and Karen Christensen, Santa Cruz County Resource Conservation District. These individuals shall continue to serve as the Steering Committee unless a majority vote of the Partner Agencies (based on one vote per agency) replaces all or some of the Steering Committee members or a replacement is necessary due to an individual's resignation. The Steering Committee shall meet on a regular basis to discuss IRWM Plan administration and coordinate efforts as needed. All Steering Committee decisions with financial implications shall be ratified by the Partner Agencies.

1.j As the RWM Plan is expanded, and future collaborations develop, new agencies may join this partnership. The Partner Agencies are committed to:

- 1) Develop and foster relationships with regional, state, and local governments, individuals, and other interested organizations to develop protocols that recognize the importance of water quality and water supply management practices to preserve and protect Santa Cruz County water resources.*
- 2) Undertake cooperative research and resource management initiatives that are regional in scope and disseminate information resulting from these activities.*
- 3) Produce and share relevant informational materials among the Partner Agencies.*
- 4) Recommend to the respective governing boards actions necessary to successfully develop and implement the IRWM Plan.*

1.k All parties to this agreement wish to join in a common effort to develop and implement an IRWM Plan that shall include, but not be limited to: 1) Establishing water quality and water supply management objectives for Northern Santa Cruz County, including components relating to monitoring; and 2) Adopting monitoring protocols for the above referenced components.

Regional Water Management Foundation (RWMF)

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The Regional Water Management Foundation (RWMF) was established in 2007 to provide an organizational structure to support the implementation of the Integrated Regional Water Management (IRWM) Plan. The RWMF is a subsidiary of the Community Foundation of Santa Cruz County. The RWMF is a separate 501(c)(3) tax-exempt nonprofit organization. It has its own Board of Directors and staff, with an office located at the Community Foundation. The primary objectives of the RWMF are to (1) protect communities in Santa Cruz County from water shortages and floods; (2) protect and improve water quality and the natural environment in Santa Cruz County; and, (3) improve water supply reliability in Santa Cruz County.

The RWMF is the grantee of the \$12.5m Proposition 50 Round 1 IRWM Implementation grant, awarded to the Santa Cruz region in 2007. The RWMF provides management and administration for implementation of this grant and serves as fiscal agent. The RWMF provides a central hub and technical expertise for consolidation of items for review, reporting, invoicing, and inter-agency coordination, as well as an interface between the implementation partners and the State Water Resources Control Board (SWRCB). The RWMF Project Manager works closely with IRWM Steering Committee, the sub-grantee partner agencies, and the SWRCB. The RWMF served as the submitting entity for the Region Acceptance Process. The RWMF has also served as the applicant and/or administrator for several other state and federal grants supporting water management efforts in the region.

To date, the RWMG governance structure and the RMWF role supporting IRWM efforts has operated very effectively. As part of the Plan Update process, the MOA and governance structure will be evaluated and updated to ensure roles and responsibilities remain accurate and incorporate new RWMG Partner Agencies.

1.2 Region

Santa Cruz County is in the Central Coast IRWM Funding Area, situated at the northern end of Monterey Bay, 65 miles south of San Francisco, 35 miles north of Monterey, and 35 miles southwest of the Silicon Valley. The Santa Cruz IRWM region is defined by watershed and jurisdictional boundaries as well as common water management issues. The watersheds within the planning area share common issues and fall within the jurisdictions of the Partner agencies, which have worked together since 1998 to integrate water management strategies. This maximizes opportunities to integrate water resources management because all of the water management agencies in the region, including those with jurisdiction over water supply, water quality, stormwater, wastewater, watershed restoration and recycled water are involved.

The County encompasses 446 square miles (388,950 acres) of which 6.7 square miles are covered by water. Geographic features define much of County's border, with the crest of the Santa Cruz Mountains the eastern boundary, the Pacific Ocean to the west, and, the Pajaro River to the south. The San Lorenzo River drains the 138 square mile San Lorenzo River watershed, the largest watershed that is completely within the County. **Figure 1** shows the major watersheds of

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the County, including Scotts Creek, Soquel and Aptos Creeks, and Waddell as well as the smaller watersheds of Arana Gulch, Rodeo Gulch, and the watersheds along the North Coast. **Figure 3** Shows the major groundwater basins in the Planning Region. The planning area includes the Watsonville Sloughs Watershed, but does not include the remainder of the Pajaro Watershed. The Watsonville Slough system joins the Pajaro River right at its mouth and has a unique set of water management issues that distinguish it from the remainder of the 1300 square mile Pajaro Watershed.

The County has an estimated 256,218 residents¹. The IRWM region encompasses approximately 80% of the population and 84.3% of the area of the County. There are four incorporated cities within the County; the City of Santa Cruz (population of 54,778), Watsonville (48,709); Scotts Valley (11,385), and Capitola (10,033).

Water Supply

Unlike many areas in the state, the Santa Cruz region does not import water via state or federal water supply projects. Ensuring an adequate, reliable water supply is a planning priority for the region. Two of the primary water management challenges in the region are the lack of adequate surface water supply during droughts, and depletion of the aquifers. Current water demands exceed sustainable supplies in significant portions of the region. To remedy this situation, local water agencies are actively pursuing supplemental supply alternatives, including, desalination, conjunctive use, and groundwater recharge enhancement projects.

Key regional water supply concerns include:

- Each of the three major groundwater basins in the region is in overdraft. The two coastal basins are in danger of seawater intrusion and the average groundwater levels in the inland basin have decreased approximately 100 to 200 feet over the last 25 years as a result of pumping and reduced groundwater recharge.
- Surface water supplies are insufficient, particularly in drought years. If the region were to experience a drought condition similar to 1976-1977, the City of Santa Cruz would barely be able to serve half of the summer water demand of its 95,000 water customers.
- Stream base flows have declined as a result of surface diversion and diminished groundwater levels. Reduced base flows in summer diminish water supply and adversely impact fish and aquatic species.

¹ U.S. Census Bureau (2009) <http://quickfacts.census.gov/qfd/states/06/06087.html>. Accessed 9/15/10.

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- It is anticipated that climate change will result in increased demand, reduced recharge, and reduced stream baseflow, which will greatly exacerbate current water supply deficiencies.

Water Quality

The entire IRWM planning region flows to the Monterey Bay National Marine Sanctuary. Periodic upwelling and extensive year-round mixing with the open ocean result in well buffered, highly productive and well-oxygenated waters in Monterey Bay, all of which results in ocean water quality off Santa Cruz County which is generally considered to be good. However, the near-shore waters are more problematic, specifically with regard to beach and lagoon water quality. Urban runoff in developed areas has degraded water quality at moderate levels in coastal lagoons and at ocean beaches. All urban lagoons in this planning region are posted as unsafe for swimming year round due to high bacteria levels. Local beaches are frequently posted as unsafe for human contact in response to elevated bacteria. The most problematic beaches are Cowell Beach and Capitola Beach.

Development in the watersheds has increased runoff and erosion and decreased groundwater recharge in many Santa Cruz County watersheds. **Figure 4** presents the significant issues in streams, lagoons, and creeks in the region. Excessive erosion, sedimentation, and turbidity have severely degraded habitat for coho salmon and steelhead, reduced suitability of winter flows for both water supply and environmental needs, and caused extensive public and private property damage. Excessive sedimentation is the primary reason for the estimated 70-90% reduction in salmon and steelhead populations that have occurred in the San Lorenzo Watershed since the 1960's².

Substantial areas of wetlands and sloughs in the Watsonville Sloughs watershed were drained, channelized and converted to agriculture during the land reclamation efforts in the late 1800s and early 1900s. These land use changes for increased agriculture production have resulted in degraded surface water quality, soil erosion, reduced groundwater levels, and seawater intrusion.³ In recent years, as the drainage system constructed during the reclamation era has decayed, agricultural production has been adversely affected, while at the same time pollutant loading, reduced water circulation, and eutrophication has been detrimental to recent water supply projects and wetland restoration efforts.

Septic systems, livestock, and agricultural operations in the rural areas of the region contribute nitrate to groundwater and surface water. Current impacts are generally low to moderate. Leakage and spills from gas stations, dry cleaners and other hazardous materials sites resulted

² San Lorenzo River Watershed Management Plan Update, December 2001.

³ Watsonville Sloughs Watershed Resource Conservation and Enhancement Plan, 2003.

in localized groundwater contamination and pose more serious threats to water supplies in the urban areas. Groundwater underlying the Watsonville Sloughs watershed has significant seawater intrusion and nitrate contamination problems. **Figure 5** presents a map of significant groundwater, seawater intrusion, and flooding issues in the Region.

Flooding

Damaging floods have historically occurred along the San Lorenzo River, Soquel Creek, Aptos Creek and the Pajaro River. Levees have been constructed along both the lower San Lorenzo and Pajaro Rivers. Along lower Soquel Creek, bridges have been raised and reconstructed to facilitate the passage of flood flows and minimize the potential for formation of debris jams that have been the greatest cause of localized flooding. Lower Aptos Creek and other urban areas are subject to localized flooding during severe storm events.

Watershed Restoration

Watersheds play a fundamental role in local water supply and provide essential natural services that support the region's residents, economy, and diverse natural ecosystems. Watershed restoration is a priority in IRWM planning, and has long been a priority for local resource agencies and organizations, due to the many benefits to water resources and ecosystems that result from environmental stewardship. Santa Cruz has an active community of interested stakeholders, agencies, organizations, and researchers working to better understand, enhance, and protect this region's natural resources and biodiversity.

IRWM planning builds upon existing efforts, most notably through support for the highly effective Integrated Watershed Restoration Program (IWRP). IWRP is a unique collaborative approach to prioritize and implement watershed restoration projects and outreach in Santa Cruz County. It began in 2003 through a partnership between the Resource Conservation District, the California State Coastal Conservancy, California Department of Fish and Game, the City and County of Santa Cruz, and the Coastal Watershed Council. The mission of IWRP is to *"...facilitate and coordinate projects to improve fish and wildlife habitat and water quality in Santa Cruz County watersheds using a voluntary, non-regulatory approach."* The core IWRP program consists of the:

- a. Design and Permit Technical Advisory Committee with a coordinated, interagency technical review process;
- b. Permit Coordination Program;
- c. Technical assistance for road-related erosion control (Rural Roads Program);
- d. Watershed education and outreach, including the Residential Stormwater Retrofit Program; and,
- e. Coordinated funding and management of implementation projects.

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Through IWRP, nearly 90 watershed restoration projects have been designed and permitted, with 73 constructed in 2005-2009, and 14 more projects to be constructed by 2011. Over \$11 million has been raised for project construction. The Rural Roads Program has assessed 101 miles of high priority roads, designed 41 erosion control projects and constructed 21 of these, reducing sediment delivery into streams by at least 7,617 tons. The Permit Coordination Program has processed 47 projects in the first 4 years, including at least 25 projects on private lands. Watershed restoration projects are identified and processed in annual cycles of IWRP review. The current Prop 50 IRWM implementation grant supports implementation of the IWRP program in all watersheds of the Santa Cruz IRWM region.

Adjacent IRWM Regions

The Santa Cruz region abuts two IRWM regions, as shown in **Figure 6**. The Pajaro IRWM region is to the south and east along the Pajaro River Watershed, with one area of overlap (Watsonville Sloughs). To the north and east is the San Francisco Bay Area (SFBA) IRWM Region, there is a small gap area between the regions. All three regions are aware of, and coordinating, on common water management interests in the boundary and overlap areas.

Coordination with the Bay Area Region

The Bay Area IRWM is in RWQCB Region 2 (San Francisco Bay), and Santa Cruz is in Region 3 (Central Coast). A gap exists between the Santa Cruz County and SFBA IRWM regions in the Gazos Creek watershed within San Mateo County. Since there appeared no stakeholder interest to participate in an IRWM effort, DWR did not require either region to include the Gazos Creek watershed during the Region Acceptance Process. The planning efforts are viewed as parallel and complimentary, although there is limited interaction between water managers in these regions as the water resources are almost completely separate. Both regions participate in the Roundtable of Regions, and information is also shared through informal networks. There is also coordination and collaboration between the RCD of Santa Cruz County and San Mateo County RCD.

Coordination with Pajaro Region

The Pajaro Region takes in all of the Pajaro River Watershed, which includes parts of four counties. The Santa Cruz IRWM Region covers all of the watersheds in Santa Cruz County except the portions of the Pajaro watershed outside of the Watsonville Sloughs subwatershed. Santa Cruz IRWM and Pajaro IRWM overlap in the Watsonville Sloughs subwatershed. Both Pajaro and Santa Cruz are within the Central Coast Hydrologic Region. Several Santa Cruz IRWM partner agencies also have projects in the Pajaro region, and the Santa Cruz RCD and County staff participate in the Agricultural Water Quality Committee of the Pajaro IRWM. The two regions have many common stakeholders. Both regions participate in Central Coast IRWM coordination meetings and in the Roundtable of Regions. The County Water Resources Division reviews and comments on both Region's IRWM Plans. County and RCD staff as well

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as staff from the City of Watsonville attend both Regions' meetings. There is also some coordination and collaboration on grant funding outside of IRWM efforts.

Overlap with Pajaro IRWM

The Pajaro and Santa Cruz regions overlap in the Watsonville Sloughs Watershed. The Watsonville Sloughs system drains a 12,500-acre watershed from the coastal plain and foothills of southern Santa Cruz County into Monterey Bay. The Watsonville Sloughs Watershed includes six individual sloughs that ultimately discharge to the mouth of the Pajaro River. These sloughs sustain large wetland marsh and riparian habitats, economically important agricultural lands, and a significant portion of the City of Watsonville, the fastest-growing area in Santa Cruz County in terms of development.

Because of the extensive wetland habitats and unique pressures in the Watsonville Sloughs Watershed, considerable effort has been placed on implementing watershed conservation and restoration plans. This watershed restoration effort is coordinated by the Resource Conservation District of Santa Cruz County through its Integrated Watershed Restoration Program. The RCD has worked in close partnership for many years with the City of Watsonville, Watsonville Wetlands Watch and the County of Santa Cruz to assess, plan and implement water quality and habitat improvements. More recently the City of Watsonville, the County, and the RCD are also coordinating a new approach to stormwater management. Watsonville Sloughs is included in the Santa Cruz IRWM region to facilitate funding and coordination of watershed restoration, stormwater management and water quality improvement efforts.

Water supply reliability for both agriculture and municipal use remains a concern in the Watsonville Sloughs watershed. Underlying groundwater is part of the larger Pajaro Valley Groundwater Basin, which is overdrafted by an estimated 40,000 acre-feet per year. Groundwater levels are below sea level under two thirds of the basin and seawater intrusion extends up to three miles inland.

Both regions acknowledge the overlap and are in agreement that the area can be jointly managed. The Pajaro IRWM Plan will address issues of groundwater management and flooding in the Watsonville Sloughs area, while the Santa Cruz County IRWM Plan addresses water quality protection and habitat restoration in the sloughs.

1.3 Santa Cruz IRWMP History and Status

Local governments, agencies, and organizations in Santa Cruz County share a history of long-range planning efforts on individual groundwater basins, watersheds, and jurisdictions. In 1998, a variety of entities came together to support coordinated programs for water resources and watershed management. Between 2002 and 2004, local agencies and special districts began

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integrated planning efforts, including coordination of efforts with other Northern California regions to secure water bond funding. In 2005, local agencies collaborated on the development of an initial Integrated Regional Water Management Plan (IRWMP) to address the region's water supply, water quality, and resource stewardship needs. In 2006, the Partner agencies signed a Memorandum of Agreement and most formally adopted the IRWMP. Development of the IRWM Plan, which was entirely funded by local partner's, helped secure a competitive \$12.5 million IRWM Implementation grant awarded in 2007 by the State Water Resources Control Board (SWRCB) to fund the implementation of fifteen high-priority water resource projects between 2008 – 2012:

Water Supply Projects:

- Scotts Valley Recycled Water Distribution System
- Davenport Drinking Water Quality Improvement Project
- Groundwater Monitoring Wells in the Aromas and Purisima
- Polo Ground Well, Treatment Pipelines, and Water Conservation Project
- Intake Evaluation for Desalination Facility
- Groundwater Recharge Projects and Policies
- Conjunctive Use and Enhanced Aquifer Recharge

Watershed Stewardship

- Integrated Watershed Restoration Program – Phase II
- Watsonville Sloughs Restoration Projects

Water Quality

- Relocate Aptos Transmission Sewer Line
- Stormwater Pollution Prevention Program
- Abandoned Well Destruction Program

Flood Management

- Aptos Watershed Drainage Masterplan

Plan Development

- Monitoring
- Improved Integration of Regional Water Management

1.4 Stakeholder Involvement Process

1.4.1 *2005 Plan Stakeholder Involvement*

Outreach to stakeholders for the 2005 IRWM Plan and its component projects occurred through the following venues:

1. The 2005 IRWM Plan compiled the recommendations of watershed plans, water management plans and water supply plans, each developed with extensive stakeholder and public involvement from 1995-2005.
2. A summit of 30 nonprofit leaders was conducted in April 2004 by the Community Foundation to identify major environmental issues in the County, including water issues, needs and opportunities. That information supported watershed assessments and was also used in the IRWM Plan development.
3. Projects were solicited from diverse water management agencies in the region.
4. Planners and project proponents did outreach and had discussions with state, federal, and local agencies and elected officials with a nexus to these projects beginning in 2002.
5. A Central Coast Water Quality Monitoring Meeting was held in 2004, bringing together representatives of 44 agencies and organizations. The group identified gaps in regional monitoring within five categories: funding, monitoring, collaborations, areas needing more research and making use of existing data. The participants developed long-term strategies to ensure monitoring information is updated and available online and to increase communication between agencies.
6. Development of the IRWM Plan was publicly noticed and reported through the proceedings of three publicly elected boards, and two appointed water advisory commissions.
7. Copies of the draft plan were circulated to stakeholders for review and comment, and changes were incorporated.
8. The complete Plan is available on local agency websites including the RCD's website, which is the repository of all County watershed plans.
9. The County Board of Supervisors and Santa Cruz County Water Advisory Commission have both received reports on IRWM efforts annually since 2002. All of the Board of Supervisors' agenda items are available on the Web.
10. The IRWM plan, implementation, and update process has been presented to the public and stakeholders attending the Blue Circle meetings, County Water Advisory Commission meetings, and the Santa Margarita Groundwater Management Committee meetings

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1.4.2 Current Stakeholder Involvement and Outreach Efforts

In 2009, Santa Cruz County developed the *Stakeholder Involvement Plan*. This document describes how the RWMG engages stakeholders in the IRWM Plan update process. The document identifies the steps the Partner Agencies will take to encourage participation from other water, agricultural, watershed, wetland, and environmental non-governmental and community-based organization, agencies, and special districts in the IRWMP update process. The description below is a summary of the stakeholder involvement process and outreach effort for the Prop 84 Planning Grant. The *Santa Cruz IRWM Stakeholder Involvement Plan* is available in its entirety at santacruzirwmp.org.

The RWMG communicates through a website, meetings, workshops, email, and written correspondence and announcements. The Partner Agencies and several implementing agencies regularly conduct outreach with their own boards, councils, commissions, constituents, and members through internal emails, newsletters, websites, and meetings. Efforts will continue to engage the community through established boards, advisory groups, meetings and events. Current outreach includes:

- Santa Cruz IRWM website (santacruzirwmp.org)
- Elected and appointed agency boards and councils
- Santa Cruz County Water Advisory Commission
- City of Santa Cruz Water Commission
- Integrated Watershed Restoration Program Outreach
- Blue Circle (local watershed interests group) Meetings
- SCWD₂ Task Force – Outreach Program
- Santa Cruz Watershed Action Group (SwAG)
- EcoCruz website
- Santa Margarita Basin Advisory Committee
- Water Awareness Committee
- Municipal Stormwater Permit Outreach Program
- Soquel-Aptos Groundwater Management Alliance
- Watsonville Sloughs Watershed Stewardship Committee
- Santa Cruz County Fish and Game Advisory Commission
- Santa Cruz County Commission on the Environment

1.4.3 Partner Agency Coordination

The IRWM Steering Committee meets on a regular basis with the Partner Agencies and communicates to implementation affiliates and interested stakeholders through website updates, existing outreach efforts and informal email updates and phone calls. New agencies are encouraged to join the Partner Agencies as the IRWM Plan expands and future collaborations develop. The Partner Agencies are committed to:

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1. Developing and fostering relationships with regional, state, and local governments, individuals, and other interested organizations to develop protocols that recognize the importance of water quality and water supply management practices to preserve and protect Santa Cruz County water resources.
2. Undertaking cooperative planning and resource management initiatives that are regional in scope and disseminate information resulting from these activities.
3. Producing and sharing relevant informational materials among the Partner Agencies.
4. Recommending to the respective governing boards actions necessary to successfully develop and implement the IRWM Plan.

1.4.4 Planning Grant Outreach

In addition to the ongoing outreach as part of the Plan update process, the existing partners, potential new partners, implementation affiliates, and stakeholders were encouraged to submit planning projects for the Proposition 84 Planning Grant. In June 2010, the IRWM Steering Committee hosted a public workshop to review and comment on the Plan Update and Project Solicitation Process. The workshop announcement was posted on the Santa Cruz IRWM website and notification emailed to over 60 RWMG contacts. The Project Submittal Application with instructions and staff contact information was posted on the IRWM website and emailed to the RWMG contacts. The nine planning projects submitted through this process were evaluated for eligibility and ranked against the Plan objectives; the six highest scoring projects were selected for inclusion as Tasks in the Work Plan submitted with the Prop 84 Planning Grant. This process proved to be successful in its goal to identify needed, well thought out, ready to go projects that will serve to provide the information needed to update and improve the IRWM Plan.

1.5 DAC Involvement

This Region is committed to including Disadvantaged Communities (DAC) in the IRWM outreach and planning process. Two communities in the IRWM region, Davenport and Watsonville, are financially disadvantaged based upon the Proposition 84 IRWM guidelines definition of a DAC as a community with a median household income (MHI) less than 80% of the statewide average. Special outreach efforts were made to both communities, including individual meetings with water resource agency staff to identify the needs of communities and strategies to address these through IRWM Planning.

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The small, unincorporated community of Davenport (population 500), with a median household income of \$39,999⁴, qualifies as a DAC. The drinking water treatment plant serving the community failed to meet the standards of Safe Drinking Water Act. Residents faced a boil water order for certain times of the year when the turbidity of the source water exceeded the plant's treatment capacity. Improving the quality and reliability of drinking water supply for this community ranked among the high priorities identified 2005 Santa Cruz IRWM Plan. The Davenport Drinking Water Treatment Facility is among the first projects identified, prioritized, and implemented through the IRWM Planning Process. In 2008, with local, state, and federal funding support, work began to upgrade and modernize the facility, the treatment system, and storage tank facilities. The new facility will be completed and operational in 2010.

The City of Watsonville (population 48,709⁵) is largely contained within the IRWM planning region and qualifies as a DAC. Watsonville comprises almost 19% of the total population of the IRWM region (256,218). According to the 2000 U.S. census data⁶, the median household income in Watsonville was \$37,617, which was less than 80% of the MHI in California. The Santa Cruz region continues to work avidly to incorporate Watsonville in IRWM planning and implementation. The Watsonville Sloughs Integrated Watershed Restoration Program currently receives IRWM funding to implement water quality, stormwater, and habitat restoration projects. These projects are supported by Prop 50 SWRCB IRWM Implementation grant (\$690,000) as well as local matching funds from the Resource Conservation District of Santa Cruz County, the City of Watsonville, and local organizations. The inclusion of the Middle Watsonville Slough Hydrologic Study (Grant Work Plan Task 21) in the current Prop 84 Planning Grant Proposal reflects the ongoing effort to address DAC needs in IRWM efforts as well as recognition of the importance and potential water quality and ecological benefits of healthy, functioning wetlands in the Watsonville Sloughs.

Other Disadvantaged Areas

Though Watsonville and Davenport are the only areas that meet the 'disadvantaged' threshold as defined by Proposition 84, many communities in the region have a high percentage of households earning 'low', 'very low' or 'extremely low incomes'. Table 2 shows the income distribution categories in the County, expressed as a percentage of the County median income (\$62,100), as defined by the U.S. Census Bureau⁷ and the corresponding income ranges for a 3-person household. For example, households earning at 'extremely low' levels make less than \$15,525, while households earning at 'very low' levels earn between \$15,525 and \$35,397.

⁴ Source: 2009 Rural Community Assistance Corporation Income Survey

⁵ Source: U.S. Census Bureau 2009. <http://quickfacts.census.gov/qfd/states/06/0683668.html>

⁶ Source: U.S. Census Bureau 2000. <http://quickfacts.census.gov/qfd/states/06/0683668.html>

⁷ Note that these definitions are somewhat different than those commonly used by the County.

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Table 3 illustrates the large income disparities in the county. Despite fairly high county-wide median income, the table shows large percentages of households in each community in the region who earn 'extremely low' or 'very low' incomes. Four communities, including the City of Watsonville, have 15% or more of their 3-person families with 'extremely low' incomes, while 10 of the 15 communities have more than 10% of their households in this category. Seven communities have at least one-third of their 3-person households in either the 'extremely low' or 'very low' income categories, earning less than \$35,397, with the City of Watsonville showing nearly half of its families earning below this level. The large numbers of families with such low earnings are due in part to a large agricultural sector with many migrant workers whose earnings are exceptionally low. Finally, six communities have more than half of their 3-person households earning a 'low' income (\$50,301) or less. Given the extremely high cost of housing described below, the difficulties of these households are exacerbated.

IRWM planning and outreach efforts will include efforts to identify and address the needs of the 'extremely low' and 'very low' income communities (Tables 2 and 3) that, although do not technically qualify as DAC, face financial hardship.

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Table 2. U.S. Census Bureau Income Distribution Categories and Corresponding Income Ranges in Santa Cruz County

Based on 2002 Median Income of Three-Person Households

Category	2002 Income Range
Extremely Low Income (0%-24% Median)	\$0-\$15,525
Very Low Income (25%-56% Median)	\$15,525-\$35,397
Low Income (57%-80% Median)	\$35,397-\$50,301
Moderate Income (81%-120% Median)	\$50,301-\$75,141
Above Moderate Income (121%+ Median)	\$75,141+

Table 3. Low Income Communities Low Income Three-Person Households in Communities in the Santa Cruz County Planning Region

Community	Percentage of 'Extremely Low' Income Households ^a	Percentage of 'Extremely Low' or 'Very Low' Income Households ^b	Percentage of 'Extremely Low', 'Very Low', or 'Low' Income Households ^c
Watsonville	15.9%	46.0%	62.8%
Twin Lakes	16.6%	44.8%	59.0%
Opal Cliffs	16.4%	39.3%	57.3%
Felton	15.0%	33.3%	55.2%
City of Capitola	13.7%	36.6%	54.6%
Live Oak	10.5%	34.8%	52.4%
City of Santa Cruz	14.5%	35.1%	49.4%
Soquel	12.1%	26.7%	45.8%
Ben Lomond	10.2%	27.7%	43.4%
Boulder Creek	11.3%	31.6%	42.1%
Aptos	8.4%	25.5%	39.2%
Day Valley	7.4%	21.2%	36.8%
Aptos Hills- Larkin Valley	8.2%	22.3%	34.8%
City of Scotts Valley	5.8%	22.8%	34.7%
Rio Del Mar	8.0%	19.3%	32.0%

a. Income below \$15,625

b. Income below \$35,397

c. Income below \$50,301

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1.6 Santa Cruz Region Objectives

1.6.1 *How the 2005 Plan Objectives Were Determined*

The agencies participating in the 2005 IRWM Plan process agreed early on that it was critical to develop a foundation of plan objectives that reflect regional priorities and could be used to assess the priority of potential projects. The three-member Partner Agency Steering Committee, with the help of the consulting team, developed a robust set of planning objectives and implementation criteria. These objectives incorporate priorities identified through prior planning efforts of the participating agencies (such as, Integrated Resource Management Plans, Groundwater Management Plans, local watershed planning documents, Urban Water Management Plans) and regional efforts (e.g., RWQCB Basin Plan Objectives). The objectives were vetted and subsequently adopted by the larger group of Partner Agencies.

2005 Plan Objectives

The precise wordings of the objectives and implementation criteria were thoroughly discussed, to ensure that the words truly reflect regional priorities. For each of the objectives, the Steering Committee developed an initial set of detailed subobjectives drawn from existing planning documents. These indicate more specifically how the objectives will be achieved.

1. Water Supply Reliability

Minimize the impact of droughts, production facility failures, or groundwater overdrafts on regional water supplies. Reduce the likelihood of domestic water shortages and any future need to import water from outside the County.

2. Raw Water Quality

Maximize the quality of surface and ground water in the county by addressing sources or conduits of contamination.

3. Delivered Water Quality

Maximize the quality of delivered drinking water as well as reclaimed water for irrigation.

4. Habitat Restoration & Maintenance

- a. Aquatic: *Restore and maintain habitats to support local aquatic species.*
- b. Terrestrial: *Restore and maintain habitats to support terrestrial species of local flora and fauna.*
- c. Ocean: *Restore and maintain habitats to support Monterey Bay marine life.*

5. Recreation

Maximize the recreational value of county water resources.

6. Public Health

Minimize adverse water-related public health impacts in the county.

7. Flood Management

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Minimize the adverse impacts of future flood events.

8. Regional Economy

Add maximum value to the regional economy.

9. Regional Collaboration

Continue and expand collaboration among public and private agencies to address county water-related challenges.

10. Readiness to Proceed

Be prepared to proceed with approved projects in a timely manner.

11. Availability of Funding

Ensure that sufficient local and regional funding is available to move forward with projects.

1.6.2 2010 Plan Objectives

In 2010, the Steering Committee led an assessment of the Plan objectives with input and review from the Partner Agencies. This was an initial effort to re-examine objectives to ensure they accurately reflect the current priorities of the region. The outcome of this effort is a vision and regional goals that set the context for the updated Plan and what is hoped to be achieved, long-term, through the Plan's implementation. The overarching vision and objectives presented below will be used in identifying, evaluating and prioritizing the water management strategies to meet the needs of the Region.

Regional Vision

Promote comprehensive and integrated water resource use and management to support and enhance: public health and safety; ecosystem health; recreational opportunities; economic vitality; cultural heritage; and quality of life.

Regional Goals

- Develop and maintain an adequate, reliable, secure, and sustainable water supply that provides regional water self-sufficiency and maintains ecosystem values.
- Protect and improve surface and groundwater quality.
- Practice resource stewardship to protect, enhance, and maintain watersheds, environmental resources, and biodiversity.

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- Promote flood and stormwater management to protect public health and safety, property, water quality, and hydrologic function.
- Identify and implement integrated water management strategies adaptable to a changing climate. Promote water conservation and water-related energy conservation and efficiency strategies.
- Promote coordinated and collaborative planning and management of water and water-related resources. Provide a framework for identifying and implementing equitable policies and projects to achieve the region's near-term priorities and long-term sustainability.

1.6.3 Process Used to Identify Conflicts

The 2005 Plan process did not identify any significant conflicts within the RWMG with regard to goals and objectives, resource management strategies, or project prioritization. Among the agencies in the region there is an institutional and political will to use the current momentum for Integrated Regional Water Management to address a constellation of serious water management issues. Decisions were made by consensus. To date the IRWM governance structure, which features a three-member Partner Agency Steering Committee representing interests (water supply; water quality; resources stewardship) has proven effective. The use of an independent, impartial organization (the Regional Water Management Foundation) to support IRWM implementation and serve as fiscal agent has also proven effective.

As within any IRWM region, there is the potential for conflict among stakeholders. As the current Plan update efforts continue, the RWMG will develop objectives and priorities through an open, transparent, and analytical process. Outreach to stakeholders through public meetings and workshops will continue in an effort to identify priorities and potential conflicts early in the process and work towards mutually agreeable outcomes.

1.7 Regional Priorities

1.7.1 Developing Regional Priorities for the 2005 Plan

As part of the 2005 Plan development, between 2002 and 2004, the agencies reviewed the results of previous planning efforts, examined needs, and assembled a list of 55 potential projects, programs, and plans to be considered. The objectives and implementation criteria provided the basis by which water management strategies (i.e. specific projects) were evaluated, ranked and categorized as either high priority or potential future projects. These 55 projects evaluated are presented in the 2005 Plan. Fifteen projects were deemed high priority through this process; these were first projects targeted for implementation.

1.7.2 Developing Regional Priorities for the Plan Update

In 2009, the Partner Agencies initiated a re-assessment of regional priorities to ensure they remain current. Establishing priorities will be an iterative process led by the Steering Committee in conjunction with the RWMG. The updated objectives will represent the regional priorities and align with the resource management strategies of the California Water Plan Update 2009. To structure the development of priorities and identification of specific resource management strategies, broad planning objectives were identified and grouped by four management functional areas, as follows:

Water Supply

- Reduce per capita water demand and increase agricultural efficiency
- Provide reliable supply to meet current and expected demand after reasonable conservation and curtailment
- Increase operational flexibility and inter-district transfers and diversify water supply portfolios
- Increase groundwater recharge and protect groundwater recharge areas

Water Quality

- Reduce pollutant loads to surface waters, groundwater basins and the ocean
- Protect and maintain unimpaired and high quality waters
- Reduce the volume and increase the quality of urban and agricultural runoff
- Strengthen regional monitoring and analysis programs, and evaluate management effectiveness

Watershed and Resources Stewardship

- Implement projects that protect, enhance and / or restore ecological functions of rivers, wetlands and coastal lagoons
- Protect and enhance habitats for sensitive species
- Minimize erosion and sedimentation
- Improve opportunities for open space, trails and parks consistent with environmental protection, public use and property rights

Flood and Stormwater Management

- Implement flood management efforts that balance protection from flood damage with protection of environmental values
- Implement land management strategies that reduce runoff volume or delay peak flows
- Minimize damage to infrastructure and property from flooding

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- Protect, restore and enhance hydrological function of wetlands, streams and their floodplains

1.8 Data Collection, Management and Technical Analysis

(Describe the data and technical analysis collected/performed and how that data is managed)

Santa Cruz County Environmental Health Services serves the lead role in coordinating IRWM monitoring and data management efforts. In 2009, the County developed the *Santa Cruz County IRWM Monitoring Program*. The IRWM monitoring program intends to inform water resources professionals, provide feedback funding agencies, and inform the public about resource conditions. This outlines the procedures to document implementation and evaluate the individual and collective effectiveness of the priority projects contained in the Santa Cruz IRWM Plan. Elements of this plan include:

- Documenting implementation and evaluating effectiveness of projects according to their Performance Assessment and Evaluation Plans (PAEPs);
- Monitoring sediment transport and deposition to provide necessary data for overall effectiveness evaluation;
- Managing data to facilitate interdisciplinary analysis of environmental data;
- Conducting watershed-based analysis to detect trends in environmental data; and
- Evaluating trends in light of management efforts and land use information.

Data collected from ongoing monitoring programs are organized into four categories; water quality, water resources (streamflow, groundwater), habitat (riparian and fisheries), and management (including land use changes). Where feasible, data are linked geographically, key parameters identified, and analyses performed on a watershed basis. Once completed, the summaries of these analyses will be available on the internet. The IRWM monitoring program and its accompanying Quality Assurance Project Plan (QAPP) were developed in coordination, and where feasible, with the intent for integration with existing programs, including:

- Surface Water Ambient Monitoring Program (SWAMP)
- Groundwater Ambient Monitoring and Assessment Program (GAMA)
- Central Coast Ambient Monitoring Program (CCAMP)
- California Environmental Data Exchange Network (CEDEN)
- Central Coast Data Synthesis, Analysis and Management (SAM) project.

The 2010 IRWM Plan update process will include further evaluation of the data needs of the Region. This includes a review of the efficacy of current data gathering, analyses, monitoring, and reporting practices to identify strategies to improve data collection, validation, and greater data sharing using the internet. Refining the data collection, data management protocols, and analyses will be an iterative process.

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1.9 Employment of Integrated Resource Management Strategies

1.9.1 *Employing Strategies in the 2005 Plan*

A principal intent of the 2005 Plan was to develop a set of planning objectives that fit the specific needs of Santa Cruz County and identify specific strategies to address these needs. The 2005 Plan considered all of the resource management strategies in Proposition 50 Grant Program Guidelines, identified below.

- Ecosystem Restoration
- Environmental and habitat protection and improvement
- Water Supply Reliability
- Flood management
- Groundwater management
- Recreation and public access
- Storm water capture and management
- Water conservation
- Water quality protection and improvement
- Water recycling
- Conjunctive use
- Wetlands enhancement and creation
- Desalination
- Imported water
- Land use planning
- NPS pollution control
- Surface storage
- Watershed planning
- Water and wastewater treatment
- Water transfers

The 2005 Plan describes the relationship between the IRWM Plan Objectives developed by the partner agencies and the water management strategies. The process to employ the strategies included an assessment of the projects in relation the applicable strategies. Between 2002 and 2004, the agencies reviewed the results of previous planning efforts, examined needs, and assembled a list of 55 potential projects, programs, and plans to be considered. Many of projects had benefits in several areas of improved water resource management, so were organized by primary water management strategy addressed, which included the following strategies.

- Water Supply
- Recharge and/or Stormwater Management
- Water Quality
- Wastewater
- Habitat Restoration and/or Sediment Control
- Management and/or Planning Efforts

Specific management strategies (i.e., projects) were identified and prioritized for implementation according to how effectively a strategy was perceived to be in achieving the regional objectives. Table 4 presents the matrix developed and used a basis for the evaluation and prioritization. The matrix included the following objectives.

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- Water supply reliability
- Raw water quality
- Delivered water quality
- Habitat restoration and maintenance
- Recreation
- Public health
- Flood management
- Regional economic health
- Regional collaboration

In addition, project prioritization included consideration of two implementation criteria:

- Readiness to proceed
- Availability of funding

Table 4. 2005 Plan Project Evaluation and Prioritization Matrix

Project #	Project	1	2		3	4			5	6	7	8	9	Total	Readiness to Proceed	Availability of Funding
		Water Supply Reliability	Raw Water Quality		Del. Water Quality	Habitat Restoration & Maintenance			Recreation	Public Health	Flood Mgmt.	Regional Economy	Regional Collaboration			
			a	b		a	b	c								
		Surface	Ground			Aquatic	Terrestrial	Ocean								
1	San Lorenzo Onsite Sewage Disposal System Upgrades		x	x		x		x		x		x		6	x	x
2	Abandoned Well Destruction Program	x		x						x			x	4	x	x
3	Feasibility Study for Enhanced Aquifer Recharge - Phase 2	x		x		x							x	4	x	x
4	Regionwide Drainage Master Plan	x	x			x				x	x			5	x	x
5	Santa Cruz County Stormwater Pollution Prevention Program	x	x	x		x	x	x	x	x	x	x	x	11	x	x
6	Enhance and Protect Primary Groundwater Recharge Areas	x		x		x	x				x		x	6	x	x
7	Relocate Sewer Main From New Brighton State Beach							x	x	x				3	x	x
8	Engineering for Regional Ocean Desalination Project	x		x						x		x	x	5	x	x
9	Polo Grounds Well, Treatment Plant, Pipelines, and Water Conservation Project	x	x	x	x	x		x	x	x			x	9	x	x
10	Groundwater Monitoring Wells in the Aromas and Purisima Formations	x		x									x	3	x	x
11	Davenport Drinking Water Improvement Project	x			x					x				3	x	x
12	Watsonville Sloughs IWRP		x			x	x	x	x		x			6	x	x
13	Integrated Watershed Restoration Program	x	x	x		x	x	x	x	x	x	x	x	11	x	x
14	Four Recycled Water Distribution System Extensions in the Scotts Valley Area	x				x		x						3	x	x
15	Bergstrom Pit Aquifer Recharge Project	x		x		x					x			4	x	x
16	Project Monitoring	x	x	x	x	x	x	x	x	x	x	x	x	12	x	x
17	Upgrade and Expand Integrated Regional Water Management Plan	x	x	x	x	x	x	x	x	x	x	x	x	12	x	x

1.9.2 Employing Strategies in the Plan Update

The Plan Update process will result in an IRWM Plan compliant with the DWR's IRWM Plan Standards. The Plan will detail the process by which the RWMG will identify, evaluate and employ the resource management strategies. The tasks and technical studies identified in the Work Plan will support the RWMG's evaluation of specific resource management strategies (e.g., conjunctive use; water transfers) to address the region's needs.

1.10 IRWM Plan Implementation and Expected Impacts and Benefits

1.10.1 Implementation of the 2005 Plan

The Santa Cruz region is actively implementing projects identified in the 2005 Plan. Four of the fifteen high priority projects identified in the Plan are near completion and the eleven other projects are all underway. These projects are partially supported by SWRCB Proposition 50 IRWM grant. **Figure 7** presents a map of the locations of current projects.

Project 1: Manage Implementation of Projects and Administration of IRWM

Lead Agency: Regional Water Management Foundation

Amount: \$708,000 (grant); \$55,000 (local match)

Project Description: Provide management and administration for the implementation of the 15 projects funded under the Proposition 50 IRWM grant. The RWMF provides a central hub and technical expertise for consolidation of items for review, all reporting, invoicing, and inter-agency coordination, as well as an interface between the eight sub-grantees. RWMF staff provide day-to-day management of the overall effort. Sub-grantee agencies are responsible for oversight and management of their respective projects. This structure allows for a single point of contact for information and accountability.

Project 2: Abandoned Well Destruction Program

Lead Agency: County of Santa Cruz, Environmental Health Services

Amount: \$355,000 (grant); \$204,000 (local match)

Project Description: Identify and destroy old abandoned wells that may act as conduits for contaminants to enter groundwater aquifers. The distribution of abandoned wells in Santa Cruz County is currently unknown. Due to patterns of land development and conversion from agricultural to urban, some old wells are now situated in urban settings where potential contaminants, such as methyl tertiary-butyl ether (MTBE,) are clustered. This project will assess threat and prioritize targets, map locations, maintain a Geographic Information System (GIS), and streamline the County's well destruction process.

Project 3: Conjunctive Use and Enhanced Aquifer Recharge

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Lead Agency: County of Santa Cruz, Environmental Health Services

Amount: \$227,500 (grant); \$696,000 (local match)

Project Description: Identify approaches and projects for regional conjunctive use to increase groundwater storage to provide reliable drinking water to the lower San Lorenzo River watershed, and increase stream baseflow (dry season flow). This will include technical studies to determine capacity and feasibility for large-scale water exchanges and aquifer recharge enhancements.

Project 4: Aptos Watershed Drainage Master Plan

Lead Agency: County of Santa Cruz, Public Works

Amount: \$227,500 (grant); \$56,400 (local match)

Project Description: Develop a drainage master plan for the Aptos watershed to better manage flood flows, reduce channel erosion, promote groundwater recharge, and improve stormwater quality to reduce surface water pollutants entering Monterey Bay. Work will include evaluations of the drainage systems and analyses of the watershed and the proposed improvements.

Project 5: Santa Cruz County Stormwater Pollution Prevention Program

Lead Agency: County of Santa Cruz, Public Works

Amount: \$207,500 (grant); \$194,600 (local match)

Project Description: The goal of this project is to reduce the amount of polluted runoff discharged through stormwater into Monterey Bay. This effort is part of a larger multi-agency plan to reduce polluted runoff and comply with state and federal regulations. Activities include: citizen water quality monitoring programs (Urban Watch; First Flush); education and outreach; a Green Business certification program; the “Our Water, Our World” pesticide reduction advertising campaign; and a demonstration project on pesticide-free road maintenance practices.

Project 6: Groundwater Recharge Projects and Policies

Lead Agency: County of Santa Cruz, Environmental Health Services

Amount: \$378,107 (grant); \$95,000 (local match)

Project Description: This project implements small-scale groundwater recharge projects and establishes policies and ordinances to protect and enhance groundwater recharge in overdrafted groundwater basins. Representative projects may include culvert redesign and improvement, creating grassy swales, use of retention and detention ponds. County policies, programs and regulations will be reviewed and updated to enhance requirements and incentives for protection and restoration of recharge during new development and remodel projects.

Project 7: Relocate Sewer Main from New Brighton and Seacliff State Beaches

Lead Agency: County of Santa Cruz, Sanitation District

Amount: \$1,365,000 (grant); \$2,000,000 (local match)

Project Description: Replace an antiquated sanitary sewer transmission line is immediately off the coastline. The line, which transports 1.5 million gallons per day of raw sewage, has had a troublesome history since its construction in 1979. The pressurized line has ruptured or overflowed on multiple occasions, spilling raw sewage onto the beaches and into the Monterey Bay Sanctuary. The Sanitation District will construct a new transmission line inland from the current location and upgrade sanitation facilities. Work includes installing approximately 3000 linear feet of 30-inch pipe; renovating one pump station; demolishing one pump station; and constructing three new pump stations.

Project 8: Intake Evaluation for Desalination Facility

Lead Agencies: City of Santa Cruz, Soquel Creek Water District

Amount: \$611,000 (grant); \$5,451,000 (local match)

Project Description: Provides design parameters for the source water intake structure for a potential regional desalination project. The desalination facility would provide a supplemental source of drinking water for approximately 135,000 County residents who currently depend on limited local surface water and groundwater sources affected by drought, overdraft, and potential seawater intrusion. The study addresses system performance as well as environmental concerns associated with various intake configurations.

Project 9: Polo Grounds Well, Treatment Plant, Pipelines, and Water Conservation Project

Lead Agency: Soquel Creek Water District

Amount: \$2,065,295 (grant); \$1,048,300 (local match)

Project Description: This project will redistribute municipal groundwater pumping to a new inland location away from areas threatened by seawater intrusion. An existing irrigation well at the park will be converted and water treatment facility and water main will be constructed. The project will install a sanitary sewer line to serve the treatment system, a 62-acre regional park and adjacent neighborhood. The project will implement water conservation measures at the park. Partners include the County Sanitation District and Parks Department.

Project 10: Groundwater Monitoring Wells in the Aromas and Purisima Formations

Lead Agency: Soquel Creek Water District

Amount: \$150,000 (grant); \$423,300 (local match)

Project Description: Install three new dedicated groundwater monitoring wells to monitor inland groundwater levels, evaluate the impacts of local pumping on shallow water levels and improve understanding of the hydrologic connection of the Aromas and Purisima aquifers which supply drinking water to the region.

Project 11: Davenport Drinking Water Improvement Project

Lead Agency: Davenport County Sanitation District

Amount: \$334,393 (grant); \$167,500 (local match)

Project Description: Upgrade the drinking water treatment plant for the community of Davenport, which fails to meet the current standards of the Safe Drinking Water Act. The existing facility will be modernized, the treatment and delivery system upgraded, and larger water tank installed to increase capacity and meet standards for fire protection.

Project 12: Watsonville Sloughs Integrated Watershed Restoration

Lead Agency: Resource Conservation District of Santa Cruz County

Amount: \$690,000 (grant); \$69,000 (local match)

Project Description: This funds multiple projects to restore wetland habitat and natural function in Watsonville Slough by improving the existing system of agricultural and stormwater drainage and other enhancements. Collaborators include City of Watsonville and Watsonville Wetlands Watch.

Project 13: Integrated Watershed Restoration Program (IWRP, Phase 2)

Lead Agency: Resource Conservation District of Santa Cruz County

Amount: \$3,825,000 (grant); \$382,500 (local match)

Project Description: This funds the second phase of the countywide Integrated Watershed Restoration Program and the implementation of habitat restoration projects, sediment control projects, education and outreach, and permit coordination program to promote voluntary participation in long term watershed restoration.

Project 14: Scotts Valley Recycled Water Distribution System

Lead Agency: Scotts Valley Water District

Amount: \$705,705 (grant); \$705,705 (local match)

Project Description: Expands the City of Scotts Valley existing recycled water distribution system to satisfy major landscaping water demands and reduce pumping in the Santa Margarita and Lompico aquifers.

Project 15: Coordinated Monitoring Program

Lead Agency: County of Santa Cruz, Environmental Health Services

Amount: \$350,000 (grant); \$1,837,000 (local match)

Project Description: Establishes a Coordinated Monitoring Program (CMP) to evaluate the

Santa Cruz IRWM Prop 84 Planning Grant Application

effectiveness of IRWMP projects as they are implemented, as well as the integrated strategy as a whole.

Project 16: Improve Integration of Regional Water Management Plan

Lead Agency: County of Santa Cruz, Environmental Health Services

Amount: \$250,000 (grant); \$430,000 (local match)

Project Description: This project will build on the initial, preliminary IRWM planning effort of the Partner agencies by addressing planning elements in greater detail, identifying opportunities for water exchanges, taking into consideration effects of climate change, and conducting more public and agency outreach.

1.10.2 Project Solicitation for Plan Update

The Plan update is underway with the County Environmental Health Services serving the lead coordinating role. In November 2009, the participating agencies convened to review the: Plan goals, objectives and criteria; RWMG organizational structure; the IRWM Plan standards; and project solicitation process. In June 2010, the project solicitation period opened and proponents were encouraged to submit projects for inclusion in the IRWM Plan. In June, the RWMG offered a public workshop on project solicitation and the Plan update process.

The Steering Committee developed a project application form (Appendix A) to assist project proponents with providing the necessary information for integration into the IRWMP. The goal of the solicitation and evaluation is to provide a transparent process that is objective and fair, and one that can be systematically applied to all projects with the end result being an impartial project comparison. In contrast to the 2005 Santa Cruz IRWMP, the end result of this process will not be a prioritized list of projects. Rather, this process will serve as a tool to help the RWMG describe and assess the status, benefits and costs of the numerous projects in our region that may ultimately make up the Santa Cruz IRWMP. All eligible projects submitted through the solicitation process will be entered into a matrix that will evaluate each project against Santa Cruz IRWMP objectives and the state's IRWM Program Preferences. This information can be used to prioritize projects in relation to specific criteria of future grant solicitations.

1.10.3 Future Plan Implementation

Key projects identified in the 2005 Plan are currently being implemented by the individual lead agencies, with the participation and collaboration of relevant partners. Future implementation of the updated Plan will continue in the same fashion, through the action and collaboration of the partner agencies and the implementation affiliates. Additional funding assistance will be sought, but the priority actions will be implemented with local funding whether or not outside funding assistance is available.

1.10.4 Expected Impacts and Benefits

Water resources are vital to the economy, infrastructure, public health and safety, quality of life, and preservation and enhancement of unique coastal ecosystems of the Santa Cruz region. The water supply, water quality, environmental challenges facing the Region are very much interrelated, as potential solutions in one area typically affect the others. A key reason for integrated regional planning is to ensure that the whole is, in fact, greater than the sum of its parts.

The expected benefits to the region from the IRWM Planning effort include:

- **Enhanced Water Supply.** The strategies identified in the Plan, such as conjunctive use and groundwater recharge, will aid local agencies in developing an adequate, reliable, secure, and sustainable water supply. Achieving regional water self-sufficiency while maintaining ecosystem values is a goal of the RWMG.
- **Improved water quality.** Projects for water quality improvement will improve public health and safety, make more water available for water supply, and help restore natural ecosystem productivity.
- **Healthier watersheds.** Projects to reduce erosion and sediment to streams, improve wetland habitat and function, enhance fish and riparian habitat, will result in healthier watersheds that support the region's biodiversity.
- **Better flood and stormwater management.** Improved coordination and implementation of flood management and stormwater management projects will help protect public health and safety, improve stormwater runoff water quality, and benefit hydrologic function.
- **Improved capacity to adapt to climate change.** Identifying and implementing integrated strategies will make the region more adaptable to the uncertainties of a changing climate and future water availability scenarios.
- **Collaboration.** Increased coordination and collaboration in planning will enable agencies to take advantage of operational efficiencies, cost-sharing, and knowledge. Stakeholder participation will foster trust and result in the development of equitable policies that reflect the community's values and priorities.

Figures

Figure 1. IRWM Planning Region Boundaries and Major Watersheds



Figure 2. Map of Partner Agencies Jurisdictional Boundaries

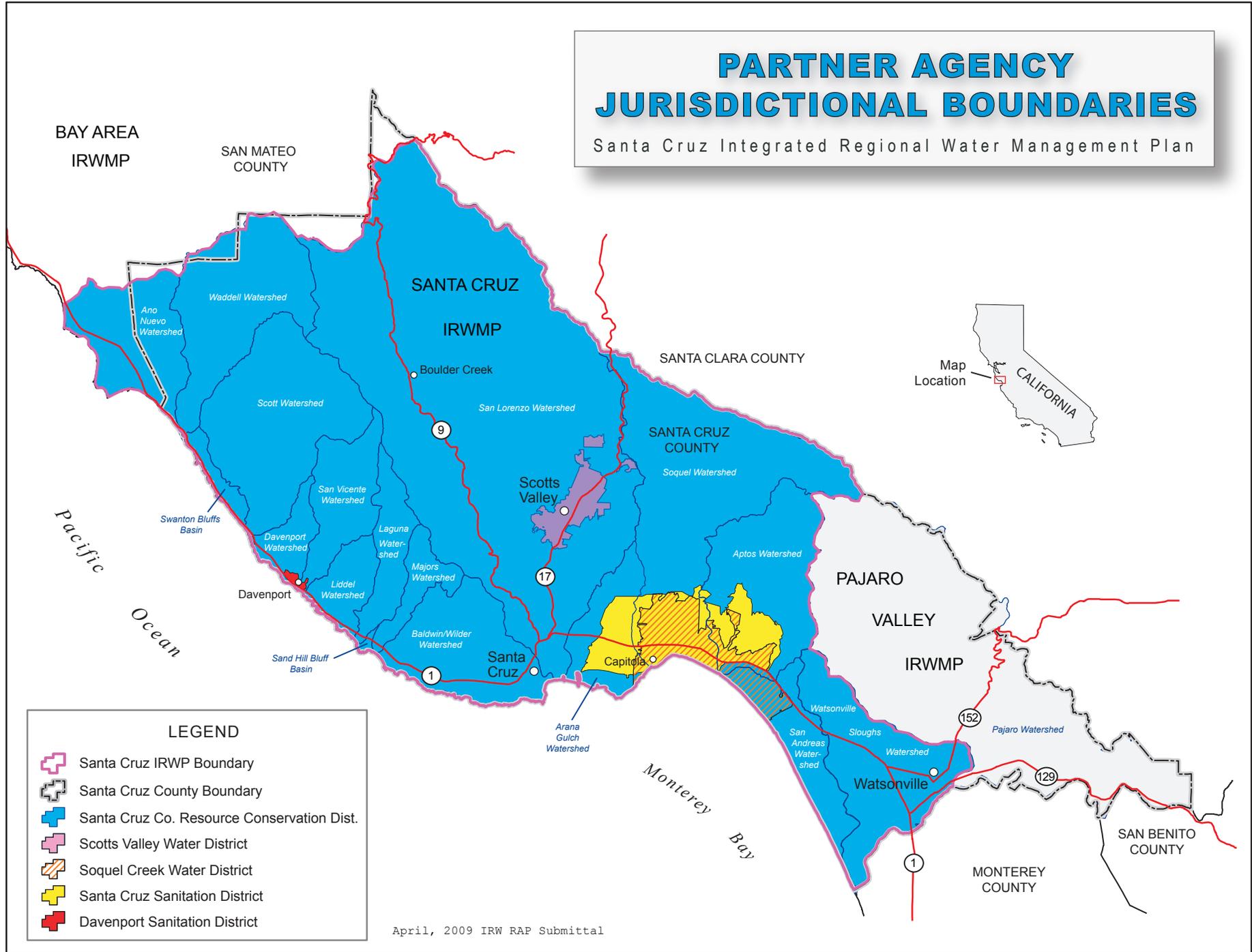


Figure 3. Major Groundwater Basins in the Planning Region



Figure 4. Significant Water Resource Issues – Streams, Lagoons, and Beaches

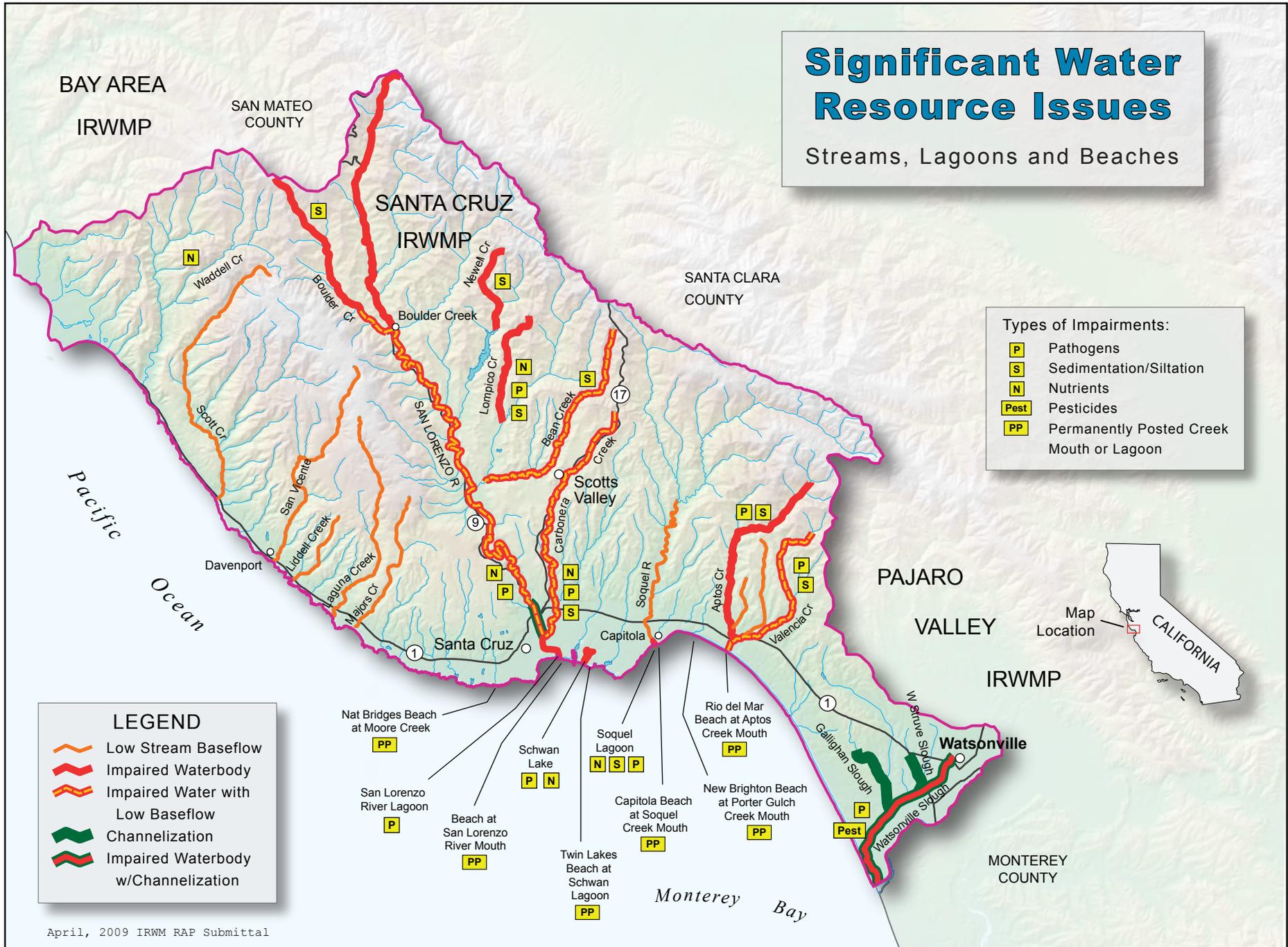


Figure 5. Significant Water Resource Issues – Groundwater, Seawater Intrusion, and Flooding

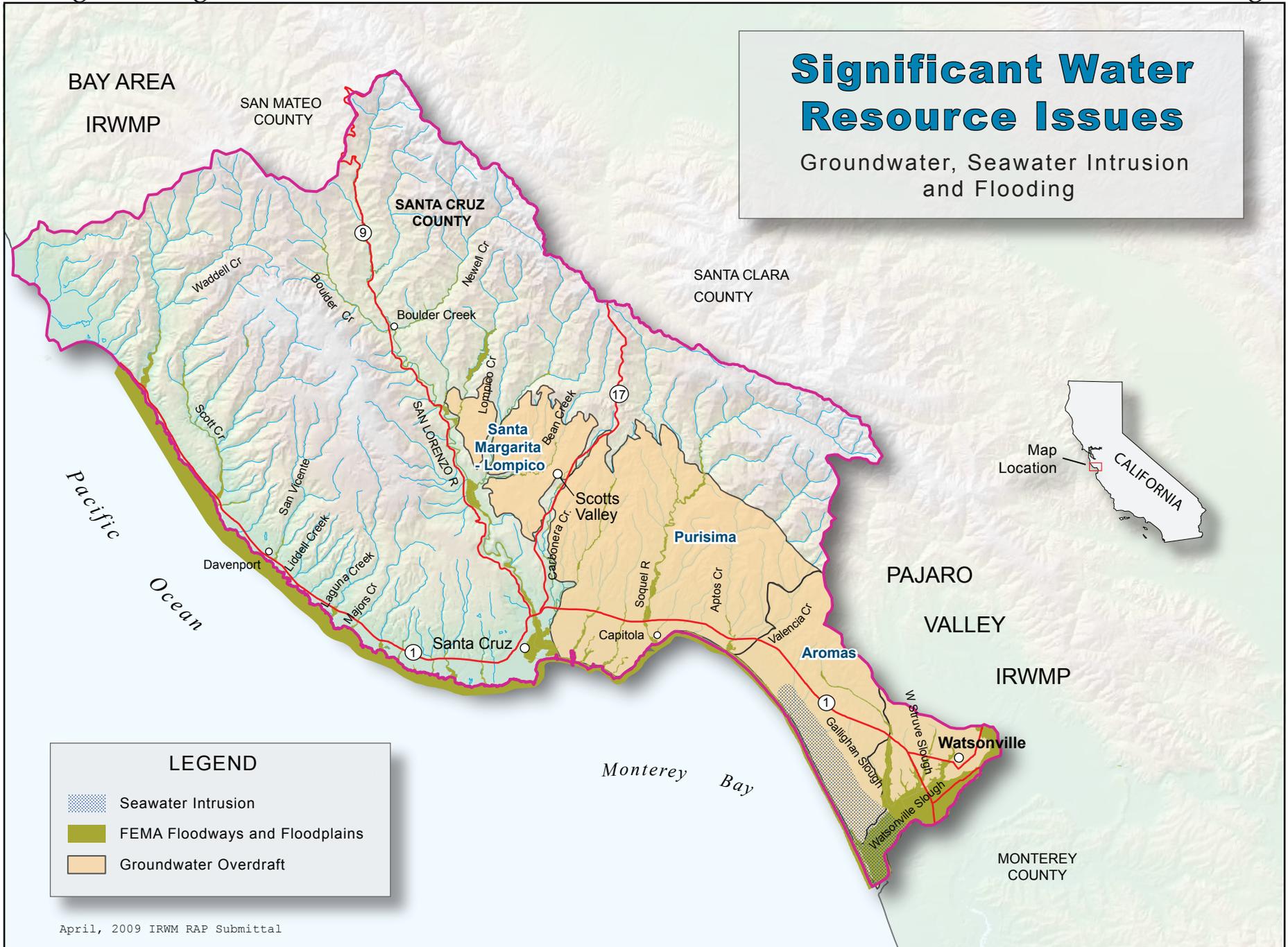


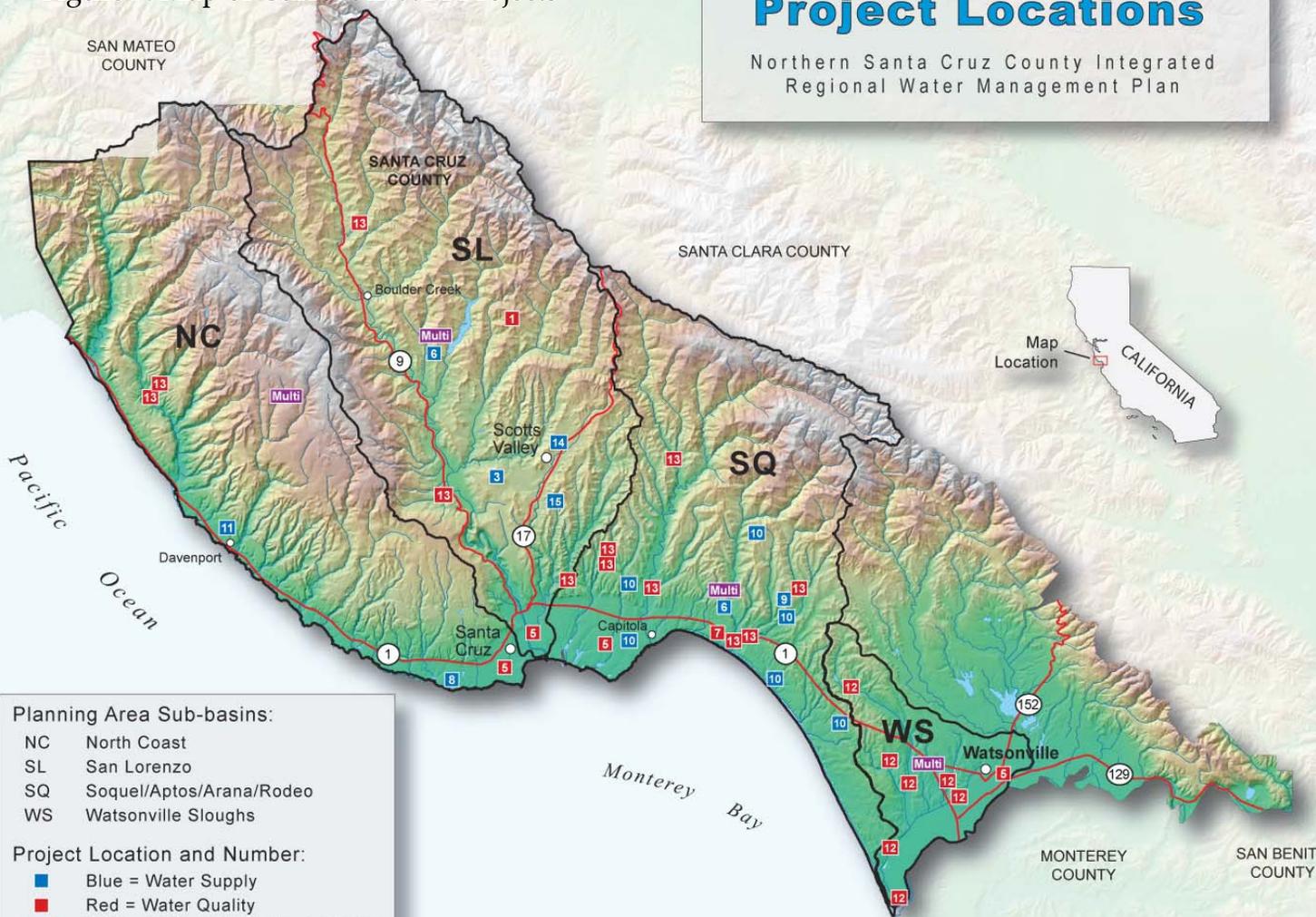
Figure 6. Adjacent IRWM Regions



Figure 7. Map of Current IRWM Projects

Project Locations

Northern Santa Cruz County Integrated Regional Water Management Plan



Planning Area Sub-basins:

- NC North Coast
- SL San Lorenzo
- SQ Soquel/Aptos/Arana/Rodeo
- WS Watsonville Sloughs

Project Location and Number:

- Blue = Water Supply
- Red = Water Quality
- Multi Region-wide projects #2, 4, 16 & 17

Appendix

INTEGRATED REGIONAL WATER MANAGEMENT PLAN FOR THE SANTA CRUZ REGION

PROJECT APPLICATION FORM

Revised: July 9, 2010 (main revisions indicated by italics)

The Santa Cruz Integrated Regional Water Management Plan (IRWMP) Steering Committee¹ developed the following project application form to assist project proponents with providing the necessary information for integration into the Santa Cruz IRWMP. To ensure the integrated plan is as complete as possible, we seek completed forms for any potential water resources-related projects being considered, whether they are planning or implementation, and regardless of whether or not you plan on pursuing grant funding in the future. *Projects must be sponsored by a partner agency in order to be considered for inclusion into the Santa Cruz IRWMP. A Partner Agency is defined as a public agency with elected or publicly appointed governing Boards. They receive taxpayer support either through taxes, user charges, or fees and have the authority, obligation, and responsibility to carry out water resources management on a long term basis. Any project proponent may submit a project utilizing this form; however be sure to have concurrence with a sponsoring partner agency prior to submission. Note that any previously submitted project must be re-submitted using this form.*

The goal is to provide a transparent process that is objective and fair, and one that can be systematically applied to all projects with the end result being an impartial project comparison. In contrast to the 2005 Santa Cruz IRWMP, the end result of this process will **not** be a prioritized list of projects. Rather, this process will serve as a tool to help project proponents, IRWMP stakeholders and the State categorize, describe and assess the status, benefits and costs of the numerous projects in our region that may ultimately make up the Santa Cruz IRWMP. Inclusion in the Plan may lend more credibility to project proponents for other grant funding opportunities (i.e., non-IRWM funds), and may help facilitate the realization of those proposals into full implementation projects. All projects submitted through this solicitation will be entered into a matrix that will evaluate each project *against Santa Cruz IRWMP objectives (see page 6 of this form) and the state's IRWM Program Preferences (page 3 - 4). Additionally, to be included in the Santa Cruz IRWMP, each project must meet the following five criteria:*

- 1. The project is sponsored by a public agency that has water resources management as a key mission (a partner agency)*
- 2. The project has a reasonable method identified for evaluating project effectiveness*
- 3. The project is technically feasible and viable*
- 4. The project is consistent with applicable existing laws and land-use regulations*
- 5. The project proponent / sponsor has the ability to meet the required funding match commitment*

Once compiled, this matrix will be sent to all project proponents for review and comment. To be clear, this project application process is for the purposes of integrating projects into the Santa Cruz Integrated Regional Water Management Plan; it is not for the purpose of applying to the State for IRWM grant funds at this time. The Department of Water Resources will have several IRWM grant solicitation cycles over the next few years, both through Prop 84 (Implementation and Planning Grants) and Prop 1E (Storm Water Flood Management grants). The first IRWM grant cycle will most likely occur this summer or fall, although it is uncertain at this time whether or not the Santa Cruz Region will submit a proposal during that cycle. However, submitting your project for inclusion in the IRWMP now will make it eligible for future IRWM grant cycles when the region moves forward with a proposal.

Note, however, that inclusion in the IRWMP does not guarantee that a project will get submitted for IRWM grant funds. When a grant proposal is ultimately developed, it is at that time that the projects will be prioritized in consultation with the project proponents. Only the top-ranked projects will likely be submitted for IRWM grant funding. Project proponents are always encouraged to apply for other sources of grant funds (i.e., non-IRWM grant funds) to support their projects. If your project is selected for inclusion in the regional application for IRWM grant funds at a later date, we will be contacting you for additional information, likely including but not limited to analysis of climate change impacts, economic and technical feasibility, and summary of stakeholder outreach. Because we have modified this form, we have extended the solicitation through Friday **September 17, 2010**.

¹ For more information on the Santa Cruz IRWMP and Steering Committee go to: <http://santacruzirwmp.org/>

**SANTA CRUZ INTEGRATED REGIONAL WATER MANAGEMENT PLAN
PROJECT APPLICATION FORM**

PROJECT TITLE: Insert a descriptive title that includes a relatively specific location (e.g., “Stream restoration project” not is not adequately descriptive; “Sediment load reduction on the upper San Lorenzo River” is better)

PROJECT PROPONENT: Identify the primary project sponsor agency/entity

PROPONENT TYPE: Public Agency Private Entity Non-profit organization
 Privately owned water utility Private Business/Citizen Other:

PROJECT CONTACT: Primary project contact information

Name:
Title:
Organization:
Phone:
Email:
Mailing address:

SPONSORING AGENCY CONTACT: *A sponsoring agency is a Partner Agency² that will be the main point of contact for the project. If the project eventually is part of a grant proposal, the sponsoring agency will act as the fiscal sponsor and administrative lead for the project.*

Organization:
Name of Contact:

PROJECT CATEGORY: Planning or Implementation

FUNCTIONAL AREA: Check all applicable

Water Supply Water Quality
 Watershed & Resources Stewardship Flood & Stormwater

If multiple Functional Areas are applicable, identify the primary:

PLANNING DOCUMENT CONSISTENCY: *Is this project identified in any water-resources related planning document? (250 character limit)*

SUMMARY DESCRIPTION: Provide a brief summary of the project (1000 character limit).

LOCATION: Identify the project location - If the specific location is known, provide coordinates

Is the Project within the Santa Cruz IRWM Region Boundary: (see <http://www.santacruzirwmp.org/about-irwm/region>)
 Yes No

Watershed: Watershed(s) name
Latitude: Decimal Degrees (e.g., 36.98400)
Longitude: Decimal Degrees (e.g., -121.95780)
Additional information: If decimal degrees not known enter address or other location information

² A Partner Agency is defined as public agencies with elected or publicly appointed governing Boards. They receive taxpayer support either through taxes, user charges, or fees and have the authority, obligation, and responsibility to carry out water resources management on a long term basis. For the purposes of this submittal, a sponsoring agency may be an existing partner (see: <http://www.santacruzirwmp.org/about-irwm/participation>) or an agency who meets the partner agency criteria.

SANTA CRUZ INTEGRATED REGIONAL WATER MANAGEMENT PLAN PROJECT APPLICATION FORM

ELIGIBLE PROJECT TYPES: Check all applicable

A project must meet the eligibility criteria of the State IRWM Program. (Source: [California Water Code Section 10537](#))

- Reduce water demand through agricultural and urban water use efficiency.
- Increase water supplies for any beneficial use through the use of any of the following, or other, means:
 - Groundwater storage and conjunctive water management.
 - Desalination.
 - Precipitation enhancement.
 - Water recycling.
 - Regional and local surface storage.
 - Water-use efficiency.
 - Stormwater management.
- Improve operational efficiency and water supply reliability, including conveyance facilities, system reoperation, and water transfers.
- Improve water quality, including drinking water treatment and distribution, groundwater and aquifer remediation, matching water quality to water use, wastewater treatment, water pollution prevention, and management of urban and agricultural runoff.
- Improve resource stewardship, including agricultural lands stewardship, ecosystem restoration, flood plain management, recharge area protection, urban land use management, groundwater management, water-dependent recreation, fishery restoration, including fish passage improvement, and watershed management.
- Improve flood management through structural and nonstructural means, or by any other means.

IRWM PROGRAM PREFERENCES: Check all applicable

The specific statewide priorities for the IRWM Grant Program are presented below by major heading. Please check all that apply. (source: www.waterplan.water.ca.gov).

Drought Preparedness

Representative projects include the following:

- Promote water conservation, conjunctive use, reuse and recycling
- Improve landscape and agricultural irrigation efficiencies
- Achieve long term reduction of water use
- Efficient groundwater basin management
- System inerties

Water Use and Reuse Efficiency

Representative projects include the following:

- Increase urban and agricultural water use efficiency measures such as conservation and recycling
- Capture, store, treat, and use urban stormwater runoff (such as percolation to usable aquifers, underground storage beneath parks, small surface basins, domestic stormwater capture systems, or the creation of catch basins or sumps downhill of development)
- Incorporate and implement low impact development (LID) design features, techniques, and practices to reduce or eliminate stormwater runoff

Climate Change Response Actions

Includes projects that when implemented address adaptation to climate change effects in an IRWM region. Representative projects include those that:

- Advance and expand conjunctive management of multiple water supply sources
- Use and reuse water more efficiently
- Water management system modifications that address anticipated climate change impacts, such as rising sea-level, and which may include modifications or relocations of intakes or outfalls

SANTA CRUZ INTEGRATED REGIONAL WATER MANAGEMENT PLAN PROJECT APPLICATION FORM

Includes projects that reduce Greenhouse Gas (GHG) emissions compared to alternate projects that achieve similar water management contributions toward IRWM objectives. Representative projects include those that:

- Reduce energy consumption of water systems and uses
- Use cleaner energy sources to move and treat water

Includes projects that reduce not only water demand but wastewater loads as well, and can reduce energy demand and GHG emissions. Representative projects include:

- Water use efficiency
- Water recycling
- Water system energy efficiency
- Runoff reuse

Practice Integrated Flood Management

Projects that promote and practice integrated flood management to provide multiple benefits including:

- Better emergency preparedness and response
- Improved flood protection
- More sustainable flood and water management systems
- Enhanced floodplain ecosystems
- Low-Impact Development (LID) techniques that store and infiltrate runoff while protecting groundwater

Expand Environmental Stewardship

Includes projects that practice, promote, improve, and expand environmental stewardship to protect and enhance the environment by improving watershed, floodplain, and instream functions and to sustain water and flood management ecosystems.

Protect Surface Water and Groundwater Quality

Proposals that include:

- Protecting and restoring surface water and groundwater quality to safeguard public and environmental health and secure water supplies for beneficial uses
- Salt/nutrient management planning as a components of an IRWM Plan

Improve Tribal Water and Natural Resources

Includes projects that include the development of Tribal consultation, collaboration, and access to funding for water programs and projects to better sustain Tribal water and natural resources.

Ensure Equitable Distribution of Benefits

Representative projects include those that:

- Increase the participation of small and disadvantaged communities (DAC) in the IRWM process.
- Develop multi-benefit projects with consideration of affected DACs and vulnerable populations.
- Contain projects that address safe drinking water and wastewater treatment needs of DACs.
- Address critical water supply or water quality needs of California Native American Tribes within the region.

SANTA CRUZ INTEGRATED REGIONAL WATER MANAGEMENT PLAN PROJECT APPLICATION FORM

RESOURCE MANAGEMENT STRATEGIES

California Water Plan Update 2009 strategies: (source: www.waterplan.water.ca.gov)

Check all applicable

Reduce Water Demand

- Agricultural Water Use Efficiency
- Urban Water Use Efficiency

Improve Operational Efficiency and Transfers

- Conveyance -- Regional / local
- System Reoperation
- Water Transfers

Increase Water Supply

- Conjunctive Management & Groundwater
- Desalination
- Precipitation Enhancement
- Recycled Municipal Water
- Surface Storage -- Regional/Local

Improve Water Quality

- Drinking Water Treatment and Distribution
- Groundwater Remediation / Aquifer Remediation
- Matching Water Quality to Use
- Pollution Prevention
- Salt and Salinity Management
- Urban Runoff Management

Practice Resources Stewardship

- Agricultural Lands Stewardship
- Economic Incentives (Loans, Grants, and Water Pricing)
- Ecosystem Restoration
- Forest Management
- Land Use Planning and Management
- Recharge Area Protection
- Water-Dependent Recreation
- Watershed Management

Improve Flood Management

- Flood Risk Management

Other Strategies

- Crop idling for water transfers
- Irrigated land retirement
- Dewvaporation or atmospheric pressure desalination
- Rainfed agriculture
- Fog collection

SANTA CRUZ INTEGRATED REGIONAL WATER MANAGEMENT PLAN PROJECT APPLICATION FORM

SANTA CRUZ IRWM OBJECTIVES

Santa Cruz IRWM Updates Objectives- Check all applicable objectives

Water Supply

- Reduce per capita water demand and increase agricultural efficiency
- Provide reliable supply to meet current and expected demand after reasonable conservation and curtailment
- Increase operational flexibility and inter-district transfers and diversify water supply portfolios
- Increase groundwater recharge and protect groundwater recharge areas

Water Quality

- Reduce pollutant loads to surface waters, groundwater basins and the ocean
- Protect and maintain unimpaired and high quality waters
- Reduce the volume and increase the quality of urban and agricultural runoff
- Strengthen regional monitoring and analysis programs, and evaluate management effectiveness

Watershed and Resources Stewardship

- Implement projects that protect, enhance and / or restore ecological functions of rivers, wetlands and coastal lagoons
- Protect and enhance habitats for sensitive species
- Minimize erosion and sedimentation
- Improve opportunities for open space, trails and parks consistent with environmental protection, public use and property rights

Flood and Stormwater Management

- Implement flood management efforts that balance protection from flood damage with protection of environmental values
- Implement land management strategies that reduce runoff volume or delay peak flows
- Minimize damage to infrastructure and property from flooding
- Protect, restore and enhance hydrological function of wetlands, streams and their floodplains

PROJECT DESCRIPTION

Detailed Project Description: (5,000 character limit) Describe the proposed project (what, when, where, why, how, who). Discuss the need(s) for the project and the issues or problems the project intends to address. Identify the major tasks/activities. Describe how it will be evaluated if the project met/contributed to meeting these need(s). Discuss the local and regional benefits and impacts of the project, including benefits and impacts to other resources (e.g., air quality, energy, special status species, recreational). Discuss how the project relates to local/regional collaborative efforts, if applicable.

Project Costs and Financing:

- Project cost: \$ Enter amount
- Match³ contribution total: \$ Enter amount or percentage match
- Source of match: Check match-funding source(s) and enter amounts
- Local Contribution \$
 - Federal Contribution \$
 - In-kind Contribution \$
 - Other \$
 - Not determined

³ **Funding Match** refers to funds made available by or through the project proponent(s) to assist in financing a project. Funding match consists of non-state funds and can include in-kind-services. In-kind services must relate directly to the scope of work funded in the grant proposal. Prop 13/40/50 grant funds are not eligible as match for other state grants, such as Prop 84.

**SANTA CRUZ INTEGRATED REGIONAL WATER MANAGEMENT PLAN
PROJECT APPLICATION FORM**

Certainty of match: (500 character limit) Indicate surety of matching funds, indicate whether funds are anticipated or secured.

Project Status: Briefly describe the project status, including project readiness to proceed and any known significant obstacles to proceeding with the project (1,000 character limit)

Permits, CEQA/NEPA documents, and Status:

List All Necessary Permits and Environmental Review	Status			
	Not Started	In-process	Secured	Not Applicable
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Project Timeline: Anticipated project schedule (enter dates MM/YYYY or check not applicable)

	Start Date	End Date	Status			
	(MM/YYYY)	(MM/YYYY)	Not Started	In-process	Complete	Not Applicable
Planning			<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Design/Engineering			<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Permitting (including CEQA/NEPA)			<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Construction/Implementation			<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Other:			<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Climate Change: Please describe potential sources of greenhouse gas emissions from the proposed project and potential climate change impacts to water supply and environmental resources. Discuss if/how the project will contribute to mitigating climate change impacts (e.g., energy efficiency, reduction of greenhouse gas emissions, reduction of carbon foot print, reduction in water demand) and/or will help the region respond to climate change effects, such as sea level rise. Please discuss anticipated impacts/benefits of your project to energy use and impacts/benefits to air quality. (1,000 character limit)

Monitoring and Project Performance: Please describe the monitoring systems that will be used to collect data and other measures that will be used to evaluate project performance. Please describe measurement parameters (for example, additional acre feet of water supply, improved water supply reliability and flexibility, water quality measurements, measurement based estimates of pollution load reductions, acres of habitat successfully restored, feet of stream channel stabilized, groundwater level measurements, stream flow measurements, improved flood control, or other quantitative measures or indicators). Also discuss plans for adaptive management (i.e., mechanisms to adapt project operations based on performance data). (1,000 character limit)

Collaboration and Community Support: Please identify other agencies or organizations that will be actively involved in the project, if any, and describe their role in the project. Please provide a contact name and contact information for each project partner. Describe cooperation and/or collaboration with other agencies/organizations (besides project partners) regarding this project, including state or federal agencies. Also identify landowners that may be impacted by the project and describe community support and/or involvement in the project. Discuss any known opposition to the project. (1,000 character limit)

SANTA CRUZ INTEGRATED REGIONAL WATER MANAGEMENT PLAN PROJECT APPLICATION FORM

HOW TO SUBMIT YOUR APPLICATION:

All project applications are due by **5:00 PM Friday, September 17, 2010**.

Please **email** your completed application form to Chris Coburn at christopher.coburn@co.santa-cruz.ca.us.

If you do not have email access, please mail or hand-deliver one copy of your application to (all applications *must be received by* September 17, 2010):

Chris Coburn
Santa Cruz County Environmental Health Services
701 Ocean Street, Room 312
Santa Cruz, CA 95060

FOR QUESTIONS ABOUT THIS APPLICATION FORM OR THE IRWMP PROCESS:

Please visit our website at www.santacruzirwmp.org or contact:

Chris Coburn
Santa Cruz County Water Resources
Christopher.coburn@co.santa-cruz.ca.us
831.454.2763