San Luis Obispo County
Integrated Regional Water Management Region

Proposition 84 Work Plan
San Luis Obispo County
Integrated Planning Proposal

March 2012

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Work Plan Content

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Introduction

The San Luis Obispo County Region (SLO Region) Integrated Regional Water Management (IRWM) Plan presents a comprehensive water resource management approach focused on sustaining the region's water resources to meet current and future needs. It is built on the existing foundation of inter-agency cooperation and stakeholder collaboration. With a local culture that includes active environmental stakeholders, local land-use decisions have been subject to important debate and deliberations over the years with a focus on the relationship of those decisions to water resource management and environmental needs, among other growth related concerns. The "quality of life" of the SLO Region is an important cultural value that is being sustained through existing socio-political processes. The IRWM model developed by the State has likewise been locally embraced, in part because it is recognized as a tool that can be utilized to help improve the efficiency and effectiveness of existing dynamic processes.

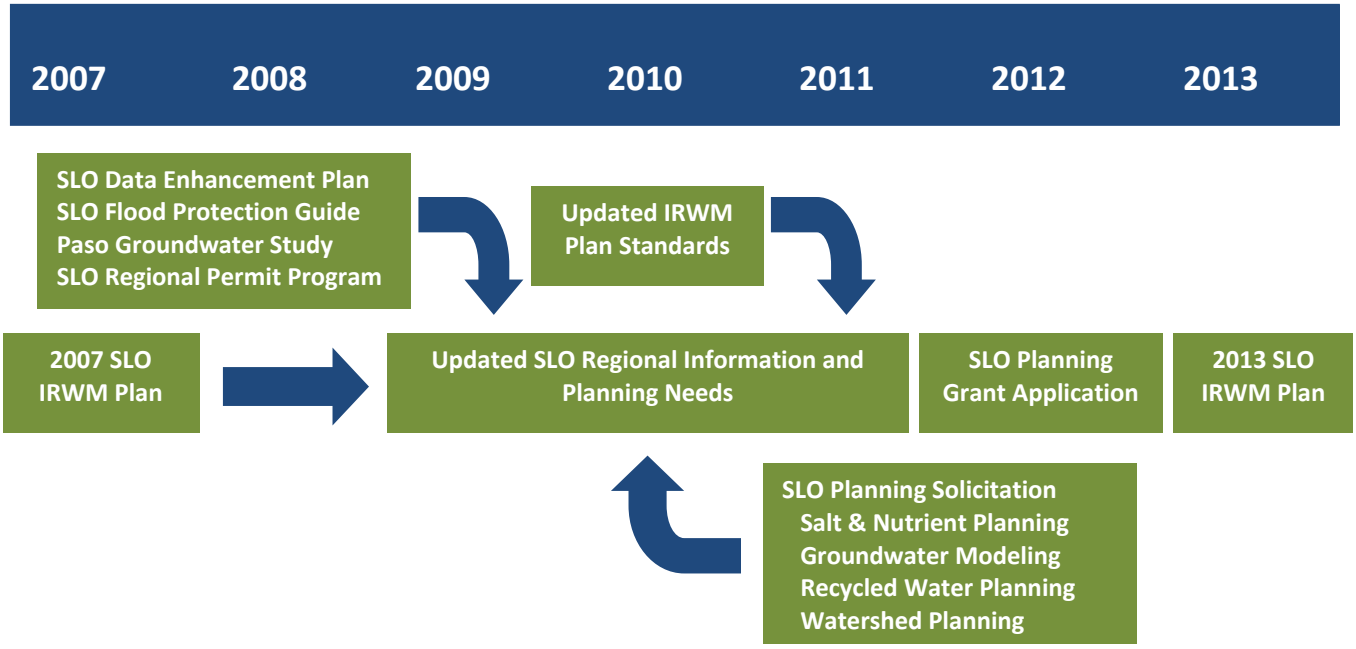
The SLO Region IRWM Plan was originally adopted in December 2005 and amended in July 2007. The 2005 IRWM Plan reflected a turning point for the region. It was the first plan in the SLO Region to attempt to illustrate the extensive efforts of the numerous environmental organizations that exist in the region together with the more traditional water master planning efforts. So, while the SLO Region has a successful track record of integrating water management objectives through the results of democratic debate and deliberations, that plan was the first to provide a cornerstone document for future integrated efforts that lead to more collaboration and efficiencies. The 2007 IRWM Plan updated regional and project information to better represent the existing conditions and priorities for the region.

The 2005 IRWM Plan identified planning efforts to fill data gaps in four areas, the completion of which would support the overall plan goals, objectives, and strategies, and improve the IRWM Plan itself. These projects included the following:

- Data Enhancement Plan
- Flood Management Plan
- Groundwater Banking Plan
- Regional Permitting Plan

These planning projects were included in the Proposition 50 Chapter 8 IRWM Planning Grant application which was awarded $500,000 to complete the focused studies. These studies were completed in 2008 and, thus, did not get incorporated into the 2007 Plan update.

In 2011, the SLO Region was awarded an implementation grant. A condition of this grant is that the region update the IRWM plan to meet the new IRWM plan standards. The SLO IRWM planners are capitalizing on the requirement to update the IRWM Plan by addressing the changed conditions and needs in the region as depicted in the figure below.



In addition to the Proposition 50 studies that were completed in 2008, numerous changes have occurred, both regionally and statewide, that affect the 2007 SLO IRWM Plan. These changes can be categorized as positive and negative changes in regional conditions, regulatory standards, planning needs and standards, project feasibility and implementation, and regional water governance. The objective of the SLO IRWM Plan Update will be to address these changes as summarized in the box below. The current status of each of these work plan elements is summarized in the following section.

The objective of the 2013 SLO IRWM Plan Update is to:

- **Build on the successful collaboration and planning presented in the 2007 SLO IRWM Plan;**
- **Incorporate and consider the four regional Proposition 50 planning studies;**
- **Consider and address the enhanced IRWM planning standards;**
- **Consider changed regional conditions and enhanced planning approaches, including a revised governance approach; and**
- **Address the highest priority data gaps and planning needs as determined through a public solicitation and review process.**

Incorporate and Consider Proposition 50 Studies

The four studies completed in 2008 specifically addressed regional data gaps and supported the overall SLO Region IRWM Plan goals, objectives, and strategies, and improve the IRWM Plan itself. These projects included the following:

- Data Enhancement Plan
- Flood Management Plan
- Groundwater Banking Plan
- Regional Permitting Plan

The Data Enhancement Plan was a regional water monitoring program designed to provide data for planning, design, and operational purposes, yet it was also designed to be flexible and to change over time. This is not necessarily contradictory. Rather, it implies that regional water monitoring program data will be frequently interpreted to identify monitoring sites that might be dropped from the network or sampled less frequently, as well as identifying spatial gaps or the need for more frequent data collection. The design also recognizes that there will continue to be improvements in instrumentation that will allow for more in-situ monitoring and the collection of more data by remote sensing. New technologies will be incorporated into the regional water monitoring program when they are ready for operational deployment.

The Flood Management Plan was developed as a guide to implementing flood control projects. The objective of the guide was to identify several of the most significant constraints affecting the ability to implement flood control projects in the SLO Region and to propose methods and strategies to address the challenges. As with most problems and especially with flooding, stakeholder involvement is essential. Therefore, the target audience for the report were the individual citizens and communities affected by flooding problems. The intent of the plan was to provide guidance in the process of implementing such methods and strategies to address the flooding problems.

The Groundwater Banking Plan explored the feasibility of banking water in the Paso Robles Groundwater Basin for the benefit of County residents. This was considered a high-priority study with much potential because the Basin is the largest in the County and the Coastal Branch of the State Water Project (SWP) enters the County adjacent to the Basin. The potential benefits associated with a groundwater banking program included:

- Improving local groundwater conditions within the Basin.
- Increasing dry-year water supply reliability for local water users and possibly the residents of the County and the Central Coast.
- Improving local groundwater quality in the Basin.
- Providing greater flexibility of water resources management in the County and the Central Coast.
- Reducing the County’s dependence on imported water supplies in below-normal years.

The Regional Permitting Plan developed an approach to managing the multitude of permits from different agencies at different levels of government required by the County for carrying out each of its projects. It establishes an orderly set of uniform conditions for projects in order to reduce processing time and increase consistency and effectiveness. It progresses towards a self-monitored permit using internet access for permitting agencies to monitor compliance by the County. The goal of this plan was to eventually have the County issue its own permits, only requiring auditing by the agencies normally entrusted with the permitting authority. The process described in the plan would reduce redundancy and provide a higher quality and more efficient investment of resources. The plan lays out the steps to:

- Organize consistent conditions from various agencies by project type and resource area.
- Develop a single, comprehensive permit that is recognized by permitting agencies.
- Designate one permitting agency to provide oversight and reporting responsibilities over each project.
- Create and utilize a web portal into their electronic permit monitoring system to allow self-management by the County, with auditing abilities by any permitting agency.

Information developed in these four studies will now be incorporated into the relevant sections during the SLO IRWM Plan Update process. The information developed in these studies affect and will be considered while updating the plan standards as depicted in the figure below.

Update IRWM Plan to Meet New Plan Standards

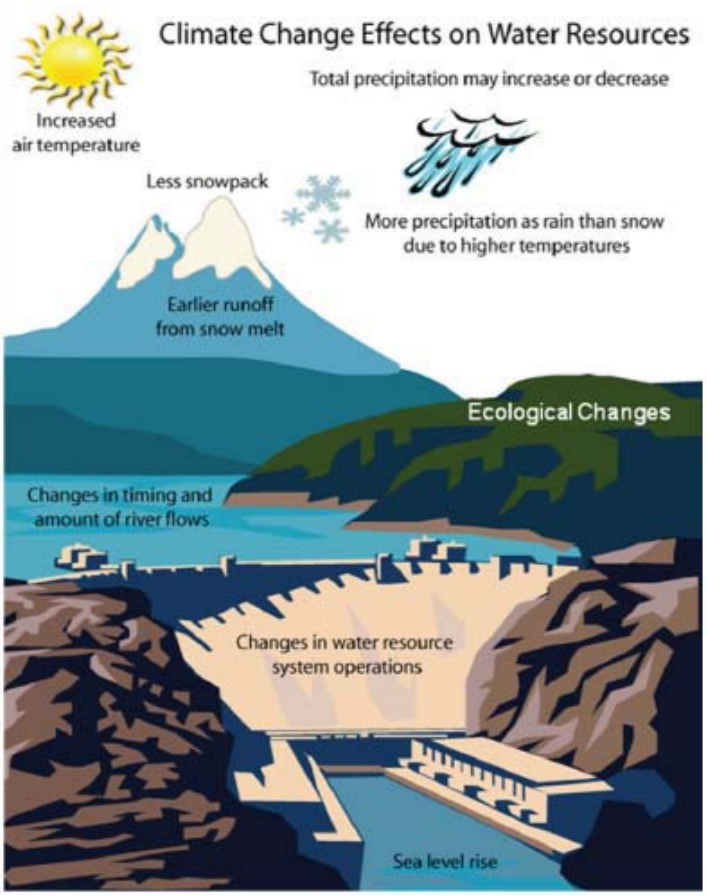
The SLO IRWM Plan Update will address all sixteen IRWM Plan Standards as described in the updated IRWM Guidelines. However, the SLO IRWM Regional Water Management Group (RWMG) has already conducted a planning needs assessment by comparing the 2007 IRWM Plan to the enhanced plan standards included in the 2010 IRWM Guidelines. The assessment recognized that the entire plan requires updating, but that some sections meet the plan standards better than others do, and therefore there is a significant range of effort depending on the plan section/topic. The overall task of updating the plan can generally be categorized into three levels:

- Tier 1 – Sections that require significant modification to address new standards that were not included in the previous guidelines (e.g. climate change) and the sections that need to reflect the revised governance approach for improved SLO IRWM Planning.
- Tier 2 – Sections that require a moderate amount of modification to more fully address the plan standards and reflect current conditions.
- Tier 3 – Sections that require limited modification and the updates consist of additional information/modification to reflect current conditions in the IRWM planning area.

A comprehensive update requires updating all sections in Tiers 1 through 3, however, the most critical needs are in Tiers 1 and include climate change, governance, and the standards most affected by the changes in governance.

CLIMATE CHANGE (TIER 1)

A significant level of climate change analysis has been conducted in the SLO Region. A collaborative effort by the GEOS Institute and Local Government Commission, funded by the Kresge Foundation, resulted in two valuable climate change resources for the region. The two reports were titled Projected Future Climatic and Ecological Conditions in San Luis Obispo County, April 2010, and Integrated Climate Change Adaptation Planning in San Luis Obispo County, November 2010. These two reports form the basis for updating climate change conditions and assessing climate change vulnerabilities in the SLO IRWM Plan.



As stated in the reports, climatic changes are already underway across SLO County and are likely to increase in the coming decades. Changes to the local climate are likely to include more frequent and intense storms and floods, extended drought, increased wildfire, and more heat waves. The local communities in the County will need to plan for such changes in order to prevent potentially catastrophic consequences.

The reports provide SLO community members and decision-makers with local climate change projections that are presented in a way that can help them make educated long-term planning decisions. As stated in the report, climate change presents the region with a serious challenge in planning for the future. Current planning strategies rely on historical data to anticipate future conditions. Due to climate change and its associated impacts, however, the future is no longer expected to resemble the past. The projections and planning approaches presented in the two reports will guide the IRWM planners when addressing climate change in the SLO IRWM Plan Update.

The reports project the following SLO local climate change conditions.

Temperature – According to the three global climate models used in the analysis, San Luis Obispo County is expected to become 2-4° F warmer by mid-century and, depending on emissions, 4-8° F warmer by late century, with greater warming in summer as compared to winter.

Precipitation – Model projections for precipitation were highly variable. On average, little change in precipitation was projected, except in the winter. One model projects an increase in precipitation by midcentury (2035-45). By late century (2075-85), all three models agree on drier conditions for San Luis Obispo County.

Sea Level Rise – In a report commissioned for the California Energy Commission, Cayan et al. (2009) indicate that by the end of the century, sea level is expected to rise 3.3 – 4.6 feet (1.0 – 1.4 meters) based on projections from six different global climate models run under the same A2 "business-as-usual" emissions scenario used in the report. Sea level rise could accelerate even more, however, due to melting ice sheets. Sea level rise will cause erosion along the coast as well as increased risk of damaging floods during large storms. Additionally, sea level rise causes seawater intrusion into wells and freshwater ecosystems near the coast.

Vegetation Change – A vegetation model (MC1) from the USDA Forest Service's Pacific Northwest Research Station projects future growing conditions and wildfire patterns for San Luis Obispo County. Future growing conditions help identify the type of vegetation that the climate is most suitable for, but they do not take into account non-native vegetation, seed dispersal, or succession (the time needed for climax tree species, for instance, to mature and dominate the landscape), as well as human use of the landscape. A model projects a loss of conditions for coniferous forest at higher elevations and shifts in types of vegetation throughout eastern portions of the county. Western portions may remain more stable.

Wildfire – Northern and northeastern parts of the county, especially areas of higher elevation, could see increases in the area burned annually by wildfire due to higher temperatures and stress to vegetation from climate change. On average, San Luis Obispo County could experience 2-3 times greater area burned by wildfire, annually, by the end of the century.

Storm Events – Climate change could increase the severity of individual storm events, even if overall precipitation levels do not increase. When more rain falls during a single storm, the risk of flooding is greatly increased. Such storm events can be exacerbated by land use practices and infrastructure failures, making the impacts of flooding more severe. When rainfall occurs in a short period of time, most water runs off quickly without infiltrating soils or recharging groundwater aquifers.

Updating the IRWM Plan to include and address the climate change standard will require the following minimum requirements:

- Assess Regional Vulnerability to Climate Change Impacts – Based on the significant amount of data available, assess the region's vulnerability to the long-term increased risk and uncertainty associated with climate change. At a minimum, the assessment will utilize the qualitative checklist assessment in the Climate Change Handbook for Regional Water Planning. The list identifies potential impacts in the following categories: water demand, water supply, water quality, sea level rise, flooding, ecosystem habitat vulnerability, and hydropower.

Components of Vulnerability	Climatic Risks	Populations or Infrastructure Particularly At Risk
Exposure	Floods Heat Drought Wildfire	Floodplain residents Outdoor workers Farmers, all water users Homes at the wildland-urban interface
Sensitivity	Heat Air pollution Drought	Infants, elderly Asthma sufferers, children Farmers
Adaptive Capacity	Floods Heat Sea-level rise	Institutionalized populations, low-income households Low-income residents Coastal residents, structures and facilities

- Prioritize Regional Vulnerabilities – Following the vulnerability assessment, the vulnerabilities will be prioritized based on selected criteria. The criteria may include risks associated with vulnerabilities, presence of multiple potential stressors and the potential for a vulnerability to shape regional objectives and inform IRWMP decisions.

- Address Priorities in Plan Objectives – The results of the vulnerability assessment and prioritization will be used to develop IRWM Plan objectives by addressing the impacts of climate change and targeting the region's highest-ranked vulnerabilities. The plan objectives will address how the region can adapt to the impacts of climate change. The RWMG will also consider developing objectives related to reducing GHG emissions or revising existing objectives (e.g., increasing water conservation) to explicitly state their role in reducing GHG emissions. Metrics for measuring the success in satisfying the Plan Objectives will also be developed.

- Develop a Plan for Data Gathering and Analyzing Prioritized Vulnerabilities – A plan will be developed for data-gathering programs and studies for further assessment of the prioritized vulnerabilities.

The climate change portion of the IRWM Plan will provide a reference as to how the RWMG will address this issue. In addition, climate change issues and effects are relevant to many other sections of the IRWM Plan, and the climate change portion of the IRWM Plan will explain how the information will be incorporated into different sections of the IRWM Plan.

GOVERNANCE AND AFFECTED STANDARDS (TIER 1)

The San Luis Obispo IRWM planners believe that it is extremely important to understand that promoting regional integrated efforts includes realistic awareness that water resource management is very dynamic and that the IRWM planning approach must also be dynamic to continue to help guide the water resource management activities. Thus, the region has evaluated the existing governance structure and recognized the opportunity to improve the structure to better facilitate IRWM planning.

The current governance and organizational structure of the IRWM is based on an approach that develops objectives, information, priorities and integration opportunities per category (supply, quality, ecosystem, flood management) and integrates across the entire County (IRWM boundaries). The District was the lead in facilitating the RWMG governance process. The governance structure and associated Memorandum of Understanding (MOU) were based on the following regional conditions:

- The District has boundaries that are coterminous with the region;
- The District has the broadest responsibility for regional water management in the SLO Region;
- The District is staff to the RWMG's main advisor, the Water Resources Advisory Committee (WRAC); and
- The WRAC meets regularly and publicly, and is made up of all the water resources stakeholders in the County, and reviews appropriate District actions and deliverables.

Three or more of these stakeholders needed to sign the Governance MOU to demonstrate that the region formed an acceptable RWMG. To date, the following agencies (who are also WRAC members with one exception) have signed an MOU:

- San Luis Obispo County Flood Control and Water Conservation District (District)
- Los Osos Community Services District (Los Osos)
- Nipomo Community Services District (Nipomo)
- Coastal San Luis Resource Conservation District (CSLRCD)
- San Luis Obispo County (County)
- City of Morro Bay
- Morro Bay National Estuary Program
- Oceano Community Services District
- City of San Luis Obispo
- San Simeon Community Services District
- Upper Salinas – Las Tablas Resource Conservation District (US-LTRCD)

The District, through WRAC meetings, has initiated discussions regarding the current governance structure and how it can be enhanced or improved to better facilitate the IRWM Plan Update. Discussions have involved the pros and cons associated with the current structure, as listed below:

Pros:

- Requires minor editing of MOU
- Stakeholders are familiar with process
- Requires less individuals / agencies to take on leadership role
- Facilitates integration and collaboration regardless of location in county
- DWR approved approach
- Successfully implemented structure

Cons:

- Requires District resources, but those resources are limited
- Mostly led by District – not as easy to gather constant input from stakeholders

At the January 2012 WRAC meeting, attendees were asked to participate in breakout sessions to discuss the IRWM governance structure. The groups were made up of eight to ten individuals, including a diverse representation of regional stakeholders. Breakout groups were asked to consider and document possible responses to the following focused discussion topics:

- Were there disincentives/reasons why some agencies adopted resolutions supporting the IRWM plan but did not sign/adopt the MOU?
- What concerns do you have with the current governance structure and what is contained in the MOU?
- What alternate language and decision-making processes do you recommend?
- How will the RWMG make decisions that ensure balanced stakeholder participation?
- How can we best reach out to and assist these stakeholders (especially to Disadvantaged Communities and Native American tribes)?
- How should various IRWM efforts be funded?
- How do we best collect input from stakeholders? When are WRAC Subcommittees appropriate versus non-WRAC member working groups?

There were several key conclusions developed through these initial discussions:

- District should continue it its IRWM leadership role;
- IRWM planning should continue to be funded by the District, which collects revenue across the SLO Region, along with funding from agencies whose projects receive implementation grant funding;
- Consider modifying the IRWM Plan structure to allow a geographic or resource focus, when and where appropriate;
- Establish roles and responsibilities for RWMG members/ MOU signatories versus WRAC members; and
- Better define the benefits associated with signing the MOU and participating in the IRWM process.

At the February 2012 WRAC meeting, discussions continued relative to governance development. During this meeting, stakeholders supported formation of IRWM subregional ad hoc subcommittees of the WRAC, consisting of three representatives from each subregion as follows:

- North Coast – WRAC Members Broadhurst (Agriculture), Wade (Urban - City), Gillespie (Environmental)
- South Coast – WRAC Members Chipping (Environmental), Winn (Urban - CSD), Molnar (Urban - City)
- Inland – WRAC Members Luft (Environmental), Larson (Urban - City), Zelinski (Agriculture)

The map on the following page shows the sub-regional boundaries within the overall SLO Region.

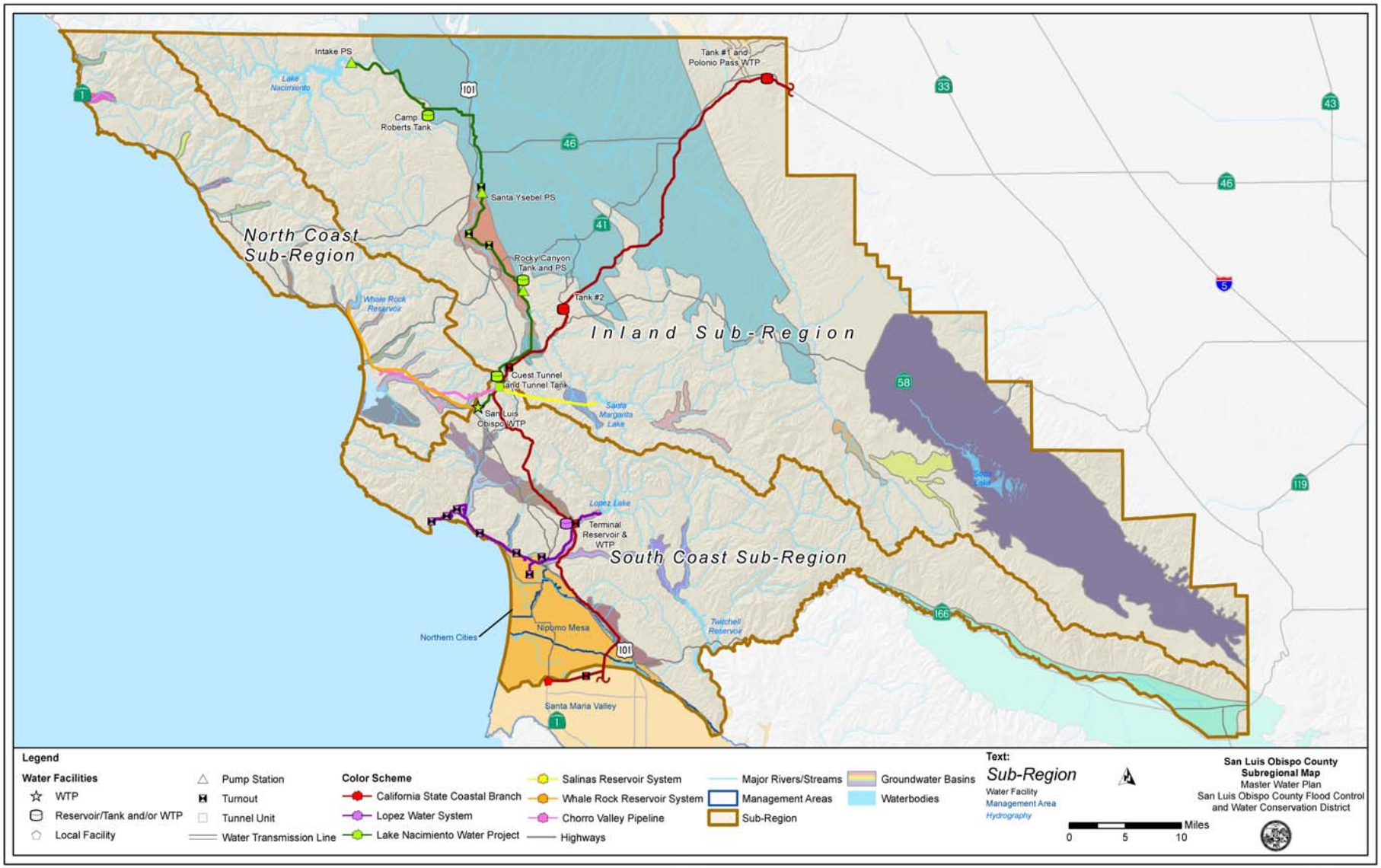
The subregional subcommittees were established to address two primary IRWM planning needs:

1. Develop recommendation for modified governance structure and MOUs.
2. Work with District staff to reach out to stakeholders and develop IRWM Plan update information for their subregions.

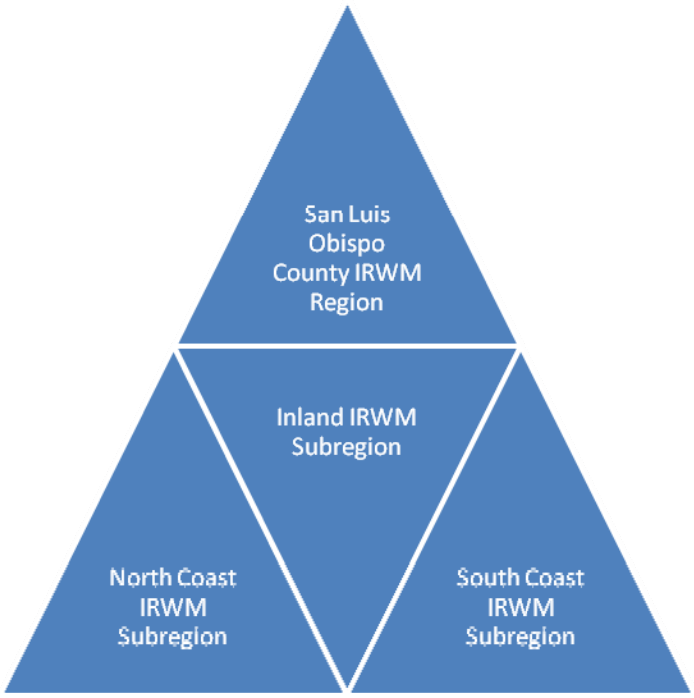
The first task of the subregional subcommittees is to review the existing IRWM governance structure and public comments received regarding the governance, and develop a modified governance structure and associated MOU that clearly defines roles and responsibilities necessary for successful IRWM planning. Following public discussion, the modified governance will be documented in an MOU for consideration and approval by the WRAC.

The second task of the subregional subcommittees is to work with District staff to reach out to stakeholders in order to update the SLO IRWM Plan. The subregional subcommittees will develop plan information and recommendations for WRAC review and approval, until the preferred governance structure is established.

The WRAC's IRWM ad hoc subregional subcommittees will remain in place until the RWMG and governance structure are formally established, at which point the new structure will be implemented. The WRAC, current decision making body of the RWMG, has discussed the concept of formally establishing subregional subcommittees as a part of the governance structure. While these long-term subregional subcommittees have not been established, it is probable that they will. The remainder of this work plan describes activities in the context of the RWMG establishing and utilizing subregional subcommittees (referenced as "Subregional Subcommittees" throughout the remainder of this work plan).


Intake PS
Lake Nacimiento
Camp Roberts Tank
Santa Ysebel PS
Rocky Canyon Tank and PS
Tank #2
Tank #1 and Polonio Pass WTP
North Coast Sub-Region
Whale Rock Reservoir
Inland Sub-Region
Cuest Tunnel and Tunnel Tank
San Luis Obispo WTP
Santa Margarita Lake
Lopez Lake
Terminal Reservoir & WTP
South Coast Sub-Region
Northern Cities
Nipomo Mesa
Twitchell Reservoir
Santa Maria Valley
Legend
Water Facilities
WTP
Reservoir/Tank and/or WTP
Local Facility
Pump Station
Turnout
Tunnel Unit
Water Transmission Line
Color Scheme
California State Coastal Branch
Lopez Water System
Lake Nacimiento Water Project
Salinas Reservoir System
Whale Rock Reservoir System
Chorro Valley Pipeline
Highways
Major Rivers/Streams
Management Areas
Sub-Region
Groundwater Basins
Waterbodies
Text:
Sub-Region
Water Facility
Management Area
Hydrography
Miles
0 5 10
San Luis Obispo County Subregional Map
Master Water Plan
San Luis Obispo County Flood Control and Water Conservation District

Consistent with these discussions regarding the regional needs and governance, the WRAC is recommending the plan be updated in consideration of the subregional delineations. This reorganization of the planning effort would allow focused attention on stakeholders within each subregion in order to promote more focused collaboration by subregion, while continuing to practice broader regional planning when and where appropriate, as depicted in the figure below.



The modified structure and approach are intended to establish San Luis Obispo IRWM regional mission, goals and objectives that are appropriate and critical for the SLO Region. The IRWM subregions would then be allowed the opportunity to prioritize the objectives to best meet the individual priorities for each subregion.

Additionally, the SLO Region would develop a project prioritization process that is appropriate for the region. The subregions would then be allowed the opportunity to prioritize the projects to best meet the individual priorities for each subregion. The subregional prioritization would be followed by a regional integration of projects and resources across subregions, when and where appropriate. This approach will allow the subregions to focus on their priorities while satisfying the greater IRWM mission, goals, and objectives.

The plan standards and sections most affected by the subregional change are the coordination, stakeholder involvement, objectives, and project review process as described in the Workplan task section of this proposal.

OTHER PLAN UPDATE SECTIONS (TIER 2 AND 3)

Tier 2 and 3 standards and sections include Region Description, RMS, Integration, Impact and Benefit, Data Management, Technical Analysis, Relation to Local Water Planning, Relation to Local Land Use Planning, Finance, and Plan Performance and Monitoring. Each of these sections, although adequately addressed in the 2007 IRWM Plan, requires updating to better address enhanced plan standards and current conditions.

PRIORITY PLANNING NEEDS

In addition to the IRWM Plan Update tasks, this workplan presents the tasks for completing two focused studies that are related to the development, update, and improvement of the SLO Region IRWM Plan:

1. Salt and Nutrient Management Planning and Reuse/Recycled Water Planning
2. Watershed Management Planning

Focused planning efforts were developed through a planning solicitation process. Planning project sponsors were asked to complete project forms that made it apparent that the end result of the proposed study supports the improvement of an IRWM Plan standard and the overall IRWM Plan. SLO Region stakeholders showed an overwhelming response to the planning grant solicitation round - 25 proposals were received, covering a wide array of water resources planning efforts. The WRAC subcommittee met to review IRWM Planning Solicitation forms on December 19, 2011, and further refined their analysis on January 19, 2012.

The review process included consideration of the following questions:

1. Is it a design/project proposal or a planning proposal?
2. Is it community-specific or regional?
3. What is the financing capacity?
4. Does it help meet the critical water supply or water quality issues of a Disadvantaged Community or Native American tribe?
5. Does it address multiple benefits/ objectives?

These questions helped the subcommittee to identify proposals as Tier 1 (high priority), Tier 2 (medium priority), or Tier 3 (low priority for inclusion in the planning grant application or suggested as design/project proposal).

Several proposals were immediately identified as Tier 3, as they were classified as design/project applications and will be more appropriate for submission during the upcoming implementation project solicitation round. Several others were identified as Tier 3, as they were classified as low priority for inclusion in the planning grant application.

A majority of the remaining proposals were identified as Tier 2 (medium priority). Upon further consideration of Tier 2, the subcommittee identified two main, reoccurring planning categories:

1. Salt and Nutrient Management Planning and Reuse/Recycled Water Planning
2. Watershed Management Planning

The WRAC subcommittee determined that focusing on a broad, regional approach under these two main planning categories could better address the needs of the various sponsoring agencies and the SLO Region as a whole. Relevant Tier 1 or 2 planning proposals were placed within one of the applicable planning categories. Common planning study elements were identified within each main planning category that could benefit the IRWM Plan and the SLO Region stakeholders. District staff hosted meetings for each main planning category to discuss possible integrated efforts with proposal sponsoring agencies, and to develop prioritized tasks. The final WRAC subcommittee Report, including the integrated proposal scope and funding allocation, was presented and supported by the WRAC on February 1, 2012.

SALT AND NUTRIENT MANAGEMENT AND RECYCLED WATER PLANNING

Numerous proposals included tasks associated with salt and nutrient management planning and reuse/ recycled water planning. The regional salt and nutrient management and reuse/ recycled water planning scope included in this application was developed by the WRAC subcommittee and study proponents based on the individual proposals and regional IRWM planning needs. The WRAC subcommittee first prioritized the geographical areas submitting proposals based on an agreed upon set of criteria (e.g. benefits to a disadvantaged community, certified Level of Severity III, etc.). The region's priorities were then measured against the planning grant criteria and the available funding to develop the recommended planning grant proposal, which was endorsed by the WRAC on February 1, 2012. A summary of the relevant salt and nutrient management and reuse/ recycled water planning proposals and how they are grouped in the development of this integrated, regional proposal are described below. Elements of the proposals summarized below were refined and integrated into the planning proposal work plan.

Understanding Salt & Nutrient Management Planning Needs

The degree of organized management of basins in the SLO Region varies widely and there is a general lack of awareness of the Water Board's Recycled Water Policy (RWP). While several of the basins have existing management structures and are engaged with the Water Board, many are not. It is recognized that those smaller, unorganized Basins may be at a disadvantage for complying with the RWP by May 2014. Therefore, this component of the proposal seeks to identify the basin study areas where Salt and Nutrient Management Plans (SNMPs) are needed in the region, the relevant stakeholders to lead the development of each, regional priorities, goals and objectives for developing the SNMPs and consolidation of information to assist identified stakeholders with developing and implementing the SNMPs.

Relevant Proposal:
Development of Basic Salt & Nutrient Management Plans
Requesting Agency: Golden State Water Company
Original Proposal Cost Estimate: N/A

Study Summary: Develop a template and other relevant information to assist stakeholders in each basin to develop a SNMP.
Primary Tasks: This proposal was submitted as a concept for the region's consideration in addressing a data gap in the IRWM Plan.

Developing a Salt and Nutrient Management Plan

The Central Coast Regional Water Quality Control Board has documented widespread increases in salt and nutrient pollution in groundwater basins throughout the Central Coast Region and has determined that regional management plans and programmatic projects must be developed to protect the beneficial uses of the basins. This component of the proposal addresses the development of specific information that will inform the SLO Region as to the process, methodology, content, cost and regulatory considerations associated with the development of SNMPs and associated basin planning tools. It includes development of a complete SNMP to serve as a template for stakeholders to consider using and building the District's capacity to maintain groundwater computer models – a tool used in the development of SNMPs – a significant task in the development of SNMPs, especially in basins that have not been studied extensively and would be needed to understand the scope of such an effort.

Relevant Proposals:
Paso Robles Groundwater Basin Salt and Nutrient Management Plan
Requesting Agency: City of Paso Robles
Original Proposal Cost Estimate: $150,000
Study Summary: Develop a SNMP for the Paso Robles Groundwater Basin
Primary Tasks:

1. Salt and nutrient source identification, basin assimilative capacity and loading estimates, together with fate and transport of salts and nutrients;
2. Water recycling and stormwater recharge/use goals;
3. Implementation measures to manage salt and nutrient loading in the basin on a sustainable basis; and
4. A basin-wide groundwater quality monitoring plan

Paso Robles Groundwater Basin Model
Requesting Agency: San Luis Obispo County Flood Control and Water Conservation District
Original Proposal Cost Estimate: $160,000
Study Summary: Update the Paso Robles Groundwater Basin Computer Model
Primary Tasks:

1. Develop a database program to collect and organize data needed for maintaining the model over time;
2. Update the model's data and water balance information;
3. Improve groundwater modeling estimations related to precipitation, streambed seepage, return flows and internal and external basin boundaries; and
4. Calculate simulated groundwater budgets for the delineated sub-areas in the basin.

Santa Maria Valley Groundwater Basin Conceptual Model
Requesting Agency: City of Pismo Beach
Original Proposal Cost Estimate: $850,000
Study Summary: Develop a groundwater flow model and establish basin management activities for the Santa Maria Valley Groundwater Basin.
Primary Tasks:

1. Expand Data Collection (install transducers on wells; collect LIDAR/aerial orthophoto data)
2. Conduct Hydrogeologic Evaluation (develop geologic cross-sections; well test to determine aquifer characteristics; investigate infiltration of surface waters; investigate recharge areas; investigate offshore aquifers and seawater intrusion)
3. Construct and Calibrate a Groundwater Flow Model

Understanding Recycled Water Opportunities

Understanding the opportunities for recycled water use in the region helps to prioritize projects identified in the IRWM Plan, provide the technical information necessary for including a recycled water project in the IRMW Plan and monitor the region's IRWM recycled water objective. SNMPs must consider where recycled water projects may occur in the future.

The California State Water Resources Control Board has identified in its 2009 Recycled Water Policy the intent to increase the use of recycled water from municipal sources. Additionally, the SLO Region IRWM has identified implementing recycled water projects as one of the key strategies for providing long-term water reliability and supply for the region. Consistent with the state and regional goals for implementing recycled water projects, the following agencies within San Luis Obispo County are investigating the feasibility of implementing recycled water programs within their service areas as a way to diversify their water supply portfolios, reduce reliance on surface water imports and eliminate discharge of treated wastewater to the Pacific Ocean.

- Templeton Community Services District (TCSD)
- City of Morro Bay
- City of Pismo Beach
- South San Luis Obispo County Sanitation District (SSLOCSD)
- City of Grover Beach
- Oceano Community Services District (OCSD)
- City of Arroyo Grande
- Nipomo Community Services District (NCSD)

Relevant Proposals
Nipomo Area Water Reuse Plan
Requesting Agency: Nipomo Community Services District
Original Proposal Cost Estimate: $400,000

Study Summary: Evaluate the available supply and quality of recycled water within the Nipomo Mesa and identify a strategy to use reclaimed water to meet certain water demands thereby reduce reliance on groundwater.
Primary Tasks:
1. Identify the quality and quantity of wastewater available.
2. Evaluate potential groundwater recharge sites.
3. Develop a list of potential recycled water customers and uses. Quantify water demands that could be met through use of recycled water.
4. Meet with potential recycled water customers to understand their needs and to develop a recycled water program that meets the standards for specific local uses.
5. Develop a phased Capital Improvement Program.

Supplemental Recycled Water Feasibility Study
Requesting Agency: South San Luis Obispo County Sanitation District
Original Proposal Cost Estimate: $200,000
Study Summary: Develop supplemental recycled water feasibility studies, specifically focusing on potential agricultural reuse in the South County/Oceano area, possible seawater barrier alternatives to protect groundwater resources, and groundwater recharge and recovery projects for effective management of groundwater resources
Primary Tasks:
1. Update current and projected recycled water demands.
2. Define water quality needs.
3. Evaluate current and potential future regulatory and permitting requirements associated with recycled water use.
4. Groundwater modeling to evaluate potential recharge sites.
5. Develop a Facilities Plan.
6. Develop a public relations, outreach and education program.
7. Evaluate and develop alternatives for agricultural reuse, seawater barrier/protection, and groundwater protection.
8. Conduct a programmatic level environmental review.
9. Develop an economic and funding analysis for the recommended recycled water program.

Preparation of a Recycled Water System Facilities Plan for the City of Pismo Beach
Requesting Agency: City of Pismo Beach
Original Proposal Cost Estimate: $150,000
Study Summary: Develop a Recycled Water System Facilities Plan to quantify the potential recycled water usage and define the facilities necessary to implement the Recycled Water Program, which will include understanding the interplay between existing collection systems and seawater intrusion, locations of possible intrusion, and how that affects salt concentration loading in a wastewater facility effluent.
Primary Tasks:
1. Quantify and establish a database of potential recycled water customers (GIS based).

2. Evaluate current and potential future regulatory and permitting requirements associated with recycled water use.
3. Identify the quality and quantity of wastewater available.
4. Establish a flow monitoring and sampling program to identify areas where seawater intrusion is occurring in collection system.
5. Define the treatment, transmission, distribution and storage alternatives.
6. Develop an economic/ funding analysis for recommended recycled water program.
7. Finalize the Facilities Plan.

City of Morro Bay and Cayucos Community Services District Recycled Water Master Plan
Requesting Agency: City of Morro Bay
Original Proposal Cost Estimate: $100,000
Study Summary: Develop an updated recycled water master plan to facilitate the upgrade of the wastewater treatment plant to tertiary level and understand the opportunity for use of recycled water in the surrounding groundwater basins.
Primary Tasks:

1. Data Acquisition and Review
2. Demand Analysis
3. Supply Analysis
4. Regulatory Requirements
5. Stakeholder Outreach
6. Alternatives Analysis

Templeton Community Services District
Requesting Agency: Templeton Community Services District
Original Proposal Cost Estimate: $40,000
Study Summary: Evaluate the market for the use of recycled water, the quantity of water that would be available for use as recycled water and regulatory considerations.
Primary Tasks:

1. Market Identification and Quantification
2. Supply Analysis
3. Regulatory and Permitting Requirements

Based upon these identified proposals, five workplan Tasks for meeting the SNMP and recycled water planning needs are:

Task 19.1 Identification of Basins Requiring SNMPs
Task 19.2 SNMP for the Paso Robles Groundwater Basin
Task 19.3 Groundwater Model Update – Paso Robles Groundwater Basin
Task 19.4 Groundwater Basin Characterization for the Santa Maria Groundwater Basin
Task 19.5 Regional Recycled Water Strategic Plan

Task 19.1 Identification of Basins Requiring Salt and Nutrient Management Plan (SNMP). The District will lead an effort to work with the Regional Water Quality Control Board (RWQCB) and

stakeholders in the IRWM region to gather general SNMP information, identify basins/ study areas for SNMPs, participants for each and prioritization of these identified basins. Three basins/ study areas have already been identified within this grant application, which include SNMP related efforts within those areas. This evaluation will be used to inform the regional stakeholders and will improve the information available in the IRWM Plan.

Task 19.2 Salt and Nutrient Management Plan for the Paso Robles Groundwater Basin. The City of Paso Robles will develop a complete SNMP for the Paso Robles Groundwater Basin to serve as model for the SLO Region and develop salt and nutrient management planning recommendations based on lessons learned and feedback from the RWQCB. This plan will include establishing basin characteristics (in conjunction with Task 19.3); evaluating water quality objectives; identifying existing and foreseeable salt and nutrient sources and describing their fate and transport; developing implementation measures, goals, and objectives; optimizing and regionalizing the monitoring programs; and ultimately tying these elements together into an SNMP.

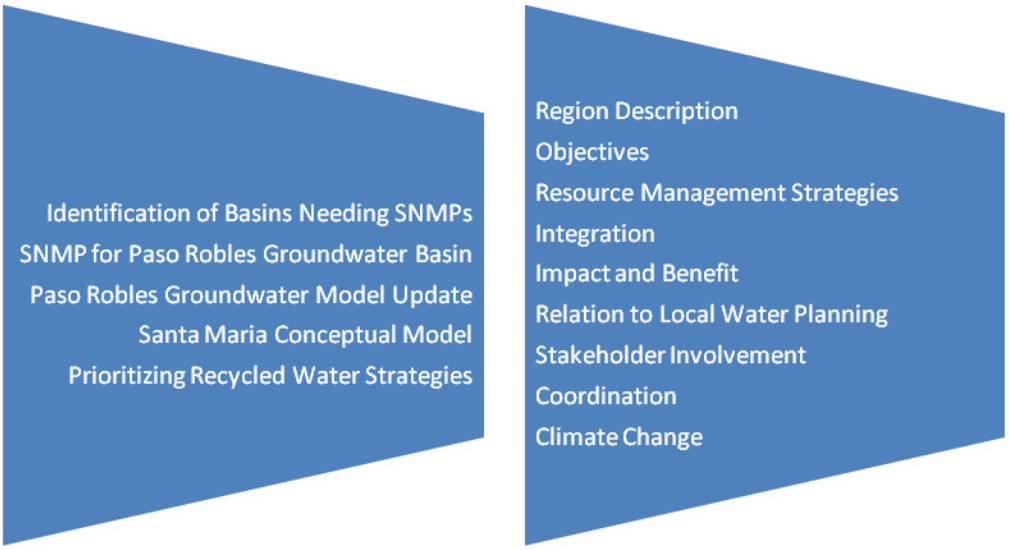
Task 19.3 Groundwater Model Update – Paso Robles Groundwater Basin. The District, in collaboration with the Paso Robles Groundwater Basin Steering Committee, will lead the effort to update the groundwater model (based on 1981 - 1997 data) to include 2011 data. This effort will fill a major data gap in the current IRWM Plan and region. It will help facilitate improved management of groundwater models by the District, and therefore, will improve SLO Region's access to more current information. This effort will include data collection; water balance estimation; aquifer system conceptualization; model update, post-audit, and re-calibration; and sensitivity analysis and simulations.

Task 19.4 SNMP Conceptual Basin Model – Groundwater Basin Characterization for the Santa Maria Groundwater Basin. The District, in collaboration with the Santa Maria Groundwater Basin Management Areas Technical Subcommittee, will lead the effort to conduct data analysis, investigate the groundwater basin characterization, and develop goals and objectives for the model and SNMP development. The results and understanding gained from this study will assist the many groundwater basins in the SLO Region that do not have a model or a conceptual model and can benefit from an established framework and approach.

Task 19.5 Regional Recycled Water Strategic Plan. The District, in collaboration with participating agencies as noted below, will lead the effort to identify recycled water opportunities and regulatory requirements for five key wastewater treatment facilities in the North Coast, South Coast, and Inland subregions including Pismo Beach WWTP, South County Sanitation District WWTP, Nipomo WWTP, Morro Bay WWTP and Templeton WWTP. To integrate the needs of each of the facilities within the context of a regional approach, the needs and initiatives for each facility will be evaluated and presented in the context of a regional recycled water strategic plan (RWSP). The RWSP will combine common elements and regional considerations with facility specific analysis and planning into a single regional document that will contribute directly to the SLO Region's IRWM Plan. This will include evaluating the potential for recycled water usage connected to these key wastewater treatment facilities, a critical step

in the SNMP process, and will include supply analysis, delineation of regulatory and permitting requirements, market identification and quantification, and prioritization of recycled water strategies. The results will be used to inform the SLO Region related to recycled water usage potential and recycled water strategies.

These SNMP studies will help support the update and enhancement of several plan standards and sections as depicted in the figure below.



REGIONAL WATERSHED PLANNING

Sustaining and enhancing a balanced approach to water resource management will continue to rely on long-term strategies that integrate stakeholder participation, interagency partnerships, and environmental needs with regional water reliability needs and efficient resource management objectives and strategies. The SLO Region recognizes the integral play between the use of water resources and the protection of water quality and the environment. The SLO Region has endeavored to include environmental stewardship within its IRWM Plan goals and objectives, and in its overall consideration of various planning efforts and implementation projects. This study indentifies key strategies for integrated environmental and watershed considerations.

Numerous planning proposals included tasks associated with watershed management planning. The SLO Region identified the watershed management planning component as a priority for the current IRWM Plan Update. Watershed management planning funding requests were reviewed and prioritized based on the SLO County IRWM goals and objectives, IRWM funding criteria, and available funding. Based on the review and prioritization, the Coastal San Luis Resource

Conservation District (CSLRCD) and Upper Salinas-Las Tablas Resource Conservation District (US-LTRCD), whose combined boundaries cover the entire SLO Region, have combined efforts described in their original, individual proposals, described below.

Relevant Proposals:

Development of Regional Watershed Management Plan: Phase I

Requesting Agency: Coastal San Luis Resource Conservation District; Upper Salinas-Las Tablas Resource Conservation District

Updated Plan Cost Estimate: $178,028

Project Summary: Develop a regional watershed management plan visioning, framework, and prioritization methodology.

Primary Tasks: This effort will include developing a unified watershed plan methodology, identifying existing data, identifying data gaps, characterizing watersheds, creating topographic maps, collecting data, identifying goals and recommended solutions, and outlining steps for Regional Watershed Management Plan: Phase II – plan development and implementation (Phase II not included as a part of this grant funding request).

Instream Flow Study: Stage 1

Requesting Agency: Coastal San Luis Resource Conservation District

Updated Plan Cost Estimate: $72,430

Project Summary: Conduct a regional instream flow study.

Primary Tasks: This effort will include compiling and reviewing existing data, creating and evaluating physical landscape units, conducting stakeholder meetings, conducting a focused field effort, translating study results to similar streams/watersheds, evaluating physical landscape units with no existing instream data, and developing a final report. The results of this study will help the SLO Region to better understand the instream flow needs of key species and environmental factors, which will improve the regional stakeholders' ability to better manage local water resources in a way that considers environmental stewardship.

The watershed management planning will help the Region to address several IRWM Program Preferences. The CSLRCD and US-LTRCD proposal effectively integrates water management programs within the Region by developing a methodology to evaluate watershed concerns and prioritizing protection and restoration efforts between the Region's watersheds. This planning study will also close a priority data gap of instream flow needs.

The watershed management planning also addresses the Statewide Priority to expand environmental stewardship. The planning effort will practice, improve, and expand environmental stewardship to protect and enhance the environment by improving watersheds, floodplains, and instream functions and to sustain water and flood management ecosystems. By having the Region's two RCDs integrate efforts, it will result in a comprehensive understanding of watershed needs and priorities, which will help to ensure long-term sustainable management of the Region's natural resources.

This effort will also help to facilitate discussions between technical stakeholders as they pertain to watershed related issues and management. Both RCDs are committed to restoring stream channels to their native habitat, protecting endangered species, promoting water conservation, improving water quality, and collaborating on local projects with a variety of partners. These agencies will strive to provide a collaborative effort that incorporates the planning needs of many stakeholders throughout the Region.

CURRENT STATUS IN MEETING IRWM PLAN STANDARDS

The District created the following table that will be used to track the IRWM Plan's trajectory towards meeting the DWR 2010 Proposition 84 IRWM Guidelines' standards if the San Luis Obispo Integrated Planning Proposal was awarded funding under the Proposition 84 IRWM Round 2 Planning Grant Application funding round. This is based upon the information/ status that DWR will require from the District if the SLO Region decides to apply under the Proposition 84 IRWM Round 2 Step 1 Implementation Grant funding round.

DWR Statements to Indicate Status of IRWM Plan Standard:

- *Standard is met with existing plan language.*
- *Standard will be met with plan language being revised or amended. Revised plan anticipated (enter date).*
- *Standard will not be met in this revision. (Explain, include the anticipated date when it will be met).*

IRWM Plan Standard	Estimated Standard Update (End Date)	DWR's Specific Standard Questions (Trajectory to Meet Standards)	SLO Integrated Planning Proposal (2012 IRWM Plan Update)
Governance	August 2012	Provide brief (one paragraph) summary of how governance structure provides/ will provide balanced access and opportunity for participation in IRWM efforts.	*Standard is met with existing plan language;* however, a new governance structure (with sub-regional committees) is being considered to improve participation of all persons necessary to develop and implement an IRWM Plan. The RWMG endeavors to improve upon existing outreach efforts, especially as related to DACs and tribes. Scope of IRWM Plan Update: • Identify Subregional Subcommittee • Define Governance Structure • Develop RWMG MOU/Agreements • Establish RWMG
Region Description	September 2013	How does region description incorporate information regarding potential regional vulnerabilities to the effects of climate change that may occur over planning horizon?	*Standard will be met with plan language being revised or amended. Revised plan anticipated (11/2013).* The 2007 IRWM Plan generally meets the standard, with the exception of the more in depth consideration of climate change. Information from Tasks 15, 18, and 19 will also be used to update this section to more accurately describe the SLO Region. Significant planning progress has been made in the SLO Region since the 2007 IRWM Plan update, the results of which will be incorporated into this IRWM Plan update. Scope of IRWM Plan Update: • Update Region Description • Compile Expanded Information • Update/Develop New Maps
Plan Objectives	January 2013	List up to four objectives or possible objectives of IRWMP and list at least one potential metric Region might use to measure progress toward objective.	*Standard is met with existing plan language;* however the SLO Region stakeholders, the possible shift towards a new governance structure with focus on sub-regional priorities and needs as well as regional, and the results of the climate change analysis/ prioritization may require new objectives/ metrics. Examples: • Protect and improve source water quality. • Expand reclaimed water use to make up **5%** of total water use by 2010 and **10%** of

IRWM Plan Standard	Estimated Standard Update (End Date)	DWR's Specific Standard Questions (Trajectory to Meet Standards)	SLO Integrated Planning Proposal (2012 IRWM Plan Update)
			total water use by 2020. • Develop monitoring and reporting programs for groundwater basins in the region. • Manage stream flows to fish bearing streams, support region-wide fish barrier prevention, circumvention and removal program, and implement fish friendly stream and river corridor restoration projects. Scope of IRWM Plan Update: • Draft Updated Vision, Goals, Objectives • Prioritize Objectives
Resource Management Strategies	January 2013	Provide brief summary of process used in the IRWMP to consider RMS from California Water Plan, Update 2009.	*Standard will be met with plan language being revised or amended. Revised plan anticipated (11/2013).* The IRWM Plan update will be revised to ensure that it considers all RMS specified in Proposition 84 Guidelines. Scope of IRWM Plan Update: • Document Process to Consider RMS • Identify RMS to be Implemented/Gaps • RMS Integration and Regionalization
Integration	November 2012	Briefly describe processes in IRWMP that allow, encourage, and actively pursue project implementation integration.	*Standard is met with existing plan language;* however the process of revising the project review process may warrant update of this section. The regional goals and objectives address all aspects of water resource management and provide an integrative framework.
Project Review Process	November 2012	Briefly describe how IRWMP considers climate change vulnerabilities as a factor in project review process. Briefly describe how IRWMP considers greenhouse gas emissions as a factor in project review process. Are both construction and operational GHG considered?	*Standard will be met with plan language being revised or amended. Revised plan anticipated (11/2013).* The SLO Region will be reconsidering its project review process to consider these vulnerabilities/ factors, in addition to a number of other potential factors, and will conduct another solicitation prior to Round 2 Step 1 Implementation Grant funding round. Scope of IRWM Plan Update: • Document Submittal Process

IRWM Plan Standard	Estimated Standard Update (End Date)	DWR's Specific Standard Questions (Trajectory to Meet Standards)	SLO Integrated Planning Proposal (2012 IRWM Plan Update)
			• Update Review Project Process • Update Project List (Subregion/Regional) • Develop Communication Procedure
Impacts and Benefits	December 2012	No specific question.	*Standard is met with existing plan language;* however through Tasks 13, 14, 16, and 17 (stakeholder/ coordination sections), the region will begin to better understand the needs, impacts, and benefits of the IRWM program implementation. Scope of IRWM Plan Update: • Update Screening of Impacts/Benefits • Analyze Impacts/Benefits to DAC, etc. • Develop Assessment for Impact/Benefit
Plan Performance and Monitoring	February 2013	Is or will there be an adaptive management process in IRWMP to utilize information (i.e. climate change vulnerabilities) to potentially modify?	*Standard will be met with plan language being revised or amended. Revised plan anticipated (11/2013).* The Data Enhancement Plan and expanded data management system improve the region's ability to flexibility monitoring program performance. Regional stakeholders will begin to re-define adaptive management strategies. Scope of IRWM Plan Update: • Update IRWM Implementation Evaluation • Adapt Data Collection Program • Describe IRWM Implementation Tracking in DMS
Data Management	November 2012	No specific question.	*Standard is met with existing plan language;* however the region will reconsider the existing data and data needs of the region to improve this standard. Information from Tasks 18 and 19 will also be incorporated into this section. Scope of IRWM Plan Update: • Review Data Needs • Assess Available Date Programs • Establish DMS Protocol
Finance	June 2013	No specific question.	*Standard is met with existing plan language;* however, it will be updated to reflect changes made under the IRWM Plan update.

IRWM Plan Standard	Estimated Standard Update (End Date)	DWR's Specific Standard Questions (Trajectory to Meet Standards)	SLO Integrated Planning Proposal (2012 IRWM Plan Update)
			Scope of IRWM Plan Update: • Update Finance Section
Technical Analysis	January 2013	No specific question.	*Standard is met with existing plan language;* however, many planning efforts have occurred since 2007 and will be incorporated to ensure up-to-date information/ analysis. Additionally, information from Tasks 18 and 19 will also be used to update this section. Scope of IRWM Plan Update: • Develop Technical Information Table • Identify Data Gaps • Develop Technical Analyses/Methods
Relation to Local Water Planning	April 2013	No specific question.	*Standard is met with existing plan language;* however, the section will be revised to incorporate other water planning documents.
Relation to Local Land Use Planning	April 2013	Briefly describe the current relationship between local land use planning entities and water management entities.	*Standard will be met with plan language being revised or amended. Revised plan anticipated (11/2013).* The links between land use planning and IRWM efforts will be revisited, and future efforts will be described. Scope of IRWM Plan Update: • Update Description of Relationship
Stakeholder Involvement	October 2012	Briefly describe (can include a list) how the IRWMP allows for stakeholder participation in decision making processes of IRWM effort.	*Standard is met with existing plan language;* however, the currently engaged stakeholders would like to focus more on encouraging the underrepresented groups in the region and would like to more clearly define the expectation of stakeholders and participants, and how stakeholders and RWMG decision making will work. • RWMG decision making body is currently the District's Water Resources Advisory Committee, comprised of over 30 water resources agencies and representatives from throughout the region. Their monthly meetings are public and widely advertised. • Public IRWM workshops are held when warranted. • IRWM planning and implementation solicitation rounds are publicly advertised

IRWM Plan Standard	Estimated Standard Update (End Date)	DWR's Specific Standard Questions (Trajectory to Meet Standards)	SLO Integrated Planning Proposal (2012 IRWM Plan Update)
			and participation is encouraged. Scope of IRWM Plan Update: • Update List of Stakeholders/DACs • Create Communication Plan • Utilize Focused Efforts (Task 16, 17)
Coordination	May 2013	No specific question.	*Standard is met with existing plan language;* however, the RWMG will continue its efforts to coordinate among stakeholders, agencies, and planning efforts. Scope of IRWM Plan Update: • Update Coordination Section
Climate Change	September 2012	Does or will IRWMP include: • Climate change vulnerability assessment of the region (at least equivalent to qualitative check list assessment in Climate Change Handbook) • List of prioritized vulnerabilities based on vulnerability assessment and Region's IRWM decision making process (i.e. which resources are most important; which will be addressed near-term) • IRWMP contains plan, program, or methodology for further data gathering/ analyzing of prioritized vulnerabilities	*Standard will be met with plan language being revised or amended. Revised plan anticipated (11/2013).* Scope of IRWM Plan Update: • Incorporate the two local climate change plans published in 2010 • Assess climate change regional vulnerabilities • Prioritize regional vulnerabilities • Address priorities in Plan Objectives • Plan for data gathering/ analyzing prioritized vulnerabilities.

Grant Work Plan Contents

This second section of the work plan describes the specific tasks that will be performed as part of the grant proposal. In addition, the work plan contains, as specific tasks, the submittal of progress reports, a final report, and other deliverables expected to be generated during performance of the proposal. Approximate numbers of meetings per task are estimated and are consistent with the budget. Linkages between tasks are fully explained to show how the product of a task will be used in subsequent tasks and ultimately in the update or development of the IRWM Plan. The work plan tasks are organized as follows:

- Task 1 – 17, 20 Plan Update
- Task 18 Watershed Study
- Task 19 Salt and Nutrient and Recycled Water Planning
- Task 21 Project and Grant Administration

The work plan tasks detail the work to be completed prior to August 6, 2012 (the assumed grant award date) and relevant work to be completed after the grant is awarded, if successful. The budget and schedule are coordinated with the work plan, including the work to be completed prior to August 6, 2012 and the work to be completed after the grant is awarded, if successful.

Task 1. Update Governance Section

<u>Guidelines Requirement(s)</u>

- *Describe RWMG, list all entities responsible for Plan development, and identify members of the RWMG with statutory authority for water management.*
- *Describe governance structure.*
- *Describe how governance addresses and ensures various activities, such as public involvement processes.*
- *Describe decision-making process and how a decision is vetted with stakeholders and the RWMG.*
- *Describe the manner in which the governance structure ensures balanced access and opportunity for participation.*
- *Describe how governance would foster communication with the different functional groups within the RWMG, with project proponents, with general stakeholders, with neighboring RWMGs, government agencies, and the general public.*
- *Describe how governance helps ensure implementation of the Plan in the long-term.*
- *Explain how governance will help ensure coordination with neighboring IRWM efforts, State agencies and Federal agencies.*
- *Explain whether the governance structure shows that a collaborative process was used to establish Plan objectives.*
- *Explain how the governance structure facilitates interim changes and formal changes to the Plan.*

- *Describe process involved in updating or amending the IRWM Plan.*

This task involves developing a new *Governance* structure and section in the Plan update to represent the revised approach of the SLO Region. As presented in the Introduction and first section of this work plan, the region is revisiting the governance and organizational structure of the IRWM Plan.

As described earlier, stakeholders supported the formation of three IRWM Subregional Subcommittees, consisting of representatives from agriculture, urban and environmental for the North Coast, South Coast, and Inland subregions. The Subregional Subcommittees will develop a revised governance structure for consideration and approval by the WRAC through the process described in the tasks below.

The plan standards and sections that will be most affected by the change in governance are the coordination, stakeholder involvement, objectives, and project review process. The roles and responsibilities for Subregional Subcommittees will be dependent on the selected governance, but it is anticipated that the delineation of responsibilities will most impact these plan standards. This task will be completed in advance of the assumed grant award notification date of July 1, 2012.

Task 1.1 Identify IRWM Subregional Subcommittee Participants

At the February 2012 WRAC meeting, stakeholders supported the formation of three IRWM Subregional Subcommittees. It is the role of these Subregional Subcommittees to develop the recommended governance structure for continued SLO IRWM planning, as described in Task 1.2.

At the meeting, the District, in cooperation with the WRAC, solicited participation in the IRWM Subregional Subcommittees from the regional agencies, organizations and stakeholders. The goal was to have IRWM Subregional Subcommittees that represent a fair and balanced cross-section of the subregion's water resource stakeholders. Stakeholders supported formation of three IRWM Subregional Subcommittees, consisting of three representatives from each subregion as follows:

Subregion	Agriculture Representative	Urban Representative	Environmental Representative
North Coast	Broadhurst	Wade	Gillespie
South Coast		Winn & Molnar	Chipping
Inland	Zelinski	Larson	Luft

This task is complete. Subregional Subcommittee participants then proceeded with Task 1.2, definition of the governance structure.

Deliverables:

- Subregional Subcommittee membership list with agency and primary contact information
- Basis and reasoning for Subregional Subcommittee membership including potential future membership needs, if any

Task 1.2 Define Governance Structure

This task will be led by the Subregional Subcommittees and involves achieving final consensus on a modified governance structure for the continued SLO IRWM planning. Reaching consensus will be achieved through the community based WRAC process. The final decision on governance structure is scheduled to occur at the April 2012 WRAC meeting, as summarized in the meeting schedule below. This task involves four meetings, of which three are budgeted under this task. The February 2012 WRAC meeting is budgeted under Task 1.1.

Meeting	Meeting Objective/Decision Point
January 2012 WRAC Meeting	• Solicit stakeholder input and recommendations for a modified governance structure
February 2012 WRAC Meeting	• Continued discussions regarding modified governance structure • Define subregions and identify Subregional Subcommittee representatives (see Task 1.1)
March 2012 WRAC Meeting	• Present modified governance approach and solicit comments
April 2012 WRAC Meeting	• Present modified governance approach and reach consensus

The modified governance is intended to generate greater participation and leadership from agencies other than the District and should help distribute the planning and plan financing responsibilities and improve the long term implementation of the IRWM Plan.

This decision will have a significant impact on the direction of the plan update process, affecting numerous plan standards as described in the first section of the work plan.

This task will proceed in advance of the August 6, 2012 grant award notification and is scheduled to be completed by April 2012.

Deliverables:

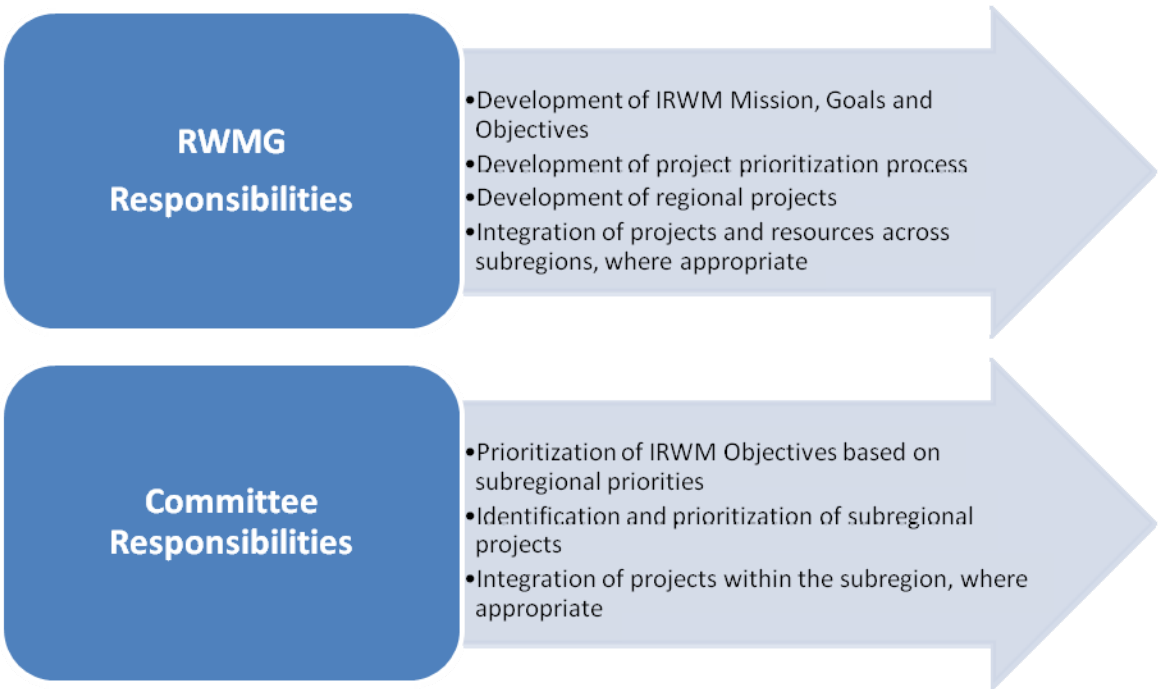
- Definition of and basis for San Luis Obispo IRWM planning governance
- Mapping of San Luis Obispo IRWM planning subregions

Task 1.3 Develop RWMG MOU and Participation Agreements

Following public discussion and stakeholder consensus as described in Tasks 1.1 and 1.2, the modified governance will be documented in a Memorandum of Understanding (MOU) for consideration and approval by the WRAC. The Subregional Subcommittees will be responsible for developing the RWMG MOU and any participation agreements necessary for committed participation in the SLO Region IRWM planning. The MOU and agreements will include the following IRWM planning requirements:

- Description of the governance structure.
- Description of how the governance addresses and ensures various activities, such as public involvement processes.
- Description of the decision-making process and how a decision is vetted with stakeholders, the RWMG, and Subregional Subcommittees.
- Description of the manner in which the governance structure ensures balanced access and opportunity for participation in the IRWM.
- Description of how the governance fosters communication with the different Subregional Subcommittees within the RWMG, with project proponents, with general stakeholders, with neighboring RWMGs, government agencies, and the general public.
- Description of how governance helps ensure implementation of the IRWM Plan in the long-term.
- Explanation of how governance will help ensure coordination with neighboring IRWM efforts, State agencies and Federal agencies.
- Explanation of how the governance structure shows that a collaborative process will be used to establish IRWM Plan objectives.
- Explanation of how the governance structure facilitates interim changes and formal changes to the IRWM Plan.
- Description of the process involved in updating or amending the IRWM Plan.

The Subregional Subcommittees will continue to play a significant role in development of the SLO Region's IRWM Plan. Although the delineation of responsibilities is yet to be determined, a possible delineation of roles and responsibilities for the RWMG versus the Subregional Subcommittee members is depicted in the figure below. The MOU and participation agreements will guarantee a collaborative process at the Subregional Subcommittees and RWMG level.



The final MOU and participation agreements will be the result of discussion and coordination with all stakeholders through two WRAC meetings as listed below. The April and June WRAC meetings are budgeted under Tasks 1.2 and 1.4, respectively. Following consensus and final approval of the MOU and participation agreement, each WRAC agency will be asked to consider executing the MOU as described in Task 1.4.

Meeting	Meeting Objective/Decision Point
April 2012 WRAC Meeting	• Present modified governance approach and reach consensus (see Task 1.2)
May 2012 WRAC Meeting	• Distribute draft MOU and participation agreements and solicit comments
June 2012 WRAC Meeting	• Reach consensus on MOU and participation agreements • Initiate distribution of MOU and participation agreements to WRAC member agency boards and councils for consideration

The MOUs will describe the types of plan changes that would be considered interim or formal changes to the IRWM Plan and how those changes are proposed, considered and approved by the Subregional Subcommittees and RWMG and how the IRWM Plan is updated and amended. Currently, the 2007 IRWM Plan includes an adaptive management ("learn by doing") approach for evaluating plan performance and to adapt the plan as needed to incorporate what has been

learned during the implementation process. The PLAN, DO, CHECK, ACT (PDCA) closed feedback loop is a tool that can be used to assure continuous improvement and adaptive management in integrated regional water resource management. This adaptive management approach is not expected to change in the revised MOU.

Deliverable:

- RWMG MOU and Subregional Subcommittee participation agreements

Task 1.4 Establish RWMG

This task involves identifying the RWMG members and defining the basis for the membership. The Subregional Subcommittees will continue to advise the WRAC on the recommended RWMG membership. As already agreed by the stakeholders and WRAC, the RWMG will continue to be led by the District. The number of RWMG members and requirements for membership is yet to be determined. These decisions will be made by recommendation from the Subregional Subcommittees with approval from the WRAC.

It is anticipated that all WRAC members will be given the opportunity to be RWMG members. The final structure of the RWMG will be a fair and equitable representation of the diverse interests across the SLO Region and will ensure balanced access and opportunity for participation. If the Subregional Subcommittees determine that all appropriate regional groups are not represented on the RWMG, the Subregional Subcommittees will develop a strategy for encouraging the participation necessary. The other representative groups that could be asked to participate may include representatives from the following interests:

- Geographical Subregions (Inland, North Coast, South Coast)
- Environmental
- Agriculture
- Disadvantaged Communities
- Non-governmental Water Purveyor

SLO IRWM planners believe the enhanced governance structure will foster communication with different groups in the region, neighboring RWMGs, the general public, and state agencies.

This task involves at least two meetings and possibly three meetings as noted in the table below. The WRAC agencies and organizations will initiate discussions at the May 2012 meeting regarding RWMG opportunities and requirements. The agencies and organizations will be asked to consider participation in the RWMG with their respective councils or boards. At the June 2012 WRAC meeting, the agencies and organizations will be asked to commit to the RWMG and execution of the MOU.

The Subregional Subcommittees will review the RWMG membership and make a determination of the adequacy of the membership in fulfilling the roles and responsibilities as defined in the MOU for IRWM planning. If the Subregional Subcommittees determine that the RWMG

participants can not meet all of the IRWM planning responsibilities, a recommendation will be made to the WRAC at the July 2012 meeting for soliciting participation from other groups or organizations deemed necessary for the planning or implementation of the SLO IRWM Plan. Following consensus and final approval of the RWMG participants, each representative agency will be asked to execute the RWMG MOU. The May 2012 meeting is budgeted under Task 1.3.

Meeting	Meeting Objective/Decision Point
May 2012 WRAC Meeting	• Initiate distribution of MOU and participation agreements to WRAC member agency boards and councils for consideration (see Task 1.3)
June 2012 WRAC Meeting	• Confirm RWMG participation
July 2012 WRAC Meeting	• Identify gaps in RWMG representation, if any

Signatories to the MOU will be responsible for reviewing IRWM materials and attending meetings, providing feedback, working toward consensus with Subregional Subcommittee members on decisions, and providing data, information and project descriptions to the District as lead agency. RWMG members are responsible for providing information sufficient to meet State guidelines for their regional and subregional projects and programs to be included in the IRWM Plan and participate in the review of the IRWM Plan.

Currently, RWMG members participate in the IRWM plan development process by communication with the District by way of WRAC meetings. At WRAC meetings, RWMG members provide feedback to District staff and vote as a member of the WRAC on recommendations to the RWMG on IRWM Plan items. RWMG members take the IRWM Plan to their governing bodies for adoption. Members provide data and information on projects and programs for which their agency is responsible for inclusion in the IRWM Plan. This communication, coordination and voting process will be considered under Task 1.3 and modified, if necessary.

Deliverables:

- RWMG membership list with agency and primary contact information
- Basis and reasoning for RWMG membership including potential future membership needs, if any

Task 1.5 Compile Governance Section

The *Governance* section of the IRWM Plan Update will be based on information developed in Tasks 1.1 through 1.4. This task involves compiling the information, reviewing and discussing the draft *Governance* section with the RWMG, Subregional Subcommittees, and the WRAC, and finalizing the *Governance* section.

Deliverables:

- Draft *Governance* section that provides a comprehensive description of the San Luis Obispo IRWM RWMG's governance, roles and responsibilities and decision-making process.
- Final *Governance* section

Task 2. Update Region Description

Guidelines Requirement(s)

- *Describe watersheds/water system.*
- *Describe internal boundaries.*
- *Describe water supply and demand projections for at least a 20-year planning horizon.*
- *Describe the current and future (or proposed) water quality conditions. Describe any protection and improvement of water quality within the area of the IRWM Plan. Describe any Basin Plans, Watershed Management Initiatives, and water quality goals and objectives for watersheds in the region. Describe any projects or examples within the region matching water quality to water use.*
- *Describe social and cultural makeup of the regional community.*
- *Explain regional IRWM boundary and why it is an appropriate area for IRWM planning.*
- *Identify neighboring or overlapping IRWM regions.*
- *Describe likely climate change impacts on the region.*

This task involves updating the Region Description section and maps in the existing IRWM Plan for all the above items. The three primary areas of update include:

1. Updating and presenting the IRWM plan information by subregion, when and where appropriate.
2. Incorporating updated regional information from the Proposition 50 funded studies.
3. Incorporating updated regional information from the focused studies identified in this workplan.

As described in the introduction, the SLO Region is improving the IRWM Plan and how the information is developed and presented by delineating three IRWM subregions: the North Coast, South Coast, and Inland subregions. This reorganization of the planning effort will allow focused attention on stakeholders within each subregion in order to promote more focused collaboration by subregion, while continuing to practice broader regional planning when and where appropriate.

Additionally, the subregional approach is expected to allow a greater focus on the needs of Disadvantaged Communities (DAC). The subregions can better identify and meet the needs of their subregions and meet the overall IRWM regional goal to provide targeted support to and encourage participation from DACs.

Task 2.1 Update Region Description

Significant planning progress has been made in the region since the 2007 IRWM Plan that will contribute updated information to the Region Description. These plans include, but are not limited to:

- Data Enhancement Plan
- Flood Management Plan
- Groundwater Banking Plan
- Regional Permitting Plan
- SLO County Master Water Study
- Hydrogeologic Reports for EIRs
- Atascadero Mutual Water Company Master Water Plan
- Grover Beach Master Water Plan
- Heritage Ranch Master Water Plan
- Oceano CSD Master Water Plan
- San Simeon Water System Master Plan
- Cayucos Water Management Plan Updates
- Los Osos Groundwater Basin Management Plan
- Paso Robles Groundwater Basin Management Plan
- Paso Robles Groundwater Basin Resource Capacity Study
- Santa Maria Groundwater Basin Management Area Annual Reports
- Arroyo Grande Urban Water Management Plan (UWMP)
- Cambria UWMP
- Flood Control Zone 3 UWMP
- Nipomo CSD UWMP
- Paso Robles UWMP
- Pismo Beach UWMP
- County Resource Management System Annual Reports
- County Conservation and Open Space Element
- County Land Use and Circulation Element Update
- Cal Poly Master Plan
- City of San Luis Obispo General Plan Update
- Shandon Community Plan
- LAFCO Municipal Service Reviews
- Community Water System Consumer Confidence Reports

Relevant information and data from these plans will be compiled and summarized for incorporation into the Region Description, including updates to the following regional features and conditions:

- Watersheds and water systems
- Internal boundaries

- Water supply and demand projections for at least a 20-year planning horizon, taking into consideration impacts of climate change and drought
- Water quality information
- Basin Plan, TMDLs, and regional board priorities (long-term watershed protection by improving municipal development review and approval, stormwater management improvement through development of hydromodification controls, groundwater recharge area protection, riparian habitat improvement in urban and agricultural areas, and elimination and reduction in pollution from agricultural discharges)
- Watershed flooding
- Ecological Process/Environmental Resources
- Social/cultural/economic information and statistics, including disadvantaged communities and environmental justice concerns
- Major water-related objectives and conflicts

The information will be presented for the North Coast, South Coast and Inland subregions. Subregional Subcommittees will lead the effort for updating the information for each of their subregions. Water infrastructure and other water and environmental features that are shared or cross subregional boundaries will be identified and described. The cross regional and regional information will be developed by the District.

Additionally, this task involves updating existing descriptions of the following for the IRWM region:

- The regional IRWM boundary, the process involved in determining the boundary, and why the region is appropriate as an IRWM region
- Neighboring and overlapping IRWM regions

Task 2.2 Compile Expanded Region Description Information

This work plan includes several focused studies that will contribute new information to the *Region Description* section:

- Task 15 will result in a discussion of likely climate change impacts on the region and its water resources, along with the region's vulnerabilities to climate change.
- Task 18 will provide updated information regarding watershed conditions in the region.
- Tasks 19.1 and 19.2 will provide updated information regarding salt and nutrient needs and conditions in the region.
- Tasks 19.3 and 19.4 will provide groundwater information of the Paso Robles and Santa Maria groundwater basins.
- Task 19.5 will provide recycled water infrastructure feasibility for the region.

The information from the focused studies will not be available for incorporation into the Regional Description until September 2013, therefore, this portion of the Region Description will not be completed until after that information is available. Certain focused study elements

will be completed prior to this and can begin to be integrated into the IRWM Plan update. The SLO Region IRWM Plan compilation process is slated to occur between July and late October 2013, allowing adequate time to incorporate focused planning study results .

Task 2.3 Update and develop new maps in the Region Description

The existing IRWM Plan maps will be reviewed and new maps will be developed to better represent the updated and expanded Region Description. The maps will depict the agency boundaries for water supply, wastewater, flood protection, land use, and locations of disadvantaged communities at the census block level and Native American tribal lands, updated neighboring IRWM approved regions from the Region Acceptance Process, or any characteristics that help communicate the characteristics of the region. The maps will be presented by subregion when most effective for presentation of the information. The Subregional Subcommittees will lead the effort for updating the maps for their subregions.

The maps will be consolidated and presented for the broader IRWM region, where appropriate. The IRWM mapping will aid in the identification of broader regional data gaps, needs and opportunities. The District will lead the effort for updating the regional maps.

Deliverables:

- Updated Subregional and Regional Maps

Task 2.4 Compile Region Description Section

The *Region Description* section of the IRWM Plan Update will be based on information developed in Tasks 2.1 through 2.3. This task involves compiling the information, reviewing and discussing the draft *Region Description* section with the RWMG, Subregional Subcommittees, and the WRAC, and finalizing the *Region Description* section. The information from Task 2.2 will not be available until September 2013. Therefore, the initial presentation of the updated regional information will be made at Workshop No. 1 (WRAC July 2012 meeting). The expanded regional information will presented at Workshop No. 2 (WRAC November 2013 meeting).

Deliverables:

- Draft Updated *Region Description* section that provides a comprehensive description of the San Luis Obispo County including the jurisdictional and physiographic boundaries, water supply/demand and quality information, water infrastructure, land use information, environmental resources, demographic characteristics, and areas susceptible to sea level rise as a result of climate change.
- Final *Region Description* section

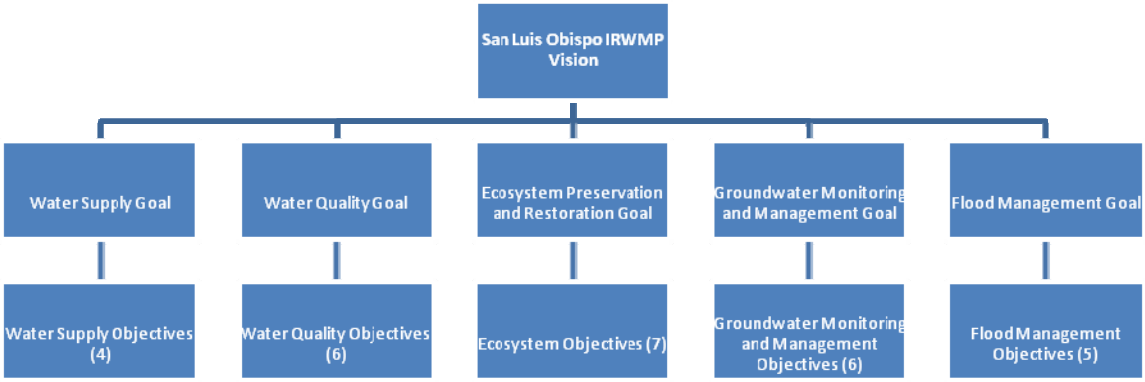
Task 3. Update Plan Objectives

Guidelines Requirement(s)

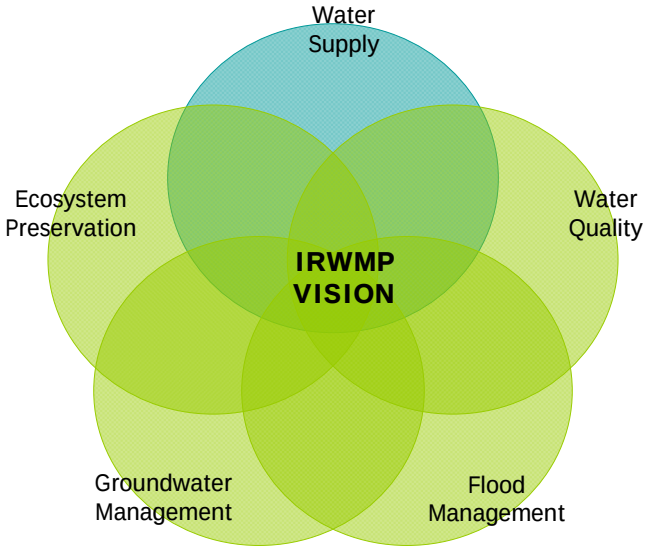
- *Determine IRWM Plan objectives.*
- *Describe the collaborative process and tools used to establish objectives.*

- *Describe metric the IRWM region can use to measure if objectives are being met as the IRWM Plan is implemented.*
- *Explain prioritization of Plan objectives.*

Through a collaborative effort, the San Luis Obispo County region developed a vision, goals and objectives for the entire IRWM planning region as depicted in the figure below.



Although the figure depicts five independent goals established to achieve the vision, there are relationships and synergies between the goals. For example, achieving the flood management objectives will help meet water quality objectives or achieving the water supply objectives will help meet ecosystem objectives. This relationship is best depicted in the following figure.



An updated IRWM vision, goals, and objectives will be developed for the SLO Region through the plan update process, taking into consideration the changed regional conditions and regional priorities. However, the IRWM Plan will be reorganized and presented by subregion to allow the subregions to prioritize the objectives based on their focused needs. This approach will establish goals and expectations for the SLO Region while allowing the subregions to define objectives that will meet the goals based on the subregions issues and opportunities. For example, if the IRWM goal is to protect communities from drought, one subregion may have a greater opportunity to define an objective that prioritizes the development of drought tolerant water recycling supplies while another subregion may have a better opportunity to maximize groundwater storage for drought year use. The subregions will prioritize the objectives based on the subregions critical needs. The greater IRWM responsibility will be to assess the subregional priorities and identify opportunities for integration or regional collaboration. This approach will allow the subregions to focus on their priorities while satisfying the greater IRWM mission and goals.

The current vision statement is:

> ***The San Luis Integrated Regional Water Management Plan seeks to enhance regional cooperation promoting sustainable water resource management while balancing economic, environmental and cultural values, and property rights; recognizing the role of regulatory agencies and the autonomy of individual jurisdictions.***

The San Luis Obispo IRWM Plan established five key regional goals:

1. Water Supply - Improve regional water supply reliability and security, reduce dependence on imported water, reduce water rights disputes and protect watershed communities from drought with a focus on interagency conjunctive use of regional water resources without unfairly burdening communities, neighborhoods or individuals.
2. Water Quality - Protect and improve water quality for beneficial uses consistent with regional interests and the Basin Plan in cooperation with local and state agencies and regional stakeholders without unfairly burdening communities, neighborhoods or individuals.
3. Ecosystem Preservation and Restoration Goal - Protect, enhance and restore the region's natural resources including open spaces; fish, wildlife and migratory bird habitat; special status and native plants; wetlands; estuarine, marine, and coastal ecosystems; streams, lakes, and reservoirs; forests; and agricultural lands without unfairly burdening communities, neighborhoods or individuals.
4. Groundwater Monitoring and Management Goal - Monitor, protect, and improve the regions groundwater through a collaborative approach designed to reduce conflicts without unfairly burdening communities, neighborhoods or individuals.
5. Flood Management Goal - Develop, fund, and implement an integrated, watershed approach to flood management through a collaborative and community supported process without unfairly burdening communities, neighborhoods or individuals.

Each of these goals contained key objectives that established the intent of the IRWM Plan. These goals and objectives were based on the significant water related needs and conflicts in the region. The Subregional Subcommittees will work together to prioritize the objectives and ensure that they are measurable. The Subregional Subcommittees are made up of agriculture, urban and environmental representatives that will collaborate on the prioritization process for their subregion.

The following tasks detail what is required to update the IRWM Plan vision, goals, and objectives.

Task 3.1 Draft Updated Vision, Goals and Objectives

The 2007 IRWM Plan Vision, Goals and Objectives will be reviewed and updated to address the August 2010 IRWM Guidelines, the changed conditions for the SLO Region, and the focused subregional IRWM planning approach.

The updated Vision, Goals and Objectives process will be led by the RWMG in cooperation with the Subregional Subcommittees, the WRAC and other stakeholders. The objectives will be based on the needs and opportunities for the region or resource area while satisfying the IRWM vision and goals. The region may choose to start with the 2007 objectives or not. The objectives will need to be developed to ensure consistency with the following:

- SLO Region IRWM Vision and Goals

- August 2010 IRWM Guidelines
- RWQCB Basin Plan Objectives
- 20x2020 Water Efficiency Goals
- Requirements of CWC §10540(c)
- Changes in the region's conditions and needs as developed in Task 2

Although the Basin Plan Objectives were considered during the 2007 IRWM Plan process, the goals must be revisited to consider the updated Basin Plan. Additionally, the State has since established the goal to reduce water use by 20% per capita by the year 2020. Additional aspects of SBx7-7, such as improving agricultural water use efficiency, must be considered in the revised objectives. The revised objectives must also consider inclusion of the requirements of CWC §10540(c), including:

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

The objectives will also be updated to reflect any objectives for adapting to and mitigating climate change as defined in Task 15. Additionally, the objectives should consider objectives developed in the newly completed studies identified in Tasks 18 and 19.

Finally, any additional documents or changed regional conditions that could help define objectives, such as water management plans and local land use plans, will also be considered in the process of updating objectives.

All objectives established by this process will be measureable and contain metrics that will be used to determine if the objective is being met during implementation of the Plan. Metrics will be quantitative and/or qualitative, depending on the objective.

The Subregional Subcommittees will review the objectives with the RWMG and the WRAC. The draft updated IRWM Plan objectives and metrics will be presented and discussed at the August 2012 WRAC meeting. The updated objectives may also be presented to the individual Boards and Councils of the RWMG or Subregional Subcommittee agencies.

Deliverables:

- Updated SLO Region IRWM planning vision, goals and objectives
- Description of the collaborative process for developing the vision, goals and objectives
- Metrics that provide a basis for measuring progress towards meeting objectives

Task 3.2 Prioritize Objectives

The Subregional Subcommittees will take the lead in prioritizing the objectives for their subregions. The Subregional Subcommittees may consider using the following prioritization tools.

- Tiered or grouped together as one priority for implementation
- Grouped as short-term and long-term priorities for implementation
- Grouped as spatial or temporal priorities for implementation

The draft updated prioritization method will be presented to the RWMG for consensus. Once RWMG and stakeholder input is reviewed and addressed, the method will be revised as needed and the objectives will be prioritized.

The Subregional Subcommittees will review the prioritized objectives with the RWMG and the WRAC. The draft prioritized objectives will be presented and discussed at the September 2012 WRAC meeting. The prioritized objectives may also be presented to the individual Boards and Councils of the RWMG or Subregional Subcommittee agencies.

Deliverables:

- Prioritized Objectives by Subregion
- Description of the collaborative process for prioritizing the objectives

Task 3.3 Compile Updated Objectives Section

The District will compile the prioritized objectives by subregion and identify priorities consistent across the subregions that could be considered regional objectives. Regional objectives may be used to prioritize projects or programs, allowing those projects or programs that meet the regional objectives to be considered higher priority.

This information will be used to develop an updated *Objectives* section that presents the prioritized objectives and their metrics, describes the process for establishing the objectives, and explains the hierarchy of the goals and objectives.

Deliverable:

- Draft updated *Objectives* Section that has support of the RWMG and stakeholders.
- Final *Objectives* Section.

Task 4. Develop Resource Management Strategies Section

Guidelines Requirement(s)

- *Document the process used to consider RMS in the IRWM Plan.*
- *Describe which RMS were considered (include all RMS listed in Table 3 of the Guidelines).*
- *Describe which RMS of those considered would be implemented to achieve the objectives of the IRWM Plan.*
- *Demonstrate how the effects of climate change on the region are factored into its resource management strategies.*

The IRWM Plan currently considers the following Water Management Strategies:

- Water Supply Reliability
- Groundwater Management
- Water Recycling
- Desalination
- Imported Water
- Surface Storage
- Water and Wastewater Treatment
- Water Transfers
- Conjunctive Use
- Water Conservation
- Water Quality Protection and Enhancement
- Stormwater Capture and Management
- NPS Pollution Control
- Flood Management
- Ecosystem Restoration
- Environmental and Habitat Protection and Improvement
- Recreation and Public Access
- Wetlands Enhancement and Creation
- Watershed Planning
- Land Use Planning

These strategies will be revised and refined as part of the Plan update, to ensure that all Resource Management Strategies (RMS) in the Proposition 84 Guidelines are considered for incorporation into the Plan update.

This task involves updating the Water Management Strategies section in the existing Plan to a *Resources Management Strategies* section. The following tasks detail what is required in this effort:

Task 4.1 Document process used to consider RMS in Plan Update

The Subregional Subcommittees will review and consider each of the Resource Management Strategies (RMS) in the California Water Plan Update 2009 (Table 3 of the Guidelines) and document the process (i.e. technical analysis, stakeholder input, etc.) for deciding how applicable each strategy is in meeting IRWM objectives. The Subregional Subcommittees will evaluate the list of Water Management Strategies (WMS) in the existing IRWM Plan against all the RMS in Table 3 of the Guidelines, list the RMS considered, and for each strategy considered, explain the reasoning behind the decision. The decision-making process will include consideration of the Governance, Region Description, and Objectives sections of the updated Plan.

Task 4.2 Identify RMS that will be implemented and identify gaps by Subregion

The Subregional Subcommittees will list which RMS of those considered will be implemented by the projects identified in Task 5 to achieve the objectives of the subregion. The Subregional Subcommittees will review the existing list of projects and newly identified projects against the selected RMS and identify the RMS that will need further development or implementation. The Subregional Subcommittees will solicit input from the RWMG and stakeholders at the October 2012 WRAC workshop to review the selected RMS and identify projects to address the RMS that need further implementation.

The "no regrets" package of resource management strategies identified in Task 15 for responding to climate change impacts and vulnerabilities; watershed management strategies developed in Task 18; salt and nutrient management strategies identified in Task 19; and recycled water opportunities identified in Task 19 will be included in this section when available.

Deliverable:

- RMS Summary by Subregion

Task 4.3 RMS Integration and Regionalization

The RWMG will compile and analyze the RMS information. The RWMG will evaluate the RMS that were identified as needing further implementation to determine if that RMS is being addressed in another subregion, thereby allowing that subregion to remove it from its list of RMS requiring further implementation. If an RMS is identified as requiring further implementation in all subregions, then the RWMG will identify regional projects to address the RMS. Additionally, the RWMG will identify opportunities to integrate projects across the subregions that could be implemented regionally.

This information will be used to develop an updated *Resource Management Strategies* section that describes how the projects will help achieve the IRWM Plan objectives.

Deliverable:

- *Resource Management Strategies* section that identified Resource Management Strategies that will help achieve the Objectives of the IRWM Plan.

Task 5. Prepare Project Review and Selection Section

Guidelines Requirement(s)

- *Procedures for submitting a project to the IRWM Plan*
- *Procedures for review of projects to implement the IRWM Plan*
- *Procedure for communicating the list(s) of selected projects*

This task addresses multiple Program Preferences. This task will ensure regional projects and programs are included in the IRWM Plan. The project review process effectively integrates water management programs and projects. The subregional project review and prioritization process also provides a means for effectively resolving significant water-related conflicts within the subregions. The project review process will consider benefits to disadvantaged and tribal communities, as well as environmental justice considerations, and will especially consider critical water supply and water quality needs of DACs in the region.

The development of the Project Review and Selection section will include the following:

Task 5.1 Document process for submitting a project for inclusion in the IRWM Plan

The RWMG will develop project submittal guidance documentation in the form of a project template to guide project information submittal from project proponents to the subregions. It is anticipated that the project template and guidance will be similar to the documents and process that the region implemented when soliciting planning proposals for this planning grant application. As part of the Plan update, this process will be further defined and formalized to include a procedure for adding projects into the Plan, including specifying the format of the documentation, developing schedules for project solicitation and project review and ranking, and specifying the tools available to assist DAC project proponents with their project submittal.

Task 5.2 Update Project Review Process

The RWMG envisions developing a two stage project review process, consisting of Subregional Subcommittee prioritization based on how the project contributes to subregional objectives in the first stage, and RWMG development of regional programs in the second stage. This process is expected to be effective in identifying projects to meet subregional priorities and maximize opportunities for regional projects and programs.

Additionally, the Subregional Subcommittees will include the following review factors:

A. *How the project is related to resource management strategies*

B. *Technical feasibility of the project*
C. *Specific benefits to critical DAC water issues*
D. *Specific benefits to critical water issues for Native American tribal communities*
E. *Environmental Justice Considerations*
F. *Project Costs and Financing*
G. *Economic Feasibility*
H. *Project Status*
I. *Strategic considerations for IRWM Plan Implementation*
J. *Purposefully implementing projects with multi-benefits*
K. *Contribution of the project in adapting to the effects of climate change*
L. *Contribution of the project in reducing GHG emissions as compared to project alternatives*

The RWMG will collaborate with the Subregional Subcommittees to determine how best to consider these additional review factors in the project review process, including whether various weights should be added to some factors. In addition, the draft updated project review process will be reviewed and discussed at the June 2012 WRAC workshop.

Deliverable:

- Project Review Process

Task 5.3 Update Project List

The Subregional Subcommittees will update the project list in the existing IRWM Plan as part of the Plan update. This task will involve updating and expanding the descriptions of existing projects. Additionally, new projects may be added based on the review of RMS, outreach with DACs and other stakeholders, newly identified projects in updated local plans and focused studies, and coordination with other agencies and organizations. It is anticipated that projects proponents will assist in developing project descriptions that are sufficient for evaluating projects in the project review process. All the projects under consideration will be reviewed and prioritized in accordance with the project review process developed in Task 5.2.

Deliverable:

- Updated and Prioritized Project List by Subregion

Task 5.4 Regional Project List

The RWMG will compile and analyze the updated project lists. The RWMG will evaluate the projects to determine if there is an opportunity for integration of or collaboration projects between subregions. The integration and collaboration process will be similar to the process that was implemented during the planning grant development. The RWMG considered all of the proposals and identified opportunities for integration of resources or collaboration on similar planning activities.

Deliverable:

- Prioritized Regional Project List

Task 5.5 Develop and implement procedure for communicating the list of projects

The RWMG will develop a procedure for communicating the updated prioritized list of projects to stakeholders. It is anticipated that the communications will occur at two levels, subregional focus workshops and broader regional workshops. The RWMG anticipates reviewing and discussing the updated lists at the July and August 2012 WRAC workshops. The RWMG will also begin posting the project list on at least one of the RWMG members' website (update to District link) and providing a hyperlink to the list in all stakeholder communications.

Deliverable:

- IRWM project list posted on the website that provides a comprehensive description of the high priority IRWM projects.

Task 5.6 Compile Project Review and Selection Section

The RWMG will compile information developed in the preceding tasks into a *Project Review and Selection* section.

Deliverable:

- *Project Review and Selection* section that provides a comprehensive description of the San Luis Obispo County IRWM project review process, updated project review criteria, and implementation project lists.

Task 6. Update Impacts and Benefits Section

Guidelines Requirement(s)

- *Include a screening level discussion of the potential impacts and benefits of plan implementation*
- *Clearly state when more detailed project-specific impact and benefit analyses will occur*

This task involves updating the Impacts and Benefits section of the IRWM Plan to discuss the potential impacts and benefits of Plan implementation. The discussion will include both impacts and benefits within the IRWM region; between regions; and those directly affecting DAC, EJ related concerns, and Native American tribal communities. The existing Impacts and Benefits section of the Plan is organized into six subsections including:

- Benefits and Potential Impacts within the Region and in Adjacent Areas
- Advantages of the Regional Plan
- Objectives and Regional Solutions
- Interregional Benefits and Impacts
- Environmental Justice and Disadvantaged Communities
- Impacts and Benefits to Other Resources

The current format allows a thorough presentation of the impacts and benefits of the plan implementation. It is anticipated that a similar format for each subregion will be used for this updated section.

The following tasks detail what is required in this effort.

Task 6.1 Review and update screening-level discussion of impacts and benefits

The Subregional Subcommittees will evaluate the potential benefits and impacts to be gained by implementing the updated project list, based on project information submitted by project proponents. The Subregional Subcommittees will develop a screening level discussion of the potential impacts and benefits of plan implementation. Specific impacts and benefits from individual projects will be measured and tracked on a project-by-project basis, consistent with each project's monitoring and reporting plan. Each project sponsor is responsible for project specific impact analysis as required by CEQA and/or NEPA. Information from project specific CEQA/NEPA analyses will be incorporated into the IRWM Plan if available.

Additionally, the RWMG will evaluate the potential benefits and impacts to be gained by implementing the regional projects developed in Task 5.4. This task will also involve reviewing the presentation of impacts and benefits in the existing Plan and creating a format to organize the impacts and benefits in such a way that will reflect the emphasis of the SLO Region (e.g. by subregional/local benefits, RMS, or objectives).

Task 6.2 Identify and analyze direct impacts and benefits affecting DACs, EJ concerns, and Native American tribal communities

As described in Task 17, the Subregional Subcommittees and RWMG will consult local stakeholders and environmental justice organizations that are actively involved in working with DACs in San Luis Obispo County to identify and analyze potential direct impacts or benefits to DAC/EJ communities from Plan implementation. This task will leverage on the location analysis of DACs conducted in Task 2.3 (Update and develop new maps in the Region Description) to analyze impacts and benefits of projects located in or within the vicinity of DACs to include additional impacts and benefits into the IRWM Plan update. Project specific DAC/EJ impacts and benefits analysis from CEQA/NEPA documents will be incorporated if available.

Task 6.3 Develop benchmark for assessing impacts and benefits

The RWMG will need to update the Impacts and Benefits section as the IRWM Plan is implemented, projects become more defined, and IRWM Plan performance data is gathered. The RWMG and Subregional Subcommittees will coordinate with project sponsors to clearly describe in the Plan update when a more detailed project-specific impact and benefit analyses will occur, and clarify that the more detailed analysis will be conducted prior to any implementation activity.

The benchmark for assessing benefits and impacts of the IRWM Plan process and proposed projects will be linked to the goals and objectives established in Task 3. The benchmark may be objective or subjective. For example, a flood protection project may provide a reduction in

downstream flows. This reduction may be equivalent to providing 10% of the 100-year flood protection solution (objective). The same project may also provide significant benefits to gaining consensus on a 100-year flood protection project (subjective). The RWMG will work with the Subregional Subcommittees to develop appropriate objective and subjective benchmarks for assessing impacts and benefits.

Task 6.4 Compile Impacts and Benefits Section

The RWMG will compile information developed in the preceding tasks into an *Impacts and Benefits* section.

Deliverable:

- *Impacts and Benefits* section that identifies potential impacts and benefits associated with IRWM Plan implementation, the timeline for preparing project-specific impact and benefit analyses, and benchmarks for assessing the *Impacts and Benefits* section

Task 7. Update Plan Performance and Monitoring Section

Guidelines Requirement(s)

- *Explain whom or what group within the RWMG will be responsible for IRWM implementation evaluation.*
- *List the frequency of evaluating the RWMG's performance at implementing projects in the IRWM Plan.*
- *Explain how IRWM implementation will be tracked with a Data Management System (DMS) and who will be responsible for maintaining the DMS.*
- *Discuss how findings or "lessons learned" from project-specific monitoring efforts will be used to improve the RWMG's ability to implement future projects in the IRWM Plan.*
- *Identify who has the primary responsibility for development of the project-specific monitoring plans and who is responsible for project-specific monitoring activities.*
- *Specify the stage of project development that a project-specific monitoring plan will be prepared.*
- *Provide an explanation of typically required contents of a project-specific monitoring plan including:*
    - *Clearly and concisely (in a table format) describe what is being monitored for each project. Examples include monitoring for water quality, water depth, flood frequency, and effects the project may have on habitat or particular species (before and after construction).*
    - *Measures to remedy or react to problems encountered during monitoring. An example would be to coordinate with the Department of Fish and Game if a species or its habitat is adversely impacted during construction or after implementation of a project.*
    - *Location of monitoring*
    - *Monitoring frequency*
    - *Monitoring protocols/methodologies, including who will perform the monitoring*

- *DMS or procedures to keep track of what is monitored. Each project's monitoring plan will also need to address how the data collected will be or can be incorporated into Statewide databases. Note that standards and guidance related to the integration of data into Statewide databases is included in Data Management Standard.*
- *Procedures to ensure the monitoring schedule is maintained and that adequate resources (funding) are available to maintain monitoring of the project throughout the scheduled monitoring timeframe*

Per PRC 75026.(a), all IRWM Plans "shall include performance measures and monitoring to document progress towards meeting plan objectives." Plan Performance and Monitoring Standards ensure that:

- The SLO Region is efficiently making progress towards meeting the objectives in the IRWM Plan.
- The SLO Region is implementing projects listed in the IRWM Plan.
- Each project in the IRWM Plan is monitored to comply with all applicable rules, laws, and permit requirements.

With DWR Proposition 50 funding, the District completed the Data Enhancement Plan in December 2008. The Data Enhancement Plan was a regional water monitoring program designed to provide data for planning, design, and operational purposes, yet it was also designed to be flexible and to change over time. This is not necessarily contradictory. Rather, it implies that regional water monitoring program data will be frequently interpreted to identify monitoring sites that might be dropped from the network or sampled less frequently, as well as identifying spatial gaps or the need for more frequent data collection. The design also recognizes that there will continue to be improvements in instrumentation that will allow for more in-situ monitoring and the collection of more data by remote sensing. New technologies will be incorporated into the regional water monitoring program when they are ready for operational deployment.

The existing regional water resources data collection program will be the basis for monitoring plan performance. The regional water monitoring program focuses on monitoring efforts to determine conditions and trends in streams, lakes and reservoirs, groundwater and precipitation for planning, development, and operational purposes. The program establishes the water resource data collection network, the kinds of data to be collected and the reasons for collecting data. The program is developed to answer the questions of what to measure, where to measure and why.

The challenge for the RWMG, responsible for plan performance and monitoring, is to know when the information derived from a monitoring program is sufficient to act upon, as well as what action to take. Additionally, there are problems that will not be identified and

environmental responses to management actions that will not be tracked simply because they happen at a smaller scale than the regional water monitoring program is designed to detect. Monitoring at this finer scale in small rivers, lakes, reservoirs, local ground water aquifers, and in smaller watersheds will continue to be needed and will be the primary responsibility of particular agencies.

The following tasks detail what is required to develop an IRWM Plan performance and monitoring program that builds upon the Data Enhancement Plan to measure plan performance and adapt and modify the plan, if deemed necessary to meet the objectives.

Task 7.1 Review and update institutional structure for IRWM implementation evaluation
This task involves reviewing the effectiveness of the governance structure in terms of conducting IRWM Plan assessment, including designation of responsibilities and responsible parties, the frequency of assessment at both the IRWM Plan and project level, and the frequency of evaluating the performance of the IRWM Plan.

Task 7.2 Adapt Regional Water Resources Data Collection Program to monitor IRWM Plan performance
This task involves adapting the Regional Water Resources Data Collection Program established in the Data Enhancement Plan to meet the plan performance assessment needs of the RWMG. The data program will provide the information to allow an assessment of the conditions and trends of the water resources. Significant changes in conditions in the region or the understanding of the region may necessitate updating resource management strategies or objectives. Changes maybe include more effects of climate change, development of new tools, and new information on climate change. Project implementation may also result in significant changes. The RWMG will develop data triggers derived from the monitoring program that may require a review and potential action. The type of action and party responsible for the action would be dependent on the condition. The process for evaluating new information and conditions and determining how to respond will be included in the Plan Performance and Monitoring section.

Task 7.3 Explain how IRWM implementation will be tracked with a Data Management System (DMS) and who will be responsible for maintaining the DMS
The RWMG will work with project proponents to develop a mechanism for assessing IRWM Plan performance in contributing to priorities and objectives. The RWMG will develop methods for maintaining an IRWM project database with project information, progress updates, and lessons learned.

Task 7.4: Draft Plan Performance and Monitoring Program
The RWMG will develop a plan performance and monitoring program that addresses:

- Responsibility for implementation evaluation
- Frequency of evaluation
- Data management system (DMS) tracking and maintenance

- Conducting "lessons learned" evaluations to improve plan performance
- Responsibility for project-specific monitoring
- Triggers for requiring a project-specific monitoring plan
- Typical contents of a project-specific monitoring plan

The "lessons learned" evaluations will be used to determine whether amendments to the updated IRWM Plan are appropriate. The draft plan performance and monitoring program will be developed in collaboration with the Subregional Subcommittees. The program will also be presented and discussed at the December 2012 WRAC workshop.

The process for amending the plan will be described in the Governance section.

Deliverable:

- *Plan Performance and Monitoring Section* that describes the procedure for evaluating plan implementation progress, including measures of performance, monitoring systems, and methods to adapt the IRWM Plan and its projects based on the findings of the evaluation, and describes funding considerations of these efforts.

Task 8. Update Data Management Section

Guidelines Requirement(s)

- *Provide a brief overview of data needs within the IRWM region*
- *Describe typical data collection techniques*
- *Describe how stakeholder contribute data to a DMS*
- *Identify the entity responsible for maintaining data in the DMS*
- *Describe the validation or quality assurance/quality control measures that will be implemented by the RWMG for data generated and submitted for inclusion into the DMS.*
- *Explain how data collected for IRWM project implementation will be transferred or shared between members of the RWMG and other interested parties throughout the IRWM region, including local, State and federal agencies.*
- *Explain how the DMS supports the RWMG's efforts to share collected data*
- *Outline how the data saved in the DMS will be distributed and remain compatible with State databases.*

As described in the Data Enhancement Plan, managers of water resources systems need to know what is taking place in their systems, both over time and over space. Monitoring provides information on the state of the system. The process of water resources monitoring is more than just measuring system attributes, collecting, storing, analyzing and publishing the measured data, and then acting on the results. It is a sequence of related activities that starts with the identification of information needs, and ends with the use of the information. This section of

the IRWM Plan is to ensure that the collected regional data is stored, presented, and shared in a manner that allows for maximum use of the data across the region.

The following tasks detail what is required to develop an IRWM Plan data management program that builds upon the Data Enhancement Plan to fully meet the current standards to describe the process for data collection, storage and dissemination to IRWM participants, stakeholders, the public, and the State. The implementation of the Data Management System is not included within these scope tasks.

Task 8.1: Review Data Needs

The RWMG will identify data needs within the SLO Region based on the IRWM Plan objectives, prioritized project list, and plan performance and monitoring program. The RWMG will consider the significant data management information developed in the Data Enhancement Plan and will specify typical data collection techniques in the region through discussions amongst the RWMG, Subregional Subcommittees, project proponents and stakeholders. The RWMG will identify data collection activities and opportunities for collaboration of the neighboring IRWM regions, including consideration of the data collection efforts that will result from Task 18 (Watershed Management Planning) and Task 19 (Salt and Nutrient Management Planning and Reuse/Recycled Water Planning). Lastly, the RWMG will also review the data formatting and procedural standards for State databases (i.e., SWAMP, GAMA, and CERES) so that the RWMG understands the linkages between IRWM region's data and the various State data programs, and future data submittals from the RWMG to the State databases will meet State database requirements for integration.

Deliverable:

- Technical memorandum of data needs for the region

Task 8.2 Assess Available Data Programs

The RWMG will use the information developed in Task 8.1 to assess available data management systems (DMSs). Different options that will be considered will be those used by neighboring IRWM regions, off-the-shelf project management applications that enable data sharing and customized web-based applications. The systems will be assessed for their ability to receive a variety of data from different sources, implementation and maintenance requirements, their ability to make data available to other parties, cost, and other factors. The purpose of the assessment will be to identify an effective and efficient DMS that supports the data needs of the region, provides for making data accessible to stakeholders, neighboring IRWM regions, and the State, and can be readily managed by the RWMG.

The DMS will need to consider the integration of data from the numerous existing local data management systems currently in place in the Region, including:

Data Program	Data Management/Sharing System
San Luis Obispo County Recording Rain Gauge Program	http://www.slocountywater.org/site/Water%20Resources/Data/maps/precipitation.htm
San Luis Obispo County Volunteer Precipitation Program	www.slocountywater.org/site/Water%20Resources/Data/maps/precipitation-active-volunteer.htm
San Luis Obispo County ALERT	www.SLOCountyWater.org/site/Water Resources/Data/maps/alert
California Irrigation Management Information System (CIMIS)	http://www.cimis.water.ca.gov
National Weather Service Cooperative Observer Program (COOP)	http://www.nws.noaa.gov/om/coop/
Citizens Weather Observer Program	www.wxqa.com
San Luis Obispo County Stream Gauges	http://www.slocountywater.org/site/Water%20Resources/Data/maps/stream-flow.htm
San Luis Obispo Science and Ecosystem Alliance (SLOSEA)	http://www.slosea.org

Deliverable:

- Selection of a DMS

Task 8.3: Establish DMS Protocol

Once data needs are evaluated and a DMS is selected, the RWMG can establish the DMS Protocol, including:

- Data collection techniques
- Description of how stakeholders contribute to a DMS
- Entity responsible for maintaining a DMS
- Validation and quality assurance/ quality control measures for data
- Data sharing and collection protocols
- Compatibility with State databases

The draft DMS protocol will be developed in collaboration with the Subregional Subcommittees. It will also be reviewed and discussed at the February 2013 WRAC workshop.

Deliverable:

- Updated *Data Management* Section that provides a comprehensive description of the DMS structure, roles and responsibilities, data sharing procedures, steps taken to ensure that data is compatible with State databases, and funding considerations of these efforts.

Task 9. Update Financing Section

Guidelines Requirement(s)

- *Provide program-level description of the sources of funding, which will be utilized for the development and ongoing funding of the IRWM Plan.*
- *Describe the potential funding sources for projects and programs that implement the IRWM Plan.*
- *Discuss the potential sources of funding for project O&M.*
- *Indicate the certainty and longevity of the funding sources.*
- *Include explanatory text that would help a stakeholder understand how the IRWM Plan would be financed.*

The 2007 IRWM Plan will be updated to include the components of the revised Finance Standard, per the August 2010 IRWM Guidelines. Financing must be considered on a programmatic level and documented in a transparent manner to project stakeholders. Since funding for IRWM planning and implementation projects will come from multiple sources, these sources must be clearly documented so that the RWMG and stakeholders can clearly understand how the funding pieces fit together and how the plan will be implemented. There are many funding sources, including:

- Ratepayers
- Operating funds
- Water Enterprise funds
- Special taxes, assessments, and fees
- State or federal grants and loans
- Private loans
- Local bonds

Task 9.1: Update IRWMP Finance Section and Finance Table

The IRWM Plan finance section will include a program-level description of the sources of funding, which will be utilized for the development and ongoing funding of the IRWM Plan. It will also include potential funding sources for projects and programs that implement the IRWM Plan. Many of the funding sources in the existing IRWM Plan are no longer current and need to be updated as part of this task. The RWMG will identify program-level sources of funding that will be utilized for ongoing IRWM planning and plan maintenance.

The Subregional Subcommittees will work with project proponents to update the list of funding sources for projects and programs to implement the IRWM Plan. Most of the funding for implementing projects and programs comes from a combination of funding sources such as capital improvement programs, rate/revenue user charges, and service connection fees. Operation and maintenance (O&M) funding sources include water/wastewater/stormwater utility customer charges. The certainty and longevity of these funds will be described, as for

State and federal funding sources. This information will be summarized in a finance table that will include the following components:

- Activity Description
- Approximate Total Cost
- Funding Source and Percentage of Total Cost
- Funding Certainty, Status, and Longevity (including status of grant agreement and date of submittal)
- O&M Finance Source
- O&M Finance Certainty

If the project sponsor is targeting a State grant program to fund an implementation project, this section will include a discussion of whether the funding has been secured via a grant award with the State and the status of associated grant agreement, and whether an application for funding has or will be submitted at a future date.

The draft update Finance Section will be reviewed and discussed at the November 2012 WRAC workshop.

Deliverable:

- Updated *Finance Section and Finance Table* that describes the sources of funding identified for IRWM planning and implementation and the certainty and longevity of this funding sources

Task 10. Update Technical Analysis Section

Guidelines Requirement(s)

- *Describe the technical information sources and/or data sets used to develop the water management needs in the IRWM Plan. Explain why this technical information is representative or adequate for developing the IRWM Plan.*
- *Identify data gaps where additional monitoring or studies are needed, and describe how the Plan will help bridge these data gaps.*
- *Describe studies, models, or other technical methodologies used to analyze the technical information and data sets. Explain how this information aid the RWMG's and stakeholders' understanding of the water management picture for the period of the planning horizon.*

By the time the IRWM Plan is updated, over five years will have passed since the 2007 version of the Plan was adopted. Additionally, the Data Enhancement Plan was finalized in 2008. Much will have changed during this period and it is essential that the latest technical information, analyses, and methods be incorporated into the Plan. The Task 10 scope is focused on the

development of comprehensive technical informational sources and data sets, and existing analyses of these.

Task 10.1: Develop Technical Information Source Matrix

A Technical Information Source Matrix will be developed which contains the following information:

- Data sources/ data sets
- Adequacy of data
- Relevancy of data

A significant source of data will come from the 2008 Data Enhancement Plan. The plan includes a summary of the following water resource data:

- Meteorological Data
    - Precipitation
    - Evaporation
- Surface Water Data
    - Water levels
    - Discharge / Flow
- Groundwater Data
    - Water levels
    - Geologic Data and Well Logs
- Water Use Data
- Water Quality Data
    - Sampling Surface Water
    - Sampling Groundwater

An additional source of information that will be incorporated into the IRWM Plan is the 2012 County Master Water Study, which identifies technical analyses performed throughout the SLO Region and acts as an inventory of analyses and results. The plans utilized in the Master Water Study include but aren't limited to master water plans, hydrogeologic reports, basin management plans, annual reports, and community plans.

Additionally, climate change data will be developed through Task 15 and data generated from the studies included in Tasks 18 and 19 will be incorporated when available.

Deliverable:

- Technical Information Source Matrix

Task 10.2: Identify Data Gaps

The Subregional Subcommittees will identify data gaps and areas where additional monitoring or studies are needed. This will include working with project proponents to identify data gaps and reviewing current information to ensure that it accurately reflects current and anticipated conditions.

The RWMG will evaluate the subregional data gaps to identify opportunities for regional monitoring or studies to address the data gaps. The data gap analysis will consider the data gaps identified in the Data Enhancement Plan and summarized in the table below.

	Water Resources Planning	Flood Management and Planning
Precipitation		
Recording Rain Gauges	12-15*	0
Storage Rain Gauges	30-37*	0
Real-Time Rain Gauges	0	4
Evaporation		
Evaporation Pans or Weather Stations	2	0
Streams		
Gauge Sites (with discharge)	7-9	0
Real-time Stage-only Gauge Sites	0	6
Wetlands & Estuaries		
Stage Gauges	0	0
Reservoirs		
Stage Gauges	0	0
Groundwater		
Wells	75	0

* Depending on the gauge placement, one gauge may meet multiple needs.

Deliverable:

- List and description of subregional and regional data gaps

Task 10.3: Develop Technical Analyses and Methods

The RWMG will expand the matrix developed in Task 10.1 to include information on how the data was analyzed, including:

- Function of technical analysis
- Outcome of technical analysis
- Certainty

- Application of outcomes on the planning horizon

As described in the Data Enhancement Plan, most water resource data analysis falls into one of four categories:

1. The quantity of water supplies;
2. The quantity of water demands;
3. The quality of water for human consumption and use; and
4. The quality of water for environmental uses.

The following table links the purpose of a water resource data collection program to the analysis required to support each purpose. With an understanding of both the quantity and quality of water supplies/demands over time, the RWMG, local agencies water managers, designers, construction staff, environmental assessors, planners, researchers and the general public will be able to adequately manage the region's water resources.

Purposes	Analysis of Water Resources			
	The quantity of water supplies	The quantity of water demands	The quality of water for human consumption and use	The quality of water for environmental uses
Planning Purposes				
- Water Resources Planning	■	■	■	■
- Flood Management and Planning	■	▫	▫	▫
Development Purposes				
- Water Supply Network Design	■	■	■	▫
- Transportation Infrastructure Design	■	▫	▫	□
- Wastewater Collection Design	■	▫	▫	■
- Drainage Design	■	▫	▫	□
- Flood Control Design	■	▫	▫	□
- Storm Water Management	■	▫	▫	■
Operational Purposes				
- Flood Warning Systems	■	▫	▫	□
- Reservoir Operations	■	□	□	■
- Irrigation System Management	■	▫	■	▫
- Water Treatment Management	■	■	■	■

Note: ■ - Primary Analysis
□ - Supplementary Analysis
▫ - n/a

Data that supports every category of water resources analysis is not necessarily needed to satisfy each water resources data collection purpose. For example, to properly manage and plan for floods, only water data quantifying the supplies of water are needed. Furthermore, there are types of data that are essential to conduct an adequate analysis to meet the purpose, and others that are supplementary (or helpful) in nature, but are not themselves essential.

Deliverable:

- Summary matrix of data sources, technical analyses performed, and outcomes and uses the analyses

Task 10.4: Prepare Updated Technical Analysis Section
All of the information noted above will be brought together into the updated Technical Analysis Sections of the revised IRWM Plan.

Deliverable:

- Updated *Technical Analysis* Section that describes the technical analyses conducted and the outcomes of the analyses

Task 11. Update Relation to Local Water Planning Section

Guidelines Requirement(s)

- *Describe how the RWMG has or will coordinate its water management planning activities to address or incorporate member actions related to local water planning.*

The 2007 IRWM Plan was developed in coordination with local water agencies and the planning documents that have been produced for the SLO Region. These include UWMPs, and other plans covering a number of areas such as recycled water, groundwater management, water resources, flood protection and environmental enhancement. The relevance of these documents to the IRWM Plan is discussed and summarized in the existing IRWM Plan.

Task 11.1 Update description of IRWM Plan relationship with local planning documents
The Subregional Subcommittees will consolidate the latest water management planning activities in the subregion into the IRWM Plan. This will be accomplished through contacts with local agencies and reviews of updated planning documents (e.g. groundwater management plans, UWMPs, water supply assessments, general plans, stormwater management plans, etc.) to ensure local resource management plans are adequately incorporated into the IRWM Plan and identify opportunities for developing integrated water management programs and projects. Climate change adaptation and mitigation strategies that are identified in Task 15 (Climate Change Analysis) will be incorporated into the update.

Deliverable:

- Updated *Relation to Local Water Planning* Section

Task 12. Update Relation to Local Land Use Planning Section

Guidelines Requirement(s)

- *Describe the current relationship between local land use planning entities and water management entities. Describe how water management input is considered in land use decisions and vice-versa.*
- *Describe future efforts in the process of establishing a proactive relationship between land use planning and water management*

This task involves updating the *Relation to Local Land Use Planning* section in the IRWM Plan. Land use agency involvement in the IRWM Plan is currently coordinated through participation of local land use agency representatives at WRAC meetings and the project solicitation process. With the modified presentation of the IRWM information, the Subregional Subcommittees can more closely coordinate with land use agencies in their subregions.

The RWMG recognizes the need to link water system, water quality, and flood protection planning with land use planning within cities and the county to develop integrated strategies to address the impacts of climate change (e.g. increased flooding and variability of flooding). These may include encouraging adoption of the Ahwahnee Water Principles for Resource Efficient land use into local zoning codes, planning codes, specific plans or general plan elements; use of Low Impact Development (LID) as a planning tool; and development of watershed management plans integrating land use policies and water management policies.

This work will address the Program Preference to effectively integrate water management with land use planning.

The update of the *Relation to Local Land Use Planning* section will include the following:

Task 12.1 Identify links between the IRWM Plan and local land use planning
The Subregional Subcommittees will identify objectives, resource management strategies, and projects that have a linkage with local land use planning. This effort will include strategies for adapting to climate change and, potentially, offset climate change impacts. Many local land use agencies are already incorporating strategies for addressing climate change.

Task 12.2 Describe the current relationship between local land use planning entities and water management entities
The Subregional Subcommittees will describe how water management and land use planning entities currently interact through participation by land use planners in the WRAC and IRWM planning and identify opportunities for enhanced coordination. As shown in the table below, many of the cities and communities participate in the WRAC. The Subregional Subcommittees

will be responsible for encouraging participation or ensuring those communities' needs are adequately considered and addressed in the IRWM Plan.

WRAC Member Agencies	
Coastal San Luis Resource Conservation District	Upper-Salinas Las Tablas Resource Conservation District
City of Arroyo Grande	San Simeon CSD
City of Atascadero	San Miguel CSD
City of Grover Beach	Templeton CSD
City of Morro Bay	Oceano CSD
City of Paso Robles	Nipomo CSD
City of Pismo Beach	Los Osos CSD
City of San Luis Obispo	Cambria CSD
California Men's Colony	Heritage Ranch CSD
Atascadero Mutual Water Company	Supervisorial District Representatives (5)
Camp San Luis Obispo	Golden State Water Company
Cuesta College	County Farm Bureau
Environmental At-Large (3)	Agriculture At-Large (2)
Development At-Large (1)	

Task 12.3 Describe future efforts to establish a proactive relationship between land use planning and water management

Based on the potential linkages between the IRWM Plan and land use planning and the existing relationship between water management and land use planning entities, the Subregional Subcommittees will identify opportunities for improving the relationship and information communication, as well as opportunities for communicating the linkages identified in Task 12.1 to local land use agencies.

Additionally, the Flood Management Plan developed by the District was developed as a guide to local land use agencies for implementing flood control projects. The objective of the guide was to identify several of the most significant constraints affecting the ability to implement flood control projects in the SLO Region and to propose methods and strategies to address the challenges. The relationship and coordination opportunities identified in the Flood Management Plan will be addressed in this section of the IRWM Plan. These opportunities will be evaluated and prioritized in collaboration with the RWMG and WRAC. The result of this evaluation will be included in the updated Relation to Local Land Use Planning section.

Deliverable:

- Updated *Relation to Local Land Use Planning* Section that describes how the RWMG and Subregional Subcommittees will improve coordination of planning efforts with local land use agencies

Task 13. Update Stakeholder Involvement Section

Guidelines Requirement(s)

- *List the stakeholders participating in the IRWM planning effort.*
- *Describe the processes that provide outreach and an opportunity to participate in plan development and implementation.*
- *Discuss how DACs in the region have been identified and what efforts have been/will be taken to include them in the RWMG.*
- *Account for technology and information barriers to stakeholder participation.*
- *Describe decision making process, the committees and groups, and how stakeholders can provide input to the process.*
- *Describe how the stakeholders necessary to meet Plan objectives are involved in Plan activities or are being invited to participate in Plan activities.*
- *Discuss what mechanisms the Plan includes that describe how stakeholders not currently involved in the Plan will be invited to participate.*

This task involves improving upon the existing *Stakeholder Involvement* process and section in the Plan update to identify stakeholders included in developing the IRWM Plan, the manner in which stakeholder representatives of the SLO Region are identified, how they participate in IRWM Plan development and implementation, and how stakeholders become engaged in water management decision making.

This task will update the public process that provides outreach and opportunity to participate in the IRWM Plan development and implementation to the appropriate agencies and stakeholders. The RWMG and Subregional Subcommittees strive to identify and provide outreach to the wide variety of potential IRWM stakeholders including:

- Wholesale and retail water purveyors
- Wastewater agencies
- Flood control agencies
- Municipal and county governments and special districts
- Electrical corporations
- Native American tribes
- Self-supplied water users
- Environmental stewardship organizations
- Community organizations
- Industry organizations State, federal, and regional agencies or universities

- DAC members
- Any other interested group appropriate to the region

The RWMG and Subregional Subcommittees will provide outreach to and encourage participation of interested stakeholders in the IRWM Plan update process, as well as in future project/program solicitation rounds.

As described in the Introduction, the region is recommending the IRWM Plan be structured with three subregional delineations. This reorganization of the planning effort will allow focused attention on stakeholders within each subregion in order to promote more focused collaboration by subregion, while continuing to practice broader regional planning when and where appropriate.

Task 13.1 Review and Update List of Stakeholders and DACs

The RWMG and Subregional Subcommittees, in cooperation with the WRAC, will update the list of currently engaged stakeholders, as well as identify potential new stakeholders with a particular focus on DACs, Native American tribes, and underrepresented stakeholders (see Task 17).

The 2010 census and demographic data will be utilized to identify underrepresented stakeholders.

Deliverables:

- Updated list of stakeholders
- Updated list of DACs
- Description of how DACs are identified (see Task 17)

Task 13.2 Create a Communications Plan

Following the establishment of the *Governance* process, the RWMG and Subregional Subcommittees will develop a Communications Plan. The plan will clearly describe the subregions, subregion-to-RWMG decision making process, and how stakeholder groups will be identified, informed, invited, and involved in the IRWM Plan development and implementation subregionally and regionally. The plan will provide specific processes for coordination with other IRWM plans and federal and state agencies, and will provide an outreach strategy for recruiting additional stakeholders with a particular focus on DACs, Native American tribes, and underrepresented interest groups (see Task 17).

Each subregion should consider the affect of technology and information barriers on participation (e.g. language barrier, apathy, limited resources, ineffective communication methods) and determine the best strategy to overcome those obstacles. Each subregion will describe mechanisms by which interested parties can be invited to participate and how stakeholders can provide input to the IRWM process.

The RWMG will compile the information to develop the Communications Plan, which will be used as the basis for the *Stakeholder Involvement* Section update in compliance with the DWR Guidelines/ IRWM Plan Standards. The draft Communications Plan will be presented at the October 2012 WRAC meeting for review and comment before it is incorporated into the IRWM Plan.

Deliverable:

- Communications Plan

Task 13.3 Compile Updated Stakeholder Involvement Section

The *Stakeholder Involvement* section of the IRWM Plan Update will be based on information developed in Tasks 13.1 and 13.2. This task involves compiling the information, reviewing and discussing the draft *Stakeholder Involvement* section with the RWMG, Subregional Subcommittees, and the WRAC, and finalizing the *Stakeholder Involvement* section.

Deliverables:

- Draft *Stakeholder Involvement* section
- Final *Stakeholder Involvement* section

Task 14. Update Coordination Section

Guidelines Requirement(s)

- *Identify the process for coordination of projects and activities with local participants and stakeholders.*
- *Identify neighboring IRWM efforts and describe the coordination between the various planning efforts.*

The coordination outlined in this task, as well as ongoing coordination within the region and with other regions, meets the Program Preference to effectively resolve significant water-related conflicts within or between regions.

Task 14.1 Update Coordination Section to ensure consistency with Guidelines

The RWMG will update the Coordination section to describe current coordination activities within the region, identification of and coordination with neighboring IRWM regions, and coordination with agencies. The RWMG will review this section with Subregional Subcommittees, neighboring IRWM regions, and agencies such as DWR and the RWQCB. The RWMG has been effective in coordinating with stakeholders and local, regional, and federal agencies on IRWM planning and implementation.

Deliverable:

- Updated *Coordination* section

Task 15. Perform Climate Change Analyses

Guidelines Requirement(s)

- *Describe, consider, and address the effects of climate change on the region and disclose, consider, and reduce when possible GHG emissions when developing and implementing projects.*
- *Identify climate change impacts and address adapting to changes in the amount, intensity, timing, quality and variability of runoff and recharge.*
- *Consider the effects of sea level rise on water supply conditions and identify suitable adaptation measures.*
- *Describe policies and procedures that promote adaptive management.*

As noted in the California Water Plan Update 2009, the effect of climate change on floods in the Central Coast region could be significant. With less total rainfall and higher mean annual temperatures, watersheds could become more susceptible to wildfires, and the consequent loss of vegetative cover could lead to higher storm runoff.

Sea level rise is also anticipated to affect the Central Coast Hydrologic Region. Seawater intrusion into groundwater basins will be exacerbated by a sea level rise because the freshwater/saltwater transition zone would move inland under increased pressure from the sea. The region also needs to address anticipated changes in the amount, intensity, timing, quality and variability of runoff and recharge.

This task will involve development of a new section *Climate Change* to assess regional vulnerabilities to climate change, prioritize those vulnerabilities, and develop a plan for analyzing those vulnerabilities. This work element addresses the Statewide Priority for climate change response actions.

Task 15.1 Assess climate change impacts and regional vulnerabilities

As described in the introduction, a collaborative effort by the GEOS Institute and Local Government Commission, funded by the Kresge Foundation, resulted in two valuable climate change resources for the region. The two reports were titled Projected Future Climatic and Ecological Conditions in San Luis Obispo County, April 2010, and Integrated Climate Change Adaptation Planning in San Luis Obispo County, November 2010. These two reports form the basis for updating climate change conditions and assessing climate change vulnerabilities in the SLO Region IRWM Plan.

Changes to the local climate are likely to include more frequent and intense storms and floods, extended drought, increased wildfire, and more heat waves. The local communities in the County will need to plan for such changes in order to prevent potentially catastrophic consequences.

The reports provide SLO Region community members and decision-makers with local climate change projections that are presented in a way that can help them make educated long-term planning decisions. As stated in the report, climate change presents the region with a serious challenge in planning for the future. Current planning strategies rely on historical data to anticipate future conditions. Due to climate change and its associated impacts, however, the future is no longer expected to resemble the past. The projections and planning approaches presented in the two reports will guide the IRWM planners when addressing climate change in the IRWM Plan Update.

The projections provided in the Projected Future Climatic and Ecological Conditions in San Luis Obispo County report were intended to form the foundation for San Luis Obispo County adaptation planning for climate change (ClimateWise Program). The ClimateWise program, strives to build co-beneficial planning strategies that are science-based, are developed by local community members, and increase the resilience of both human and natural communities to climate change in a cohesive manner. The process took place in a series of workshops involving experts in the following sectors:

- Natural ecosystems (both terrestrial and aquatic)
- Built (infrastructure, culverts, etc.)
- Human (health, emergency response, etc.)
- Economic (agriculture, business, etc.) and
- Cultural (Native American tribal customs and rights, other culturally distinct local communities).

The ClimateWise program was structured to begin the planning process in local communities, but then to “scale up” management strategies to the state and federal level by identifying needed changes in policy and governance structure. During the local planning process, experts from different sectors identified barriers to sound management, allowing planners to address these limiting factors by educating lawmakers and influencing policy decisions.

The RWMG will utilize the significant climate change work completed in the area and include in the IRWM Plan update an assessment of the region’s vulnerability to the long-term increased risk and uncertainty associated with climate change. The assessment will utilize the qualitative checklist assessment in the *Climate Change Handbook for Regional Water Planning*. The list identifies potential impacts in the following categories:

- Water Demand
- Water Supply
- Water Quality
- Sea Level Rise
- Flooding
- Ecosystem and Habitat Vulnerability

- Hydropower

The RWMG will also coordinate with the Subregional Subcommittees to identify vulnerable infrastructure based on agency assessments, and provide a summary list of infrastructure that may be affected by climate change and project opportunities in the Plan update, including information made available through Tasks 18 and 19.

Deliverable:

- Assessment of regional vulnerabilities that will be included in the updated Region Description

Task 15.2 Prioritize Regional Vulnerabilities

Following vulnerability assessment, the RWMG will prioritize the vulnerabilities. The criteria for ranking the vulnerabilities will be developed in cooperation with the Subregional Subcommittees and the WRAC. The criteria may include:

- Risks associated with vulnerabilities.
- Presence of multiple potential stressors.
- The potential for a vulnerability to shape regional objectives and inform IRWM Plan decisions.

Deliverable:

- Prioritized vulnerabilities

Task 15.3 Address Priorities in Plan Objectives

The RWMG will use results from the vulnerability assessment and prioritization to develop Plan Objectives to address climate change impacts, targeting the region's highest ranked vulnerabilities. Specifically, the objectives will address how the region can adapt to climate change, including adapting to changes in runoff and recharge and the effects of sea level rise.

The following suite of recommendations for reducing the impacts of climate change has been developed as part of the ClimateWise Program.

General

- Drastic reduction in greenhouse gas emissions to limit the magnitude of climate change

Socioeconomic Systems

Health and Emergency Preparedness

- Expand outreach and education on emergency preparedness
- Identify and target vulnerable populations for outreach
- Bolster wildfire management planning in the region
- Increase local food production and independence
- Reduce vehicle miles associated with food delivery

- Promote healthy lifestyle practices

Agriculture and Related Tourism
- Make water conservation a top priority
- Reduce greenhouse gas emissions from agricultural activities and increase carbon sequestration in agricultural soils
- Conserve agricultural land through the development of new tools and economic incentives
- Provide additional support for farm workers and employees of the agricultural tourism industry

Water Resources and Infrastructure
- Work with water agencies, mutual water companies and regional planning agencies to monitor and reduce agricultural water use
- Collaborate across jurisdictions for cooperative basin planning
- Enforce the Clean Water Act
- Encourage low impact development, natural filtration, and urban runoff catchments

Infrastructure
- Work with the private sector to achieve smart growth policies and avoid building in areas at risk of floods and fire
- Encourage alternative transportation
- Encourage energy conservation and alternative energy development in areas with low ecological impacts
- Increase the amount of renewable energy available to residents

Coastal and Marine Resources and Tourism
- Identify high-risk areas and map failing infrastructure to prioritize repairs and improvements
- Reassess coastal land use policies with climate change in mind
- Protect species migration corridors, new habitats and adjacent habitat (buffers)
- Consider ecotourism and other strategies to draw visitors and boost local business while minimizing the impacts to natural resources

Species and Ecosystems

Coastal and Nearshore Marine
- Protect areas neighboring dunes, coastal marshes and wetlands to allow shifts as the sea level rises
- Protect habitat for sensitive species more aggressively and effectively to maintain resilient populations
- Institute a county- or state-wide policy on coastal structures, allowing for dynamic coastlines

Freshwater Aquatic and Riparian

- Reduce groundwater use by communities and agriculture
- Research groundwater availability and develop a sustainable master groundwater plan
- Improve upland land management practices to reduce sediment inputs to streams and rivers

Woodlands and Forests

- Target oak woodlands on private ranches for improved management
- Reform grazing practices to improve oak recruitment, riparian vegetation, and water quality
- Identify and conserve areas especially important for wildlife under climate change
- Develop drought resistant varieties of oak
- Conduct research to identify effective management options

Grasslands and Shrublands

- Reduce fire risk in salt bush
- Map and conserve corridors that allow species to move to new areas as the climate changes
- Increase monitoring of populations of many species
- Identify new opportunities for restoration of native habitats
- Limit new development, especially of renewable energy, to previously disturbed sites

The RWMG will consider these recommendations and the region's priorities to develop climate change objectives. Metrics for measuring success in meeting the objectives will also be developed.

Deliverable:

- Plan objectives and metrics addressing climate change will be incorporated into the Objectives section.

Task 15.4 Plan for Data Gathering and Analyzing Prioritized Vulnerabilities

The ClimateWise report noted a lack of policy directing agencies to use projections of future conditions as they develop resource management plans. Incorporating climate projections into management for natural resources not only requires building capacity to interpret and use climate projections, but also may require policy change to allow use of climate related data in decision making and management. As an example, a recent wetland restoration project considered only historical data when identifying a suitable site. With sea level rise, this area could be under water in the next 100 years. By incorporating sea level rise projections as well as other climate change impacts into the design of restoration projects, water treatment facilities, roads, or other projects, such projects will be more effective over centuries.

The RWMG will work with the Subregional Subcommittees to develop data gathering programs and studies for further assessment of climate change impacts and vulnerabilities and an objective for consideration of climate change in project screening.

Deliverable:

- List of climate change program and studies

Task 15.5 Compile climate change information

The RWMG will compile information and data related to climate change into a Climate Change section in the updated IRWM Plan. The section will summarize the information that is included in the Plan and explain how the information is incorporated into different sections of the Plan. Climate change is similar to stakeholder involvement in that it is incorporated into many Plan elements and also warrants it own section to provide a quick reference to how the RWMG is addressing this important issue.

Deliverable:

- Draft *Climate Change* section
- Final *Climate Change* section

Task 16. Engage Stakeholders in IRWM Plan Update

In order to adequately understand, describe, and begin to address the water management needs of the SLO Region, the RWMG and Subregional Subcommittees must seek involvement of the appropriate stakeholders in the region.

Task 16.1 Stakeholder Coordination

The RWMG will hold a series of IRWM Plan update workshops, which will allow stakeholders to discuss IRWM Plan Standards such as: Governance, Region Description/ Climate Change, Objectives, and Project Review Process. The specific workshop dates and topics were identified within each plan section task. The workshops will allow a forum for stakeholders to consider the existing IRWM Plan, review key plan sections, discuss various options, and gain consensus on the best approach to restructure the Plan to fit changing regional water management needs.

Deliverable:

- Distribute notice of IRWM Plan Update Workshops
- Host IRWM Plan Update Workshops

Task 16.2 Electronic Communications

The RWMG, via the District, will host a website intended to provide information regarding the IRWM general and local programs, upcoming stakeholder meetings and possible means of involvement, which could potentially include contact persons for the Subregional Subcommittees. Additionally, the District will distribute emails to the WRAC and its water

resources stakeholder contact list identifying upcoming meetings, funding opportunities, and important topics of consideration.

Deliverable:

- Provide ongoing updates via District website
- Monthly email updates to WRAC membership and water resources stakeholders when applicable

Task 16.3 Subregional Stakeholder Coordination

Similar to the RWMG stakeholder coordination described in Task 16.1, the Subregional Subcommittees will hold a series of IRWM workshops, which will allow stakeholders to discuss subregional issues such as IRWM Plan objectives and project prioritization. The specific workshops and topics were identified within each plan section task. The workshops will allow a forum for stakeholders to consider the existing IRWM Plan, review key subregional plan sections, discuss various options, and seek consensus on the Plan.

Deliverable:

- Distribute notice of IRWM Plan Update meetings
- Host IRWM Plan Update meetings

Task 17. Engage Disadvantaged Communities in IRWM Plan Update

The modified plan structure is expected to allow a greater focus on the needs of DACs in each subregion, allowing the Subregional Subcommittees to provide targeted support to and encourage participation from DACs. The Department of Water Resources' statewide priorities for the IRWMP include a provision to "ensure equitable distribution of benefits" by "increasing participation of small communities and DACS in the IRWM process," and by "containing projects that address safe drinking water and wastewater treatment needs of DACs." The RWMG and Subregional Subcommittees will seek to increase the participation of small communities and DACs, as well as Native American tribal communities, in the IRWM Plan update, to ensure their planning and critical water management needs are considered.

> *A DAC is defined as a community with an annual median household income that is less than 80 percent of the Statewide annual median household income (PRC § 75005 (g)).*

The process used to identify the DAC list developed under Task 17.1 will be utilized to inform, invite, and involve the DAC members and representatives; however, the RWMG will also seek to involve small communities and communities well below the region's median household income.

The RWMG will work towards including projects relevant to meeting the critical water supply and water quality needs of DACs and Native American tribal communities. The District and RWMG Subregional

Subcommittees will help to complete implementation project solicitation forms, as a means of encouraging participation without straining already limited resources of the communities.

Program Preferences: This task satisfies two IRWM program preferences:

- Address critical water supply or water quality needs of disadvantaged communities within the region.
- Address Statewide priorities, including "Ensure equitable distribution of benefits," which includes specifically:
  - Increase the participation of small and disadvantaged communities in the IRWM process.
  - Develop multi-benefit projects with consideration of affected disadvantaged communities and vulnerable populations.
  - Contain projects that address safe drinking water and wastewater treatment needs of DACs.

Task 17.1 Develop DAC Recruitment Program

The RWMG will describe the process by which DACs and Native American tribes are identified. An evaluation will be conducted to identify the DACs within the region and each will be assigned to the appropriate subregion. Once DACs are identified, each subregion will determine the best method of outreach to engage DACs and other stakeholders in their boundaries. Each subregion should identify potential obstacles previously limiting DAC involvement (e.g. language barrier, apathy, limited resources, ineffective communication methods), and provide a strategy to overcome those obstacles.

Deliverables:

- Describe process of identifying DACs and Native American tribes
- Conduct evaluation of 2010 Census data
- Subregional Subcommittees delineate strategy to overcome obstacles limiting DAC participation
- Compile description of DAC communities and Recruitment Program

Task 17.2 Compile water management needs of DACs

The RWMG acknowledges the need to encourage the involvement of the DACs and Native American tribes in the water management planning and implementation in the region. Subregional Subcommittees will engage DACs within the region and seek input on the needs of DACs. Often DACs have limited abilities to participate in IRWM efforts due to limited resources. Subregional Subcommittees will consider the limitations of DACs and consider options available for increasing DAC involvement in the IRWM efforts whether by collaboration or other means. The Subregional Subcommittees will also need to determine the optimal balance of resources for these focused efforts, depending on level of critical water supply and water quality issues identified.

Deliverables:

- Subregional Subcommittees define critical water supply and water quality issues
- Subregional Subcommittees define trigger points for level of focused outreach efforts
- Subregional Subcommittees compile list of water resource needs of DACs
- Subregional Subcommittees and RWMG identify potential collaborative efforts with DACs

Task 17.3 Conducting Outreach Activities

The regional stakeholders have identified the need for a more focused DAC outreach effort, but have been limited by existing funding and resources. The objective of this task is to better understand the needs of DACs within the SLO Region, form relationships between regional stakeholders and DACs, and better understand the preferred mode of communication. This will be conducted by the following methods:

- Hosting an initial meeting with each DAC (assumed four: one North Coast, one South Coast, two Inland) and Subregional Subcommittees,
- Establishing a relationship with DACs and tribes,
- Facilitate relationships with non-profit and community-based organizations in the area to create allies and partners for DAC water needs,
- Cultivating relationships with elected officials to represent DAC and tribal needs,
- Creating linguistically and culturally appropriate outreach materials to inform communities of general water issues and the IRWM program, and
- Reaching out to small community water systems and provide them information and possible solutions to critical water needs.

Deliverables:

- Create appropriate outreach materials
- Subregional Subcommittees to provide minutes for DAC meeting

Task 17.4 Community Assistance for Project Preparation

It is recognized that DACs likely have limited resources to stay aware of current IRWM program activities, let alone apply for critical water resources planning and implementation projects during the solicitation rounds. This task seeks to aid the efforts of DAC agencies and will be conducted by the following methods:

- Providing assistance to DAC and tribes to identify specific projects that address critical water supply, water quality, wastewater and other water-related needs,
- Together with DAC and tribes, prepare implementation project solicitation submittals for critical water supply and quality needs, and
- Promoting water and resource conservation projects and watershed projects among DACs and tribes.

Task 18. Watershed Management Planning

As described in the Introduction, the SLO Region identified the watershed management planning component as a priority for the current IRWM Plan update. A portion of the funding request was allocated to these efforts to fund the preliminary efforts to better understand regional watershed issues and priorities. Watershed management planning proposals were reviewed and prioritized based on the SLO County IRWM goals and objectives, IRWM funding criteria, and available funding. Based on the review and prioritization, the SLO Region is seeking planning funds for the following watershed management focused planning efforts:

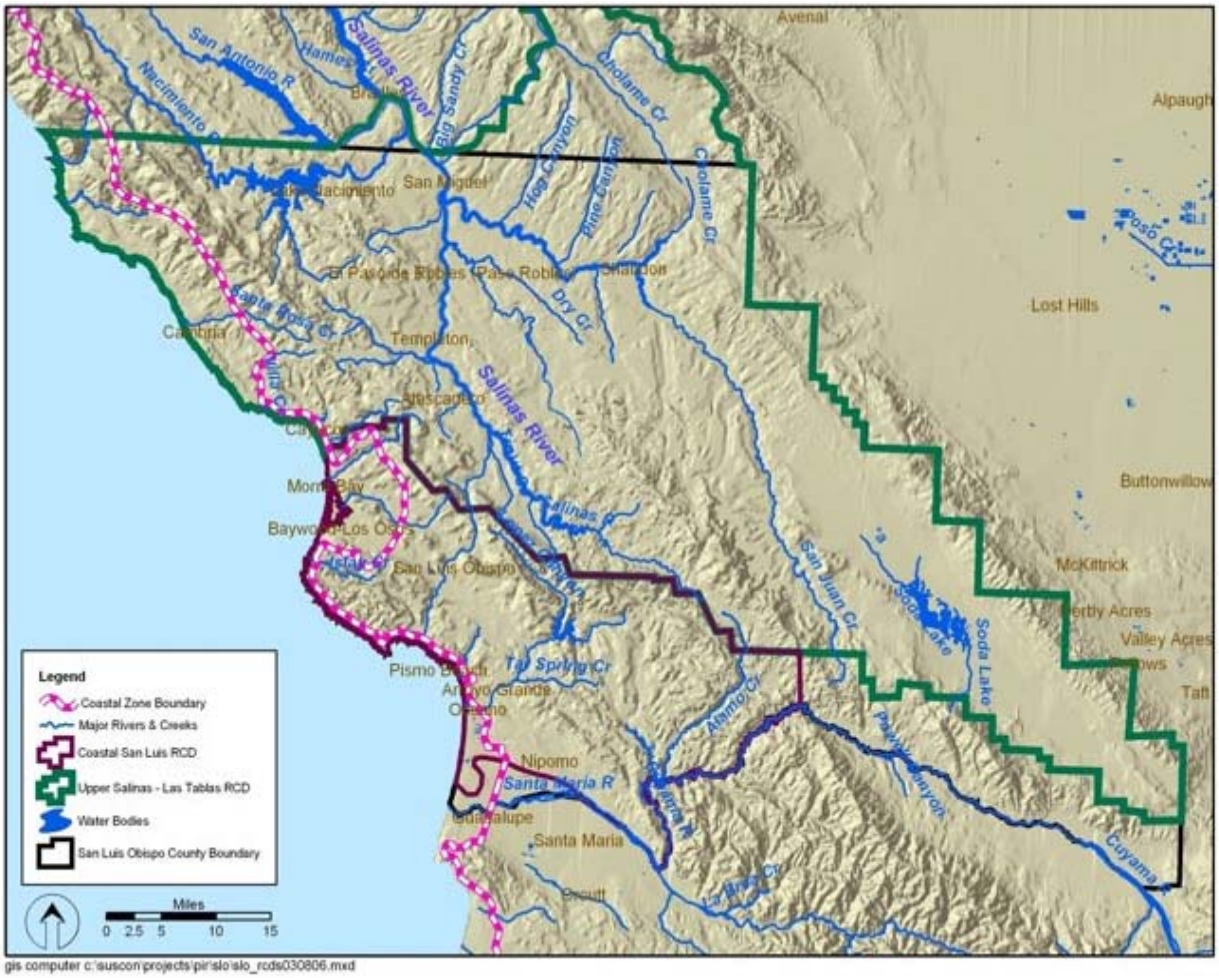
- Develop Regional Watershed Management Plan: Phase I
- Conduct Instream Flow Study: Stage 1

The Subregional Subcommittees determined that focusing on a broad, regional approach could better address the needs of the various sponsoring agencies and the SLO Region as a whole. The Task 18 work plan will address the activities required for completing these watershed planning efforts.

SLO COUNTY WATERSHED CONDITIONS

The SLO Region overlies numerous watersheds covered under various jurisdictions, used by many stakeholders, and subject to a variety of water uses. The CSLRCD and US-LTRCD boundaries overlie all of the region's watersheds and sit in a ready position to draw together the watershed management and planning needs within their respective districts. The figure below shows the boundaries of each RCD where the watershed planning efforts will be conducted.

Resource Conservation District Boundaries of SLO County



The CSLRCD and US-LTRCD recognized the need for a comprehensive look at the region's watersheds and the associated concerns, challenges, data gaps, and priorities. Until recently watershed management was handled more often on an individual watershed basis, whereas this effort would allow the Region to identify needs and opportunities for improving management of all watersheds.

The proposed Watershed Management Plan (WMP) will incorporate regional and watershed specific efforts towards an integrated approach to managing water and ecosystem concerns. The WMP will consist of two phases:

- Phase I – WMP Visioning, Framework & Prioritization Methodology Development
- Phase II – WMP Development and Implementation

This proposal focuses on setting the stage for a successful and useful regional WMP under Phase I. Implementation efforts associated with Phase II are not associated with this planning

grant effort other than delineating initial planning efforts for initiating Phase II, but are noted here for the sake of understanding the comprehensive objective.

The proposed regional WMP: Phase I will build on existing efforts such as Master Water Plans, Watershed Plans, and RWQCB's Watershed Initiative to support the prioritized implementation of ecological restoration and enhancement projects, to improve the use of limited resources and to incorporate State and County water resource priorities from an ecosystem perspective. Additionally, proposed planning will not diminish or over shadow the unique needs of each individual watershed in the County. In fact, implementation of the WMP (Phase II) will be predicated on the completion of high quality watershed management plans and the closing of data gaps.

The WMP's Phase I will include development of a method to evaluate and prioritize restoration efforts within and between watersheds. The RCDs will facilitate an understanding of process-based protection/restoration and include these objectives in the prioritization approach so as to ensure that efforts address causes of degradation.

CSLRCD will conduct a separate planning activity to close a priority data gap by estimating future environmental water demand in the SLO Region related to potential instream flow requirements. The WRAC has identified instream flow as an existing data gap in water resource planning for the County. In order to achieve the County's 2012 Master Water Study recommendation of improving the environmental demand estimate, an analysis of the instream flows needed to support protected wildlife species' habitat and watershed functions in County rivers and streams is necessary. The proposed instream flow study will not directly support any particular policy or regulation, but is intended to help the Region and its residents understand, anticipate, and incorporate, to the extent appropriate, potential future instream flow requirements into water resources planning.

It is essential that the Region's environmental needs are integrated and prioritized in such a way that recognizes causes of degradation and prioritizes process-based protection and restoration. The RCDs are the ideal organization to take on these planning efforts because of their long relationship with rural landowners, their strong partnership with the Natural Resource Conservation District (NRCS) and other conservation organizations, and their dedication to conservation and watershed approaches. The RCDs' combined technical expertise lends long-time familiarity with local watershed issues and offers an experienced portfolio of professionals with substantial experience in Low Impact Development and Sustainable Agriculture. Sub-contractors will be used to support completion of certain tasks.

WMP Phase II, WMP Development will require additional funding for implementation and is merely noted for DWR's understanding of potential future uses of this planning effort. Stakeholder involvement will be integral to this phase. The final WMP provides an opportunity to achieve meaningful water quality outcomes that meet multiple objectives and look at watershed processes and issues holistically.

DETAILED WORK PLAN FOR WATERSHED PLANNING EFFORTS

Detailed work plans for both watershed studies follow, with an indication of work to be completed prior to August 6, 2012 (the assumed grant award date) when applicable, work to be completed as part of the grant, and relevant work to be completed after grant (if applicable). Task 18.1 describes the work necessary for the development of the Regional WMP: Phase I and Task 18.2 describes the work necessary for conducting the Instream Flow Study: Stage 1.

Task 18.1 Regional Watershed Management Plan: Phase 1

The CSLRCD and US-LTRCD will co-facilitate the development and coordination of a county-wide WMP that supports water quality improvements and related ecosystem restoration goals through the following series of steps.

These efforts will enhance environmental and watershed stewardship through diverse partnership formation and effort. Diverse stakeholders will be involved throughout the process, including conservation groups, civic partners, and resource managers. Known areas of impairment and data gaps will be identified in this study and serve as the starting point for the future WMP: Phase II (watershed management plan development and implementation). This cohesive management approach by multiple cooperators in a voluntary grassroots style is intended to provide a sustainable watershed management program and to ensure overall watershed recovery.

WMP: Phase II (a future development and implementation effort separate from this planning grant effort) will include interactive community-based social marketing and outreach to help transition rural residents and small acreage landowners to utilize best management practices that contribute positively to water and resource quality and enhancement. Additionally, this second phase will assist agriculturalists in developing conservation plans that support heightened regulatory requirements (Agricultural Order) and encourage natural resource protection. Municipalities will benefit from this WMP by providing prioritized restoration and enhancement goals and project types for inclusion in policies, regulations and annual project lists. Water quality and quantity improvements eventually realized through this WMP aim to support goals of the California Water Plan, Department of Water Resources, Regional Water Quality Control Board, San Luis Obispo County and the involved Cities. This phase is described simply to convey an overall understanding of how the WMP: Phase I will be utilized by the region. This phase is not included in this planning effort, but may be considered in future implementation rounds or when other funding becomes available.

Task 18.1.1 Project Administration

This task includes efforts to provide quarterly reporting, invoicing, and documentation to DWR in order to comply with IRWM Planning Grant Agreement requirements.

CSLRCD/ USLTRCD Deliverable:

- Provide District with necessary information for quarterly reports
- Provide District with necessary information for final report

Task 18.1.2 Develop a Regional Watershed Management Plan Framework & Methodology

This task involves developing a unified WMP framework and methodology by identifying and aligning multiple conservation/resource management stakeholders through a series of planning sessions to identify goals and achieve a common vision for a regional watershed plan, including selecting the best possible framework to use for the WMP, such as watershed scope, scale, protocols and the rationale for those decisions.

Coordinate and Host Technical Stakeholder Meetings

A minimum of three technical stakeholder meetings will be coordinated and hosted with conservation organizations, natural resource managers, and municipalities with knowledge of County natural resources. Meetings will be held at key points to 1) identify elements of a regional watershed plan, 2) develop a shared vision, goals and methodology for WMP development, 3) identify data gaps and 4) identify next steps toward a regional watershed plan.

Identify Successful Regional Plans as Model

Research regional natural resource planning efforts in other counties or states that are successful. List and summarize examples for consideration by the technical stakeholder group to identify a model plan or elements of a plan.

Develop Plan Framework

Work with identified model plan/elements and technical stakeholder comments to draft goals, strategies, and a watershed plan framework.

Develop Plan Methodology (Goals and Vision)

This task involves developing a methodology to evaluate restoration and enhancement priorities, which may include:

- Connecting Water Planning Areas of the Master Water Study with Hydrologic Unit Codes and Groundwater Basin Numbers;
- Connecting to IRWM objectives like DAC outreach and RMS;
- Building on RWQCB's Watershed Initiative priorities and Joint Effort for Hydromodification Control; and
- Considering ecosystems vulnerability to climate change.

Coordination with IRWM Plan Update on Climate Change Vulnerability Assessment

The vulnerability of natural systems will be considered during the climate change vulnerability assessment. This task allows staff to coordinate with the IRWM Plan Update.

CSLRCD Deliverables:

- List of model regional planning efforts and metrics identified
- Description of regional WMP methodology for prioritization

USLT Deliverables:

- Minutes from technical stakeholder meetings
- Outline of regional WMP

Task 18.1.3 Identify Existing Data

This task involves identifying holders of existing ecosystem data as related to SLO Region watersheds and collaboratively compiling the data for use in the regional WMP. Focus will be given to existing watershed plans and regional data sets. Watersheds without watershed plans will be identified. In some cases, key data will be identified to support future efforts in these understudied watersheds.

CSLRCD/ USLTRCD Deliverables:

- List of existing watershed plans and common elements in RCD District
- List of watersheds without plans and available documents in RCD District

Task 18.1.4 Identify Data Gaps

This task involves using data collected under Task 18.1.3 as a guide to identify data gaps within each watershed. The technical stakeholder group will begin to use the prioritization methodology from Task 18.1.2 to evaluate data gaps.

CSLRCD/USLTRCD Deliverables:

- List of data gaps based on Task 18.1.2 and 18.1.3 outcomes for the RCD District

Task 18.1.5 Develop Regional Watershed GIS Repository

This task involves organizing data on the SLO Region's watersheds to be readily available to the community. GIS technicians will identify a place for data (like slodatafinder.com or slowatersheds.org), gather data from organizations, identify missing data and create watershed maps, as needed.

USLTRCD Deliverables:

- Repository of GIS Data for SLO Region watersheds

Task 18.1.6 Identify Next Steps for Regional Watershed Management Plan: Phase II

This task involves outlining steps for Regional WMP: Phase II. It also involves identifying potential funding sources for implementation. Stakeholder involvement will be integral to this second phase's success and will be taken into account when outlining the necessary steps for implementation. In the event that work tasks are completed more efficiently than anticipated, remaining funds will be directed toward filling identified data gaps and/or taking next steps toward the Regional WMP: Phase II. These additional subtasks would be vetted through the District grant administrator/ manager.

CSLRCD/USLTRCD Deliverables:

- Summary of next steps for final Regional WMP: Phase II

Task 18.2 Conduct Instream Flow Study: Stage 1

Regulations and requirements related to endangered species habitat protection and water rights applications have, and will likely continue to influence water supply planning in SLO County. As they have in northern California, regulatory policies related to instream flows are likely to emerge in the SLO Region. This study is needed to anticipate potential future instream flow requirements and provide environmental water demand context as water supply planning decisions are being made. In addition, physical and regulatory interactions between surface water and groundwater are complicated and/or unknown in most California watersheds; this study will incorporate hydrologic, geologic, and consumptive water use data to integrate surface and groundwater interactions and conditions to the extent feasible. This study is intended to help the region understand, anticipate, and incorporate, to the extent appropriate, potential future instream flow requirements into SLO Region water resources planning.

The ultimate goal of the proposed study is to estimate environmental water demand related to instream flow requirements in SLO County. This goal would be accomplished in two stages: Stage 1 – Watershed Stratification, Instream Flow Study Prioritization, and Proof of Concept; and Stage 2 – Instream Flow Study Implementation, Data Repository, and Environmental Water Demand Calculation. Due to uncertainties in the amount and quality of existing data, only the first stage is proposed at this time. The following series of tasks will be conducted by CSLRCD and will apply to all SLO County watersheds and streams.

Task 18.2.1 Project Administration

This task includes quarterly reporting, invoicing, and documentation to DWR in order to comply with IRWM Planning Grant Agreement requirements.

Deliverable:

- Status updates for quarterly reports

Task 18.2.2 Compile and Review Existing Data

Compile and review existing precipitation, hydrology, consumptive water use, special-status aquatic species (e.g., tidewater goby and steelhead/rainbow trout) distributions, physical spatial data, and instream flow studies and requirements.

Deliverable:

- Memo summarizing existing data

Task 18.2.3 Physical Landscape Unit Stratification

Use existing spatial data to stratify watersheds in SLO County into geologic/ topographic/ hydrologic “physical landscape units” (following the protocols already implemented on behalf of the Central Coast Regional Water Quality Control Board in support of their ongoing

development of hydromodification control criteria). Evaluate these physical landscape units in consideration of special-status aquatic species distributions and consumptive water use patterns (e.g., number of and predominant type of water use methods, such as surface water diversions and/or groundwater pumping) to refine the list of units to be included in the study.

Deliverable:

- GIS layers of watershed boundaries and physical landscape units

Task 18.2.4 Conduct Stakeholder Meetings

Two stakeholder meetings will be conducted to allow regional participation in development of the instream flow study. The first meeting will be convened with interested stakeholders to review and discuss study purpose and tasks, and to receive feedback on the refined list of physical landscape units to be included in the study. This will ensure that the study includes watersheds (and their waterbodies) that are not currently the subject of consumptive water use and/or water use planning considerations, but may be considered in the future.

The second meeting will be convened after Task 18.2.7 to review and discuss study methods and results, and to receive feedback on the instream flow assessment priorities and proof-of-concept (i.e., how Stage 1 study results and Stage 2 instream flow studies can and will be used to estimate environmental water demand). This meeting is intended in ensure that SLO Region stakeholders are aware of the resources provided by the study, and have an opportunity for their regulatory questions or concerns to be addressed.

Deliverable:

- Agendas and meeting notes from two stakeholder meetings

Task 18.2.5 Conduct Focused Field Effort

CSLRCD will conduct a focused field effort to physically truth the physical landscape units on the refined list and identify appropriate unit boundaries and refine their characteristics.

Deliverable:

- Refined list of physical landscape units to be included in study and rationale
- Summary of findings from focused field effort

Task 18.2.6 Extrapolate Existing Study Results

As feasible and appropriate, use existing instream flow study results and requirements and apply to streams/watersheds in analogous physical landscape units of SLO County to extrapolate potential environmental water demand. Due to the low number of instream flow studies in SLO County, studies and requirements from other coastal California counties may be considered, so long as they are based on physical landscape units that also occur in San Luis Obispo County. Identify key data gaps, and provide initial recommendations for using these data to determine environmental water demand.

Deliverable:

- Assessment of applicability of existing/available instream flow studies to SLO County watersheds

Task 18.2.7 Prioritize Streams/Watersheds for Instream Flow Assessment

Identify stream/watershed priorities for instream flow assessment implementation to strategically fill these data gaps and use physical landscape unit conditions to identify an appropriate instream flow assessment approach. Instream flow assessment priorities will be compared with California Department of Fish and Game and National Marine Fisheries Service priorities for instream flow studies and/or protected species recovery planning in SLO County, but will ultimately be prioritized based on the study's ability to inform the environmental water demand estimate. Instream flow assessment methods will be selected based on the method's ability to cost-effectively provide the instream flow information necessary to refine the environmental water demand estimate; methods may or may not conform to regulatory agency protocols or guidelines for instream flow studies. An example could be to measure the minimum flows needed to maintain habitat and ecological functions for steelhead/rainbow trout. Such an approach is being used on San Gregorio Creek in coastal San Mateo County to provide a cost-effective quantitative goal for voluntary water use changes. The approach was developed to provide the information that the non-profit organization leading the voluntary effort needed, and did not necessarily meet regulatory requirements for instream flow studies in this watershed.

Deliverable:

- Prioritized list of streams/watersheds for instream flow assessment
- Descriptions of recommended instream flow assessment approaches

Task 18.2.8 Develop Final Instream Flow Study Report

Develop a final report summarizing the Stage 1 study methods, results (including spatial products such as hardcopy and/or interactive web-based maps), and proof-of-concept. The Stage 1 final report will also describe the instream flow assessment priorities and approaches to guide Stage 2 of the study.

Deliverable:

- Final Instream Flow Study: Stage 1 Report

Task 19. Salt and Nutrient Management Planning and Reuse/Recycled Water Planning

PLANNING REQUIREMENTS

The State Water Resource Control Board's Recycled Water Policy (hereafter "Policy") states:

> "…local water and wastewater entities, together with local salt/nutrient contributing stakeholders, will fund locally driven and controlled, collaborative

processes open to all stakeholders that will prepare salt and nutrient management plans for each basin/sub-basin in California…"

As described in the Introduction, numerous planning proposals included tasks associated with salt and nutrient management planning and reuse/ recycled water planning to meet the Policy requirements. The regional salt and nutrient management and reuse/ recycled water planning scope included in this application was developed by the WRAC subcommittee and study proponents based on the individual proposals and regional IRWM planning needs. The subcommittee first prioritized the geographical areas submitting proposals based on an agreed upon set of criteria (e.g. benefits to a disadvantaged community, certified Level of Severity III, etc.). The region's priorities were then measured against the planning grant criteria and the available funding to develop the recommended planning grant proposal, which was endorsed by the WRAC on February 1, 2012. Based upon these endorsed proposals, five workplan tasks for meeting the SNMP and recycled water planning needs are:

Task 19.1 Identification of Basins Requiring SNMPs
Task 19.2 SNMP for the Paso Robles Groundwater Basin
Task 19.3 Groundwater Model Update – Paso Robles Groundwater Basin
Task 19.4 Groundwater Basin Characterization for the Santa Maria Groundwater Basin
Task 19.5 Regional Recycled Water Strategic Plan

Task 19.1 Identification of Basins Requiring SNMPs

The degree of organized management of basins in the region varies widely and there is a general lack of awareness of the Recycled Water Policy (RWP) of the RWQCB. While several of the basins have existing management structures and are engaged with the RWQCB, many are not. It is recognized that those smaller, unorganized Basins may be at a disadvantage for complying with the RWP by May 2014. Therefore, this component of the application seeks to identify the basin study areas where SNMPs are needed in the region, the relevant stakeholders to lead the development of each, regional priorities, goals and objectives for developing the SNMPs and consolidation of information to assist identified stakeholders with developing and implementing the SNMPs.

Task 19.1.1 Identify Study Areas for Salt and Nutrient Management Planning

This task involves meeting with the RWQCB and local stakeholders to identify appropriate study areas for SNMPs and the relevant stakeholders to lead the development of each. The key consideration for defining study areas is the outer boundary of watersheds that drain into and overly the basin. However, there may be opportunities for consolidating study areas under one SNMP in low risk areas. Stakeholders are those whose activities and operations may impact salt and nutrient management in the study area, including agricultural interests, wastewater dischargers, and recycled water producers. Other stakeholders may include private well owners, environmental groups, regulatory staff, and the general public.

Deliverable:

- List of study areas and stakeholders and maps for each

Task 19.1.2 Develop and Distribute Salt and Nutrient Management Planning Information Packages

This task involves compiling example SNMP and related scopes of work, regulatory information or other information to inform stakeholders in each study area about SNMP requirements and how to develop one. Information developed as a part of the other SNMP focused planning projects will also be included, which is reflected in the schedule as down periods.

Deliverable:

- SNMP Information Package

Task 19.1.3 Prioritize the Development of Salt and Nutrient Management Plan per Study Area

This task involves developing criteria for prioritizing the development of SNMPs and prioritizing the study areas in the IRWM Plan in coordination with the WRAC and study area stakeholders concurrent with Task 19.1.2.

Deliverables:

- Criteria for prioritizing the development of SNMPs per study area
- Prioritized list of study areas
- Consolidated report to provide to individuals and incorporate into the IRWM Plan

Task 19.1.4 Project Management

This task involves preparing monthly progress reports and invoices.

Deliverables:

- Monthly Progress Reports

Task 19.2 SNMP for the Paso Robles Groundwater Basin

The City of Paso Robles will develop a complete SNMP for the Paso Robles Groundwater Basin to serve as model for the SLO Region and develop salt and nutrient management planning recommendations based on lessons learned and feedback from the RWQCB. This plan will include:

- Establishing basin characteristics (in conjunction with Task 19.3);
- Evaluating water quality objectives;
- Identifying existing and foreseeable salt and nutrient sources and describing their fate and transport;
- Developing implementation measures, goals, and objectives;
- Optimizing and regionalizing the monitoring programs; and
- Ultimately tying these elements together into an SNMP.

The following agencies provide water and/or wastewater service in or tributary to the Paso Robles Groundwater Basin:

- County of San Luis Obispo
- City of Atascadero
- Templeton Community Services District
- City of Paso Robles
- San Miguel Community Services District
- Camp Roberts (California National Guard); and
- Heritage Ranch Community Services District

These "Agencies" have agreed to collaborate on the development of a Salt and Nutrient Management Plan (hereafter "Plan") for the Paso Robles Groundwater Basin that meets all Policy requirements. In Spring 2012, the Agencies intend to solicit proposals and hire a professional engineering and/or hydrogeology consulting firm (hereafter "Consultant") to prepare the Plan. The agencies developed the following scope of work and preliminary project schedule and budget for this grant application.

The Agencies have developed a Reimbursement Agreement, which details how the agencies will share costs. The Reimbursement Agreement will be executed after a Consultant has been selected and the project costs and schedule are finalized.

Existing Studies

The hydrogeology and water quality of the Paso Robles Groundwater Basin have been studied extensively. The Plan will build upon these existing studies and planning efforts. For example, the March 2011 *Paso Robles Groundwater Basin Management Plan* already satisfies many of

the Recycled Water Policy requirements. Therefore, information in the March 2011 study would only need to be referenced in the Plan.

1. Atascadero Mutual Water Company, June 2006. *Urban Water Master Plan*.
2. ESA, November 2007. *Nacimiento Water Project, Addendum No. 1 to Final Environmental Impact Report* (for a detailed description of the Nacimiento Water Project).
3. Fugro West, August 2002. *Paso Robles Groundwater Basin Study, Phase I*.
4. Fugro West, et al, February 2005. *Paso Robles Groundwater Basin Study, Phase II, Numerical Model Development, Calibration, and Application.*
5. Fugro West, January 2007. *Revised Report, Water Quality Modeling of the Salinas River Underflow and Proposed Waste Discharge Requirements in Support of the Selby Percolation Pond Facility Expansion, Prepared for Templeton Community Services District*.
6. Fugro West, June 2009. *Groundwater Flow and Solute Transport Modeling in Support of the City of Paso Robles' Proposed Revisions to Waste Discharge Requirements Related to the Wastewater Treatment Plant.*
7. GEI Consultants et al, February 2011, *Paso Robles Groundwater Basin Management Plan*.
8. Geoscience Support Services, Inc., September 2009. *Ground Water Flow and Solute Transport Model for a Portion of the Atascadero Subbasin.*
9. Malcolm Pirnie, June 2003. *Technical Memorandum: City of Paso Robles Wastewater Total Dissolved Solids (TDS) Loading Analysis*.
10. Marine Research Specialists et al, December 2003. *Nacimiento Water Project, Final Environmental Impact Report* (for a description of Nacimiento water quality in the Analysis of Environmental Issues section).
11. Todd Engineers, December 2007. *Update for the Paso Robles Groundwater Basin*.
12. Todd Engineers, May 2009. *Evaluation of Paso Robles Groundwater Basin Pumping, Water Year 2006*.
13. Todd Engineers, June 2011. *City of Paso Robles 2010 Urban Water Management Plan*.
14. San Luis Obispo County Flood Control and Water Conservation District, 2005. *Integrated Regional Water Management Plan*.
15. San Luis Obispo County, 2011. *Resource Capacity Study for the Paso Robles Groundwater Basin.*

Information developed under the work plan for Tasks 19.3 and 19.5 of this application (Groundwater Model Update for the Paso Robles Groundwater Basin and Identifying and Prioritizing Recycled Water Strategies, respectively) may also be available to support the development and/or implementation of this Plan as noted in applicable tasks.

Task 19.2.1 Facilitate a Collaborative Process

The Policy requires "…locally driven and controlled, collaborative processes open to all stakeholders…" The water quality chapter of the *Paso Robles Groundwater Basin Study, Phase I* indicates the areas of increasing groundwater salt and nutrient concentrations are within the Salinas River corridor, near existing municipal wastewater discharges. Consequently, the water and wastewater agencies listed above are funding development of the Plan and will be considered primary stakeholders. As many as four (4) face-to-face primary stakeholder meetings will be held to collect data and coordinate review of deliverables. Meetings shall be coordinated to coincide with key data collection and review of major deliverables. RWQCB staff will be invited to all coordination meetings. Meetings will be held at public facilities, such as Paso Robles City Hall or the Templeton CSD office, and will be open to all interested persons.

If subsequent tasks identify groups whose activities or operations may impact salt and nutrient management in the basin (e.g., agriculture), appropriate representatives of those stakeholders will be identified and added to the project contact list for meetings and distribution of deliverables for review and comment.

Deliverables:

- Coordination meeting agendas and minutes
- Content for Plan Section 1 (see draft outline in Task 19.2.8 below)

Task 19.2.2 Establish Basin Characteristics

The Policy states:

> "the degree of specificity within these plans and the length of these plans will be dependent on a variety of site-specific factors [including] size and complexity of a basin…hydrogeology, and aquifer water quality."

This task is to establish basin characteristics that will guide the Plan's length and specificity.

The basin characteristics will be derived from the existing studies listed above, especially the *Paso Robles Groundwater Basin Management Plan*. The basin description should include:

- Basin physiography;
- Basin boundaries;
- Watersheds and hydrology, including areas that are tributary to the groundwater basin
- Climate;
- Beneficial water uses;
- Relevant Water Quality Objectives from the Central Coast Basin Plan;
- Land uses; and
- Land cover.

Of particular interest will be areas of historically increasing salt or nutrient levels, where such trends may adversely affect any beneficial uses within the next 50 years. Chapter 4 of the *Paso Robles Groundwater Basin Study, Phase I* identifies such areas.

A GIS project will be developed that includes watershed and basin boundaries, impervious areas, open space, recreational areas, agricultural areas, other irrigated areas, parcel information, areas of wastewater discharge to the basin, groundwater recharge areas, and monitoring and production well locations. The County maintains several GIS project files that may form the basis of such a project.

Deliverables:

- Content for SNMP Section 2
- GIS project with layers to be maintained on County of San Luis Obispo servers. Layers and updates will be provided to the agencies.

Task 19.2.3 Evaluation of Water Quality Objectives

The existing Water Quality Objectives (WQOs) in the Central Coast Basin Plan are based on a limited data set and may not be statistically valid. Later SNMP tasks, such as the assimilative capacity analysis, are predicated on defensible WQO's. This task is a comparison of a statistically significant set of ambient water quality data to relevant WQO's. If any changes to the WQO's appear justified, additional work may be required that would be completed outside of this grant agreement. This additional work may include a full study of the WQO's and available data, recommendations for alternative WQO's, and all the documentation necessary to support a Basin Plan amendment by the Central Coast RWQCB. The Agencies would request the Central Coast RWQCB share the cost of these additional services.

Deliverable:

- Possibly a proposal for additional services to study Water Quality Objectives.

Task 19.2.4 Identify Existing and Foreseeable Salt and Nutrient Sources

The Policy states:

> "…plans shall address and implement provisions, as appropriate, for all sources of salt and/or nutrients to groundwater basins, including recycled water irrigation projects and groundwater recharge reuse projects."

Existing and possible future projects that may add salt or nutrients to the Paso Robles Groundwater Basin will be identified, and constituent mass loading from these sources will be estimated.

Where such information is not already available in existing studies, information will be gathered from agencies and organizations with property interests in the Paso Robles Groundwater Basin

and associated sub-basins to determine salt, nutrient, irrigation practice, and chemical loading characteristics of maintenance or management activities.

The effect of the Nacimiento Water Project on salt and nutrient loading will be addressed. No water recycling projects currently exist in the Basin, but the City of Paso Robles is planning a water recycling system and will be described as a part of this task. The Templeton CSD's wastewater facilities are being evaluated as a part of the "Identifying and Prioritizing Recycled Water Strategies" (as described in Task 19.5) focused planning effort of this grant application.

Most of the primary stakeholders are participating in the Central Coast Joint Effort to Implement Low Impact Development and Hydromodification Control (see: http://www.swrcb.ca.gov/rwqcb3/water_issues/programs/stormwater/docs/lid/lid_hydromod_charette_index.shtml). The purpose of this effort is to maintain natural hydrology in future urban development (i.e., maintain stormwater recharge). This effort will be described in the SNMP to satisfy the Policy requirement to establish "stormwater recharge/use goals and objectives."

Deliverable:

- Identify all sources of salts and nutrients in the basin and sub-basins.

Task 19.2.5 Salt and Nutrient Evaluation

The Policy states the SNMP shall include a component that evaluates, "assimilative capacity and loading estimates, together with fate and transport of salt and nutrients." Templeton CSD, City of Paso Robles, and City of Atascadero have already studied the fate and transport of salts and nutrients in their wastewater discharges to the Salinas River corridor. These are Existing Studies 5, 6, and 8, respectively. Since these three communities represent the majority of wastewater flow to the Paso Robles Groundwater Basin, and the fate of salt and nutrient discharges from these larger agencies may be used to approximate the behavior of discharges from the smaller agencies, this task will not include further study of the fate and transport of salt and nutrients. This task will include:

a. A description of the hydrologic and hydrogeologic conceptual model of the basin;
b. An estimate of the water balance of the basin, using the existing numeric groundwater model of the basin (see Existing Study No. 3). If the County of San Luis Obispo's 2012 model update is complete, the updated model results shall be used. The water balance is being updated as a part of the "Groundwater Model Update – Paso Robles Groundwater Basin" (Task 19.3) focused planning effort of this grant application.
c. An estimate of salt and nutrient balances for existing and planned land and water use, using sources of salt and nutrient loading and the water balance from the previous sub-tasks. This task should be used to focus the assimilative capacity analysis.

d. A summary of the fate and transport studies prepared for Templeton Community Services District, City of Paso Robles, and City of Atascadero.

e. Assimilative Capacity. In this sub-task, GIS data shall be related, using the existing numerical model of the basin (consultant may propose another method), to assess potential for salt and nutrient loading impacts to groundwater. Information to be related include: land cover type, irrigation practices, source-water type and constituent concentrations, and assimilative capacities of the various soils and land uses (retention, uptake, removal, and transformation). This model shall be designed to provide an indication of steady state constituent loading to the aquifer at a parcel or land use block scale, depending upon detail present in existing land cover data obtained in previous tasks.

f. Antidegradation Analysis. If the previous subtask indicates any planned recycled water projects have the potential to degrade the water quality of the Paso Robles Groundwater Basin, an antidegradation analysis to satisfy the requirements of State Water Resources Control Board's Resolution 68-16 may be required. This sub-task is not part of this scope of work, but may be recommended as a follow-up task after the SNMP is completed.

Deliverable:

- Content for SNMP Section 4 described in a-e above.

Task 19.2.6 Implementation Measures, Goals and Objectives

The Policy states the SNMP shall include 1) implementation measures to manage salt and nutrient loading in the basin on a sustainable basis, and 2) water recycling and stormwater recharge/use goals and objectives. This task is the culmination of all previous tasks and the most important for the stakeholders. The RWQCB may ultimately incorporate these measures into the Water Quality Control Plan, Central Coast Basin (Basin Plan).

This task will start with a review of the Basin Plan to determine whether the existing implementation plan for the Salinas River Hydrologic Unit remains appropriate. If not, the consultant will develop a list of recommended implementation measures for presentation to the stakeholders. The recommended implementation measures should be tailored to each agency and its unique waste loading and environmental settling. Examples of implementation measures that should be evaluated include:

- Importation of Nacimiento water;
- Control of self-regenerating water softeners;
- Removal of nutrients from wastewater discharges;
- Water recycling;
- Implementation of low impact development and hydromodification control (stormwater recharge);

- Recharge area protection/restoration;
- Wellhead protection; and
- Institutional controls such as land use plans and local ordinances.

This task also includes development of quantitative goals and objectives for:

- Salt and nutrient waste load reduction;
- Water conservation;
- Water recycling; and
- Stormwater recharge.

Consultant will lead a meeting of the stakeholders to determine which recommended implementation measures and goals and objectives are truly sustainable and should be incorporated into the Plan. The evaluation will consider the vulnerability of the Basin to effects of climate change and the contribution to climate change implementation measures may have.

Triggers or threshold concentrations of selected salts and nutrients will be proposed that would invoke specific implementation measures. Elements that are required for successful implementation of the measures will be outlined in the plan. These will include: performance measures, implementation schedule, public outreach and education, cost analysis, funding opportunities, institutional arrangements, and organizational structure.

Deliverables:

- Draft list of recommended implementation measures, goals and objectives for consideration by stakeholders
- Content for SNMP Section 5

Task 19.2.7 Monitoring Program and Database

The Policy states the SNMP shall include,

> "…a basin/sub-basin wide monitoring plan that includes an appropriate network of monitoring locations. The scale of the basin/sub-basin wide monitoring plan is dependent upon the site-specific conditions and shall be adequate to provide cost-effective means of determining whether the concentrations of salt, nutrients, and other constituents of concern as identified in the salt and nutrient plans are consistent with applicable water quality objectives."

Existing monitoring programs will be evaluated first, before recommending a monitoring program specific to the SNMP. These include, but are not limited to, the County's ongoing groundwater level monitoring throughout the Basin, and each water and wastewater agency's individual groundwater monitoring programs. Existing monitoring programs will be described (constituents monitored, frequency, responsible party, how data is disseminated).

If existing monitoring programs are not adequate for determining whether salt and nutrients are consistent with applicable water quality objectives, additional features, constituents, and frequencies will be identified. The preferred approach for developing the monitoring program will be to use existing wells for data collection, where the existing wells provide the spatial coverage necessary to determine water quality throughout the most critical areas of the basin. Additional monitoring locations will be recommended, if necessary. Existing monitoring locations that do not provide much value will be identified. The primary stakeholders would like to optimize existing monitoring programs to ensure that together they represent a regional monitoring program anticipated by the Policy. The recommended groundwater monitoring program should not result in significant additional ongoing costs.

The monitoring program will be designed to:

- Facilitate salt and nutrient source loading monitoring;
- Facilitate trend analysis;
- Answer the question: Are the relevant water quality objectives of the Central Coast Basin Plan being exceeded or threatening to be exceeded?

The State Water Resources Control Board's Science Advisory (Blue Ribbon) Panel's Spring 2010 report on monitoring of chemicals of emerging concern (CECs) found that monitoring of CECs is not a priority where recycled water is used for landscape irrigation. Since none of the agencies currently use recycled water at all, the possibility that no CEC monitoring may be necessary will be explored.

This task includes analysis of existing available databases, including GAMA Geotracker, and a recommendation on which database to use for storing monitoring data, in order to ensure applicable State databases receive the data generated from SNMP implementation.

The monitoring program will identify stakeholders responsible for conducting, compiling and reporting monitoring data under the SNMP. Those responsible for updating the database and the frequency of updates will be specified. The monitoring program will include a requirement that data will be compiled and reported to the RWQCB staff at least once every three years.

This task includes developing a cost estimate to implement the recommended monitoring program.

Deliverables:

- Draft Groundwater Monitoring Program for review and comment by stakeholders
- Content for SNMP Sections 6 and 7

Task 19.2.8 Prepare Salt and Nutrient Management Plan

The following is a draft outline of the proposed SNMP for the Paso Robles Groundwater Basin. This outline will likely change based on stakeholder input, after a consultant is selected.

Section 1: Stakeholder Identification and Involvement

Section 2: Paso Robles Groundwater Basin Characteristics

a. Basin boundaries
b. Basin physiography
c. Watersheds and hydrology
d. Climate
e. Beneficial water uses
f. Water Quality Objectives
g. Land uses and land cover
h. Surface water quality
i. Groundwater quality

Section 3: Salt and Nutrient Sources

a. Existing salt and nutrient sources
b. Proposed salt and nutrient sources

Section 4: Salt and Nutrient Evaluation

a. Conceptual model
b. Water balance
c. Salt and nutrient balances
d. Fate and transport of salt and nutrients
e. Assimilative capacity
f. Discussion of future antidegradation analysis, if necessary

Section 5: Implementation Measures

a. Measures to manage salt and nutrient loading
b. Water recycling and stormwater recharge/use goals and objectives
c. Management triggers
d. Performance measures
e. Implementation schedule
f. Public outreach and education
g. Institutional arrangements (e.g., cost sharing agreements between stakeholders)

Section 6: Existing Groundwater Monitoring Programs and Databases

a. Existing database identification and description
b. Data gaps
c. Recommended database

Section 7: Recommended Salt and Nutrient Monitoring Program

a. Goals and objectives
b. Location of monitoring features
c. Constituents to be monitored
d. Sampling methodology
e. Sampling frequency
f. Stakeholder roles and responsibilities
g. Reporting, including trend analysis
h. Cost estimate to implement recommended monitoring program

Task 19.2.9 Quality Assurance and Quality Control

This task includes an independent technical review by the members of the consultant's firm that are experienced in groundwater management but are not directly involved in the development of this SNMP. This internal review will ensure the SNMP meets the expectations of the stakeholders and meets the requirements of the Recycled Water Policy.

Task 19.2.10 Project Management

This task includes general project management and coordination during the initial project start up, procurement of any necessary sub-contractors, and preparation of the SNMP. This includes preparing monthly invoices and progress reports for the IRWM planning grant administrator. Project management activities will continue throughout the duration of the project.

Consultant procurement and selection, associated stakeholder coordination meetings and the development and execution of the Reimbursement Agreement are anticipated to occur before August 6, 2012 as in-kind services by the agencies.

Deliverables:

- Monthly invoices and progress reports to the District

Task 19.3 Groundwater Model Update – Paso Robles Groundwater Basin

The District maintains a database of groundwater levels and other county-wide hydrologic information. The District, in collaboration with the Paso Robles Groundwater Basin Steering Committee, will lead the effort to update the groundwater model (based on 1981 - 1997 data) to include data through 2011. This effort will fill a major data gap in the current IRWM Plan and region. It will help facilitate improved management of groundwater models by the District, and therefore, will improve SLO Region's access to more current information. This effort will include data collection; water balance estimation; aquifer system conceptualization; model update, post-audit, and re-calibration; and sensitivity analysis and simulations.

This planning effort will provide information for the SNMP for the Paso Robles Groundwater Basin included in this application as Task 19.2.

Task 19.3.1 Data Collection

The original 1981-1997 model base period will be extended through the 2011 water year. Consequently, the all relevant hydrologic and hydrogeologic data generated from 1998 through 2011 will be collected. In particular, hydrologic data required as input into the model will be collected and shall include historical measurements of daily precipitation and reference evapotranspiration from local CIMIS (California Irrigation Management Information Systems) stations. Time series of measured surface water flows in the Salinas River and its major tributaries (e.g., Estrella River, Paso Robles Creek, Huer Huero Creek) in the Basin will also be compiled. Hydrogeologic data includes historical groundwater levels, water quality data, well completion reports and boring logs, and published reports of local hydrogeologic studies. Water supply and demand data shall include municipal pumping records, discharges of treated wastewater effluent at disposal sites, and recent land use and crop maps. Historical aerial photos since 1997 should be used to corroborate land use changes (e.g., residential or agricultural development) and to map the locations of large rural ranchettes and other domestic properties where private wells may be located. Other information related to agricultural water demands should also be collected such as pan evaporation data, crop coefficients, annual crop surveys, soils surveys, crop growth information, and irrigation methods for various crops grown in the Basin. The results of the UC Cooperative Extension study to evaluate applied water on vineyards will be particularly important to incorporate in the agricultural water demand component of the water balance.

Approximately 36% of this task is anticipated to be completed prior to August 6, 2012.

Deliverable:

- Database of relevant data that can be updated annually in order to facilitate future model updates, provided to local and state agencies for their use and respective databases and used for the SNMP for the Basin.

Task 19.3.2 Water Balance Estimation

The water balance for the Basin consists of the major groundwater recharge and discharge processes in the aquifer system. The major groundwater recharge components are:

1) deep percolation of direct precipitation,
2) deep percolation of streambed seepage in major rivers and other channels,
3) deep percolation of applied irrigation water,
4) deep percolation of discharged treated wastewater effluent,
5) deep percolation of urban water and sewer pipe leakage, and
6) subsurface inflows through the Basin boundary.

The major groundwater discharge components are:

1) agricultural groundwater pumping,
2) municipal groundwater pumping,

3) private domestic well groundwater pumping,
4) small commercial pumping,
5) small communities pumping,
6) evapotranspiration by riparian vegetation, and
7) subsurface outflows through the Basin boundary.

Groundwater Recharge Components. Recharge to the aquifer system of direct infiltration of precipitation, streamflow seepage, water and sewer pipe leakage, and irrigation return flows will be estimated using the rainfall-runoff model. In particular, the crop water balance sub-model will provide a comprehensive treatment of the applied water demands, consumptive use, and irrigation return flows for vineyard crops, including regulated deficit irrigation. Metered discharges of treated wastewater effluent collected from local agencies will be inputted into the MODFLOW-2005 model. Subsurface inflows through the Basin boundaries will also be estimated using the rainfall-runoff model by extending the area of coverage to include external watershed areas tributary to the groundwater Basin.

Groundwater Discharge Components. Municipal pumping records should be collected from local water purveyors from 1998 to 2011. A detailed inventory of groundwater pumping during 2006 from municipal, agricultural, rural domestic, and other sources in the Basin was performed by Todd Engineers (2009). For the model update, a land-use based water use analysis of the non-metered consumers in the Basin will be done using the 2009 analysis in the 2012 County Master Water Study and 2011 analysis for the County Land Use and Circulation Element update and interpolated between years. As described earlier, the crop water balance model will be used to independently estimate agricultural pumping from 1998 to 2011 and those estimates compared against those from the Todd Engineers and County Master Water Study. Aerial photos will be used to approximate the extent of riparian areas along the Salinas River and its major tributaries for the estimation of evapotranspiration by riparian vegetation.

Deliverables:

- Water Balance Technical Memorandum for the SNMP

<u>Task 19.3.3 Aquifer System Conceptualization</u>

The Basin aquifer system consists of the shallow alluvial aquifers associated with the Salinas River and its major tributaries and the deep confined aquifer associated with the Paso Robles Formation. Extensive conceptualization of the aquifer system was performed during the Phase I study (Fugro, 2002). The aquifer system boundaries (i.e., model layers) and hydraulic properties were defined during the construction and calibration of the groundwater model during the Phase II study (Fugro, 2005). The conceptual model of the aquifer system will be retained in the updated model unless it clearly conflicts with more recent data (well completion reports, boring logs, pumping test results, etc) or creates obvious calibration errors. As described later, the estimated hydraulic properties assigned to the model layers representing the aquifer system in the existing model will also be reassessed as part of Task 19.3.4 (Model Update and Post-audit) and potentially modified under Task 19.3.5 (Model Re-calibration). In

the Phase I and II studies, the confined aquifer in the Atascadero Sub-basin was conceptualized as being hydraulically separate from the confined aquifer in the rest of the Paso Robles Basin. For the model update, the hydraulic connection between the Atascadero Sub-basin and the rest of the Paso Robles Basin will be revisited by analysis of groundwater levels collected since 1997 and during the model re-calibration process.

Task 19.3.4 Model Update and Post-audit

The existing groundwater model was originally developed in MODFLOW-2000 using the Groundwater Vistas graphical-user-interface (GUI) for a base period from 1981 to 1997. The existing model will be re-cast in MODFLOW-2005 and the estimated groundwater recharge and discharge components from 1998 to 2011 inputted into the MODFLOW-2005 version of the model. The updated model will then be executed and its simulated results checked to ensure that model convergence is successfully achieved and that the estimated recharge and discharge inputs are accurately implemented in the model. A post-audit of the existing model will then be performed by comparing the simulated groundwater levels from 1998 to 2011 against measured groundwater levels over the same period and at the same locations on the model grid as the observation wells from which they were measured. The purpose of a post-audit is to evaluate how well the existing calibrated model is able to match future groundwater levels (i.e., groundwater levels measured from 1998 to 2011) given inputs of the recharge and discharge components over that same future period. If the match between the simulated and measured groundwater levels from 1998 to 2011 is in relatively good agreement, then the existing calibrated model is assumed to be a valid predictor of future groundwater levels and no additional modifications to the model structure or assigned model layer hydraulic parameters is considered necessary for the updated model. Conversely, if significant differences exist between simulated and measured groundwater levels from 1998 to 2011 either locally or throughout the Basin, then a re-calibration of the model will be necessary.

Two meetings are anticipated for Tasks 19.3.4 and 19.3.5 to review the findings of the post-audit and recommended adjustments to the conceptualization and then to review the results of those adjustments and the recalibration recommendation.

Deliverable:

- Aquifer System Conceptualization, Model Update and Post-Audit Technical Memorandum

Task 19.3.5 Model Re-calibration

After the model inputs to the groundwater flow model have been implemented and the model subjected to a post-audit, a re-calibration of the model may be necessary to improve the fit between simulated and measured groundwater levels from 1998 through 2011. The objective of the model calibration is to adjust the appropriate hydraulic parameters (e.g., horizontal hydraulic conductivity, storage coefficients) and possibly modify particular recharge and discharge components until a reasonable match between the measured and modeled streamflows and hydraulic heads is achieved over the entire expanded base period of 1981 to

2011. The calibration of the groundwater flow model will be performed using both manual and automated approaches. The automated calibration will likely be performed using the PEST (Parameter ESTimation) software. The model calibration will be conducted according to the ASTM (1996) “Standard Guide for Calibrating a Ground-Water Flow Model Application".

Task 19.3.6 Sensitivity Analysis and Simulations

Once the updated groundwater model has been satisfactorily calibrated, a sensitivity analysis will be performed by evaluating the response of the calibrated model to changes in estimated hydraulic parameters or to changes in uncertain recharge and discharge components. Key parameters or components will be those that have the most significant impact on model results within their range of uncertainty. The values used in the sensitivity analyses should be within the range of uncertainty for each parameter. Selected model outputs (e.g., groundwater levels, storage changes) will be used to illustrate the results of the sensitivity analysis. The sensitivity analysis model runs will be compared to a baseline model run of the calibrated model, and two other scenarios (i.e. increased and/or decreased future pumping) to illustrate differences in results for a given parameter or component change. The results of the calibration sensitivity analysis will be evaluated according to the ASTM (1994) “Standard Guide for Conducting a Sensitivity Analysis for a Ground-Water Flow Model Application".

One meeting is anticipated to review the parameters and scenarios to address the sensitivity analysis and simulations.

Deliverable:

- Selected Sensitivity Analysis and Simulations Technical Memorandum

Task 19.3.7 Model Update Report

A final report will be generated to document the process and information contained in the Technical Memorandums as well as the results of the sensitivity analyses and simulations.

Deliverable:

- Final Paso Robles Groundwater Basin Model Update Report

Task 19.3.8 Project Management

This task involves developing a request for proposal to support completion of this focused planning effort, communications and preparing monthly progress reports and invoices. The consultant will be 36% complete with this task by August 6, 2012.

Consultant procurement and selection, and associated stakeholder coordination meetings are anticipated to occur before August 6, 2012 as in-kind services by District staff.

Deliverables:

- Request for Proposals

- Invoices and monthly progress reports

Task 19.4 Groundwater Basin Characterization for the Santa Maria Groundwater Basin

The purpose of this task is to support critical groundwater basin characterization activities in the Northern Cities and Nipomo Mesa Management Areas of the Santa Maria Groundwater Basin. The proposed groundwater basin characterization activities are intended to support development of a groundwater flow model and SNMP for the two management areas.

The Central Coast RWQCB has documented widespread increases in salt and nutrient pollution in groundwater basins throughout the Central Coast Region and has determined that regional management plans and programmatic projects must be developed to protect the beneficial uses of the basins. One of these basins, the Santa Maria Groundwater Basin (SMGB) is a critical water supply resource for southern San Luis Obispo County and northern Santa Barbara County.

The SMGB has been subject to ongoing litigation since 1997. In 2005, a stipulation signed by many of the litigation parties divided the groundwater basin into three management areas: the Northern Cities Management Area (NCMA); the Nipomo Mesa Management Area (NMMA); and the Santa Maria Valley Management Area (SMVMA). The Stipulation was substantially accepted by the Court via the January 25, 2008 Judgment. The extent of the SMGB and the boundaries of the three management areas are shown in the figure below. Note that the SMGB underlies two IRWM Regions: San Luis Obispo County and Santa Barbara County.

San Luis Obispo County
Northern Cities Management Area
Nipomo Mesa Management Area
Santa Maria Valley Management Area
Santa Barbara County
Legend
Nipomo Mesa Management Area
Northern Cities Management Area
Santa Maria Valley Management Area
County/IRWMP Boundary
0 1.5 3 6 Miles
N
Santa Maria Groundwater Basin
Date: 2/20/2012 Name: SMGB Adjudication

A requirement of the Stipulation was the establishment of Technical Groups for the NCMA and NMMA to develop monitoring plans, administer the provisions of the stipulation and share groundwater information with the other management areas. Representatives of the NCMA Technical Group and the NMMA Technical Group along with the their counter-parts in the SMVMA believe that developing a SNMP is a critical step toward protecting the beneficial uses of the SMGB. The initial step in the development of a SNMP is to develop a better understanding of the hydrogeologic and hydrologic conditions that exist within a groundwater basin and to develop a groundwater model to help guide groundwater management activities.

This task is focused on developing a solid understanding of the basin geology and hydrogeology that can be utilized as a foundation for creating a groundwater model and ultimately a SNMP for the SMGB. The scope of work proposed for the SMGB was developed through a collaborative process between representatives from the NCMA and NMMA Technical Groups, as well as the District.

In July, 2010, representatives from the NCMA and NMMA Technical Groups convened a joint meeting to discuss shared issues and concerns related to ongoing management of the SMGB. The two Technical Groups agreed to form a joint subcommittee, including a representative from the District, to facilitate ongoing coordination and data sharing among the technical groups and the District. In August, 2010, the joint subcommittee had its first meeting and established the following goals:

1. Engage in regional planning efforts to develop regional water supply projects/strategies for the South County area
2. Develop common methodologies for establishing safe yield estimates
3. Develop a common framework/methodology for establishing groundwater elevation contours
4. Facilitate data sharing between the NCMA and NMMA Technical Groups
5. Develop a work plan and funding strategy for preparing a regional groundwater flow model
6. Consider data gaps and develop strategies for infill

Beginning in 2011, the joint subcommittee was expanded to include representatives from the SMVMA and the group changed its name to the Santa Maria Groundwater Basin Management Areas Technical Subcommittee (Technical Subcommittee). The Technical Subcommittee has held 13 meetings over the last two years, and has developed a comprehensive scope of work for groundwater basin characterization and the development of a groundwater model. The efforts within the NCMA and NMMA of the SMGB have been coordinated with the representatives from the SMVMA and are consistent with the work being completed in Santa Barbara County. This coordination between IRWM planning areas will ultimately allow for close integration of the SMGB planning and management activities being conducted by both IRWM regions.

The NCMA and NMMA agencies have completed numerous tasks related to and in preparation for the development of the groundwater model and SNMP. The tasks listed below have been completed since September 2008 and will be used as matching funds for this grant application.

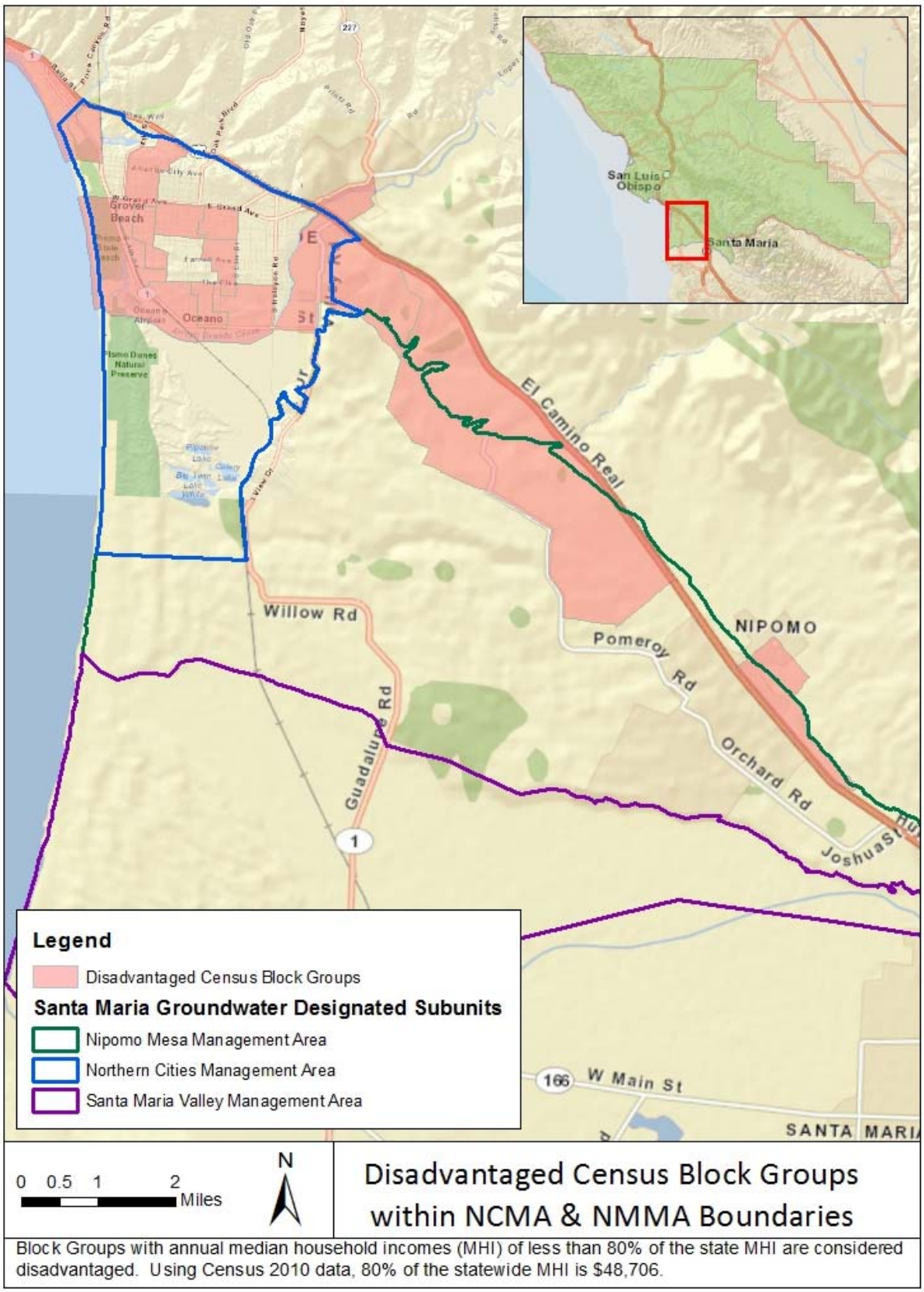
NCMA TG	Costs	NMMA TG	Costs
2009-2011 Annual Monitoring Reports	$331,000	2009-2011 Annual Monitoring Reports	$100,000
Installation of Transducers	$12,000	Deep Percolation Analysis	$15,000
Well Head Improvements	$24,600	Geological Cross-sections	$20,000
Sub-Total	$367,600	Sub-Total	$135,000
Total In-Kind Contributions	**$502,600**		

The development of a complete SNMP requires numerous elements related to the fate and transport of salts and nutrients within the groundwater basin. This scope contains tasks that will initiate the development of the SNMP for the basin, but will not produce a completed SNMP for the SMGB. The future work and preliminary cost estimates to develop a complete SNMP are shown below, and will build on the tasks performed in the SMGB Characterization scope of work. Funding for these future tasks will be obtained through additional grant opportunities, if successful, and/or proportionate contributions from the participating agencies.

- Collection of LIDAR elevation data within the NCMA and NMMA boundaries ($100,000)
- Construction and calibration of a groundwater flow model ($450,000)
- Development of a complete SNMP for the SMGB ($200,000)

The findings of the SMGB Characterization and the development of a SNMP will benefit other proposed projects in the SLO Region. An improved understanding of the hydrogeology and salt and nutrient movement will help prevent the development of recycled water programs in the SMGB from detrimentally impacting the water quality in the basin.

The NCMA and NMMA boundaries overlay several DACs within San Luis Obispo County. The figure below shows the census blocks that have been identified as disadvantaged by the 2010 census that are within the boundaries of the NMCA and NMMA. The SMGB is one of the key water supply sources for the agencies within the NCMA and the only source of supply for the NMMA. Improved characterization of the groundwater basin will benefit the overlying DAC by providing the management areas technical groups with data to make more informed decisions related to improving water supply reliability, protecting water quality, and safeguarding this essential water supply resource.



Block Groups with annual median household incomes (MHI) of less than 80% of the state MHI are considered disadvantaged. Using Census 2010 data, 80% of the statewide MHI is $48,706.

The following tasks are necessary to characterize the geologic and hydrogeologic features of the NCMA and NMMA portions of the SMGB to provide a foundation for developing a groundwater model and a SNMP for the SMGB. Additional detailed study will be required to complete the SNMP and will be conducted in the latter phases of the project.

Task 19.4.1 Project Management

The District will act as the project manager for the development of the SMGB Characterization. The District will perform all administrative tasks required to complete the contract (execute consultant contracts, process invoices, etc.). Performance of project management tasks will be coordinated with a Steering Committee, as described below.

Steering Committee

Develop a steering committee, which will include representatives from each of the participating agencies[1]. The steering committee will provide input to the District for the SMGB Characterization project management activities (RFP development, consultant selection, deliverable review, etc.). Additionally, steering committee input recommendations and endorsements will be obtained at all significant project decision points. The steering committee will operate by consensus; however, when consensus cannot be reached, majority opinion will prevail. No grant budget has been allocated for this task, as it is assumed that the work under this task will be performed by the steering committee as in-kind contribution from the participating agencies.

Progress Reports

Prepare monthly progress reports and invoices and other administrative tasks necessary to comply with the quarterly reporting requirements of the IRWM Planning Grant agreement. No grant budget has been allocated for this task, as it is assumed that the work under this task will be performed by the steering committee as in-kind contribution from the participating agencies.

Develop RFP(s) for Consultant Support and Consultant Selection

This task will include developing RFPs to support the proposed groundwater basin characterization projects. Consultant proposals will be evaluated and a consultant will be selected. No grant budget has been allocated for this task, as it is assumed that the work under this task will be performed by the steering committee as in-kind contribution from the participating agencies.

Consultant Project Management/Meetings

This task includes all project management activities and meeting attendance required by the consultant(s) to facilitate the project.

[1] It is anticipated that the agencies participating on the Steering Committee will include the District, City of Arroyo Grande, City of Grover Beach, City of Pismo Beach, Oceano Community Services District, Nipomo Community Services District, Woodlands Mutual Water Company, Golden State Water Company and ConocoPhillips.

Deliverables:

- Final RFP
- Invoices and monthly progress reports

Task 19.4.2 Data Analysis

Extensive geologic and hydrogeologic analysis has been performed on the SMGB. The steering committee will work collaboratively with the consultant to obtain previously completed analysis and prevent redundant work from being completed as part of the scope of work for SMGB Characterization.

Data Compilation

Review previous completed geologic and hydrogeologic studies and develop a database of available resources. Database should include previously completed: technical reports; monitoring plans; monitoring reports; response plans; legal documents; well data; topographic data; aerial imagery; etc. Quality assurance/quality control (QA/QC) of the data will be conducted for any duplicate records and general checking of the data from various sources for uniform formats, parameters, and spatial information.

Identify Data Gaps

Review the compiled data and information and identify any significant data gaps related to the development of a groundwater model and SNMP. Prioritize the data gaps to assist in developing the specific scope of work for the subsequent tasks.

Deliverables:

- TM that summarizes the available information, the data compilation and organization approach and results, and the existing data gaps.
- DVD of all material compiled in electronic format

Task 19.4.3 Groundwater Basin Characterization

Transducer Installation

Evaluate the existing network of monitoring wells within the NCMA and NMMA and identify wells for the installation of water level and/or temperature and electro conductivity transducers. Priority should be given to monitoring wells that: integrate into the NMMA's Water Shortage and Conditions Response Plan; integrate into the NCMA agency's response plans; materially advance the calibration and accuracy of the proposed groundwater model; have bore hole logs and known well screen depths.

Budget is based on installing pressure/temperature/conductivity probes in four monitoring wells (one (1) Sentry Well and three (3) of the new County monitoring wells).

Geologic Cross-Sections

Evaluate available hydrogeologic information and select 10 - 12 locations to develop geologic cross-sections. Develop geologic cross-sections using bore hole lithologic logs and other

Geologic Cross-Sections
Evaluate available hydrogeologic information and select 10 - 12 locations to develop geologic cross-sections. Develop geologic cross-sections using bore hole lithologic logs and other available information. Coordinate with the steering committee to select locations that will be most beneficial to the development of the groundwater model and the SNMP.

Well Testing
Evaluate the existing network of pumping and monitoring wells and select 8-10 representative locations to perform well testing. Utilize well testing results to determine aquifer and transmissivity characteristics.

Surface Water Infiltration
Investigate and quantify infiltration into the groundwater basin from surface water bodies within the NCMA and NMMA. Specific areas of interest include, but are not limited to: Arroyo Grande Creek; Los Berros Creek; Meadow Creek; Nipomo Creek.

Recharge Areas
Investigate areas within the basin that would be suitable for supplemental groundwater recharge. Evaluate different recharge mechanisms including: stormwater detention ponds; percolation ponds; injection wells; etc.

Offshore Aquifers and Seawater Intrusion
Review existing technical reports and analyze aquifer characteristics for offshore aquifers and evaluate the potential for seawater intrusion.

Deliverables:

- TM(s) that summarizes the results of the Groundwater Basin Characterization for the NCMA and NMMA portions of the SMGB

<u>Task 19.4.4 Goals and Objectives</u>
Develop goals and objectives
Hold a public workshop to review the results of the Groundwater Basin Characterization and establish goals and objectives for the groundwater model and SNMP for the SMGB. Incorporate comments received during workshop and the public comment period into the final Groundwater Basin Characterization TM(s).

Climate Change
Complete the DWR Vulnerability Assessment Checklist related to climate change. The assessment will utilize the projected climate change conditions as described in the reports titled Projected Future Climatic and Ecological Conditions in San Luis Obispo County, April 2010, and Integrated Climate Change Adaptation Planning in San Luis Obispo County, November 2010.

These two reports form the basis for updating climate change conditions and assessing climate change vulnerabilities in the SLO Region IRWM Plan.

Changes to the local climate are likely to include more frequent and intense storms and floods, extended drought, increased wildfire, and more heat waves. As depicted in the text box below, numerous conditions that are expected to change may impact SMGB characterization including accelerating sea level rise and lower groundwater recharge rates.

Possible changes by the end of the century:

- hotter, drier, and longer summers
- less warming in western county compared to eastern county
- more severe storms in winter/spring
- accelerating sea level rise
- loss of coastal wetlands, marshes, and estuaries
- declines in water availability and water quality for streams and rivers
- lower groundwater recharge rates
- loss of native species and ecosystems
- loss of many pine forests
- increase in wildfire by 200-300%
- lower productivity of range for cattle
- increase in invasive species

The reports provide SLO community members and decision-makers with local climate change projections that are presented in a way that can help them make educated long-term planning decisions. The information will help inform the recycled water planning in assessing the impacts to wastewater flow and water quality characteristics and changes in potential recycled water demands.

The information will be incorporated into the Climate Change section of the IRWM Plan.

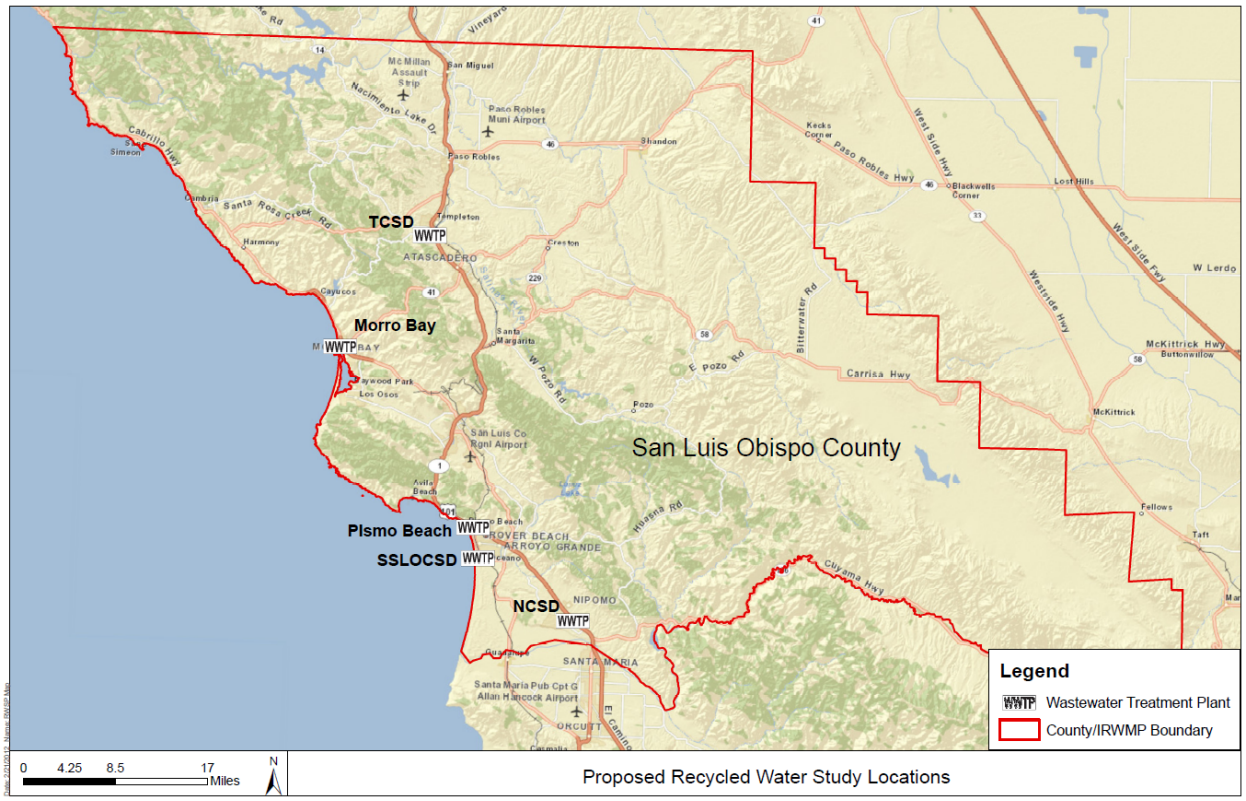
Deliverable:

- One public workshop to will be conducted. A PowerPoint presentation and summary notes for the workshop will be prepared.

Task 19.5 Regional Recycled Water Strategic Plan

The California State Water Resources Control Board has identified in its 2009 Recycled Water Policy the intent to increase the use of recycled water from municipal sources. Additionally, the District has identified implementing recycled water projects as one of the key strategies in its 2012 Master Water Study and IRWM Plan for providing long-term water reliability and supply for the County. Consistent with the state and regional goals for implementing recycled water projects, the following agencies, listed and shown in the figure below are investigating the feasibility of implementing recycled water programs within their service areas as a way to diversify their water supply portfolios, reduce reliance on surface water imports, eliminate discharge of treated wastewater to the Pacific Ocean, and reduce conflicts associated with limited regional water resources.

- Templeton Community Services District (TCSD)
- City of Morro Bay
- City of Pismo Beach
- South San Luis Obispo County Sanitation District (SSLOCSD)
    - City of Grover Beach
    - Oceano Community Services District (OCSD)
    - City of Arroyo Grande
- Nipomo Community Services District (NCSD)



Proposed Recycled Water Study Locations

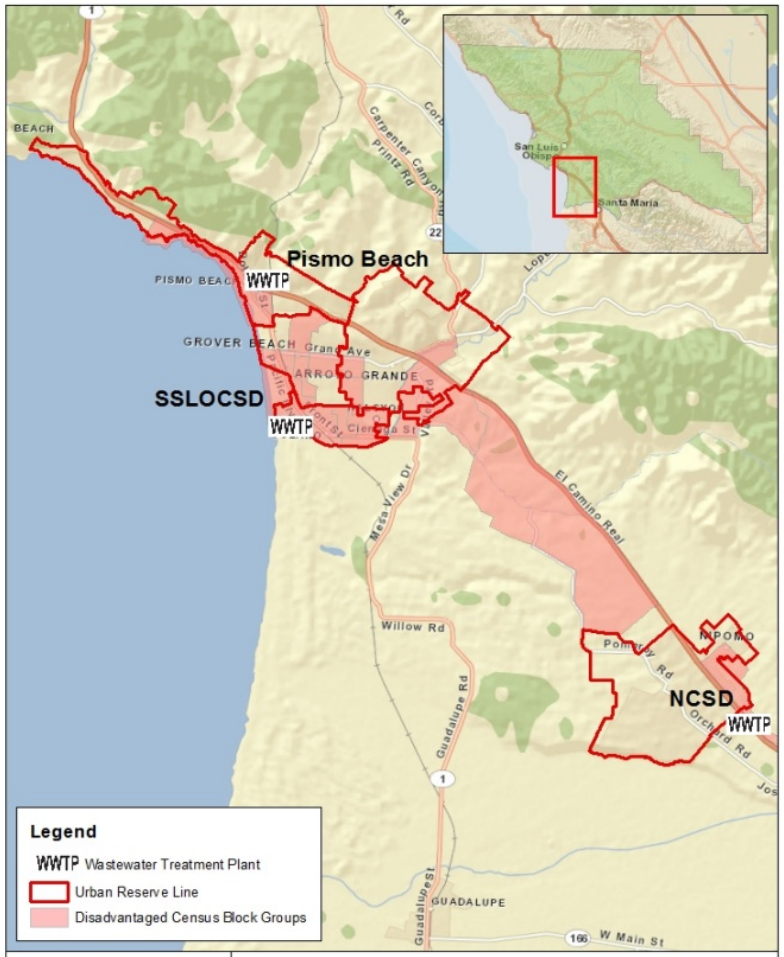
To integrate the needs of each of the facilities within the context of a regional approach, the needs and initiatives for each individual facility will be evaluated and presented in the context of a RWSP. The RWSP will combine common elements and regional considerations for each of the sub-regions to improve the efficiency of the planning effort and provide the individual agencies with more resources to focus on the specific analysis related to their wastewater treatment facility and reuse programs. The regional elements and the facility specific analysis will be combined into a single regional recycled water planning document that will contribute directly to the SLO Region IRWM Plan and will benefit any subsequent agencies investigating the feasibility of implementing a recycled water project.

Many of the municipalities participating in the RWSP have previously completed technical studies related to recycled water within their subregions, as summarized in the table below. These previous studies will serve to inform development of the RWSP, and are being submitted as in-kind contributions in support of this funding proposal.

Agency	Project	Date Completed	Funds Spent
Morro Bay – Cayucos Sanitary District	Recycled Water Feasibility Study	April 2012	$87,180
Pismo Beach	Water Reuse Study	May 2007	$30,000
	Incremental Reclaimed Water Study	March 2008	$6,597
	Recycled Water Distribution System Layout – Draft	2009	$1,500
SSLOCSD	Water Recycling Progress Report	2001	$27,195
	Water Recycling Update Report	January 2009	$13,893
	Recycled Water Conceptual Plan	June 2010	$20,495
Arroyo Grande	Water Supply Alternatives Study	2004	$22,178
NCSD	Preliminary Screening Evaluation of SWWTF Disposal Alternatives	2009	$52,000
		Total	**$261,038**

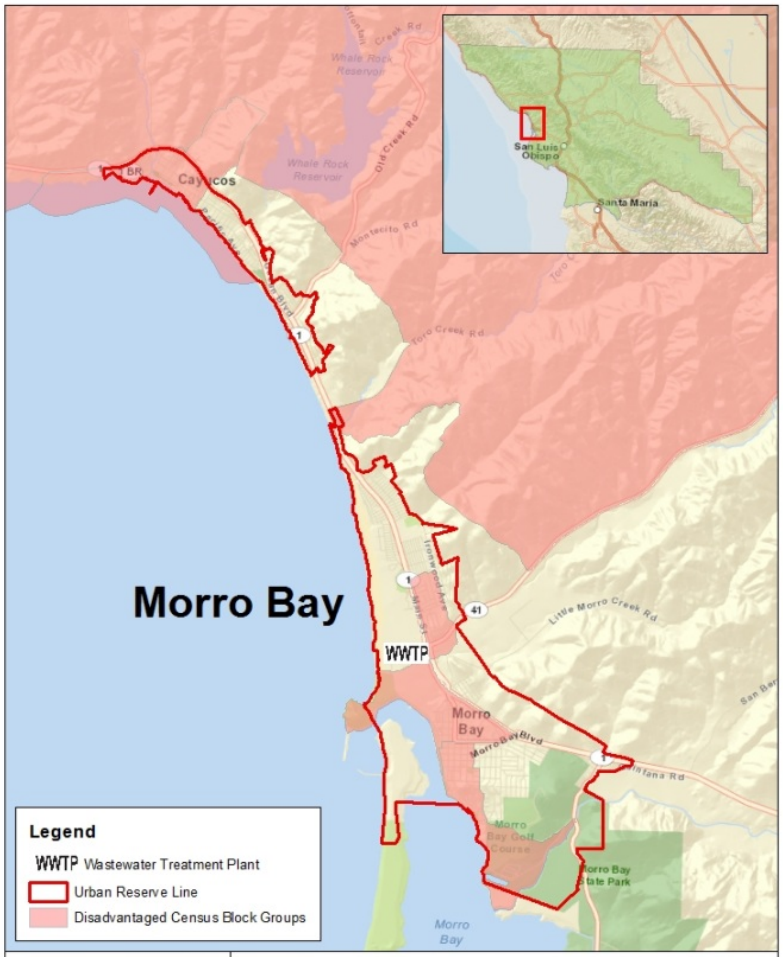
The boundaries of the agencies participating in the RWMP include several DACs within San Luis Obispo County. The figure below shows the census blocks that have been identified as disadvantaged by the 2010 census that are within the boundaries of the participating agencies[2]. Additionally, all DACs within the Region will benefit from the development of universally applicable regional recycled water planning reference document that can be utilized for future recycled water planning projects.

[2] The urban reserve line for the Templeton Community Services District does not overlap any 2010 census blocks designated as DACs



Disadvantaged Census Block Groups within Participating Agency Urban Reserve Line Boundaries

Block Groups with annual median household incomes (MHI) of less than 80% of the state MHI are considered disadvantaged. Using Census 2010 data, 80% of the statewide MHI is $48,706.



Disadvantaged Census Block Groups within Participating Agency Urban Reserve Line Boundaries

Block Groups with annual median household incomes (MHI) of less than 80% of the state MHI are considered disadvantaged. Using Census 2010 data, 80% of the statewide MHI is $48,706.

Task 19.5.1 Project Management

The District will act as the project manager for the development of the RWSP. The District will perform all administrative tasks required to complete the contract (execute consultant contracts, process invoices, etc.). Performance of project management tasks will be coordinated with a Steering Committee, as described below.

Steering Committee

Develop a steering committee, which includes representatives from each of the participating agencies[3]. The steering committee will provide input to the District for the RWSP project management activities (RFP development, consultant selection, deliverable review, etc.). Additionally, steering committee input, recommendations and endorsement will be obtained at all significant project decision points. The steering committee will operate by consensus; however, when consensus cannot be reached, majority opinion will prevail. No grant budget has been allocated for this task, as it is assumed that the work under this task will be performed by the steering committee as in-kind contribution from the participating agencies.

Progress Reports

Prepare monthly progress reports and invoices and other administrative tasks necessary to comply with the quarterly reporting requirements of the IRWM Planning Grant agreement. No grant budget has been allocated for this task, as it is assumed that the work under this task will be performed as in-kind services by the steering committee as in-kind contribution from the participating agencies.

Develop RFP(s) for Consultant Support and Consultant Selection

This task will include developing Request for Proposals (RFPs) to support the proposed Regional RWSP. Consultant proposals will be evaluated and consultant(s) will be selected. No grant budget has been allocated for this task, as it is assumed that the work under this task will be performed by the steering committee as in-kind contribution from the participating agencies. The project management costs for the consultants are incorporated into the cost estimates for each individual task.

Deliverable:

- Invoices and monthly progress reports
- Complete RFP(s) for the proposed RWSP

Task 19.5.2 Background

Numerous recycled water feasibility studies and technical reports have been completed within San Luis Obispo County. To prevent re-doing work completed in previous studies, and to

[3] It is anticipated that the agencies participating on the Steering Committee will include the District, Templeton Community Services District, City of Morro Bay, City of Pismo Beach, South San Luis Obispo County Sanitation District, City of Arroyo Grande, City of Grover Beach, Oceano Community Services District and Nipomo Community Services District.

benefit from the valuable data collection and analysis that has already been completed, the steering committee will work collaboratively with the consultant to obtain all available recycled water studies during the data analysis phase of the RWSP.

Data Compilation
Review previously completed recycled water studies and develop a database of available resources. The database should include previously completed: feasibility studies; technical reports; recycled water ordinances; etc. Quality assurance/quality control (QA/QC) of the data will be conducted for any duplicate records and general checking of the data from various sources for uniform formats, parameters, and spatial information. A summary of the available data, identified data gaps, and associated data management systems will be incorporated into the IRWM Plan data management section.

Jurisdictional Summary and Analysis
Investigate potential stakeholders and/or agencies with the right to deliver water, collect and treat sewage, or provide other public services within the vicinity of the proposed recycled water projects. Develop a summary list of the potential stakeholders, their rights, responsibilities and expected roles in the context of the proposed recycled water projects. The list of stakeholders and agencies will be incorporated into the relevant IRWM Plan sections including stakeholder outreach and coordination with local water planning and land use agencies.

Deliverables:
- Technical memorandum that summarizes previously completed recycled water studies
- Jurisdictional Summary and Analysis

<u>Task 19.5.3 Recycled Water Goals, Objectives and Constraints</u>
Goals and Objectives Workshop
Plan, organize and facilitate a workshop with the potential project(s)' stakeholders and the steering committee to define the key challenges and opportunities, long term strategic goals, measurable time-bound objectives and applicable constraints of the RWSP. The goals and objectives will consider the climate change vulnerabilities identified in Task 19.5.8. The recycled water objectives will be incorporated into the IRWM Plan objectives.

Deliverables:
- Steering Committee agenda packet
- Summary of the goals, objectives and constraints developed during the workshop

<u>Task 19.5.4 Economic Strategies Analysis</u>
Beneficiaries Analysis
Summarize the apparent beneficiaries of a recycled water program to inform cost allocation considerations. For each identified beneficiary, including DACs, characterize the realized benefit(s) that would accrue because of a recycled water program. This summary should be

qualitative in nature. The identified benefits will be incorporated into the IRWM Plan impacts and benefits section.

Public Funding and Financing Options
Provide a summary of public funding and financing options that may be relevant to consider when developing a recycled water program financial plan, such as federal and state grant and subsidized loan programs. Provide a concise summary of public funding and financing sources applicable for recycled water that includes the: issuing agency(ies); rates and terms; application requirements; applicability; timelines for application and award; and other relevant considerations. The information will be incorporated into the IRWM Plan financing section.
Funding Mechanisms and Rate Structure Options
Summarize potential revenue mechanisms and rate structure options, including: water and sewer user charges; recycled water connection fees and user charges; benefit assessments; developer fees/contributions, etc. For each funding mechanism, provide: 1) a general description of the mechanism and key features; 2) a summary of implementation considerations and requirements; 3) an outline of pros and cons; and 4) a summary of inherent cost allocation(s). Interview peer utility agencies to identify recycled water revenue mechanisms and rate structure options that are currently being employed by similar agencies elsewhere in California.

Deliverable:
- TM identifying primary beneficiaries and describing economic strategies for implementing recycled water projects

<u>Task 19.5.5 Regulatory, Permitting and Legal Requirements</u>
Regulatory Investigation
Research and summarize current and projected future local, state and federal recycled water rules, regulations and standards on treatment, delivery, and uses of recycled water, as they apply to the proposed recycled water projects.

Permitting
Identify the necessary permits and their requirements for implementing recycled water projects.

Legal Requirements
Research and summarize the legal or institutional requirements pertaining to the implementation of the proposed recycled water projects.

Deliverable:
- TM identifying regulatory, permitting and legal requirements for implementing recycled water projects

Task 19.5.6 Policy Frameworks and Considerations

County Policies

Investigate potential County level policies related to recycled water and its implementation within San Luis Obispo County (e.g. development of a County-wide water recycling policy).

Individual Agency Policies

Investigate potential agency level policies related to the use of recycled water within their jurisdictional area (e.g. mandatory use policies). Interview peer utility agencies to identify recycled water use policies that are currently being employed by similar agencies elsewhere in California.

The information will be incorporated into the Coordination with Local Water and Land Use Planning sections of the IRWM Plan.

Task 19.5.7 Sub-Regional Alternatives Analysis

This task involves analysis specific to each sub-region. The scope of work for each sub-region's alternatives analysis differs, depending on the sub-region's specific constraints and previously completed recycled water studies. Due to their geographic proximity and inter-connected piping networks, the City of Pismo Beach and the SSLOCSD have elected to join together to form one sub-region, called the Northern Cities sub-region.

TCSD Sub-Region

- Sub-Regional Goals/Objectives/Constraints
  - Plan and conduct a workshop to establish the goals/objectives/constraints for the TCSD sub-region.
- Recycled Water Supply and Demand Summary
  - As needed, perform a recycled water supply and demand summary for TCSD sub-region.
- Conceptual Alternatives Evaluation
  - Evaluate existing practice of percolating treated wastewater versus development of a recycled water treatment and distribution system, including a Cost/Benefit Analysis.
  - Select the preferred conceptual alternative.

Deliverables:

- Steering Committee agenda packet
- TM with summary of goals/objectives/constraints, recycled water supply and demand, and conceptual alternatives evaluation

Morro Bay Sub-Region

The City of Morro Bay has already completed a recycled water feasibility study. Therefore the scope of the Morro Bay sub-region's recycled water analysis will focus on CIP development and project phasing.

- CIP Development
  - Evaluate potential recycled water system configuration alternatives and develop a preferred alternative.
  - Create a CIP program for the development of a recycled water system in the Morro Bay sub-region based on the preferred alternative configuration.
- Project Phasing
  - Develop a strategy for phasing the development of a recycled water system in the Morro Bay sub-region.

Deliverables:

- TM describing CIP program and project phasing for Morro Bay recycled water system

Northern Cities Sub-Region

- Sub-Regional Goals/Objectives/Constraints
  - Plan and conduct a workshop to establish the goals/objectives/constraints for the Northern Cities sub-region.
- Recycled Water Supply and Demand Summary
  - As needed, perform a recycled water supply and demand summary for the Northern Cities sub-region.
- Conceptual Alternatives Evaluation
  - Evaluate potential conceptual alternatives (shown below) for a recycled water system in the Northern Cities.
    - Irrigation Only
      - Landscape Only
      - Landscape + Agriculture
    - Irrigation + Groundwater Recharge
      - Recycled Water Percolation
      - Recycled Water Injection
    - Seawater Intrusion Barrier
    - ConocoPhillips Cooling Water + Irrigation
    - Arroyo Grande Creek Stream Flow Augmentation
  - Select the preferred conceptual alternative.

Deliverables:

- Steering committee agenda packet
- TM describing the goals/objectives/constraints, recycled water supply and demand summary and conceptual alternatives evaluation for Northern Cities sub-region

NCSD Sub-Region

- Sub-Regional Goals/Objectives/Constraints
  - Plan and conduct a workshop to establish the goals/objectives/constraints for the NCSD sub-region.
- Recycled Water Supply and Demand Summary
  - As needed, perform a recycled water supply and demand summary for NCSD sub-region.
- Conceptual Alternatives Evaluation
  - Evaluate conceptual alternatives (shown below) for a recycled water project in the NCSD sub-region.
    - Groundwater recharge via surface percolation or subsurface infiltration.
    - Subsurface recycled water storage/recovery system at Southland WWTF.
    - Landscape irrigation at the Blacklake and Monarch Dunes Golf Courses.
  - Select the preferred conceptual alternative.

Deliverables:

- Steering Committee Agenda Packet
- TM describing the goals/objectives/constraints, recycled water supply and demand summary and the conceptual alternatives evaluation for NCSD sub-region

<u>Task 19.5.8 Strategies and Recommendations</u>

Regional

Develop a list of strategies and prioritize recommendations for implementing recycled water projects within San Luis Obispo County based on the findings from Task 19.5.2 and 19.5.6.

Sub-Regional

Develop a list of strategies and prioritize recommendations for implementing recycled water projects within each sub-region based on the results from Task 19.5.7.

Climate Change

Complete the DWR Vulnerability Assessment Checklist related to climate change. The assessment will utilize the projected climate change conditions as described in the reports titled Projected Future Climatic and Ecological Conditions in San Luis Obispo County, April 2010, and Integrated Climate Change Adaptation Planning in San Luis Obispo County, November 2010. These two reports form the basis for updating climate change conditions and assessing climate change vulnerabilities in the IRWM Plan.

Changes to the local climate are likely to include more frequent and intense storms and floods, extended drought, increased wildfire, and more heat waves. The reports provide SLO community members and decision-makers with local climate change projections that are presented in a way that can help them make educated long-term planning decisions. The information will help inform the recycled water planning in assessing the impacts to

wastewater flow and water quality characteristics and changes in potential recycled water demands.

The information will be incorporated into the Climate Change section of the IRWM Plan.

Task 19.5.9 Regional RWSP

Admin Draft

Prepare an admin draft of the RWSP that incorporates the findings and results from Tasks 19.5.2 through 19.5.8 and submit it to the Steering Committee for review.

Public Review Draft

Prepare a public review draft of the RWSP that incorporates comments received from the Steering Committee.

Submit the public review draft for public comment and plan, organize and facilitate a public meeting to review and receive comments on the RWSP. Prepare meeting summary.

Final RWSP

Prepared a final RWSP that incorporates the comments received during the public review meeting and any additional comments received from the steering committee.

All relevant information including regional description, objectives, stakeholder outreach, coordination, financing, impact, prioritized projects and climate change will be incorporated into the IRWM Plan.

Deliverables:

- Admin Draft RWSP
- Public Review Draft RWSP
- PowerPoint presentation and meeting summary notes
- Final RWSP

Task 20. Compile Updated IRWM Plan

The RWMG will compile all the information prepared or compiled in the prior tasks into a single draft updated IRWM Plan. The RWMG will make the draft updated IRWM Plan available, in electronic and written formats, to all stakeholders for review. Workshops will be conducted to review and discuss the draft Plan as detailed in the table below. The RWMG will incorporate review comments to the extent possible and provide a response to all comments received. The responses to comments will be provided prior to presenting the Plan for adoption to the Boards of the RWMG agencies. The RWMG agencies will present the Plan to their Boards with a recommendation for adoption.

Meeting	Meeting Objective/Decision Point
October 2013 WRAC Meeting	• Present Draft Updated IRWM Plan
November 2013 WRAC Meeting	• Receive public comments on Draft Updated IRWM Plan
December 2013 WRAC Meeting	• Present Final Updated IRWM Plan

Deliverables:

- Draft Updated IRWM Plan
- Final Updated IRWM Plan

Task 21. Project Management

The District will act as Grant Administrator for the RWMG. The District will follow Appendix E: Guidelines for Grantees and Borrowers in the August 2010 IRWM Guidelines to ensure that records are maintained for each funded project. The tasks associated with Grant Management are listed below.

Task 21.1: Ongoing Grant Management

The District will perform ongoing grant management during the two year IRWM Plan update process, including calls and meetings with the State and record keeping.

Deliverables:

- Calls and meetings with the State
- Record Keeping

Task 21.2: Agreements

The District will draft and finalize grant agreements with the State and project proponents. The District and project proponents will develop consultant agreements, as necessary, consistent with their individual procurement processes and consistent with State requirements.

Deliverables:

- Final agreement with the State
- Final agreements with project proponents that are contributing to implementing this Work Plan (City of Paso Robles, Coastal San Luis Obispo Resource Conservation District, Upper Salinas-Las Tablas Resource Conservation District)
- Final agreements with consultants

Task 21.3: Quarterly Reports

The District will prepare quarterly reports and invoices for the State.

Deliverables:

- Quarterly reports

- Grant invoices

Task 21.4: Final Report

The District will prepare a final report for the State.

Deliverables:

- Final report