SAN LUIS OBISPO COUNTY FLOOD CONTROL
AND WATER CONSERVATION DISTRICT
WATER RESOURCES ADVISORY COMMITTEE

City/County Library Community Room
995 Palm Street
San Luis Obispo

Wednesday, October 7, 2009
9:00 a.m.

1. **Introductions and Determination of a Quorum**

2. **Master Water Plan Workshop**

--- *Noon Recess 12:00 - 1:30 pm* ---

3. **Introductions and Determination of a Quorum**

4. **Approval of August and September Meeting Minutes**

5. **Public Comment**

6. **Ongoing Updates:**
   a. **Conservation and Open Space Element**
   b. **Paso Robles Groundwater Basin Resource Capacity Study**
   c. **WRAC Membership Status**
   d. **San Miguel Ranch DEIR**
   e. **Los Osos Wastewater Project Subcommittee**
   f. **Grading and Stormwater Management Ordinances Subcommittee**

7. **Land to Sea Advisory Committee**

8. **Data Enhancement Plan**

Future Agenda Items:

--- *Adjourn by 3:30 pm* ---

Next Regular Meeting: **November 4, 2009 at 1:30 p.m.**
San Luis Obispo City/County Library
995 Palm Street, San Luis Obispo

Visit Water Resources on the Web at*:* ***www.slocountywater.org***

Purpose of the Committee:
To advise the County Board of Supervisors concerning all policy decisions relating to the water resources of the SLO County Flood Control & Water Conservation District. To recommend to the Board specific water resource programs. To recommend methods of financing water resource programs.

Excerpts from WRAC By-Laws dated March, 6, 2007

SAN LUIS OBISPO COUNTY FLOOD CONTROL
AND WATER CONSERVATION DISTRICT
WATER RESOURCES ADVISORY COMMITTEE

Special Meeting

Minutes

August 26, 2009

An audio recording of the meeting and materials submitted during public comment are available online at www.SLOCountyWater.org.

Approximately 1:30 p.m., Chairperson Winn called the meeting to order.

1) Introductions of Members and Attendees - Quorum Established.

2) Ongoing Updates:

   a. San Miguel Ranch Final EIR - Sue Luft, Subcommittee Chair, indicates that the San Miguel Ranch Final Environmental Impact Report (EIR) inadequately addressed the subcommittee's original comments, indicates that the subcommittee drafted another letter and comments, provides a timeline for future Planning Commission meetings, and indicates that the subcommittee will present the draft report and cover letter to the WRAC on September 2, 2009. Discussion ensues relating to the timing, schedule, and intent of the August 27, 2009 Planning Commission meeting. Chairperson Winn and Subcommittee Member O'Grady outline the draft conclusions and main findings of the second set of comments, including the following items: 1) potential impacts to groundwater are in fact significant, 2) the proposed project will adversely affect agriculture and is inconsistent with Ag Policy 11, 3) the proposed project is inconsistent with the current Conservation Element, 4) mitigation measures for water supply impacts must be required, and 5) the EIR must provide a project-level analysis for the wastewater treatment plant expansion. Member Reid indicates that Camp Roberts is opposed to the project, citing issues unrelated to water. No action is taken on this item.

3) Conservation and Open Space Element - Chairperson Winn, speaks to the format of the subcommittee report. Member Bianchi identifies the need to acknowledge the potential for conflict that County policies may have with State policies and California Water Law. Member Bianchi seeks clarification on "inconsistent recharge". Member O'Grady comments on the need to identify "periods of inadequate rainfall" as another reason for declining water supplies. Discussion ensures relating to declining rainfall, rainfall trends, the cyclical nature of rainfall, the impacts on smaller groundwater basins, and the number of areas in the County that are experiencing groundwater problems. Member David Chipping identifies the need to intertie management of water resources with biological resources. Member Greening questions if "beneficial

uses" include environmental and habitat needs. Member Winholtz notes that the wording of water resources Goal number two (WR 2) is not consistently written in the subcommittee report. Discussion ensues regarding collaborative management, riparian water needs, watershed analysis, potential issues related to inter-jurisdictional enforcement, and the County's authority to enforce implementation strategies. Member Bianchi requests that the water chapter introduce the concept of climate change. Member Fitzhugh seeks clarification on the State's 20x2020 Plan. Discussion ensues relating to Senate Bill 49. Members Neil and O'Grady recommend revising water resources goal number four (WR 4) as follows: "The County will achieve a significant reduction in per-capita potable water use by 2020". Member Neil and Fitzhugh identify the need to differentiate between "development" and "subdivisions" in water resources goal number seven (WR 7). Member Fitzhugh speaks to the use of agricultural clusters as a planning tool. Discussion ensues relating to ensuring sufficient supplies of water, and the need for annexations and subdivisions to have supplemental water available.

Member O'Grady moves to extend the meeting past 2:30 p.m., with a second by Member Winholtz. The motion passes.

Member O'Grady seeks clarification on "support" of LAFCO annexations. Member Bianchi speaks to the need for establishing a water-efficiency monitoring program. Member O'Grady suggests that individuals consider cost-benefit analysis when developing new water supplies. Member Fitzhugh seeks clarification on "key" wells. Discussion ensues relating to groundwater basin adjudication and monitoring programs, operational logistics, the variety of groundwater data types, and groundwater monitoring. Member Neil seeks clarification on a recommended Level of Severity (LOS) versus a certified LOS. Member O'Grady requests proposed new development evaluate the cost impacts to existing users. Discussion ensues relating to passing project costs on to existing users. Member Fitzhugh speaks to self-regenerating water softeners and questions if the language is in the appropriate section of the subcommittee report. Member David Chipping requests that purveyors test recycled water for pharmaceuticals. Discussion ensues relating to the roles of the water purveyor and the costs associated with pharmaceutical testing. Member Hyman poses questions relating to the regulation of wastewater and permitting of wastewater facilities. Discussion ensues relating to County-owned facilities and statewide recycling objectives. Member Bianchi requests that a limit be placed on the depth and number of new wells in groundwater-depressed areas, and the need to reduce water demands to maintain sustainable groundwater elevations. Member Fitzhugh recommends that the phrase "agricultural practices" be removed from the paragraph describing Resource Conservation District support. At the recommendation of James Caruso, Department of Planning and Building, Member O'Grady moves to approve the revised portion of the subcommittee report (pages 2-6 of the August 26, 2009 WRAC agenda package) and distribute it to the Planning Commissioners, with a second by Member Luft. The motion passes unanimously. The WRAC confirms that the remainder of the subcommittee comments (pages 7-10 of the August 26, 2009 WRAC agenda package) will be reviewed at their regular meeting on September 2, 2009.

Meeting adjourned approximately 3:05 p.m.

SAN LUIS OBISPO COUNTY FLOOD CONTROL
AND WATER CONSERVATION DISTRICT
WATER RESOURCES ADVISORY COMMITTEE

Meeting Minutes

September 2, 2009

An audio recording of the meeting and materials submitted during public comment are available online at www.SLOCountyWater.org.

Approximately 1:30 p.m., Chairperson Winn called the meeting to order.

1) Introductions of Members and Attendees - Quorum Established.

2) Approval of July Meeting Minutes - The July 1, 2009 WRAC meeting minutes were approved upon a first by Member Ehring, second by Member Allen, and a unanimous vote with four (4) abstentions.

3) Public Comment - Member Greening speaks to the timing of the October WRAC meeting. John Snyder, Nipomo resident, speaks to the Santa Maria Groundwater Basin litigation, including the status of the appeal process, the filing of a writ of supersedeas, a notice to purveyors that ownership of Twitchell yield is under contention, his opinion that the stipulated settlement is voluntary, and the water monitoring requirements for non-stipulating parties. Member Bianchi questions if Monterey County will reduce or eliminate the downstream releases from Nacimiento Reservoir to preserve San Luis Obispo County's water rights. Discussion ensues regarding minimum dead pools, current downstream releases, and historic release schedules. Chairperson Winn speaks to an article in the September 2009 issue of *Stormwater Magazine* that outlines research related to the washing of vehicles on city streets, informs the WRAC of a Sustainable Ag Expo held in the City of San Luis Obispo on November 16-17, 2009, and highlights the water section of the California in 2025 report published by the Public Policy Institute of California.

4) Ongoing Updates:

   a. Integrated Regional Water Management Program - Courtney Howard, Public Works Department Staff, indicates that the region was accepted for the Integrated Regional Water Management (IRWM) process and that the State will resume issuing Proposition 84 bonds and release new IRWM guidelines as next steps. Discussion ensues relating to "conditionally" approved regions and the WRAC's influence on the region acceptance process.

   b. Paso Robles Groundwater Basin Resource Capacity Study - Courtney Howard, Public Works Department Staff, provides an update on the Paso Robles Groundwater Basin Resource Capacity Study (RCS). Ms. Howard indicates that a group of agencies and the County agreed to work together to

update the water balance information for the RCS. Discussion ensues regarding the agenda and schedule for the Board of Supervisor and Planning Commissioner meetings. Lisa Bodrogi, Paso Robles Wine County Alliance (PRWCA), informs the WRAC that the PRWCA contracted with the University of California Cooperative Extension program to perform a 3-year study in an effort to determine actual water use for vineyards in the Paso Robles Groundwater Basin Estrella sub-area. Discussion ensues relating to the need for accurate pumping data and issues related to the confidentiality of groundwater data.

c. Master Water Plan – Project Overview to Board of Supervisors September 22, 2009 - Courtney Howard, Public Works Department Staff, speaks to the schedule and agenda of the October WRAC meeting. Ms. Howard provides the WRAC with a summary of the presentation for the Board of Supervisors' hearing, which will include recommendations for staff direction on particular water resource management efforts. Discussion ensues relating to the recommendations for staff direction on the Nipomo CSD/Santa Maria Intertie Project.

d. Consideration of Subcommittee Report on Conservation and Open Space Element - Chairperson Winn reviews the August 26, 2009 Special WRAC Meeting, updates the WRAC on the status of the subcommittee report review process, and speaks to the ability to enforce language in the marginalia of the Conservation and Open Space Element (COSE). Member Sinton speaks to the parenthetical nature of "libraries parks, sports parks, and golf courses" relative to county-owned facilities. Member Fitzhugh speaks to the jurisdiction of the County over school districts and other governmental agencies. Discussion ensues relating to the County Resource Management System and the voluntary nature of reporting water use data. Gary Henderson, San Luis Obispo City Staff, speaks to the effort to implement direct potable water reuse. Discussion ensues relating to the general need for water reuse, indirect water reuse, alternate reuse opportunities including agricultural water reuse, desalination, the need for a water reuse education program, and reducing exterior potable water use. Member Hyman questions who should be required to analyze the public health implications of graywater. Discussion ensues relating to the public health implications of graywater reuse, building permit implications, the Uniform Plumbing Code, the utilization of graywater systems in rural areas, and public education on graywater. Member Bianchi recommends taking a "watershed by watershed approach", rather than a "watershed approach" to emphasize different watersheds. Discussion ensues related to the interaction of groundwater basins and overlying watersheds. Member Greening speaks to long-term monitoring of retention and detention basins. Discussion ensues relating to basin maintenance, long-term mitigation monitoring, logistics of forming a zone of benefit to fund basin monitoring, and the potential for required reporting. Member Greening questions if riparian demands include fish and wildlife needs. Discussion ensues relating to the interconnectivity between the water and biological sections of the COSE and the Master Water Plan. Member Bianchi speaks to the need to evaluate the distribution of regional rain gauges. Discussion ensues related to

determination of environmental water demands and analyzing the current water resources data collection network. Member Winn speaks to the Resource Management System Annual Summary Report Level of Severity recommendations. Discussion ensues relating to the proposed Level of Severity designation time changes, the definition of a "dependable supply", and historic precipitation trends. Member O'Grady speaks to need to prepare for the long-term likelihood of using treated wastewater for human consumption. Member Garfinkel moves to approve the revised subcommittee report and distribute it to the Planning Commissioners, with a second by Member Greening. The motion passes unanimously (22-0-0).

5) Consideration of Subcommittee Report on San Miguel Ranch Final Environmental Impact Report - Sue Luft, Subcommittee Chair, speaks to the subcommittee report, the contents of the draft letter, the upcoming Planning Commission study session, and the September 10, 2009 Board of Supervisors meeting. Member Greening points out that references to COSE policies in the subcommittee report should indicate that they are from the draft update to the COSE, and speaks to mitigation of mitigation projects. Member Bianchi speaks to the quality of existing groundwater supplies. Discussion ensues related to the level of severity recommendations from the current and past Resource Management System Annual Summary Reports. Discussion ensues regarding the impact of the Project on Salinas River streamflows. Member Winn speaks to the need for proponents of the proposed project to mitigate adverse impacts caused by the project. Member Sinton moves to approve the revised subcommittee report and distribute it to the Board of Supervisors and Planning Commissioners, with a second by Member O'Grady. The motion passes unanimously.

6) Consideration of Forming a Subcommittee to Review the Draft Environmental Impact Report for the Grading and Stormwater Management Ordinances - Michael Conger, Department of Planning and Building, indicates that the State requires passage of Ordinances by March 2010, informs the WRAC of a Planning Commission workshop on September 24, 2009, and speaks to the future Planning Commission hearing planned for October 22, 2009. Chairperson Winn speaks to the appropriateness of forming a subcommittee in advance of a formal staff presentation. Mr. Conger indicates that the proposed ordinance changes are substantial and technical, will likely require National Pollutant Discharge Elimination System (NPDES) program implementation, will include County-initiated amendments, and that the public hearing draft is available online. Discussion ensues relating to the Environmental Impact Report (EIR), the project description, scheduling, circulation of the EIR, and the State mandate. Chairperson Winn speaks to the timing of forming a subcommittee. Discussion ensues relating to the length and technical nature of the proposed ordinance and related documents. An ad hoc subcommittee to review the Grading and Stormwater Management Ordinances is formed upon a motion by Member Sinton, a second by Member Hyman and a unanimous vote in favor. Ad hoc subcommittee members include Chairperson Winn, Member Kelly, Member Garfinkel, and Member Fitzhugh.

7) Consideration of Revision to By-Laws - Additional Membership - Chairperson Winn asks members of the WRAC if they want to consider allowing additional membership on the committee that would expand representation of agricultural and environmental

interests countywide. Chairperson Winn recommends that the WRAC consider adding one member and alternate member to represent vineyards/grapes and one member and alternate member to represent marine issues. Discussion ensues regarding the justification to expand agricultural representation on the committee. Lisa Bodrogi on behalf of the Paso Robles Wine County Alliance (PRWCA) is requesting that two seats be added to the membership – one for wineries and one for vineyards. Ms. Bodrogi indicates that it is appropriate to add these seats to the committee because these groups want to be a part of the WRAC process, they are substantial land and water users, they are an economic driver, and different commodity groups need different WRAC representation. Member Greening speaks to the precedent of establishing a seat for a particular commodity. Member Fitzhugh speaks to the vineyard representatives on the Williamson Act Policy Review Committee and the Agricultural Liaison Board, indicates that vineyards are "major players" in water issues whereas Member Allen and herself are "generalists", and suggests the inclusion of a vineyard-focused member. Member Luft suggests adding an "Irrigated Agriculture" and a "Marine" seat but not a "Winery" seat. Member Greening speaks to the distinction between permanent and non-permanent irrigated crops. Member David Chipping suggests adding an "Irrigated Agriculture" seat. Member Greening suggests adding a "North County" and "South County" irrigated agriculture seat. Member Eby speaks to the relatively low water use by wineries. Kevin Walsh, Oceano Community Services District (CSD) Staff, suggests increasing agricultural membership to four (4) members. Discussion ensues regarding current agriculture and environmental memberships, vineyard water requirements, the charge of a Resource Conservation District to represent the environment, environmental justice, and disadvantaged communities. Mr. Walsh recommends that the WRAC review the entire membership and to increase committee membership in multiple areas. Member Fitzhugh suggests adding an "Inland" and "North Coast/South County" seat. Member Allen speaks to the physical makeup of the committee, noting the representation of cities, CSDs, water providers and agricultural interests. Chairperson Winn speaks to the role of the Ag Liaison Board, the Economic Advisory Council, and the WRAC. Member Allen reminds individuals that WRAC meetings are public forums, and that the committee encourages presentations and requests for action from non-members experiencing water resources problems. Member Sinton moves to add a "Northern Irrigated Agricultural" Member and Alternate, and a "Southern Irrigated Agricultural" Member and Alternate, with a second by Member Fitzhugh. Chairperson Winn indicates that any new positions would not degrade or reduce the purview of any current memberships. The motion fails with just two (2) votes in favor of the motion. Chairperson Winn speaks to the method of selection for current agricultural and environmental positions, Farm Bureau nominations, and the current WRAC bylaws. Mr. Walsh recommends that the WRAC add two (2) membership positions to Agriculture at Large, and one (1) membership position to Environmental at Large. Member David Chipping moves to add two (2) Agricultural at Large Members and Alternate Members and to add one (1) Environmental at Large Member and Alternate Member position, with a second by Member Reid. Chairperson Winn indicates that any changes to the committee will not change the committee quorum, presently fixed at 10 members. The motion fails with just two (3) votes in favor of the motion. Member Luft moves to add one Agriculture at Large Member and Alternate Member, and to add one Environmental at Large Member and Alternate Member, with a second by Member

Garfinkel. Member Winn comments that the spirit of the motion is that the additional Environmental at Large membership shall focus on coastal issues and that the additional Agricultural at Large membership shall focus on vineyards and grapes, and states that the recommended positions ultimately need approval from the Board of Supervisors. The motion passes with eight (8) votes in favor and six (6) opposed.

8) Consideration of Reconvening the Los Osos Wastewater Project Subcommittee in Response to the Outcome of the Planning Commission Hearings - Member Fitzhugh, speaking as chair of the subcommittee, indicates that the recommendations of the subcommittee are still appropriate and that it is not necessary for the subcommittee to reconvene. Chairperson Winn questions if the WRAC wants a subcommittee to review any new issues, including "Task 1" and "Task 2". Jeff Edwards, member of the public, speaks to the use and/or disposal of the treated effluent, seawater mitigation, and expresses the need to form another subcommittee to evaluate the use and/or disposal the treated effluent. Chairperson Winn speaks to the WRAC's purview in reviewing the project, and the linkage between the water treatment plant and groundwater recharge. Julie Tacker speaks to the public nature of "Task 1" and "Task 2", speaks to role of participants in the Interlocutory Stipulated Judgment in creating those documents, and requests that the WRAC form a subcommittee to review "Task 1". Chairperson Winn recommends that he approach each Supervisor independently to determine if they individually want the WRAC to opine on the project or any other documents related to the project, which suggestion was adopted by general consensus. Chairperson Winn indicates that he will bring this issue back to the WRAC if three (3) or more Supervisors independently request that the WRAC opine on these issues. Discussion ensues regarding the potential for a special WRAC meeting prior to September 29, 2009.

9) Future Agenda Items - Brief discussion.

Meeting adjourned approximately 3:59 p.m.

WATER RESOURCES ADVISORY COMMITTEE 2009

Organization	Representative		Jan	Feb	Mar	Apr	Apr**	May	Jun	Jul	Aug**	Sep	Oct	Nov	Dec
Cambria CSD	Jim Adams	M													
	Robert Reason	A	X												
	Bob Gresens	Staff		X					X						
Heritage Ranch CSD	John D'Ornellas	M	X			X						X			
	Debbie Fransen	A													
Los Osos CSD	Maria Kelly	M		X	X	X	X	X		X	X	X			
	Marshall Ochylski	A		X	X	X	X	X	X			X			
	George Milanes	Staff			X										
	Margret Falkner	Staff	X												
Nipomo CSD	Bruce Buel	M	X	X	•	X		X	•			X			
	Ed Eby	A	X	X	X	X		X	X	X		X			
	Jim Harrison	Staff			X										
Oceano CSD	Barbara Mann	M				X									
	Phil Davis	A													
	Kevin Walsh	Staff		X	X	X				X		X			
Templeton CSD	Jeff Hodge	M								X		X			
	Judith Dieth	A													
	Paul Sorensen	Staff	X		X			X	X	X					
San Simeon CSD	John Russell	M	X	X	X	X	X	X	X	X	X	X			
	Charles Grace	A													
San Miguel CSD	Mike Ellison	M	X	X	X				X						
	Dale Hamblin	A													
City of Arroyo Grande	Chuck Fellows	M						X	X			X			
	Jim Guthrie	A					X								
City of Atascadero	Russ Thompson	M						•	•	X					
	David Athey	A						•	•		X				
City of Grover Beach	Robert Mires	M	X	X	X	X	X	X		X		X			
	Debbie Peterson	A							X						
City of Morro Bay	Betty Winholtz	M	X	X	X	X	X	X	•	X	X	X			
	Dylan Wade	A	X		X										
City of Paso Robles	Christopher Alakel	M		X					X	X		X			
	Doug Monn	A													
	Keith Larson	Staff								X					
City of Pismo Beach	Ted Ehring	M		X	X	X	X	X	X		X	X			
	Ed Waage	A													
	Dwayne Chisam	Staff	X		X										
	Greg Ray	Staff				X		X	X	X		X			
City of San Luis Obispo	Allen Settle	M						X							
	Andrew Carter	A													
	Gary Henderson	Staff	X	X		X		X	•			X			
	Ron Munds	Staff							X						
District 1	Steve Sinton	M	X	X	X	X		X	X	X	X	X			
	0	A													
District 2	Bill Garfinkel	M	X	X	X	X	X	X	X	•		X			
	0	A													
District 3	Marilee Hyman	M	X	X	X	X	X	X	X	X	X	X			
	0	A													
District 4	Michael Winn	M	X	X	•	X	X	X	X	X	X	X			
	0	A													
District 5	Dan O'Grady	M	X	X	X	X	X	X	X	X	X	X			
	0	A													
California Men's Colony	John Kellerman	M	X		X	X		X	X						
	Mike Mintey	A	X												
Camp SLO	John Reid	M	X	X	X	•	•	X	X	X	X	X			
	Nicole Balliet	A													
Cuesta College	Edralin Maduli	M													
	Terry Reece	A													
	Scott Demello	Staff			X										
Atascadero Mutual	John Neil	M							X	X	X				
	Jaime Lien	A	X									X			
	Dan Scalas	Staff				X									
Golden State Water	Mark Zimmer	M		X	X	X	X	X	X	X		•			
	Patrick Vowell	A	X	X		X	X	X							
Agriculture at Large	Ray Allen	M	X	X	X	•			X	X	X	X			
	Mike Broadhurst	A	X	X	X			X	X	X		X			
County Farm Bureau	Joy Fitzhugh	M		X	X	X	X	X	X	•	X	X			
	Jackie Crabb	A	X							X					
Environmental at Large	Sue Luft	M	X	X	X	X	X	X	X	X	X	X			
	Eric Greening	M	X	X	X	X	X	X	X	X	X	X			
	David Chipping	A	X	X	X	X		•	X	X	X	X			
	Sue Harvey	A	X	X	X		X	X	X	X					
Coastal San Luis RCD	Linda Chipping	M	X	X	X	X	X	•	X	X	X	X			
	Kathie Matsuyama	A				X									
Upper Salinas RCD	Tom Mora	M													
	Bill Bianchi	A	X	X		X		X	X	X	X	X			

Board of Supervisors	Jim Patterson	Dist. 5							X						
	Amy Gilman	Staff							X						
Public Works	Courtney Howard	Staff	X	•	•	•	•	X	X	X	•	X			
	Paavo Ogren	Staff			X		X	X							
	Dean Benedix	Staff	X	X	X	X			X						
	Sylas Cranor	Staff	X	•	X	X	X	X	X	X	X	X			
	Mark Hutchinson	Staff					X	X							
	John Waddell	Staff					X	X							
	John Diodati	Staff					X								
	Genaro Diaz	Staff					X								
	Jill Ogren	Staff							X						
Planning and Building	James Caruso	Staff	X	X		X		X	X		X	X			
	Brian Pedrotti	Staff		X											
	Mike Wulkan	Staff								X					
	Steve McMasters	Staff									X				
	Elizabeth Kavanaugh	Staff									X				
	Michael Conger	Staff										X			
Public Health Services	Leslie Terry	Staff		X	X	X		X	X	X	X	X			
	Megan Lillich	Staff		X	X	X		X	X	X		X			
	Brad Prior	Staff				X									
	Kalub Emmons	Staff				X									
Agricultural Commissioner	Michael Isensee	Staff	X	X	X	X		X	X	X					

M= Member; A= Alternate; NM=New Member NA= New Alternate 0 = No nomination received as of 06/18/09
*To be confirmed at a future BOS meeting
**Special Meeting
• = Notified of Absence/Conflict

WATER RESOURCES ADVISORY COMMITTEE

2009 GUEST LIST

NAME	AFFILIATION (if any)	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG*	SEP	OCT	NOV	DEC
Ausilio, Frank				X		X							
Barrett, Della	Public			X			X	X	X	X			
Bianchi, Mary	UC Cooperative Extension	X											
Bianchi, Shirley					X			X					
Bodrogi, Lisa	Paso Robles Wine Country Alliance									X			
Carella, Lou	Carollo Engineers						X						
Cleath, Timothy					X				X				
Domingos, Tony	Paso Robles Wine Country Alliance							X					
Edwards, Jeff	Private Planner		X	X		X		X		X			
Gutierrez, Jose	Carollo Engineers						X						
Hanlon, Jon	AECOM									X			
Henry, Bill	Morro Group/SWCA								X				
Hensley, Gordon	San Luis Obispo Coastkeeper									X			
Hunter, Monica	PCLF							X					
Jacob, Stacie	Paso Robles Wine Country Alliance						X						
Jenning, Dorthy	Citizen						X						
Johnson, Marti	PCLF							X					
Knight, John	RRM Design Group								X				
Lohr, Steve	J. Lohr Vineyards & Wines						X						
O'Connor, Kris	Central Coast Vineyard Team						X	X					
Rafferty, Morgan	ECOSLO			X						X			
Reaugh, Jerry								X					
Schauler, Lawson	Lso Osos			X		X							
Senet, Steve	Los Osos			X									
Snyder, John		X	X				X	X		X			
Sorensen, Paul	Fugro West Inc.								X	X			
Swees, Kathy	Public							X					
Tanaka, Steven	Wallace Group			X		X	X	X	X				
Taylor, George			X	X	X	X	X	X		X			
Taylor, Gewynn		X	X	X	X	X	X	X		X			
Wald, Stephnie	Central Coast Salmon Enhancement								X	X			
Weimer, Keith						X							
Williams, Dawn	League of Women Voters			X					X	X			

*Special Meeting

TO: **Water Resources Advisory Committee**

FROM: **Courtney Howard, SLO County Water Resources Engineer**

DATE: **October 7, 2009**

SUBJECT: **Agenda Item # 2: Master Water Plan Workshop**

Recommendation

Consider and provide input on the demand analysis methodology and concur that the demand assessment can proceed.

Consider and provide input on the description of available data, existing demands and water supply in San Luis Obispo County.

Discussion

Public Works staff and the consultant will be presenting the purpose of this workshop, the work completed to date on the Master Water Plan, the demand assessment methodology, available water demand data and the County's water supply resources to the WRAC. They will also discuss the next steps of the project, update WRAC members on project schedule, and highlight the next major milestones.

The Demand Assessment Methodology Technical Memorandum (attached) is the most important report to review prior to the workshop. Water purveyors, and others, are asked to please review the sections of the Description of Water Resources and Water Supply, Demand and Quality (available at www.SLOCountyWater.org) Technical Memorandums that are applicable to their area and provide comments by October 23, 2009. Please find attached a copy of the updated milestone schedule for your use. Below is an outline of this agenda item.

1. Introduction
   a. Purpose of workshop: Present the demand methodology approach and the summary of data, existing demands and water supply in the County.
   b. Goals of workshop: Receive WRAC comments on demand methodology and receive agreement to proceed with demand assessment.
   c. Next steps: Schedule update and next WRAC meeting

2. Work completed to date
   a. Last WRAC meeting (June 3, 2009)
   b. Available data
   c. Demand methodology
   d. Water supply assessment and existing demands

3. Water Planning Areas (WPAs) (Map Attached)
    1) Three Sub-Regions (North Coast, South Coast, Inland)
    2) 16 WPAs
    3) Assumptions/Criteria in developing WPAs
    4) Issues within WPAs

4. Demand assessment methodology
    a. Current approach versus 1998 MWP approach
    b. Demands
        1) Existing (Link to specific year, best available data, or representative range)
        2) Future (Link to build-out of planning documents, not to specific year)
        3) Low and high range
            a) Conservation goals
    c. Demand categories and sample calculation: WPA 6 - Five Cities
        1) Urban
            a) Respect autonomy of cities, URL, and VRL
            b) Based on existing reports
        2) Rural
        3) Agricultural
        4) Environmental
    d. Questions on demand methodology

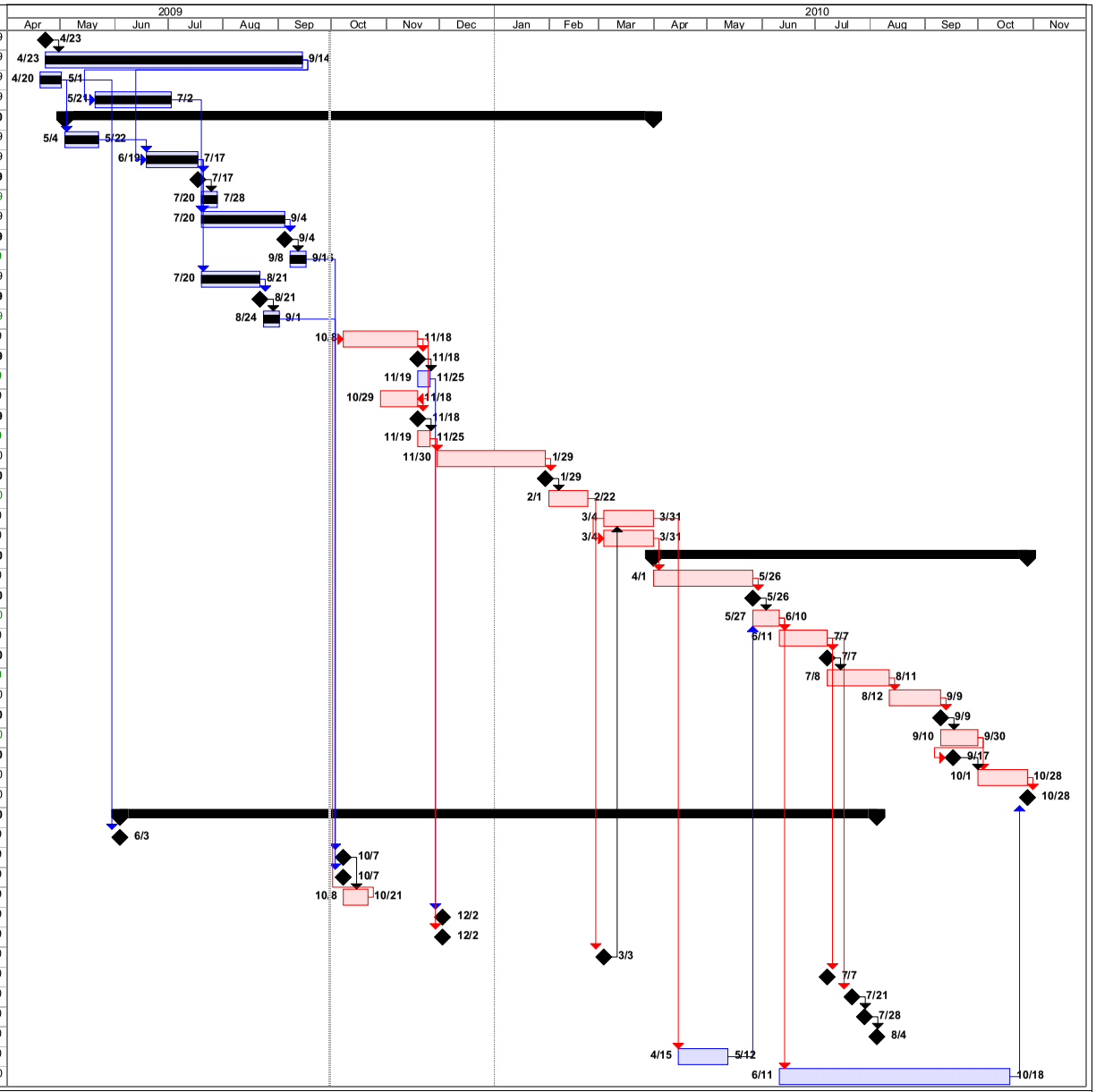
5. Water supply inventory
    a. Available data
        1) Department of water resources
        2) Groundwater studies
        3) Urban water management plans, water master plans
        4) Consumer confidence reports
    b. Water supply sources
        1) Groundwater
        2) Surface water
        3) Recycled water
        4) Desalination
    c. Water supply by water planning area

6. WPA 6: Five Cities
    a. Demand versus supply assessment

7. Next steps
    a. Demand assessment
    b. Analysis criteria
    c. Next WRAC meeting December 2, 2009

Attachments: Milestone Schedule
Water Demand Analysis Methodology Technical Memorandum
Water Planning Area Map

ID	Task Name	Duration	Start	Finish
1	Notice To Proceed	0 days	Thu 4/23/09	Thu 4/23/09
2	Data Collection	100 days	Thu 4/23/09	Mon 9/14/09
3	A. Refine Scope, Goals, Objectives	10 days	Mon 4/20/09	Fri 5/1/09
4	B. Describe Water Resources Management	30 days	Thu 5/21/09	Thu 7/2/09
5	**C. Water Resources Analysis**	**230 days**	**Mon 5/4/09**	**Wed 3/31/10**
6	C.1) Develop Objectives of Resources Analysis	15 days	Mon 5/4/09	Fri 5/22/09
7	C.2) Describe Available Data	20 days	Fri 6/19/09	Fri 7/17/09
8	**Submit Description of Available Data**	**0 days**	**Fri 7/17/09**	**Fri 7/17/09**
9	District Review Available Data	7 days	Mon 7/20/09	Tue 7/28/09
10	C.3) Water Supply Inventory/Assessment	35 days	Mon 7/20/09	Fri 9/4/09
11	**Submit Water Supply Inventory and Assessment**	**0 days**	**Fri 9/4/09**	**Fri 9/4/09**
12	District Review Supply Inventory	7 days	Tue 9/8/09	Wed 9/16/09
13	C.4) Develop Demand Analysis Methodology	25 days	Mon 7/20/09	Fri 8/21/09
14	**Submit Analysis Methodology**	**0 days**	**Fri 8/21/09**	**Fri 8/21/09**
15	District Review Methodology	7 days	Mon 8/24/09	Tue 9/1/09
16	C.4) Water Demand Analysis	30 days	Thu 10/8/09	Wed 11/18/09
17	**Submit Demand Analysis Results**	**0 days**	**Wed 11/18/09**	**Wed 11/18/09**
18	District Review Demands	5 days	Thu 11/19/09	Wed 11/25/09
19	C.5) Identify Analysis Criteria	15 days	Thu 10/29/09	Wed 11/18/09
20	**Submit Analysis Criteria**	**0 days**	**Wed 11/18/09**	**Wed 11/18/09**
21	District Review Analysis Criteria	5 days	Thu 11/19/09	Wed 11/25/09
22	C.6) Sub-Regional Analysis, Conc., Recomm.	43 days	Mon 11/30/09	Fri 1/29/10
23	**Submit Conclusions and Recommendations**	**0 days**	**Fri 1/29/10**	**Fri 1/29/10**
24	District Review Recommendations	15 days	Mon 2/1/10	Mon 2/22/10
25	C.6) Revise Conclusions and Recommendations	20 days	Thu 3/4/10	Wed 3/31/10
26	D. Document Relationship of MWP	20 days	Thu 3/4/10	Wed 3/31/10
27	**E. MWP Report Preparation**	**148 days**	**Thu 4/1/10**	**Thu 10/28/10**
28	Administrative Draft MWP	40 days	Thu 4/1/10	Wed 5/26/10
29	**Submit Administrative Draft MWP**	**0 days**	**Wed 5/26/10**	**Wed 5/26/10**
30	District/County Planning Review	10 days	Thu 5/27/10	Thu 6/10/10
31	Public Draft MWP	18 days	Fri 6/11/10	Wed 7/7/10
32	**Submit Public Draft MWP**	**0 days**	**Wed 7/7/10**	**Wed 7/7/10**
33	Public/Stakeholder Review	25 days	Thu 7/8/10	Wed 8/11/10
34	Board of Supervisors Draft MWP	20 days	Thu 8/12/10	Thu 9/9/10
35	**Submit Board of Supervisors Draft**	**0 days**	**Thu 9/9/10**	**Thu 9/9/10**
36	Board Review	15 days	Fri 9/10/10	Thu 9/30/10
37	**Board of Supervisors Presentation**	**0 days**	**Fri 9/17/10**	**Fri 9/17/10**
38	Final MWP Report	20 days	Fri 10/1/10	Thu 10/28/10
39	Submit Final Report	0 days	Thu 10/28/10	Thu 10/28/10
40	**F. Stakeholder Review/Meetings**	**296 days**	**Wed 6/3/09**	**Wed 8/4/10**
41	WRAC Workshop No. 1 (Present Goals, Objectives)	0 days	Wed 6/3/09	Wed 6/3/09
42	WRAC Workhsop No. 2 (Present Demand Methodology)	0 days	Wed 10/7/09	Wed 10/7/09
43	WRAC Meeting on Water Supply Inventory	0 days	Wed 10/7/09	Wed 10/7/09
44	WRAC Review Demand Methodology	10 days	Thu 10/8/09	Wed 10/21/09
45	WRAC Workshop No. 3 (Present Demand Analysis Results)	0 days	Wed 12/2/09	Wed 12/2/09
46	WRAC Meeting on Analysis Criteria	0 days	Wed 12/2/09	Wed 12/2/09
47	WRAC Workshop No. 4 (Present Recommendations)	0 days	Wed 3/3/10	Wed 3/3/10
48	WRAC Workshop No. 5 (Present Draft MWP)	0 days	Wed 7/7/10	Wed 7/7/10
49	Sub-Regional Meeting 1 (Present Draft MWP)	0 days	Wed 7/21/10	Wed 7/21/10
50	Sub-Regional Meeting 2 (Present Draft MWP)	0 days	Wed 7/28/10	Wed 7/28/10
51	Sub-Regional Meeting 3 (Present Draft MWP)	0 days	Wed 8/4/10	Wed 8/4/10
52	G. Framework for Maintaining MWP	20 days	Thu 4/15/10	Wed 5/12/10
53	H. CEQA Compliance	90 days	Fri 6/11/10	Mon 10/18/10



ESA

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DRAFT memorandum

date September 30, 2009

to Courtney Howard, San Luis Obispo County; Water Resources Advisory Committee (WRAC)

from Annika Fain, ESA; Eric Zigas, ESA

subject San Luis Obispo County Water Demand Analysis Methodology (Task C.4)

Background

San Luis Obispo County (County) has experienced multiple droughts, degradation of groundwater, and limited water supplies. The San Luis Obispo County Flood Control and Water Conservation District (District) is preparing an updated County Master Water Plan (MWP). The previous version of the MWP was completed in 1998. Since then, there have been many changes in the water resources in the County, including the completion of local and regional water management plans, formation of the Integrated Regional Water Management Plan (IRWMP), new water sources, new water users, and new water regulations.

The updated MWP will incorporate these changes and provide all entities in the County with information to help effectively and efficiently manage water resources to protect ecosystems, public health and safety, and agriculture. The water supply and water demand is being calculated for the entire County for existing and future conditions. The following document includes a methodology summary for the water demand analysis. The description of water resources management and water supply inventory is being prepared in a separate document. We will utilize input from the WRAC, regional, sub-regional, and other stakeholders related to all categories of the water demand methodology.

Total Water Demand

Definition

The total water demand is split into four categories: urban, rural, agricultural, and environmental. Total demand will be defined as the sum of all categories.

Method

The total water demand will be calculated for existing and future conditions throughout the County. For calculating the existing water demand we will utilize the most recent available data, consistent with the timeframe used for water supply calculations. For future water demand we will provide “build-out” in the context of future

demands in the foreseeable future, consistent with the timeframe used for water supply calculations. We will create a geodatabase which includes all four categories of water demand for existing and future conditions, as well as the total water demand, for each of the water planning areas. The data will be compiled into "look up tables" that are either linked to/generated by GIS layers or are independent of GIS and based on adopted plans (pending their areal/spatial application). This will allow any of the parameters to be revised as they are updated; or in order to test the sensitivity of the estimate to changing conditions; or to provide the ability to explore "what if" development were to happen differently, or what if there is a pending development for which water availability needs to be verified. We will utilize input from the WRAC, regional, sub-regional, and other stakeholders related to the total water demand methodology.

Assumptions

Calculating the existing total water demand and projecting the future total water demand requires a number of assumptions, review and analysis of existing data for each of the categories. A couple of the general assumptions are outlined below and assumptions specific to each of the individual water demand categories are discussed within the individual category section:

- Existing demands represent average annual demand, in acre-feet (AFY). The demand can vary widely on smaller timescales, such as a daily or monthly demand.

- Future water demand will be shown as a range whenever possible. For urban areas, the range of the future water demand represents projected 2025 demand and build-out demand. The build-out demand is not associated with a particular year because this is unknown and will vary between water planning areas. For agricultural demand, the range represents the difference between using low and high end of variables. For rural demand, the range represents the difference between using low and high water duty factors

Urban Water Demand

Definitions

Urban water demand refers to residential, commercial, industrial, parks, institutions, and golf courses water demand within the unincorporated communities and incorporated cities in the County, and will include. The water demand in other unincorporated areas in the County is included in the rural water demand, agricultural water demand, and environmental demand.

Sources

Primary sources of data include the water system master plans (WSMP) and urban water management plans (UWMP) prepared by water purveyors, incorporated cities, and unincorporated communities. All of the urban areas, incorporated cities and unincorporated communities have adopted a WSMP or UWMP during the last 10 years. Additionally, the County's *Annual Resource Summary Report* 2008 (ARS) provides existing projected water demand and population for these areas.

Method/Assumptions: Existing and Future Water Demand

Existing water demand calculations and future water demand projections from WSMP's and UWMP's will be used. UWMP's are available for all incorporated cities and include existing and future water demand. WSMP's are available for all of the unincorporated communities, which are serviced by Community Services Districts (CSD), or County Service Areas (CSA), and include water demand information. The Wallace Group has reviewed

all of the UWMP and WSMP's and provided a summary of the available urban water demand presented in these documents. Table 1 includes a list of some of the WSMP's and UWMP's developed for unincorporated communities and incorporated cities in the County. These plans include water demand information. We will utilize input from the WRAC, regional, sub-regional, and other stakeholders related to the urban water demand methodology.

TABLE 1
URBAN WATER MANAGEMENT PLANS (UWMP) AND WATER SYSTEM MASTER PLANS (WSMP) AVAILABLE FOR URBAN WATER DEMAND ANALYSIS

Urban Areas	UWMP	WSMP	Year
San Simeon		X	2007
Cambria	X	X	2005; 2004
Cayucos	X	X	2008; 2003
Morro Bay*	X		2006
Los Osos CSD	X	X	2000; 2002
San Luis Obispo City*	X		2005
Pismo Beach*	X		2007
Arroyo Grande*	X		2000
Grover Beach*	X		2006
Oceano CSD		X	2004
Avila Beach CSD			2007
Nipomo CSD	X	X	2007
Atascadero (AMWC)*	X	X	2005; 2009 (in progress)
Templeton CSD		X	2005
Paso Robles*	X		2005
Shandon (CSA 16)		X	2004
San Miguel		X	2002
Santa Margarita (CSA 23)		X	2003

*Includes incorporated city

The WSMP's and UWMP's describe existing and future demand in various units such as gpcd (gallons per capita per day), AFY, or average day demand (ADD). For purposes of this analysis, the annual urban water demand will be presented in AFY. The urban water demand for individual areas in the County will be associated with a GIS layer which will include the existing and future urban demand for each unincorporated community and incorporated city.

Rural Water Demand

Definitions

Rural water demand refers to water demand in unincorporated areas of the County that are not considered agricultural or urban.

Sources

The County GIS land use data, including vacant and developed properties and potential subdivisions and units, in the unincorporated areas of the County will be used to calculate a rural water demand. Additional sources include information from purveyors, water management plans, and the County's ARS.

Method/Assumptions: Existing and Future Rural Demand

A water duty factor will be applied to the acreage and dwelling units of unincorporated areas. A water duty factor is an estimated average volume of water used annually by a particular activity and is represented in AFY/acre and AFY/dwelling unit (DU).

Due to different climates and types of water usage, the water duty factors can vary widely between region and time of year. The water duty factor varies with the number of persons in each DU and the amount of landscaping, as well as the climate. Coastal rural areas will require less water than inland rural areas due to greater evapotranspiration in the inland areas and more precipitation in the coastal areas. The water duty factor for each of the areas will be determined by using information available related to rural interior and exterior water usage in San Luis Obispo County, as well as adjacent counties, from purveyors and other sources. We will account for the exterior water usage varying more than the interior water usage by establishing a range for each region for existing and future rural demand.

We will utilize the County GIS layer which includes land use and DU for all unincorporated areas of the County. We will calculate a rural water demand for each area by multiplying the number of dwelling units or acreage for a particular land use by a water duty factor. For future rural water demand, initially the residential potential demand will be multiplied by a factor, such as 90%, to account for physical and environmental constraints on development. The rural demand for individual areas in the County will be associated with a GIS layer which will include the number of dwelling units, water duty factor, and rural water demand for all unincorporated areas in the County that are not considered agricultural or urban. We will utilize input from the WRAC, regional, sub-regional, and other stakeholders related to the rural water demand methodology.

Agricultural Water Demand

Definitions

Agricultural water demand refers to water demand in all agricultural areas in the County. The following definitions are related to factors related to agricultural water demand:

- GIWR: Gross Irrigation Water Requirement (GIWR) represents the quantity of applied irrigation water. For San Luis Obispo County, the GIWR is primarily a function of crop evapotranspiration (Etc), effective rainfall (EF), leaching requirement (LR), irrigation efficiency (IE), and frost protection (FP).

- Eto: Reference evapotranspiration (Eto) represents the approximate theoretical water use of a well watered, cool-seasoned grass , 4 – 6 inches tall, under full cover. This varies with changing weather conditions throughout the County.

- Kc: The crop coefficient (Kc) refers to a dimensionless number, specific to a particular crop, that is related to the Eto of grass (1.0). Kc is used to estimate plant water use for a particular plant in a particular region.

- Etc: Crop Evapotranspiration (Etc) is estimated by multiplying Eto and Kc. Etc is the quantity (depth) of water transpired by plants, retained in plant tissue, and evaporated from adjacent soil surfaces during a specific time.

- EF: Effective rainfall (EF) is the amount of rain used by crops and is influenced by a variety of factors including frequency, intensity, and total amount of rainfall; percentage of ground cover, rate of evapotranspiration, and rooting depth of the crop; and soil water holding capacity, infiltration rate, and moisture at the time of rainfall.

- FP: Frost protection (FP) refers to the amount of water used to protect plants from frost. The FP is based on the approximate number of nights per year, hours per night, and applied water flow rate for crops which are prone to damage

- LR: Leaching requirement (LR) refers to the amount of extra irrigation water necessary to remove salts from the soils.

- IE: Irrigation efficiency (IE) represents the ratio of irrigation water beneficially used vs. total irrigation water applied.

Sources

The Agriculture/Crop GIS layer for the County from August 2008 will be used, as well as other information provided by the Agricultural Commissioner's office. This layer is updated yearly with information from the pesticide use records obtained by the San Luis Obispo Department of Agriculture. The pesticide use records are forecasts and are approximately 80% accurate (Isensee, 2009). The number of crop rotations varies and is not identified in the Agriculture/Crop GIS layer. Therefore, we will estimate these parameters based on any available information.

CIMIS data will be used as reference evapotranspiration (ETo) and crop coefficients (Kc) for areas where data are available, as well as relevant University of California Cooperative Extension Leaflets 21426 to 21428. (Snyder et al., 1987, 1989a, 1989b). The rainfall data will be used from a variety of sources including SLO County gages, SLO County Hydrology Report, SLO County Flood Control and Water Conservation District maps, CDEC, CIMIS, NWS, and NOAA Rainfall Maps. ESA has contacted a UC Farm Advisor (Mark Battany) in San Luis Obispo County and obtained information on frost protection in the County. Irrigation information has been obtained from a Cachuma Resource Conservation District (CRCD) Irrigation Specialist (Kevin Peterson), as well as from the Central Coast Vineyard Team (CCVT) Executive Director (Kris O'Connor). Additionally, a DWR model is available to calculate applied water (AW; the quantity of water applied to a specific crop per unit area) for areas where sufficient data is available (http://www.water.ca.gov/landwateruse/anaglwu.cfm#).

Method/Assumptions: Existing Agricultural Demand

We will utilize input from the WRAC, regional, sub-regional, and agricultural stakeholders related to the agricultural water demand methodology. Additionally, we will utilize the agricultural crop GIS data from 2008 to determine types of crop for areas throughout the County, as well as other information provided by the Agricultural Commissioner's office and other organizations. In some areas of the County we will need to look closely at aerial photos, to check the accuracy of the agricultural data. We will calculate a Gross Irrigation Water Requirement (GIWR) by utilizing information on crop evapotranspiration, contribution from rain or shallow water table, leaching requirements, irrigation efficiency, and frost protection. The following equation will be used to calculate annual GIWR in AFY for each of the water planning areas:

$$\text{Annual GIWR} = \frac{\text{ETc} - \text{EF}}{(1 - \text{LR}) \text{ x IE}} + \text{FP}$$

This formula was modified from a general formula for GIWR, which was established in 1997 (Burt). In areas where CIMIS DWR has established rain gages, we will utilize the DWR irrigation model that calculates water demand for areas where gaged precipitation data exists. This model takes into consideration the irrigated crop area, irrigated land area, multi-cropping, evapo-transpiration, effective precipitation, and consumed fraction to calculate the applied water (acre-foot per acre). This can be multiplied by acreage for crop type to calculate

agricultural water demand (AFY). The applied water in San Luis Obispo and Kern County has been calculated from 1998 to 2001 at select gages and can be updated by utilizing one of the online models (Consumptive Use Program [CUP] or SIMETAW).

Crop Evapotranspiration

Reference Crop Evapotranspiration (Eto). Crop evapotranspiration for four CIMIS weather stations in San Luis Obispo County, two in Kern County (to the east), and one in Santa Barbara County (to the South) will be used. The CIMIS stations in San Luis Obispo County include two in San Luis Obispo, one in Atascadero, and one in Nipomo. Additionally, there are two CIMIS stations in Kern County which can be used to estimate Eto in Eastern San Luis Obispo County.

Crop coefficients (Kc). The crops in San Luis Obispo County will be assigned crop coefficients based on the crop type and location. These crops include nursery, orchard, pasture vegetable vineyard, seed, grass oat, and berry. The spreadsheet and GIS model will be set-up so these numbers can be easily updated with new crop coefficients and crop evapotranspiration.

Crop Evapotranspiration (Etc). Crop evapotranspiration will be calculated by multiplying the reference crop evapotranspiration by the crop coefficients for each agricultural crop and area.

Effective Rainfall (ER)

The effective rainfall will be calculated for each area by utilizing historical monthly precipitation in San Luis Obispo County and effective precipitation based on crop type.

Frost Protection (FP)

The frost protection water requirement will be calculated for grapes and strawberries, as well as other crops where frost protection is applied. This will be based on information provided by the UC Farm Advisors and input from the WRAC and other agricultural stakeholders.

Leaching Requirements (LR)

The leaching requirements, amount of over watering necessary to remove salts from the soil, will be assumed to be satisfied by rainfall for much of the area, with the exception of some dryer areas where a percentage will be assigned for the deciduous crop groups. This will be based on information provided by agricultural stakeholders.

Irrigation Efficiencies (IE)

Irrigation efficiencies will be calculated by utilizing distribution uniformity and losses provided by the San Luis Obispo County/Santa Barbara County Cachuma Resource Conservation District, San Luis Obispo County Coastal Resources Conservation District, vineyard owners, and recent studies. Additionally, we will incorporate input from the WRAC and other agricultural stakeholders.

Method/Assumptions: Future Agricultural Demand

Similar methods and equations will be used as above to calculate the future irrigation water requirements. The calculation of GIWR will be different due to changes in cropping patterns, weather patterns, and irrigation methods. Where appropriate, general plan land use data will be utilized to predict areas where agricultural lands could change in the future. We will utilize the most recent climate change information in our analysis. For future

agricultural water demand we may include a decrease in rainfall and higher evapotranspiration, based on predicted climate change in the area.

Environmental Water Demand

Definitions

Environmental water demand refers to the amount of water needed in an aquatic ecosystem, or released into it, to sustain aquatic habitat and ecosystem processes.

Sources

There are six active USGS streamflow gages and 68 inactive USGS streamflow gages in San Luis Obispo County (USGS, 2009). Information on location, site details, drainage, and available data was obtained for all United States Geological Survey (USGS) sites and imported into GIS. There are 18 active San Luis Obispo County streamflow gages. We obtained similar information from Sylas Cranor in the San Luis Obispo Water Resources Department for all active and inactive gages and imported into GIS.

Method/Assumptions: Existing and Future Environmental Demand

We will quantify and qualify existing and future environmental water demands for areas where data are available and unimpaired runoff data can be obtained or calculated. We will utilize USGS and County existing stream gage data and develop a plan for obtaining the critical stream flow data. Unimpaired runoff estimates will be calculated by developing regional, multiple regression relationships that will predict runoff as a function of two or more factors (e.g. drainage area, precipitation, topography, or land cover) or one that would predict runoff at an ungaged, or partially gaged, location as a function of runoff at a gaged location. Once the estimated unimpaired runoff has been established, numerous methodologies for calculating environmental water demand may be applied. We will likely use methods such as the February median flow (FMF) methodology (California Department of Fish and Game [CDFG] and National Marine Fisheries Service [NMFS], 2002), the "Montana Method" (Tennant, 1976), or the median annual discharge methodology (Hatfield and Bruce, 2000). We will select an appropriate methodology for the environmental demand analysis based on target species, data availability, consensus from the WRAC and other stakeholders, as well as time and budget constraints.

Unimpaired Runoff

As part of the Environmental Water Demand analysis, annual unimpaired (i.e., unregulated by impoundments or dams and not substantially effected by the diversion or pumping of water) flow statistics (e.g., mean, median, FMF) will be calculated for select locations throughout San Luis Obispo County. The flow statistic(s) ultimately selected for the analysis will be determined through coordination with a fisheries biologist. The following outlines the approach and methods proposed for the estimation of unimpaired runoff within San Luis Obispo County. Generally, the method followed will be similar to methods described by Mann et al. (2004) and Ries and Friesz (2000). In the most basic sense, the record/flow statistic(s) at long-term gaging stations will be used to extend the record/flow statistic(s) of short-term gaging stations, and these will in turn be used to estimate the flow statistic(s) at ungaged locations. Below is a description of methods we are using to calculate unimpaired runoff.

We will develop a base map in AcrGIS; gather and process relevant spatial data (e.g., topography, soils data, geology, mean annual rainfall). We will determine which USGS and County gages represent predominantly unimpaired flow conditions:

- For active and recently discontinued USGS gages, this information has already been obtained (available online);
- For older USGS gages, the hard copy Water Data Reports (WDR) need to be consulted (available at UC Berkeley or the USGS Water Science Center in Sacramento, CA); and
- For select County gages, this will need to be verified by County staff and/or through analysis of aerials and water rights information.

We will select "Index Stations" (i.e., those stations with records comprising 30 years or more), summarize mean daily flow data, and calculate the flow statistic for the assessment period (likely to be Water Year 1972-2008, as this period is common to most of the candidate Index Stations). We will test for trends, qualitatively (i.e., plotting vs. time) and/or quantitatively (correlation test, Kendall's tau), in the Index Station data. We will discard Index Stations that exhibit significant trend and use "de-trending" methods if trend is exhibited at regional scale.

We will use Index Stations and regression analysis to adjust (extend) the record of "Study Stations" (i.e., those with records comprising less than 30 years); Index Station-Study Station pairing will be informed by regional characteristics (e.g., topography, geology, etc.) but ultimately determined by proximity and the value of the regression coefficient of determination (R^2). For each regression, we will plot computed residuals and evaluate (qualitatively and/or quantitatively) possible issues (e.g., non-constant variance with time). We will calculate the flow statistic(s) for the Study Stations over the assessment period.

Based upon the flow statistic(s) calculated for the gaged locations (i.e., the Index Stations and the record-extended Study Stations), estimate the flow statistic(s) for selected ungaged locations. We will select ungaged locations of interest (some locations may be ruled out all together due to differences in watershed characteristics as compared to any of the gaged locations). We will determine appropriate station(s) (Index and/or Study Station) for each ungaged location of interest; this will be based upon proximity, mean annual rainfall, drainage area size, watershed relief/topography, geology, and soil characteristics. We will calculate the flow statistic(s) for the ungaged locations using A) the drainage basin area-ratio method or B) multiple regression (note: the latter will not likely be an option given budget and time constraints). We will summarize the flow statistics and unimpaired runoff estimates for all Index Stations, Study Stations, and ungaged locations.

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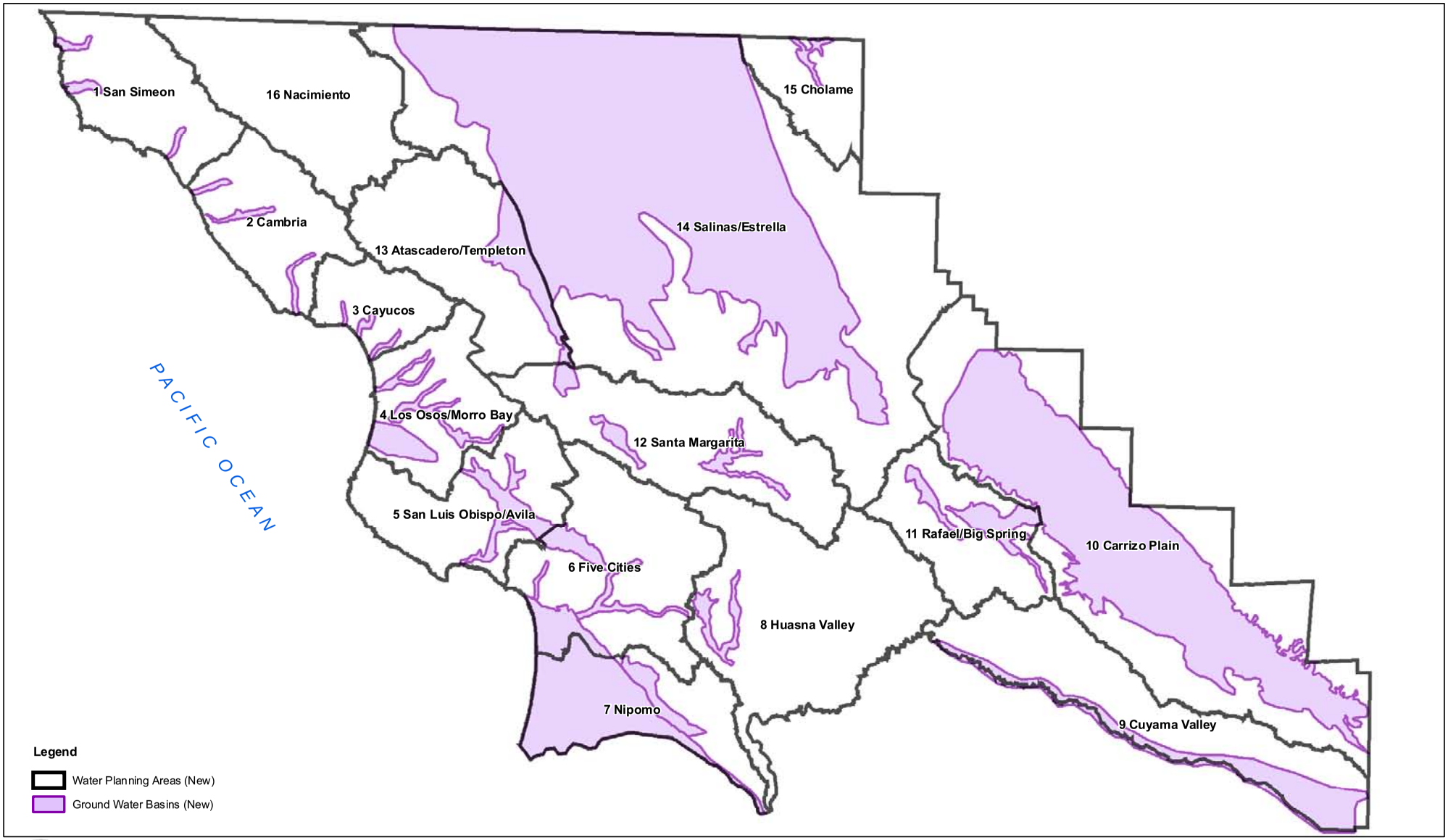

San Luis Obispo County Flood Control and Water Conservation District

MASTER WATER PLAN

Groundwater Basins and WPAs

San Luis Obispo County

0 2.5 5 10 Miles

TO: **Water Resources Advisory Committee**

FROM: **Courtney Howard, SLO County Water Resources Engineer**

DATE: **October 7, 2009**

SUBJECT: **Agenda Item # 7: Land to Sea Advisory Committee**

Recommendation

Consider whether the WRAC is the appropriate forum to accomplish the goals of a Land to Sea Advisory Committee and provide feedback to the CORRT Project on the formation of such a committee.

Discussion

The Coast and Ocean Regional Roundtable (CORRT) Project will be presenting the recommended actions of its June 4th meeting for review by the Water Resources Advisory Committee (see attached report). The formation of a Land to Sea Advisory Committee was one of the topics addressed at CORRT's second annual meeting conducted jointly by the Environmental Center of San Luis Obispo (ECOSLO) and the Planning and Conservation League Foundation (PCLF).

The CORRT proposed action is aimed at establishing a mechanism for local level review of policies and practices that relate to coastal watersheds and marine resource management. The CORRT project has been initiated to consider the recommended actions of the California Ocean Protection Council and also of the Joint Ocean Commission Initiative in considering coastal county interests in new directions in the state's marine and coastal resource policies. The CORRT Project is funded by the Resources Legacy Fund Foundation to support local action to achieve integrated management of coastal and marine resources. The CORRT Project may seek support and/or further suggested actions from the Water Resources Advisory Committee, including potential formal recommendations to the Board of Supervisors.

In addition, WRAC may wish to consider whether the WRAC itself is the appropriate advisory committee to consider land to sea issues, whether WRAC memberships should be expanded to include marine resource expertise, and /or whether WRAC member(s) should be appointed to a Land to Sea Advisory Committee if that separate committee is in fact established. The attached report includes issues identified with this possibility during the June 4th meeting.

Attachment: CORRT Project Report

The Coast and Ocean Regional Roundtable Project

Project contacts:
Monica Hunter, Planning and Conservation League Foundation
Morgan Rafferty, Environmental Center of San Luis Obispo

Project Description

The ***Planning and Conservation League Foundation*** and the ***Environmental Center of San Luis Obispo*** have joined in a collaborative effort to conduct a regional forum to consider the land-sea nexus of coastal and marine resource management for San Luis Obispo County. The purpose of the project is to establish a set of priorities and actions that will meet the needs of our coastal communities to conserve, protect and restore coastal watersheds and marine areas in ways that are consistent with new statewide goals for improving California's marine and coastal ecosystems. San Luis Obispo County is one of five coastal counties in the South Central Marine Region that have the opportunity to help define and initiate implementation of marine policy with local action.

The CORRT Project is modeled on the *California and the World Oceans Forum* held in California in 2006, organized to bring the best technical and policy experts together to address new priorities in marine resource management for California and the West Coast. Similarly, the CORRT project has endeavored to identify local resource experts and program managers to address new perspectives and potential gaps in current local and regional programs where innovative solutions will be needed in order to fully implement California's goals to achieve integrated management of coastal and marine resources.

The CORRT Project was initiated in 2008 and was developed through a Planning Group process designed to harness existing local expertise from both marine and land-based conservation groups in order to generate a new perspective on coast and ocean protection that is strategic, collaborative, and regionally specific. This process was developed to maximize the effectiveness of existing efforts, identify new and emerging tools and resources for conserving coastal and marine resources in the future, and serve as an example for other coastal counties seeking to maximize existing expertise and capacity for local-level implementation of new coastal and marine policies. This project is funded by a grant from the Resources Legacy Fund Foundation under its Coastal California Marine Initiatives Program. Project Team members include Marti Johnson, Project Coordinator, and Dennis Bowker, Project Facilitator. Organizations that have participated in the Planning Group process include the following:

CORRT San Luis Obispo, Planning Group Participants

Agricultural Water Quality Coalition
Bay Foundation
Central Coast RC & D Council
Central Coast Salmon Enhancement
Coastal San Luis RCD
County Water Resources Advisory Committee
Environmental Center of San Luis Obispo (ECOSLO)
Greenspace
Guadalupe Dunes Center
Land Conservancy of San Luis Obispo
Monterey Bay National Marine Sanctuary
Morro Bay National Estuary Program
Sierra Club, Santa Lucia Chapter
San Luis Obispo County
SLOSEA CalPoly
Surfrider SLO Chapter

Review of the Second Annual Coast and Ocean Regional Roundtable for San Luis Obispo County: Formation of a Land to Sea Advisory Plenary Session, June 4, 2009

On June 4, the second annual CORRT meeting was held in San Luis Obispo. Approximately 50 people attended the day-long event to participate in a series of strategy sessions. The final session of the day was conducted as a plenary discussion to consider formation of a *Land to Sea Advisory*. This action was proposed by the participants of the CORRT 2008 meeting as a mechanism for local level review of policies and practices that relate to coastal and marine resource management (see Appendix A: 2008 CORRT Recommended Actions). The group was asked to consider options for a Land to Sea Advisory including potential guidance from the recommended actions of the Ocean Protection Council and also of the Joint Ocean Commission Initiative (see cd for copies of these reports), as well as to consider the SLOSEA Project as a model for local level integrated management of coastal and marine resources. The discussion was guided by the following questions:

I. What is the charge for a Land to Sea Advisory Committee?

II. What might its structure look like?

III. Where should the Land to Sea Advisory function be housed?

IV. How might membership be selected?

V. How might the reporting hierarchy be structured?

VI. Consider the following points:

- *local links* to resource agencies and local government
- *regional links* to state and federal resource agencies including CDFG; State Parks; Coastal Commission; NOAA; OPC: Coastal Conservancy; Statewide Watershed Program, USGS, and others

Summary of Plenary Session Comments

I) Committee Charge

Provide advice and education re land use; land planning; broad based watershed management. The advice would be supplied to policy and decision-makers; land use planners and developers; and land and marine resource users and managers. The charge will be to help implement ideas proposed in the Joint Oceans Committee Initiative (JOCI) report *"One Coast, One Future"* from pages 23-4, 26, and 32-35 (see Appendix A: Excerpted Sections of the JOCI Report). The charge will include providing advice regarding:

> *-Making the Land to Sea connection: Recommend ways that existing codes and ordinances can adequately protect the health of coastal freshwater and ocean ecosystems, focusing in particular on reducing the impact of land uses and development on water quality.*
>
> *-Collecting and integrating locally relevant information: Identify and facilitate the collection and integration of high quality coastal freshwater and ocean systems information that is critical for informed local decision making.*
>
> *-Recommend ways to creatively consolidate and rearrange existing resources through partnerships, joint ventures, networks, etc.*
>
> *-The LTSA could provide feedback on projects (proposed and funded/underway)*
>
> *-The LTSA should be an advocate for its charter, and promote wide acceptance of its role.*

(Other notes: Add the term "freshwater" where appropriate to emphasize the connection between coastal watersheds and the marine environment.)

II. Structure

Ideas presented for the Land to Sea Advisory Committee (LTSA):

a.) Expand the existing Water Resources Advisory Committee (WRAC) in San Luis Obispo County to incorporate the LTSA

Issues:

- such a move could expand the WRAC role too far; may be better to have them be a partner/participant in the LTSA
- This would require a shift from present vertical structure (answerable to the Board of Supervisors) to a more horizontal one with wider connections to cities, etc.
- Is the County prepared to take on the issue of ocean stewardship?

b.) The LTSA and its advice should be multi-objective and multi-jurisdiction

c.) The LTSA could function as an organ of the Ocean Protection Council (OPC), with three (or four, if Santa Barbara County is included) County subcommittees
Issues:

- The scale needs to be feasible
- This option will likely require regular meetings among the 3 (4) counties
- It might work to hold occasional (bi-annual?) meetings, with ongoing County to County liaison and communication

d.) Create an informal coalition of existing organizations and entities based on projects, not organizational structure
Issues:

- Leaves a void in leadership ("who's in charge") – would need someone to take responsibility for logistics, communication, follow-through, etc.
- Would work best if the group can find alignment on priority issues among land and marine management organizations and agencies

e.) Develop SLOSEA type management action memoranda
Issues:

- Who develops them? Based on what? To whom should they be delivered?

f.) Develop a Joint Powers Agreement among the Counties and Cities on the Central Coast
Issues:

- Scale is an issue – how big is too big, and how small is too small? Should Santa Barbara County be included?
- Could meet on an as-needed basis to deal with cross-cutting priority issues
- Could use video conferencing owing to the travel distances across the region
- Some form of structural liaison among the counties will be important

g.) Hold two CORRT sessions annually in each of the three (four) Counties, and distribute the outcomes widely to the other Counties
Issues:

- who will take the lead?
- Are the Counties ready to add another formal layer of responsibility?
-

III. Membership selection

a.) Research how the SLOSEA members are selected. (The organization has no formal "head" and funds are handled through CalPoly SLO)

b.) WRAC members are selected by the Board of Supervisors, and include non-government members (nominated by whom?)

c.) However chosen, the method should ensure representation of a diversity of perspectives and issues among the group

d.) Selection method should also ensure that those who receive the advice see the group as having credibility and believability

e.) The selection should focus on finding a balance between just informing and specific advocacy. The group should be willing to address difficult issues with objectivity and sound recommendations based on the best available science and information (explicit excessive or exaggerated risk avoidance by the LTSA)

IV. To whom will the group send advice (local observations)?

Ocean Protection Council

County and City governing bodies

Flood control and water management agencies

Local, state and federal agencies (Coastal Commission, Coastal Conservancy, Regional Water Quality Control Board and other agencies with interests in coastal watershed and marine resources)

V. Potential Financial support

If the function is strictly advisory, it may not require a large investment

It could be funded through in-kind service, rather than through grants

It could be supported with user fees and service contracts

Additional notes and observations:

A sample (test) question was proposed to test whatever structural or procedural model is considered. The issue is to what degree the LTSA could address trade-offs among competing (or apparently competing) interests in the coastal zone. The test suggested as an exercise would require working through a local situation to explore the various proposals to find an answer to "How do we deal with off highway vehicles using the beach dunes?" as an example of the types of broad scale management issues that the LTSA would pursue.

APPENDIX A: CORRT 2008 RECOMMENDATION ACTIONS

At the second annual meeting of CORRT held on June 4, 2009, participants were asked to consider the formation of a Land to Sea Advisory for San Luis Obispo county following recommendations of the CORRT 2008 project participants.

	RECOMMENDED ACTIONS	Strengthening Regional Communication & Collaboration		Integrating Management with Science		Integrating Local to Regional Governance	
		SLO	MC	SLO	MC	SLO	MC
A	Clearinghouse/access to information and resources; coordination of information development to meet local needs[1]	✓	✓	✓	✓	✓	✓
B	Conduct regular local/regional forums to facilitate exchange of ideas, information, foster collaboration, networking including state level programs (e.g., OPC); enhance multiple benefits outcomes through collaboration; promote active communication to the public (CORRT; Regional Stewardship Council)	✓	✓	✓	✓	✓	✓
C	Land to Sea Advisory Program; informing local to regional scale through integrating scientists, managers, elected officials, gaining broad perspective (beyond specific project level goals)	✓		✓	✓	✓	✓
D	Accountability in decision making; mechanisms to integrate and evaluate best science; create rapid response process to diminish negative impacts			✓	✓	✓	✓
E	Develop mechanism for science review, ongoing training/mentoring for program professionals; strengthen program links to UCCE/SeaGrant	✓		✓			✓
F	Local representation at regional/state level to convey local needs and priorities, inform state level funding programs; support for value of regional strategies linked to state goals	✓	✓			✓	
G	Statewide mandate for meeting ecosystem health goals (CEQA, or other local scale mechanisms)						✓
		*Underscore indicates priority action					

[1]Information needs include:

- Enhanced reliability
- Increase value through timeliness
- Resources – plans, materials, services (facilitation), funding, technical expertise
- Jurisdictions of agencies
- Areas of interest of local/state/fed agencies
- Case studies, successful programs/partnerships as models
- Compendium of current plans and those in progress
- Current priorities of key resource agencies and programs

SLO = San Luis Obispo County; MC = Monterey County

APPENDIX B:

Excerpts from the Joint Oceans Committee Initiative (JOCI) report: *"One Coast, One Future"*

pp 23-24

"4. MAKE THE LAND-SEA CONNECTION. Ensure that existing codes and ordinances adequately protect the health of coastal and ocean ecosystems, focusing in particular on reducing the impact of land uses and development on water quality.

Some land-based activities can cause detrimental impacts to coastal and ocean ecosystems and communities, including loss of wildlife habitat from inappropriately sited development, changes to community character and quality of life of citizens from sprawling growth, and loss of valuable top-soils from erosion. However, the most damaging impacts on West Coast marine ecosystems may come from land-based pollution of coastal and ocean waters. Feasible and effective solutions to many coastal water quality problems have been developed. Unfortunately, there are many examples along the West Coast of local codes that do not allow, let alone encourage, developers and property owners to conduct innovative and beneficial activities. Comprehensive plans, zoning maps and codes, and local regulations should encourage concentration of new development in existing urban centers and away from key ecosystem features, promote clean marina and plastics recycling programs, and require Low Impact Development to allow water to filter naturally, among other activities. It is also important for metropolitan planning organizations and other state and local entities with responsibility for transportation planning to account for impacts on ocean and coastal health when making a range of decisions that affect coastal land uses, air and water quality, and other important elements. Not only will these actions protect and restore water quality, they can help communities achieve other goals as well, such as preserving valuable farm and conservation land; reducing traffic, commute times, and gasoline use; increasing a sense of community and neighborhood safety; and preserving habitat in natural areas that contribute to high quality of life for families.

Reducing land-based coastal water pollution may be local leaders' most important contribution to the health of coastal and ocean ecosystems and to the protection of tourism, fishing, recreation and other activities that depend on clean coastal waters.

It is also one of the most challenging authorities to exercise because it calls for influencing activities on private property. Key issues related to coastal water quality that local and state leaders should address include polluted storm water runoff, inadequate waste treatment systems, and marine debris including abandoned fishing gear and trash.

To address polluted storm water runoff into rivers and coastal waters, local leaders should:

• Protect key natural features, such as wetlands, that filter storm water naturally by establishing and enforcing strong rules and providing compelling incentives, such as urban growth boundaries and in-lieu fee conservation programs, that encourage new development to occur in appropriate areas.

• Require the use of Low Impact Development techniques where feasible in all new development. Implementation of Low Impact Development is also advocated in the 2008 Action Plan of the West Coast Governors' Agreement on Ocean Health, is being examined for more widespread application by the California Ocean Protection Council, and was recently ordered by Washington's Pollutions Control Hearings Board to be implemented by that state's largest local governments.

• Work with landowners, farmers, and businesses to implement best management practices for water quality protection. State and federal agencies and nongovernmental organizations have developed a detailed body of best management practices (BMPs) for water quality protection for a

broad range of land use activities. Local leaders are uniquely positioned to create incentives for and/or require widespread implementation of these BMPs in their communities.

To address inadequate wastewater systems, local leaders should:

• Ensure that septic systems are functioning properly, tapping into citizen concerns about water quality to motivate action. Local leaders in many places on the West Coast have developed innovative, citizen-led initiatives that provide education and assistance to property owners whose septic systems require repair and updating.

• Address the problem of combined sewer overflow systems that inject large amounts of waste into water bodies during storm events. Many cities on the West Coast are struggling with outdated sewer systems, a challenge that can be addressed with strong local leadership.

To address marine debris, local leaders should:

• Reduce the amount of trash that enters coastal waters by enhancing recycling programs, enforcing litter laws, and discouraging consumption of single-use plastics through public outreach, education, and incentives.

• Establish clean marina programs and reduce derelict fishing gear through programs for recycling gear and fishing lines.

p 26

5. COLLECT AND INTEGRATE LOCALLY-RELEVANT INFORMATION. Facilitate the collection and integration of high quality coastal and ocean information that is critical for informed local decision making. State agencies should collect information about the condition of coastal and ocean resources at a scale that is useful for making decisions at the local level, as well as monitoring of the effectiveness of policies and regulations and the effects of those policies on the health of coastal ecosystems and local economies. The kind of information needed includes:

• Updated high resolution seafloor and coastal land mapping (both bathymetry and LIDAR) and local-scale models for inundation and storm surge from sea level rise and other impacts of climate change, tsunamis, and other coastal hazards

• Information about key natural features that must be protected for proper functioning of ecosystems, including coastal and nearshore habitats for both target and forage species of fish and other wildlife • Information about regional-scale movement of sediment so that governments are able to better manage shorelines by protecting feeder bluffs and other natural sources of sand for beaches and important nearshore habitats

• Socioeconomic data about coastal and ocean uses that go beyond just the extractive industries, including recreational boating and fishing, beach going, bird watching, and other activities that contribute significantly to local coastal economies, but are often under-considered in decision making

pp 33-35

Acquiring Resources to Implement an Integrated Approach

Local and state leaders striving to protect and restore coastal ecosystems and the economies that depend on them need resources to do so. These leaders are well aware of traditional sources of state and local government funding that can be used for ecosystem protection and restoration activities, including general obligation and revenue bonds, certificates of participation, intergovernmental transfers and assistance, leases of lands and waters, special tax districts, and mitigation and use fees.

Many local communities and states will need additional resources to implement an integrated approach for coastal and ocean management and may look to the federal government for assistance. Despite the efforts of Congress, competing national priorities have led to only very modest increases in funding for key ocean agencies, such as National Oceanic and Atmospheric Administration. Both local and state leaders should raise their voices in support of strong federal funding for ocean and coastal science and management, and to ensure that the needs of coastal communities to adapt to climate change and address other critical challenges are taken into account as federal priorities. Raising awareness is particularly important in light of the current fi nancial crisis and the potential for cuts in funding for existing ocean and coastal programs. In addition, now more than ever, leaders at the local and state levels will need to be creative with existing resources and defend current funding for coastal and ocean ecosystem protection programs.

9. MAINTAIN OR ENHANCE FUNDING FOR CORE COASTAL AND OCEAN PROGRAMS. In this time of economic slowdown, it is particularly important for leaders at all levels of government to vigilantly ensure that the core coastal and ocean programs so important to protecting ecosystem health maintain current funding levels, and are enhanced where possible. Adequately funded environmental protection and natural resources management programs at all levels of government are essential for supporting ocean ecosystem health and the vitality of coastal economies.

10. SEND A CLEAR MESSAGE TO CONGRESS AND THE ADMINISTRATION. Local and state leaders should call on Congress and the incoming Obama Administration to establish a national ocean trust fund and increase funding to address critical coastal and ocean issues important to the nation. To address a shortage of federal funding, the Joint Initiative recommends the establishment of a national ocean trust based on a dedicated source of revenues for the improved management and understanding of coastal and ocean resources. A portion of the fund should be shared with all coastal states to support their efforts at sustainable management of coastal lands and waters. The Governors of California, Oregon, and Washington have stated their strong support for creation of a national ocean trust fund in the Action Plan of the West Coast Governors' Agreement on Ocean Health. Local and state elected leaders who are concerned about the lack of funding for addressing coastal and ocean issues are encouraged to express their support for the creation of an ocean trust fund to their representatives in Congress.

Local and state leaders should call on Congress and the new Administration to increase funding to address critical coastal and ocean issues that are important to the nation. The Joint Initiative urges Congress to include funding and technical assistance to coastal states and communities for adaptation and mitigation in any future climate change legislation. The passage of other federal legislation, such as reauthorization of the Coastal Zone Management Act should include an increase in funding for state and local efforts to address important coastal issues such as nonpoint source pollution and coastal habitat protection.

11. CREATIVELY CONSOLIDATE OR REALLOCATE EXISTING RESOURCES. Local leaders should ensure they are taking advantage of the full range of grants for conducting coastal research, protection, and restoration that are offered by federal and state agencies. Examples of federal sources of funds include: transportation enhancement grants that can be used for land conservation; programs of the National Oceanic and Atmospheric Administration such as the National Estuarine Research Reserve System, and in particular grant programs under the Coastal Zone Management Act such as coastal enhancement grants, Special Area Management Plans, and the Coastal and Estuarine Land Conservation Program; Federal Emergency Management Agency Hazard Mitigation and Pre-Disaster Mitigation grant programs; U.S. Department of Agriculture grant programs such as the Environmental Quality Incentives Program and the Conservation Security Program; Department of the Interior programs that address coastal and ocean issues, such as the U.S. Geological Survey and the Coastal Program of the U.S Fish and Wildlife Service; and the Environmental Protection Agency's National Estuary Program, among others.

Local leaders should leverage resources with other jurisdictions in their watershed or other coordination area to address shared priorities and fund projects that have the greatest positive impact. Adjacent communities can find creative ways to leverage nonmonetary resources by sharing scientific information and join forces in hiring experts and staffing coordinated efforts. They can also collaborate in reaching out to the private sector and state and federal agencies for support and in mobilizing local volunteers. Such cross-jurisdictional efforts can enhance already effective programs by leveraging limited resources and lead to new programs that are effective and efficient. For example, establishing multi-jurisdictional in-lieu fee mitigation programs may be more effective and less costly than relying solely on traditional wetlands mitigation programs.

Local leaders should build on existing progress being made by watershed councils, conservation districts, and other local mechanisms that are currently working to coordinate and implement actions to protect and restore coastal resources in many places on the West Coast. These initiatives often have valuable knowledge and experience, relationships with partners, volunteers, and citizens, and resource channels. In addition, federal and state protected or research areas, such as the National Estuary Programs or the National Estuarine Research Reserves, are often eager to engage with local communities and form partnerships to expand science, protection, and restoration efforts outside of their boundaries.

State legislatures should establish programs to formally recognize and give priority status for state grants and other funding to local communities that demonstrate a commitment to an integrated, ecosystem-based approach and that need funding for implementation. To assist communities in making informed decisions about coastal issues, states should provide increased technical assistance, funding, and staff for locally-relevant scientific research, public education, updating of local codes and regulations, effective enforcement, and adaptive management. Communities committed to taking an integrated approach to protecting coastal resources should be given priority for some of these state resources.

12. ESTABLISH PUBLIC-PRIVATE PARTNERSHIPS FOR FUNDING AND IN-KIND RESOURCES. Local leaders should consider establishing public-private partnerships to develop and implement strategies for coastal and ocean health. Private foundations, businesses operating in the area, and national, regional, state, and local environmental advocacy groups can provide assistance for ecosystem restoration and protection projects in the form of funding and in-kind services. Community foundations are likely candidates, as are individual corporations' giving programs, and high net worth individuals interested in local ecosystems. Chambers of Commerce and faith-based institutions may also meet their objectives through assisting local government with coastal protection and restoration efforts. Manufacturers of software and other management tools might be willing to engage in local pilot projects that can benefit both the company and the community.

Leaders of local communities that are coordinating in a watershed or other ecosystem area should consider forming coalitions with other watershed or ecosystem-scale groups to increase their visibility and effectiveness in seeking funds from government agencies and private foundations, which are sometimes reluctant to funding one small watershed group at a time."

TO: **Water Resources Advisory Committee**

FROM: **Sylas Cranor, SLO County Water Resources Engineer**

DATE: **October 7, 2009**

SUBJECT: **Agenda Item #8: Data Enhancement Plan**

Recommendation

Review and provide feedback on the methodology used to develop the Project Identification and Implementation Plan for the Data Enhancement Plan.

Discussion

Data Enhancement Plan Outline

The Data Enhancement Plan (DEP) is divided into four primary sections: Water Resources Data Uses and Requirements, Regional Water Resources Data Collection Program, Data Gap Identification, and Project Identification and Implementation. The general content of each section is described below.

- Water Resources Data Uses and Requirements – This section evaluates water monitoring requirements for planning, development, and operations purposes in order to determine the ideal water resources data collection network.

- Regional Water Resources Data Collection Program – This section identifies what data is currently collected by the District, and other local, state, or federal agencies.

- Data Gap Identification – This section establishes data types and locations that should be added to the program.

- Project Identification and Implementation – This section establishes and prioritizes future projects, provides guidance in choosing new sites to monitor water resources, and provides planning level cost estimates.

DEP Goals

The development of the DEP is a critical resource for District staff in order to identify useful data sources, to evaluate the current data collection network, to identify regional data gaps, to prioritize implementation of future projects, and to offer planning-level cost estimates of future projects.

Current Status

District staff has drafted the first three sections of the report. Staff is in the process of identifying and prioritizing projects to develop the best water resources data collection network for the region.

The report identifies a number of data gaps in nearly every area of the region. The results of the regional data gaps analysis are summarized in the table below and detailed in Attachment A.

Table 1: Regional Data Gaps

	Additional Gauge needs
Precipitation	
Recording Rain Gauges	12-15
Storage Rain Gauges	30-37
Real-Time Rain Gauges	4
Evaporation	
Evaporation Pans or Weather Stations	2
Streams	
Gauge Sites	7-9
Real-time Stage-only Gauge Sites	6
Groundwater	
Monitoring Wells	75+

To fill these data gaps in a systematic manner, it was necessary to prioritize the needs of each area in the region. District staff utilized a decision matrix to do this. A decision matrix prioritizes a list of options using a list of weighted criteria and evaluates each option against those criteria. High-importance criteria were assigned a maximum of three (3) points, mid-importance criteria were assigned two (2) points, and low-priority criteria were assigned one (1) point. The criteria used to prioritize projects, and their corresponding point values, include the following:

- Adjudicated Groundwater Basins (3 points)
- Water Supply Level of Severity I, II, or III (3 points)
- Existing Priorities and Programs (3 points)

- Existing Planning Efforts (2 points)
- Under-Gauged Areas (2 points)
- Upcoming Critical Areas (2 points)
- Disadvantaged Communities (2 points)

- Identified Partner Agencies (1 points)

The areas and which criterion they meet are summarized in Table 2, below and on the following page. A detailed description for each criterion is provided in Attachment B.

Table 2: Summary of Priority Ranking Process

Region	Sub-Region	Area	Priority Ranking Criteria								Weighted Totals	
			Adjudicated Groundwater Basins (3 points)	Water Supply Level of Severity I, II, or III (3 points	Existing Priorities and Programs (3 points)	Existing Planning Efforts (2 points)	Under-Gauged Areas (2 points)	Upcoming Critical Areas (2 points)	Disadvantaged Communities (2 points)	Identified Partner Agencies (1 point)	By Area	By Sub-Region
North Coast	North Coast	San Simeon		●		●	●				7	62
	North Coast	Cambria		●		●	●				7	
	North Coast	Cayucos		●		●	●				7	
	North Coast	Morro Bay			●	●	●		●	●	10	
	North Coast	Chorro Valley				●		●			4	
	North Coast	Los Osos Valley	●	●		●		●	●		12	
	North Coast	Los Osos	●	●	●	●	●		●		15	
South Coast	South Coast North	San Luis Obispo			●	●					5	13
	South Coast North	Edna Valley				●		●			4	
	South Coast North	Avila Valley				●	●				4	
	South Coast South	Northern Cities Management Area	●		●	●	●		●	●	13	41
	South Coast South	Pismo Valley						●			2	
	South Coast South	Lopez			●	●					5	
	South Coast South	Arroyo Grande Valley			●	●					5	
	South Coast South	Unincorporated South Coast South				●					2	
	South Coast South	Nipomo Mesa Management Area	●	●	●	●			●	●	14	
	South Coast Inland	Cuyama		●	●	●		●		●	11	15
	South Coast Inland	Huasna					●	●			4	

Table 2 (cont.): Summary of Priority Ranking Process

Region	Sub-Region	Area	Priority Ranking Criteria								Weighted Totals	
			Adjudicated Groundwater Basins (3 points)	Water Supply Level of Severity I, II, or III (3 points	Existing Priorities and Programs (3 points)	Existing Planning Efforts (2 points)	Under-Gauged Areas (2 points)	Upcoming Critical Areas (2 points)	Disadvantaged Communities (2 points)	Identified Partner Agencies (1 point)	By Area	By Sub-Region
Inland	Inland West	Pozo Groundwater Basin					●				2	27
	Inland West	Atascadero Sub-basin / Santa Margarita Valley		●		●	●	●			9	
	Inland West	Estrella Sub-area		●	●	●	●		●		12	
	Inland West	Bradley Sub-area				●					2	
	Inland West	Nacitone				●					2	
	Inland Central	North Gabilan				●					2	20
	Inland Central	South Gabilan				●					2	
	Inland Central	Creston		●		●					5	
	Inland Central	Shandon		●		●	●		●		9	
	Inland Central	San Juan				●					2	
	Inland East	California Valley / Carrizo Plains					●	●			4	6
	Inland East	Cholame					●				2	

The priority ranking process identified the following areas as having the highest priority data needs:

North Coast	South Coast	Inland
• Los Osos • Morro Bay • Los Osos Valley	• Nipomo Mesa Management Area • Northern Cities Management Area • Cuyama	• Estrella Sub-area • Shandon • Atascadero Sub-basin / Santa Margarita Valley

District staff will work to implement projects in these areas by coordinating with specific water users in each area. For example, to prioritize projects in the Nipomo Mesa Management Area, meetings will occur with the Nipomo Community Services District, water purveyors like Woodlands Mutual Water and Golden State Water Company, relevant technical groups, and appropriate overlying water users.

As additional resources become available and high priority projects are completed, staff then can implement lesser priority projects in other areas throughout the region.

The DEP is not a static document; rather it is a living document that will evolve as needed. Changes in the regional data needs, identification of new data gaps, reassignment of priorities, completion of projects, or other conditions will warrant revising the DEP. As a result, District staff anticipates reviewing the DEP on a yearly basis.

Attachments: Attachment A: Regional Data Gaps Table
Attachment B: Part 5 of the draft Data Enhancement Plan

Region	Sub-Region	Area	Data Needs	
			Precipitation	Evaporation
North Coast	North Coast	San Simeon	One (1) recording rain gauge at San Simeon Creek stream gauge One (1) real-time rain gauge located in the vicinity of Hearst Castle One (1) recording rain gauge within a mile of San Simeon One (1) real-time rain gauge located in the extreme NW corner of the County	
		Cambria	One (1) recording rain gauge within a mile of Harmony	One (1) evaporation pan (or weather stations) northwest of Cambria
		Cayucos	One (1) real-time rain gauge located in the vicinity of Cayucos	
		Morro Bay		
		Chorro Valley		
		Los Osos Valley		
		Los Osos	One (1) recording rain gauge at Los Osos Creek stream gauge One (1) recording rain gauge within a mile of Baywood/Los Osos One (1) additional storage rain gauge in the community of Baywood/Los Osos	
South Coast	South Coast North	San Luis Obispo		
		Edna Valley		
		Avila Valley	One (1) recording rain gauge within a mile of Avila Beach	
	South Coast South	Northern Cities Management Area	One (1) recording rain gauge within a mile of Pismo Beach Three (3) additional storage rain gauges in the community of Pismo Beach One (1) recording rain gauge within a mile of Grover Beach One (1) recording rain gauge within a mile of Halcyon	
		Pismo Valley		
		Lopez		
		Arroyo Grande Valley		
		Unincorporated South Coast South		
		Nipomo Mesa Management Area	One (1) recording rain gauge at Upper Los Berros Creek stream gauge One (1) additional storage rain gauge in the community of Nipomo	
	South Coast Inland	Cuyama		
		Huasna		
Inland	Inland West	Pozo Groundwater Basin		
		Atascadero Sub-basin / Santa Margarita Valley	One (1) recording rain gauge within a mile of Santa Margarita One (1) additional storage rain gauge in the community of Atascadero One (1) real-time rain gauge located in the vicinity of Templeton One (1) recording rain gauge within a mile of Templeton	
		Estrella Sub-area	One (1) additional storage rain gauge in the community of Paso Robles	
		Bradley Sub-area		
		Nacitone		
	Inland Central	North Gabilan		
		South Gabilan		
		Creston		
		Shandon	One (1) recording rain gauge in the vicinity and within a mile of Shandon	One (1) evaporation pan (or weather stations) in the vicinity of Whitley Gardens
		San Juan		
	Inland East	California Valley/Carrizo Plains	One (1) recording rain gauge in vicinity and within a mile of of California Valley/Simmler	
		Cholame	One (1) recording rain gauge within a mile of Cholame	
General	General		Twenty five (25) to thirty (30) storage rain gauges. (For “50 sq mile grid” coverage). See Figure 33. (NC, SC, and In)	

Area	Data Needs		
	Streams	Groundwater	Water Use
San Simeon	One (1) stream gauge (stage & discharge) near the mouth of Arroyo De La Cruz Creek One (1) stream gauge (stage & discharge) near the mouth of San Capoforo Creek Gauge smaller tributaries and/or creeks in the San Simeon basin	One (1) well in the Arroyo De La Cruz Valley water basin One (1) well in the San Capoforo Valley water basin	
Cambria	One (1) real-time stage gauge on Upper Santa Rosa Creek Road in Cambria Gauge smaller tributaries and/or creeks in the Santa Rosa basin		
Cayucos	One (1) stream gauge (stage & discharge) near the mouth of Cayucos Creek One (1) stream gauge (stage & discharge) near the mouth of Old Creek One (1) stream gauge (stage & discharge) near the mouth of Villa Creek	One (1) well in the Cayucos Valley water basin One (1) well in the Old Valley water basin One (1) well in the Toro Valley water basin	
Morro Bay	One (1) stream gauge (stage & discharge) near the mouth of Toro Creek	Three (3) wells in the Morro Valley basin	
Chorro Valley			
Los Osos Valley	One (1) real-time stage gauge on Turri Road in Los Osos Gauge smaller tributaries and/or creeks in the Los Osos basin		
Los Osos			
San Luis Obispo		Two (2) wells in the San Luis Obispo Valley basin	
Edna Valley	Gauge smaller tributaries and/or creeks in the San Luis Obispo/Edna Valley basin		
Avila Valley	One (1) real-time stage gauge on San Luis Obispo Creek at San Luis Bay Drive		
Northern Cities Management Area	One (1) stream gauge (stage & discharge) near the mouth of Pismo Creek Gauge smaller tributaries and/or creeks in the Arroyo Grande basin	Ten (10) wells in the Arroyo Grande Plain basin	
Pismo Valley			
Lopez			
Arroyo Grande Valley		One (1) well in the Oceano HSA basin	
Unincorporated South Coast South		Four (4) wells in the Guadalupe HA basin	
Nipomo Mesa Management Area	Gauge smaller tributaries and/or creeks in the Nipomo Mesa basin Gauge smaller tributaries and/or creeks in the Santa Maria basin	Ten (10) wells in the Nipomo Mesa HSA basin	
Cuyama			
Huasna		One (1) well in the Huasna Valley water basin	
Pozo Groundwater Basin		One (1) well in the Rinconada Valley water basin	
Atascadero Sub-basin / Santa Margarita Valley		Two (2) wells in the Atascadero Subbasin	
Estrella Sub-area	One (1) real-time stage gauge on Estrella River at Airport Road in Paso Robles One (1) real-time stage gauge on Huerohuero Creek at Buena Vista Drive in Paso Robles	Eleven (11) wells in the Paso Robles (Estrella) basin	
Bradley Sub-area			
Nacitone		One (1) well in the Paso Robles (Bradley) basin	
North Gabilan			
South Gabilan			
Creston		Six (6) wells in the Paso Robles (Creston) basin	
Shandon	One (1) real-time stage gauge on Shell Creek Crossing near Shandon	Five (5) wells in the Paso Robles (Shandon) basin	
San Juan		One (1) well in the Outside Paso Basin	
California Valley/Carrizo Plains		Ten (10) wells in the Paso Robles (San Juan) basin One (1) well in the Rafael Valley water basin One (1) well in the Big Spring Area water basin	
Cholame			
	Gauge smaller tributaries and/or creeks in the Paso Robles basin	One (1) well in the Outside Paso Basin	The region should consider sponsoring a voluntary pilot program that would track actual rural water use for various rural areas throughout the County. The region should consider sponsoring a voluntary pilot program that would track actual applied water per acre for various agricultural users throughout the County. The region should consider sponsoring a voluntary pilot program that would track industrial water use for various industries throughout the County.

San Luis Obispo County Flood Control and Water Conservation District

DATA ENHANCEMENT PLAN

Grant Agreement No. 4600004505

October 2009 Draft

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5. Project Identification and Implementation

5.1. Project Implementation Plan

To fill identified data gaps in a systematic manner, it is necessary to develop an implementation plan. An implementation plan prioritizes the needs of each of the areas in the region (see next section) and their associated data gaps, and recommends a schedule and plan for project implementation

5.1.1. Sub-Regions and Areas

The Data Enhancement Plan assigned each community of the region to one of three (3) sub-regions – North Coast, South Coast and Inland. Each sub-region is further divided into separate areas, outlined below. The three (3) sub-regions – and generally each area – encompass compete jurisdictions, overlie entire groundwater basins, and include interconnected watersheds.

Table 9: Regions, Sub-Regions, and Areas in San Luis Obispo County

Region	Sub-Region	Area
North Coast	North Coast	San Simeon
		Cambria
		Cayucos
		Morro Bay
		Chorro Valley
		Los Osos Valley
		Los Osos
South Coast	South Coast North	San Luis Obispo
		Edna Valley
		Avila Valley
	South Coast South	Northern Cities Management Area
		Pismo Valley
		Lopez
		Arroyo Grande Valley
		Unincorporated South Coast South
		Nipomo Mesa Management Area
	South Coast Inland	Cuyama
		Huasna
Inland	Inland West	Pozo Groundwater Basin
		Atascadero Sub-basin / Santa Margarita Valley
		Estrella Sub-area
		Bradley Sub-area
		Nacitone
	Inland Central	North Gabilan
		South Gabilan
		Creston
		Shandon
		San Juan
	Inland East	California Valley / Carrizo Plains
		Cholame

5.1.2. Priority Ranking Criteria

Nearly all areas in the region need additional monitoring which makes ranking each region particularly difficult. District staff utilized a decision matrix to help evaluate each area and to help identify which areas to address first. A decision matrix prioritizes a list of options using a list of weighted criteria and evaluates each option against those criteria. High-importance criteria were assigned a maximum of three (3) points, mid-importance criteria were assigned two (2) points, and low-priority criteria were assigned one (1) point. The criteria used to establish the priority areas, and their corresponding point values, include the following:

- Adjudicated Groundwater Basins (3 points)
- Water Supply Level of Severity I, II, or III (3 points)
- Existing Priorities and Programs (3 points)

- Existing Planning Efforts (2 points)
- Under-Gauged Areas (2 points)
- Upcoming Critical Areas (2 points)
- Disadvantaged Communities (2 points)

- Identified Partner Agencies (1 points)

5.1.2.1. Adjudicated Groundwater Basins (3 points)

Legally adjudicated groundwater basins are court orders that can specify how much groundwater each landowner is entitled to use. Generally, the courts study available data to arrive at a distribution of the groundwater that is available each year. The intense technical focus on the groundwater supply and restrictions on groundwater extraction for all parties make adjudications a strong form of groundwater management in California and may require a significant amount of groundwater monitoring.

The following groundwater basins are under adjudication, or currently in the adjudication process:

Santa Maria Valley Groundwater Basin: The Santa Maria Valley Groundwater Basin was divided into three management areas, two of which are located in San Luis Obispo County; the Northern Cities Management Area and the Nipomo Mesa Management Area.

Los Osos Groundwater Basin: The community of Los Osos/ Baywood Park and part of the Los Osos Valley are within the Los Osos Groundwater Basin.

5.1.2.2. Water Supply Level of Severity I, II, or III (3 points)

The Resource Management System (RMS) provides information to guide decisions that try to balance land development and the resources necessary to sustain such development. The RMS focuses on, 1) collecting data, 2) identifying resource problems and 3) recommending solutions.

The RMS utilizes three alert levels called levels of severity (LOS) to identify differing levels of resource deficiencies. Level I is the first alert level and occurs when sufficient lead time exists either to expand the capacity of the resource, or to decrease the rate at which the resource is being depleted. Level II identifies the crucial point at which some moderation of the rate of resource use must occur to prevent exceeding the resource capacity. Level III occurs when the demand for the resource equals or exceeds its supply and is the most critical level of concern. The County should take actions to address resource deficiencies well before any community reaches a LOS of III. Consequently, it is important to monitor water resources in communities or groundwater basins with a recommended water supply LOS of I or higher. Those groundwater basins include the following:

- Cuyama Valley (LOS III)
- Los Osos Valley (LOS III)
- North Coast (LOS III)
- Nipomo Mesa Water Conservation Area (LOS III)

- San Luis Creek (LOS II)

- Paso Robles (LOS I)

5.1.2.3.Existing Priorities and Programs (3 points)

Areas that have existing priorities and programs in effect and have water resources data collection needs get credit under this criterion.

For example, the Morro Bay National Estuary Program developed the Morro Bay Comprehensive Conservation Management Plan, which identifies monitoring goals and objectives for the bay. Similarly, the Nipomo Mesa Management Area Technical Group has identified the need for an additional coastal monitoring well.

Agencies that have existing priorities and programs include the following:

Arroyo Grande Valley/Lopez: As part of reservoir operations and water deliveries to the Zone 3 (Lopez) water contractors, and to ensure responsible management of the resource, the Flood Control and Water Conservation District, is developing a Habitat Conservation Plan (HCP). Monitoring streams and groundwater levels are a critical aspect of the HCP.

Cuyama: In 2008, the County of Santa Barbara, and the US Geological Survey initiated the Cuyama Groundwater Study to better understand groundwater supply and demand.

Estrella Sub-area: The Paso Groundwater Basin Agreement was entered into on August 19, 2005, by the District, selected landowners who have organized as the Paso Robles Imperiled Overlying Rights (PRIOR) group, and the City of Paso Robles and the County Service Area No. 16 to avoid potential litigation regarding groundwater conditions. The Agreement recognizes the need for monitoring and appropriate management of the existing Basin supplies and also

recognizes that bringing additional water resources to the Basin could delay or prevent entirely the Basin becoming overdrafted in the future.

Los Osos: The community water purveyors and the County are working together to develop a basin management plan that will establish long-term strategies for managing the groundwater basin. Ongoing groundwater monitoring will be one component of that plan.

Morro Bay: The Morro Bay National Estuary Program is a collaborative organization that brings local citizens, local government, non-profits, agencies, and landowners together to protect and restore the physical, biological, economic, and recreational values of the Morro Bay Estuary. The Morro Bay National Estuary Program is currently working on many projects including Sediment Monitoring in the Chorro Creek watershed and continuing to develop a Conservation Management Plan.

Nipomo Mesa Management Area and Northern Cities Management Area: As a result of groundwater adjudication, the Nipomo Mesa Management Area and Northern Cities Management Area were required to develop a groundwater monitoring plan, and to report on water conditions on an annual basis.

San Luis Obispo: The City of San Luis Obispo is continually working to maintain and improve San Luis Creek with their Stream Management and Maintenance Program and other resources.

5.1.2.4.Existing Planning Efforts (2 points)

Data and information must support ongoing planning and decision-making efforts to help understand water supplies and uses.

Existing planning efforts include Groundwater Management Plans, Urban Water Management Plans, water system Master Plans, Resource Management Studies, or other planning efforts of a similar nature.

The following table identifies the areas that possess these planning and decision-making documents.

Table 10: Existing Planning Efforts in San Luis Obispo County

Region	Sub-Region	Area	Urban Water Management Plans	Water System Master Plans	Water Resources Studies	Resource Management System	Groundwater Reports
North Coast	North Coast	San Simeon		•	•		
		Cambria	•	•	•		
		Cayucos	•	•			•
		Morro Bay	•	•	•		•
		Chorro Valley		•			
		Los Osos Valley				•	•
		Los Osos	•	•	•	•	•
South Coast	South Coast North	San Luis Obispo	•		•		•
		Edna Valley		•	•		•
		Avila Valley	•	•	•		
	South Coast South	Northern Cities Management Area	•	•	•		•
		Lopez	•				
		Arroyo Grande Valley			•		•
		Unincorporated South Coast South		•	•		
		Nipomo Mesa Management Area	•	•	•	•	•
	South Coast Inland	Cuyama					•
Inland	Inland West	Atascadero Sub-basin / Santa Margarita Valley	•	•	•		•
		Estrella Sub-area	•	•	•		•
		Bradley Sub-area					•
		Nacitone		•	•		
	Inland Central	North Gabilan					•
		South Gabilan					•
		Creston					•
		Shandon		•	•		•
		San Juan					•

Water-planning documents generally include recommendations for additional water resources monitoring. For example, a groundwater management plan may identify locations for new dedicated monitoring wells or a Resource Management Study may identify a lack of adequate rainfall data for a particular region.

5.1.2.5. Under-Gauged Areas (2 points)

At a minimum, there should be at least one (1) recording rain gauge per community, one (1) stream gauge on each of the major streams in the area, one (1) evaporation station the area's sub-region/climatic region, three (3) groundwater wells for groundwater basins over 1,000 acres in size, and two (2) groundwater wells for all groundwater basins. Areas that do not meet these criteria are "under-gauged".

Under-gauged areas require additional rain gauges (R), stream gauges (S), groundwater wells (G), or evaporation stations (E) to meet the minimum requirements, described above. The following areas are "under-gauged":

- Atascadero Sub-basin / Santa Margarita Valley (R)
- Avila Valley (R)
- California Valley/Carrizo Plains (R, G)
- Cambria (E)
- Cayucos (S, G)
- Cholame (R, G)
- Estrella Sub-area (E)
- Huasna (G)
- Los Osos (R)

- Morro Bay (S)
- Northern Cities Management Area (R, S)
- Pozo Groundwater Basin (G)
- San Simeon (R, S, E)
- Shandon (R)

5.1.2.6.Upcoming Critical Areas (2 points)

This criterion identifies upcoming critical areas where anticipated development may put additional strain on a watershed and/or a groundwater basin, or where there are indications that water demands are degrading the water resources, but the condition of the water resource is not well defined and/or management activities are not currently in place.

Some of the upcoming critical areas to ensure adequate monitoring include:

Cuyama: The Cuyama Valley faces serious hydrologic impacts due to groundwater supply deficits, high evapotranspiration rates, and low annual rainfall. The USGS has been monitoring groundwater wells in the Cuyama Valley since 1938. Groundwater levels have declined over 300 feet over the past six decades in the southeastern section of the basin. In 1980, the Cuyama groundwater basin was identified by the California Department of Water Resources as one of the eleven basins in "critical condition of overdraft." Although the groundwater basin is experiencing serious hydrologic impacts due to unsustainable groundwater pumping practices, a groundwater management plan for the basin does not exist.

Edna Valley: The complexity of the Edna Valley Groundwater Basin has made determining its safe yield and other hydrogeologic characteristics challenging. It is important to better understand the current impact of long term demands on the sustainability of the basin in order to make informed management decisions.

California Valley/ Carrizo Plains: California Valley may experience water shortages that will inhibit growth if the community develops. Although comprehensive information on water resources is available, future water studies in this area are necessary. The Land Use and Circulation Elements of the San Luis Obispo County General Plan state that the entire Carrizo Plains area is currently in an overdraft situation. Furthermore, the water quality is poor and some groundwater obtained in the area is unsuitable for either agricultural or domestic uses. Recent proposals to develop solar farms in the California Valley brought more attention to the adequacy of local water supplies. At public hearings, local residents have expressed concern over the impact that this industrialization will have on their water.

Many areas in the region have no formal, long-term management programs in place and require increasing attention. These areas include:

- Chorro Valley
- Huasna
- Los Osos Valley

- Nacitone
- Pismo Valley
- Atascadero Sub-basin / Santa Margarita Valley

5.1.2.7.Disadvantaged Communities (2 points)

Many rural communities are faced with a lack of potable water and adequate water storage, conveyance and treatment facilities. In small, unincorporated communities, the economic hardships are even more acute than in the larger metropolitan areas. Many of these communities pay well over what is considered affordable for water service. Limited State and Federal Grant funding have a direct impact on what residents of disadvantaged communities will pay for drinking water. There is a great need to expand technical assistance services to these communities so they may compete for these limited resources.

In South County, portions of Oceano and Nipomo, both unincorporated communities, are economically disadvantaged. However, these neighborhoods are contained within larger communities that are clearly not economically disadvantaged. As result, both areas have the advantages of equal treatment because of their location within the larger community, but are both distinct enough to qualify for various forms of financial assistance to ensure that both basic community infrastructure improvements and community amenities are provided.

The North County has two rural communities, San Miguel and Shandon, which qualify as economically disadvantaged, even as both experience a comparatively high rate of residential development. Unlike the south county communities identified above, both San Miguel and Shandon are separate urbanized areas, separated from the nearest urban area (the City of Paso Robles) by approximately 10 and 20 miles of undeveloped lands.

The communities of Los Osos and Morro Bay are considered disadvantaged communities.

5.1.2.8.Identified Partner Agencies (1 points)

Projects implemented and funded by partner agencies significantly benefit the region. Shared projects can be more successful, have multiple funding sources, and often have greater resources available for construction and ongoing maintenance. Projects managed by partner agencies tend to be more successful because the collaborative process – employing goal-setting, problem solving, and structured partnering – can create "win-win" opportunities for all involved.

Often one agency or entity cannot fully fund the construction and ongoing maintenance of a project, thus making cost-sharing a necessity. Multiple agencies can offer multiple funding resources towards a common goal, reducing the burden of cost for any one agency.

This criterion gives credit to areas with potential partnering agencies. In all cases, the District is one of the partnering agencies, in part because the jurisdictional areas of most agencies do overlap with other agencies. The following agencies or entities have in the past, or have indicated an interest, to partner with the District to fill particular data gaps:

Nipomo Mesa Management Area Technical Group: This group expressed interest to develop a coastal monitoring well and to add two additional stream gauges.

Northern Cities Management Area: The County is partnering with this group to develop a coastal monitoring program west of Oceano.

The Morro Bay National Estuary Program: The Morro Bay National Estuary Program worked with the District in the recent past at select stream gauging sites in the Morro Bay watershed.

Santa Barbara County Water Agency: The Santa Barbara County Water Agency has expressed interest in collaboratively funding stream gauges in the Cuyama watershed for the watershed study currently underway.

5.1.3. Results of the Priority Ranking Process

The areas and the criterion they meet are summarized in Table 11, below and on the following page.

Table 11: Summary of Priority Ranking Process

Region	Sub-Region	Area	Priority Ranking Criteria								Weighted Totals	
			Adjudicated Groundwater Basins (3 points)	Water Supply Level of Severity I, II, or III (3 points	Existing Priorities and Programs (3 points)	Existing Planning Efforts (2 points)	Under-Gauged Areas (2 points)	Upcoming Critical Areas (2 points)	Disadvantaged Communities (2 points)	Identified Partner Agencies (1 point)	By Area	By Sub-Region
North Coast	North Coast	San Simeon		●		●	●				7	62
	North Coast	Cambria		●		●	●				7	
	North Coast	Cayucos		●		●	●				7	
	North Coast	Morro Bay			●	●	●		●	●	10	
	North Coast	Chorro Valley				●		●			4	
	North Coast	Los Osos Valley	●	●		●		●	●		12	
	North Coast	Los Osos	●	●	●	●	●		●		15	
South Coast	South Coast North	San Luis Obispo			●	●					5	13
	South Coast North	Edna Valley				●		●			4	
	South Coast North	Avila Valley				●	●				4	
	South Coast South	Northern Cities Management Area	●		●	●	●		●	●	13	41
	South Coast South	Pismo Valley						●			2	
	South Coast South	Lopez			●	●					5	
	South Coast South	Arroyo Grande Valley			●	●					5	
	South Coast South	Unincorporated South Coast South				●					2	
	South Coast South	Nipomo Mesa Management Area	●	●	●	●			●	●	14	
	South Coast Inland	Cuyama		●	●	●		●		●	11	15
	South Coast Inland	Huasna					●	●			4	

Table 11 Cont.: Summary of Priority Ranking Process

Region	Sub-Region	Area	Priority Ranking Criteria								Weighted Totals	
			Adjudicated Groundwater Basins (3 points)	Water Supply Level of Severity I, II, or III (3 points	Existing Priorities and Programs (3 points)	Existing Planning Efforts (2 points)	Under-Gauged Areas (2 points)	Upcoming Critical Areas (2 points)	Disadvantaged Communities (2 points)	Identified Partner Agencies (1 point)	By Area	By Sub-Region
Inland	Inland West	Pozo Groundwater Basin					●				2	27
	Inland West	Atascadero Sub-basin / Santa Margarita Valley		●		●	●	●			9	
	Inland West	Estrella Sub-area		●	●	●	●		●		12	
	Inland West	Bradley Sub-area				●					2	
	Inland West	Nacitone				●					2	
	Inland Central	North Gabilan				●					2	20
	Inland Central	South Gabilan				●					2	
	Inland Central	Creston		●		●					5	
	Inland Central	Shandon		●		●	●		●		9	
	Inland Central	San Juan				●					2	
	Inland East	California Valley / Carrizo Plains					●	●			4	6
	Inland East	Cholame					●				2	

The following table sorts the sub-regions by priority, as identified using the ranking process, described above.

Table 12: Results of the Priority Ranking Process

Region	Sub-Region	Area	Total Points	Rank
North Coast	North Coast	Los Osos	15	1
	North Coast	Los Osos Valley	12	2
	North Coast	Morro Bay	10	3
	North Coast	San Simeon	7	4
	North Coast	Cambria	7	4
	North Coast	Cayucos	7	4
	North Coast	Chorro Valley	4	7
South Coast	South Coast South	Nipomo Mesa Management Area	14	1
	South Coast South	Northern Cities Management Area	13	2
	South Coast Inland	Cuyama	11	3
	South Coast North	San Luis Obispo	5	4
	South Coast South	Lopez	5	4
	South Coast South	Arroyo Grande Valley	5	4
	South Coast North	Edna Valley	4	7
	South Coast North	Avila Valley	4	7
	South Coast Inland	Huasna	4	7
	South Coast South	Pismo Valley	2	10
	South Coast South	Unincorporated South Coast South	2	10
Inland	Inland West	Estrella Sub-area	12	1
	Inland West	Atascadero Sub-basin / Santa Margarita Valley	9	2
	Inland Central	Shandon	9	2
	Inland Central	Creston	5	4
	Inland East	California Valley / Carrizo Plains	4	5
	Inland West	Pozo Groundwater Basin	2	6
	Inland West	Bradley Sub-area	2	6
	Inland West	Nacitone	2	6
	Inland Central	North Gabilan	2	6
	Inland Central	South Gabilan	2	6
	Inland Central	San Juan	2	6
	Inland East	Cholame	2	6

The priority ranking process identified the following areas as having the highest priority data needs:

North Coast	South Coast	Inland
• Los Osos • Los Osos Valley • Morro Bay	• Nipomo Mesa Management Area • Northern Cities Management Area • Cuyama	• Estrella Sub-area • Atascadero Sub-basin / Santa Margarita Valley • Shandon