

“FRAMEWORK” FOR THE SAN JOAQUIN VALLEY INTEGRATED REGIONAL WATER MANAGEMENT PLAN

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ABSTRACT

The California Partnership (Partnership) for the San Joaquin Valley (Valley) commissioned the California Water Institute (CWI) at California State University, Fresno to develop a “framework” for a long-term San Joaquin Valley water management plan. This paper describes the work of CWI to develop the “framework” and its findings.

INTRODUCTION AND BACKGROUND

Purpose and Scope of the “Framework”

Water is the lifeblood of the San Joaquin Valley. In the past fifteen years the competing uses for water have resulted in redirection of surface water supplies away from the Valley and have intensified the use of Valley groundwater. The Valley’s challenge is to become much more creative to deal with the natural cycles of drought and excess as well as the permanent and temporary losses. The importance of water will require a more thorough evaluation of our assets and needs, and our stewardship of local supplies. The California Partnership for the San Joaquin Valley recognized the need for an assessment of our water environment and commissioned a “water work group” consisting of a Partnership “convener” (Supervisor Ray Watson of Kern County), the California Water Institute at CSU Fresno and a “water policy working group” (key Valley interests) to develop a framework for analyzing the Valley water issues, water inventory, future water needs and to develop a potential menu of water management solutions. The following report presents that framework.

The San Joaquin Valley is comprised of portions of the 8 counties of Kern, Tulare, Kings, Fresno, Madera, Merced, Stanislaus and San Joaquin (Figure 1) with 62 cities and more than 3.4 million residents, and has a long history of contributions to the success of California. Although it is recognized worldwide as an agricultural powerhouse and is one of the fastest growing regions in the nation, it is also one of the most economically challenged in comparison to the rest of the state and nation.

Governor Arnold Schwarzenegger established the California Partnership for the San Joaquin Valley by Executive Order in June 2005 in an unprecedented effort to focus attention on the needs of the region. As the Governor stated in the Executive Order, “The strength of California is tied to the economic success of the San Joaquin Valley.”

Through the year 2030, the growth rate of the region is projected to be 65% higher than the state average. How effectively the region accommodates the growth will be an important determination of California’s future.

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Figure1. The Eight San Joaquin Valley Counties

The Strategic Action Plan - *“The San Joaquin Valley: California’s 21st Century Opportunity”* - sets forth overall strategies and specific actions with accompanying indicators to measure progress. It builds on the existing strengths and addresses current challenges to achieve a Prosperous Economy, Quality Environment and Social Equity, the “3E’s” of sustainable growth. It embraces and enhances the assets that define the region, such as the San Joaquin River and Highway 99, as leading strategies to attract investment. It recognizes the Valley’s heritage of agriculture as the foundation for economic growth and forges new frontiers for prosperity by identifying five key industry clusters for development: (1) agribusiness including food processing, agricultural technology, and biotechnology; (2) manufacturing; (3) supply chain management and logistics; (4) health and medical care; (5) renewable energy.

The detailed reports and recommendations are integrated into six major initiatives with associated indicators that will be tracked annually:

- 1) Grow a Diversified, Globally-Competitive Economy Supported by a Highly-Skilled Workforce
- 2) Create a Model K-12 Public Education System
- 3) Implement an Integrated Framework for Sustainable Growth
- 4) Build a 21st Century Transportation Mobility System
- 5) Attain Clean Air Standards
- 6) Develop High-Quality Health and Human Services

The Strategic Action Plan calls for a sustained public-private partnership over the next decade to mobilize the essential government and civic leadership to achieve measureable results. The Strategic Plan and organizational structure were approved by the Governor and funded by the Legislature for an initial term of two years with the intent that State legislation would then be enacted to ensure commitment and continuity for the full decade. The overall goals of the Partnership, linkages and inter-relationships are symbolized by the following figure (Figure 2):



Figure 2. The Partnership Linkages and Inter-Relationships

Water Quality, Supply and Reliability Water Work Group

The growing population and expanding economy of the San Joaquin Valley require an adequate water supply of sufficient quality and reliability for all sectors as well as for the environment. The current supply is inadequate for the future and there is significant annual groundwater overdraft that must be reversed. In addition, the San Joaquin River is a valuable natural asset that needs to be restored and protected while developing additional water supplies. Solutions must embrace efficient water use practices, construction of additional facilities for both surface and groundwater storage and reusing waste water.

Prior to the establishment of the California Partnership, four San Joaquin Valley Congressional delegation members initiated the development of the San Joaquin Valley “Regional Water Plan” and enlisted the services of the California Water Institute (CWI) at California State University, Fresno to facilitate the planning effort. The California Partnership determined that the two water planning efforts were congruent and that the public interest would be best served if the two efforts merged. Four resource management strategies were identified as a foundation for the Congressional Regional Water Plan. More strategies could be added as needed later. The four strategic areas identified were: (1) Water Supply, (2) Water Quality, (3) Flood Control, and (4) Environmental Enhancement. The Regional Water Plan is to be coordinated with state and federal planning agency efforts currently underway during the planning horizon. The result of the merger was the commissioning of the Partnership “Water Work Group” which was charged with developing a “framework” for delivering a comprehensive water management plan for the Valley.

The California Partnership Strategic Action Proposal recommended six specific water-related actions that form additional foundation elements for the subject Valley “Water Management Plan.” The actions follow:

1. Develop and implement a “San Joaquin Valley” water management planning process that covered all eight counties (the federal effort was limited to seven)
2. Incorporate major levee enhancements in the Sacramento-San Joaquin Delta and San Joaquin Valley to safeguard regional water quality and water supply as well as provide for flood control
3. Augment surface and groundwater banking programs and recycled water projects in the San Joaquin Valley
4. Improve water quality and expand salinity management infrastructure development
5. Promote environmental restoration
6. Expand agricultural and urban water use efficiency and energy efficiency programs

What is the “Framework”?

The Partnership selected the California Water Institute (CWI) to deliver the analysis of what would be necessary to develop a fully mature “San Joaquin Valley Water Management Plan” and to serve as staff and technical advisors to the Water Work Group. The Water Work Group convener selected by the Partnership, Supervisor Ray Watson of Kern County, also sought input on the Valley’s current water events menu which assisted in an “outline of activities” for the Group and the CWI, by identifying some of the core issues and a strategy that he believed would serve as a model process to move the eight Partnership counties forward together in water management solutions. Two dominant events prevailed in crafting the strategy. The first was a series of legal rulings that resulted in a Delta water delivery crisis; the second was an unfolding drought. The result was the development of a dual process that is likely to be replicated in the longer-term planning efforts. The two processes involve; (1) the implementation of a careful and deliberative analysis of assets and liabilities for the development of a “water management plan” for the Valley, and; (2) an adaptive strategy to deal with crisis issues that invariably arise in either the physical water world or as a matter of policy.

The result of the above was the following “framework” report which encompasses both the fundamental outline of how to proceed to develop the information needed for various levels of water management planning (regional, inter-regional, hydrologic basin, Valley) as well as the use of the aforementioned adaptive strategies to move more critical water management (such as groundwater banking and rural water systems) and policy issues (for example, Delta conveyance and Delta ecosystem management) forward as they arise from the crucible of conflict or scarcity.

THE VALLEY WATER PLAN FRAMEWORK

The Assessment Process

The recommended assessment process involves organizing and conducting a careful and deliberative activity of analyzing the water environment assets and liabilities for every area of the San Joaquin Valley. The analysis must include the condition of the entire water environment including but not limited to: (1) surface and groundwater, (2) flood control and flood management, (3) water quality and (4) understanding the water needs of the ecosystems in the Valley. The organizational tool proposed to be used for that assessment is the “*integrated regional water management planning*” (IRWMP) activity now imbedded in the California Department of Water Resources, “California Water Plan” (an every-five-year-interval water assessment and planning process). Not only does the State “Water Plan” host this effort (it is also in California statute) but the recent California voter-approved water and environmental “Bond” issues have linked the availability of grant funds to the integrated planning process. Whether a city, county, local water entity or special environmental interest gets any State Bond (50 and 84) grant funds is now dependent on whether they are a part of an IRWMP.

What is “integrated regional water management planning” and why should the Partnership embrace it as the organizational and assessment tool for addressing water

issues in the San Joaquin Valley? Integrated regional water management plans are “bottom-up” collaborations that are locally-driven by common interest and geography. Many are based on shared sources of water for supplies; others are based on natural watersheds. These efforts offer the opportunity for local entities that heretofore were either dependent on others for water sources or management or, even if totally independent, to interact in a way that potentially is synergistic. The potential outcome of all parties working together is likely to be more enduring management solutions.

An example of these collaborative efforts can involve cities and agricultural water agencies that withdraw water from the same groundwater aquifer. Until recently, it has been relatively uncommon for two such different agencies to work together to manage the same groundwater body optimally. An IRWMP provides a better vehicle for doing so. Sometimes the interactions are at first contradictory or competitive. However, ultimately the opportunities to work out such issues are far more palatable than fighting in an arena (court-mandated adjudication of shared groundwater in the above example) that could be detrimental to both parties. The process also brings together new partners and issues that cut across other subjects in the Partnership “circle of goals” (see diagram above). For example, energy and land use are critical components of any successful water planning effort. Energy pumps/moves water and land use determines where and how much water is used or disabused (water quality impacts). They are therefore integral discussion, assessment, quantification and solution activities for any water planning effort.

The Water Work Group, through the CWI, has been actively participating and assisting in the development of IRWMP groups up and down the Valley on behalf of the Partnership. This activity is documented in a CWI supplementary report in the CWI web site ([San Joaquin Valley Regional Water Plan](#)). Much of the Valley is now covered by IRWMP's. Several started before the commissioning of the Partnership itself. They formed under earlier guidance from the California Department of Water Resources which is still adapting the process. ***The difference is that the first IRWMP's began with a focus of analysis that most quickly resulted in building “projects” (many of which are undoubtedly needed). The newer version of the IRWMP process demands a broader assessment and more diverse participation. That diversity and added complexity demands a clear process map so as to allow the analysis of water conditions and needs to move forward more sensibly. The proposed Valley process is a further adaptation of the various preceding activities.***

The Partnership Water Work Group believes that presenting a simplified process that involves using a core menu of tools will bring consistency and reliability and hence greater success in coordinating the IRWMP groups in the Valley. The goal is to present an outline that anyone using or involved with water can adapt to develop the necessary basic information that will plug into the IRWMP plan. The process is also scalable; the tools can be used successively for larger geographic integration activities. In fact, a major goal of the proposed core assessment activities is to elevate the local groups into the next steps of the process, integrated inter-regional plans, hydrologic basin and then the Valley-wide plan. Inter-regional plans give the partner collaboratives within a geographic area an opportunity to work at the next level of synergy. An example of this

is the San Joaquin River Basin, from the headwaters to the Delta confluence with the Sacramento River. Some problems with water sources, water management or the environment may require larger areas of participation that could bring more solutions and resources to apply to the water management issues associated within that hydrologic area. After building the area-wide collaborations, a Valley-wide plan can address even larger internal and external issues that determine the whole Valley's success in its water management goals.

The key to success in the planning process is to find issues of common interest to work on first. Such a problem-solving exercise will allow for the future resolution of the more difficult issues. Nonetheless, as mentioned previously, certain crises may demand a different level of attention that prevails over the deliberative process. The Partnership must remain cognizant of those circumstances and the Water Work Group will propose an ongoing mechanism for meeting those challenges such as has been employed during the recent Delta environment and drought crises.

The four core components of the proposed Valley process are:

- 1. The organizational activity and a preliminary assessment tool – involves the logical partners and institutional formation of local IRWMP's. The formation activity occasionally involves partners who have not necessarily had the best relationships before or possibly no relationship at all; therefore, initial formation is often a third-party, facilitated process. The assessment tool includes the initial inventory of water environment issues, assets and liabilities with stakeholders and partners. The process is as inclusive and as broad as possible so that the optimum opportunities for sustainability and integration can be realized.*
- 2. The budget tool – the total water environment budget is calculated for current reasonable uses of water and for various futures (the Work Group recommends 50 years) so as to assist with developing a “potential solutions” matrix to meet or decide how to deal with water budget issues.*
- 3. The solutions matrix – IRWMP groups will develop water management tools to match the current and future needs for water with the options available for meeting those needs. The solutions tool must also include a technical, institutional and financial capacity assessment for the various proposed alternative water needs and use conditions.*
- 4. The Partnership water crisis response – a deliberative process assists in the development of longer-term sustainability strategies, however, the water environment is increasingly faced with crisis events that call for extraordinary measures and actions. The process envisioned here is to institutionalize an “action team” response of the Partnership membership that can attempt to find solutions and policy convergence on crisis issues within competing interests of the Valley. The process involves gathering the appropriate parties in a collegial atmosphere where quick, rational assessments and recommendations can be developed to prevent, mitigate or*

solve such crises or join larger efforts to deal with the water management issues.

The Water Work Group believes that every area in the Valley needs to become part of an IRWMP and follow the above process for development of a “Water Management Plan” for their designated area. Where there is a reluctance on the part of potential local or regional responsible partners, the Work Group recommends the Counties act as the agent (with all due deliberation on the costs and impacts of such decisions) for areas without coverage in an IRWMP so there are absolutely no gaps in Valley coverage. Such coverage is critical in addressing the Bond funding mechanisms mentioned previously; both the California Legislature and the administrative funding agencies have made it clear that State support will go to areas with complete coverage and the higher level inter-regional plans. The Work Group also believes that participating in a local IRWMP implies additional participation in the Basin-wide and Valley-wide IRWMP process using the same organizational and analytical tools, adapted as necessary to the conditions and limitations of each level of participation. The following are the suggested core tools that should be common to all parties participating in the Valley water management planning processes. The tools are not completely definitive or conclusive, they are meant to serve as starting points. The goal is to develop a process that is transferrable. The tools are meant to assist all water users to participate meaningfully in the process by telescoping down to the bare essentials the data needed to understand a region, basin and the Valley’s water conditions and needs.

The Assessment Tool

The assessment tool involves documenting the types of water use in the geographic area of a jurisdiction within an IRWMP at the beginning of its efforts. The water-using activities fall into three main categories as follows:

- 1. Urban and Rural Domestic, Industrial and Commercial Water Use Activities*
- 2. Agricultural Water Use*
- 3. Environmental Use*

The assessment tool and the subsequent budget tool are summary presentations based on the more comprehensive “existing conditions” analysis used by the California Department of Water Resources. **Every participant in the ongoing efforts will be encouraged to use the Department’s analytic tool.**

The Water Budget

With a basic understanding of the current uses of water in a circumscribed area, the next tool involves projecting the probable changes and future needs. The use patterns assume high-quality water will be required in all cases because the dominant uses are human consumption and agricultural crops which both require substantially low total salt levels. The projection also assumes principles will be established that outline what goals an area has for future land use patterns and their alternates. The principles may

include items such as not giving up any further agricultural land so that agriculture remains as a significant economic driver in the Valley. An alternate strategy would include converting as much land as possible to housing and industrial development so as to fundamentally change the economy of an area or areas so a higher-income economic condition can be attained. A third alternate, or principle of future land use, is to convert as much land as possible back to natural environments and make an area's economy based on eco-tourism and hunting. Each of these alternates then needs a re-calculation of the water budget.

The Solutions Matrix

Water supply with the necessary quality appears to be the over-riding issue in the San Joaquin Valley. Flood protection, while important, is already a somewhat separate activity under the auspices of the separate "Bond" issue, "Proposition 1E". Therefore, the Water Work Group believes the focus of a core solutions strategy has to be water supply and quality for the budgeted uses. Local versions of the solutions matrix can add the flood protection element. Flood management is important in the solutions process because better utilization of wet year supplies will be an important element of the water budget.

The solutions involve not only the water budget under various alternative futures but also whether there is water available to meet the various alternates. Impacts from natural events such as long-term climate change reducing snow pack could significantly reduce water availability. If the water needs of some alternates cannot be met at each level of analysis, local, basin and Valley, then new additional future land management alternates will have to be constructed and the water availability will dictate that structure. The following matrix is a simplified version of the California DWR version in the proposed Water Plan 2009. Each of the alternate land management and budget tool uses will require an analysis of the potential solutions to meet the future needs. The utility of the process is the potential clear emergence of certainty of need that can then be used for leveraging the type of solutions that rise above the local capabilities to regional and state-wide levels.

Water Crisis Response

The IRWMP assessment and solutions process is a long-term project that should be used at every level of planning: local, inter-regional, basin and Valley-wide. However, it is clear from the efforts of the Water Work Group that water crises will undoubtedly occur and a response capability will remain a significant need for the foreseeable future. Three particular issues were brought to the forefront during the Partnership efforts. The first was the Delta estuary biological crash and hence, south-of-the-Delta water delivery instability, along with a drought; the second was the potential economic failure and poor quality services in small rural communities due to the high cost of operating and maintaining local water infrastructure and the third was drought-related loss of surface water supplies was accelerating the use of Valley groundwater. Our groundwater basins are now showing significant signs of stress. Groundwater is also receiving renewed attention as potentially needing State-wide regulation (Legislative Analyst's Office report, October 2008 and 2009 legislative action, "measurement" requirements). The

result of these findings was the efforts by the Work Group, Tulare County and CWI to develop tools and strategies to cope with these issues. The primary tool is an “action team” approach and the Work Group recommends the Partnership formally recognize the need to continue to convene in such a manner to address such crises. These future activities will have to be convened based on the premise that if the issue is important enough to the Valley, the principals involved will find a way to convene the needed sessions.

SPECIAL STRATEGIC INITIATIVES — INTEGRATION PILOT EFFORTS

In order to explain the concepts of “integrated water management” and assist early adoption and implementation of management strategies outlined in the DWR Water Plan matrix that have a high potential for establishing important precedents, linkages and projects for San Joaquin Valley Partnership members, CWI has participated in or initiated several specific activities to pilot collaboration and integration strategies in the San Joaquin Valley. These special initiatives include:

1. *The Delta facility “water policy working group”; a facilitated process between Partnership members and other parties dependent on the Delta for exported water.*
2. *Groundwater conditions interactive map and recharge area protection mapping, a special project by CWI to demonstrate a use of GIS in implementation strategies.*
3. *Tulare County Rural Water Strategy Group support.*

The following summarizes these activities and provides links or copies of the work products if available.

The Delta Facility Process of the Water Policy Working Group

The Delta facility initiative was a special process that came out of the concern of Partnership Water Work Group convener Kern County Supervisor Ray Watson that imported Sacramento-San Joaquin Delta water that is so critical to the San Joaquin Valley was likely to be drastically reduced with the legal decisions on endangered species from the federal court in Fresno and what appeared to be a looming drought. The concerns proved to be well-founded as the water supply allocations from the Delta export facilities, the California Aqueduct and the Delta-Mendota Canal were not only substantially reduced for 2008, but rationed (limited flows, postponing delivery of allocations to the fall) during June, July and portions of August 2008 due to both court decisions and a very dry spring. The result was substantial idling of annual crop land in the western and southern parts of the Valley and an emergency declaration by the Governor for the drought-stricken areas south of the Delta.

The Delta facility process involved the selective re-configuration of Partnership representatives from both the north and south of the Valley into a “water policy working group”. The membership involved the bookends on Delta water transportation

positions: San Joaquin County representatives, who generally are not in favor of any new conveyance facilities that they perceive could alter their current Delta water availability and quality patterns, and the import communities south of the Delta who believe the current through-Delta water transport methods are unsustainable and causing undue significant water export restrictions and serious economic damage.

The process involved a series of monthly meetings beginning in December 2007 to try to frame the issues and needs and to develop some common ground and activities of value to both ends of the spectrum. The process continues at this time and will be the subject of special reports to the Partnership and possibly an ongoing function of the Valley Water Plan. The tentative agreement among the parties is to pursue both regional self-sufficiency (local water supply solutions to minimize Delta exports) and consensus on an optimal Delta water transportation design as co-equal activities. A summary report of the process and progress of these discussions was delivered to the Partnership Board in 2009 but no specific agreement was reached. For the Partnership effort, significant success has already been established; a north-south collaboration representing the spectrum of the San Joaquin Valley to collegially discuss how to move forward on sensitive Delta water management issues is an accomplishment in itself.

The Groundwater Interactive Map and Recharge Area Protection Strategy

One water management implementation strategy that does not appear to have any significant detractors in the San Joaquin Valley is the need to fully use our groundwater basins for water supply management and/or augmentation as well as water quality maintenance. The Valley has significant vacant space to store water in porous Valley sediments. The locations, how and which water management entities to get the water into the ground in the most efficient way possible are strategy components that are data intensive and require easily understood visualization tools to get broad support from the various possible implementation partners. A tool that is available that provides the visualization capacity is GIS (geospatial information systems). CWI's Fresno State partner, ISIS Center (Interdisciplinary Spatial Information Systems Center), has developed a GIS map to help show the condition of the groundwater system in the Valley in three dimensions and additional layers to show the recharge areas that have the soils and geology potential to quickly contribute the greatest amount of water to the underground (Figure 3). The long-term Valley Water Plan goal is to develop projects that can reduce the groundwater overdraft in the areas represented on the map or for that matter to sustain the best possible conditions in any high-use groundwater areas. The maps can also be viewed at the CWI link ([San Joaquin Valley Regional Water Plan](#)).

The soils layer is an overlay that also provides the opportunity for exploring multiple integration strategies with other Partnership and planning efforts. Specifically, CWI has advised the Partnership Land Use Housing & Agriculture Work Group (LUHA) on strategy for agricultural soils stewardship and offered strategies to the Valley Councils of Governments' (COG's) "Blueprint" efforts in land use planning to protect recharge areas. The integration strategy then is the cumulative effort to: 1) identify groundwater overdraft areas geospatially, 2) map high infiltration rate soils and geology that could be used more effectively to rapidly increase groundwater recharge in those areas, and 3)

potentially protect those areas from land use changes that limit recharge capacity or inappropriate activities that can adversely impact water quality. The mapping will give water management and land use authorities a tool to require mitigation or develop other appropriate strategies for high infiltration rate areas or activities that could have significant adverse impacts on water quality on those same areas.

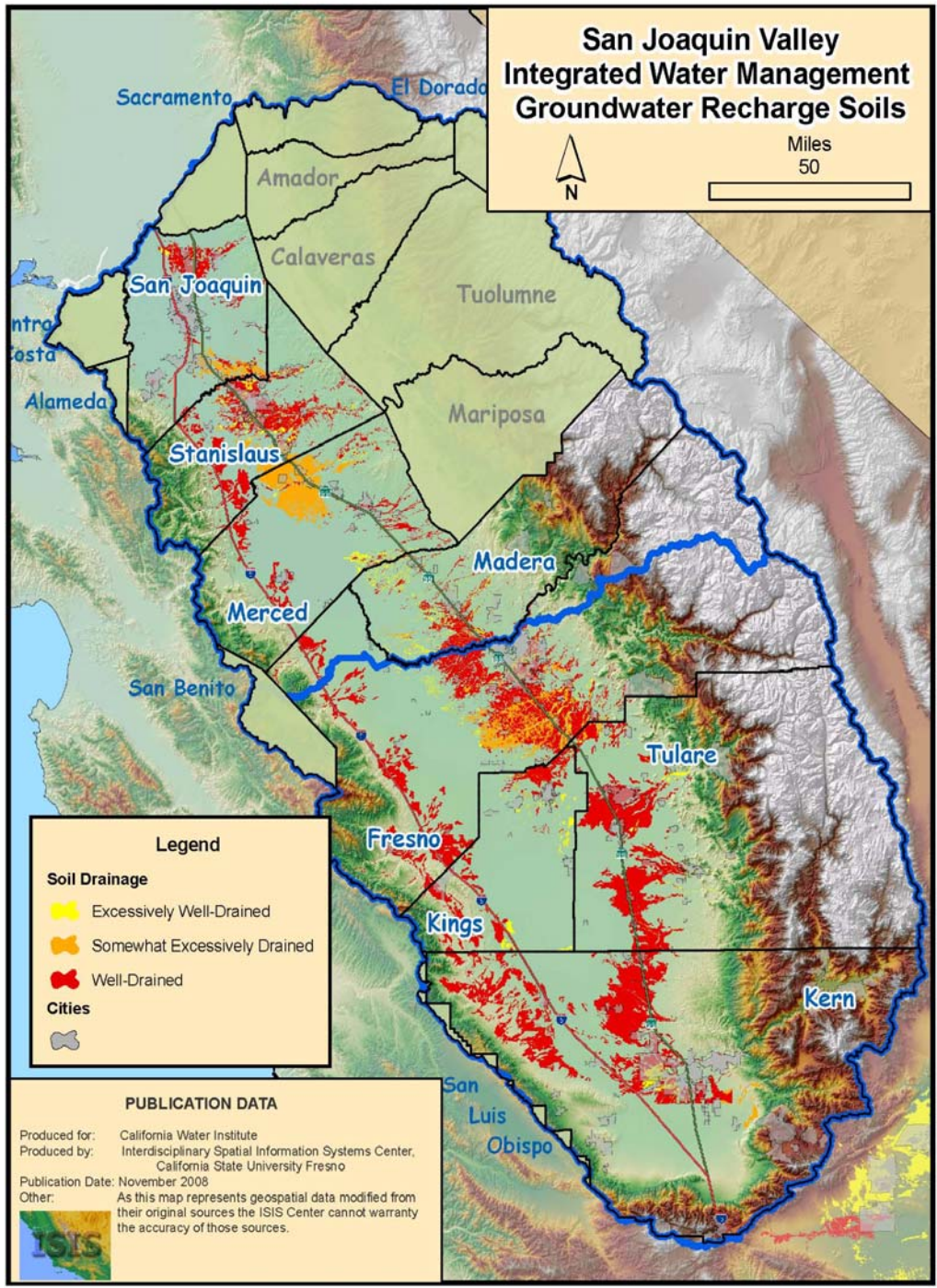


Figure 3. Well Drained Soils in the San Joaquin Valley

The Tulare County Rural Water Strategy

Tulare County has the largest number of drinking water systems in the San Joaquin Valley out of compliance with State and federal standards. Many of the systems are in disadvantaged communities. In response to this issue CWI helped organize and has participated in a “Rural Water Strategy Group” that includes a County Board of Supervisor, the State Department of Public Health Drinking Water Branch, County staff from environmental health and resources management, water system representatives and/or their consultants and other disadvantaged community service providers such as Self-Help Enterprises and the Community Water Center. The goal is to document the scope and nature of the problem and develop the technical, financial and managerial capacity to deliver safe and clean drinking water to all the rural citizens of Tulare County. One of the specific activities involved seeking financing for the collective effort which has been embodied and approved in the Proposition 84 budget expenditure plan. The concept involves integration of the drinking water and waste disposal needs of the Tulare County rural communities into the local IRWMP’s and/or the Tulare (Lake) Basin Joint Powers Agreement IRWMP. The reason integration is important is because in some instances surface water from agricultural water districts are involved and groundwater may not be usable or economically treatable in some areas of Tulare County. Therefore an analysis needs to be made as to how to adequately supply various areas of the County by either surface water or economically treatable groundwater and how to effectively dispose of domestic wastewater. More arrangements for surface water use and wastewater disposal may involve more agricultural entities who are already engaged in the aforementioned IRWMP’s. Furthermore, additional new requirements for Proposition 84 funding require disadvantaged communities be addressed in all the IRWMP’s; the specific budget allocation from Prop. 84 passed by the Legislature and signed by the Governor will finance this integration strategy in Tulare County.

As the result of the condition of the groundwater and needs of rural systems in Tulare County, CWI also partnered with UC Merced and developed an application to the US Environmental Protection Agency for a grant to research:

4. *The viability of centralized, remote control and monitoring of water delivery and treatment systems.*
5. *Treating groundwater containing nitrates above the drinking water standards in a rural water utility well with an in-line biological treatment micro-filter.*

The proposal involves using centralized controls on remote water or wastewater systems but with access to the instant data and results of delivered water or treatment information via computer to the managers and other responsible parties such as utility district Board members. The idea is to lower overall costs with centralized management systems, yet retain local decision-making of rural utility Boards who are most directly responsible to their system constituents. The review of the application was completed and the project was not recommended for funding by the federal agency, however, the

concepts will continue to be explored in any rural water management strategy and additional grant applications.

Special Partner Activities

Another significant Valley Water Plan integration component that was also sponsored by the Partnership and that bears additional emphasis and support is the Tulare Basin Wildlife Partners effort. One of the important strategic goals in all IRWMP activities and water environment management is ecosystem restoration and enhancement. Tulare Basin Wildlife Partners has developed plans to improve various habitats in the Tulare Lake Basin including wetland, intermittent wetland and upland habitats, as well as riparian corridor restoration. These activities are valuable components in any integration strategy because they not only provide important linkages to other areas of the State's complex waterfowl and wildlife systems which reduces stress (and conflict) on those systems, but they truly offer significant water management opportunities such as flood plain storage of flood waters, groundwater recharge in improved riparian corridors, conveyance connectivity opportunities, recreation locations and many other benefits. By March 2009, they completed their fourth and final Tulare Basin Regional Conservation Plan, and by October 2009, they completed a "Water Supply Strategies" report that will complement all four plans. With additional funding the Wildlife Partners could prepare a summary report on additional habitat restoration opportunities in the Tulare Basin hydrologic area. The Central Valley Joint Venture also participates in a similar process in the San Joaquin River Basin and such efforts should also be encouraged and expanded where appropriate.

THE IMPLEMENTATION STRATEGY

The Water Work Group recommended the Partnership adopt a "Resolution" encouraging all Partnership members, cities, counties, the water use and stakeholder communities continue to work to either join or continue in an IRWMP at the local level, the inter-regional level, basin and Valley-wide efforts. The Work Group also recommended the Resolution should encourage all water managers to participate in the refining and adoption of commonly-accepted assessment, water budget, and solutions processes for the local collaborative areas, inter-regional connectivity and the Valley. **The Resolution was adopted by all eight counties of the Partnership at the October 29, 2009 Board of Directors meeting.**

CONCLUSIONS AND RECOMMENDATIONS

The Partnership Water Work Group believes that water will continue to be a critical resource issue blocking the San Joaquin Valley's path to prosperity and success. The Group has embraced the State IRWMP process and its components as a potential tool to fully evaluate Valley water needs and alternatives and recommends adapting it as needed to best serve the Valley. Many IRWMP efforts have already begun but the meshing of the efforts into the inter-regional plans will take considerable encouragement and coordination. The Work Group is interested in an evaluation

process that helps organize the water management planning efforts. Without a proper needs assessment, water budget and solutions that start with self-sufficiency, the State and the nation will be hard pressed to provide support and resources to any proposed physical (construction) solutions. The Water Work Group recommended the Partnership invite all parties who are part of the water environment to become part of the process at every level: regional, inter-regional, basin and Valley-wide.

REFERENCES

California Partnership for the San Joaquin Valley – Strategic Action Proposal, 2006

California Water Plan –, California Department of Water Resources, 2005 and 2009 (draft) updates

Page and Leblanc – U.S. Geological Survey, 1972, 1986

California Department of Finance – Population and Demographics, 2008

California Soil Resources Laboratory – UC Davis, 2008

Fresno, Madera, Merced, Kern, Kings, San Joaquin, Stanislaus, Tulare Agricultural Commissioners' Crop Reports for 2007

County of Fresno, COG Blueprint – 2008 (Draft)

California Legislative Analyst's Office – Report on Water Issues, October 2008

Tulare Basin Wildlife Partners Wetland and Riparian Corridor Plan – February 2009