

---

## MASTER WATER PLAN

With the recurrence of drought, degradation of groundwater basins and limited availability of surface water supplies, it is important for all entities of San Luis Obispo County (County) to effectively manage water resources to protect public health and safety, maintain ecosystems, avoid seawater intrusion and support agriculture into the future. In order to effectively manage water resources, it is important to understand the complete picture of water resources management in the County and how the practices (i.e. water use, policy adoption, planning, and project implementation) of all entities within the County influence each other with respect to water resources.

The San Luis Obispo County Flood Control and Water Conservation District (District) initiated and completed this latest Master Water Plan (MWP) update. The original 1972 Master Water and Sewage Plan (subsequent title change) was previously updated in 1986 and 1998. The MWP is a comprehensive plan that evaluated multiple water management strategies, including optimization of existing water management strategies to meet water resources needs Countywide. In general, the MWP:

- Documented water resource jurisdictions and their current and future activities/water planning efforts.
- Analyzed and documented current and future supply and demand County-wide.
- Identified and analyzed potential water management strategies to address possible water supply shortfalls.
- Documented the role of the MWP in supporting other water resource planning efforts.

### ES.1 SUMMARY OF REPORT CHAPTERS

**Chapter 1:** Chapter 1 introduces the scope, goals and objectives, as well as the limitations, of the District's MWP.

**Chapter 2:** Chapter 2 describes the topical and geographical organization of the MWP and the County into three sub-regions and 16 Water Planning Areas (WPAs). Water demand, agricultural water needs, sources of supply, and other information are organized by WPA. The WPAs were intended to recognize important hydrogeologic units or water management areas throughout the County.

**Chapter 3:** Chapter 3 describes the existing data collection programs and the data available for completing the MWP and for managing water resources in the County.

**Chapter 4:** Chapter 4 evaluates and compares the available water supplies (apart from the untreated ocean) to the water demands for the different WPAs.

**Chapter 5:** Chapter 5 describes the relationship between the MWP and the different State, County, and local agency water related documents, programs, or policies that guide water resource management decisions. In addition, this chapter also suggests coordination efforts that should occur in future updates to the MWP that would promote consistency between it and other County, District and State documents.

## **ES.2 MASTER WATER PLAN RECOMMENDATIONS**

This section presents a summary of the recommendations for District actions to improve water supply to meet existing and future demands throughout the County (Table ES 1). Many of the recommendations explore regional options that could be implemented County-wide to improve supply reliability and to improve the information contained in future MWPs. The analysis and support for implementing different water management strategies to meet existing and forecast demands, and to improve supply reliability for specific water providers and users are presented in Chapter 4 and will not be repeated in the Executive Summary.

### **ES.2.1 District's Highest Priorities**

1. **District's Role with Regional Water Supply and Facilitating Interagency Arrangements:** Lead the effort to optimize the use of unsubscribed State Water Project (SWP) and Nacimiento Project Water (NWP), in conjunction with other facilities, to promote enhanced use of existing available resources that support local agency use and exchanges by:
  - a. Developing policies for the use of unsubscribed water given the various needs in the County and existing County policies (for example, there is a need for increased direct deliveries in some areas of the County and a need for recharge/in-lieu delivery projects in other areas)
  - b. Identifying and conducting pilot projects with the available resources to evaluate the effectiveness of various exchange concepts
  - c. Determining the District's role in the development of a "boiler plate" agreement, or streamlined, standard process for local agencies to implement transfer agreements, and emergency intertie agreements.
2. **District's Role with Sub-regional Water Balance Analyses and Management:** Although the water demands were quantified on a WPA basis, there is too much uncertainty in the individual demand locations and the exact source of supply to arrive at a reasonable conclusion on whether an existing and/or future water supply deficit exists for most WPAs. Some areas do not have adequate assessments of the water supplies available. The District's role in and approach to analyzing water balances on a watershed and/or groundwater basin basis throughout the County should be established. Once established, specific priorities and work efforts can be identified. Two recommendations that support this effort follow:

- a. **Improve Environmental Water Demand Estimate:** Determine the District's role in implementing the recommendations associated with evaluating Environmental Water Demand in the County (for example, should the District conduct analyses, or somehow be involved with analyses, to estimate in-stream flow requirements to support the associated ecosystem?). Continue to prioritize and establish data collection locations in accordance with the District's Data Enhancement Plan, District funds, and the established role of the District.
  - b. **Improve Agricultural Demand Estimate:** Future planning efforts need to include agricultural demands not captured in the Agriculture Commissioner's pesticide use reports GIS database. Also, future planning efforts should either develop more accurate agricultural demand estimates or complete a separate study that focuses solely on agricultural demands, and then incorporate the findings into future MWP. Agricultural demand accounts for nearly 80 percent of the total County demand. Inaccuracies in the assumptions could lead to large variances in the demand estimates.
3. **Future Master Water Plan Updates:** Publication of an updated MWP should occur on a five year cycle, following the completion of Urban Water Management Plans. However, the District should maintain a current inventory of other water resource data, GIS-based land use data and reports (e.g. water master plans, groundwater studies) and track progress on implementation of the recommendations to streamline future MWP updates.

### **ES.2.2 Water Management Strategies for Specific Users**

The identification of water management strategies and the potential for implementing a management strategy for cities, communities, and other agencies within the County are discussed in Chapter 4. Note that the suggested water management strategies are not requirements, and most are consistent with existing water planning studies and options being considered by cities, communities, and agencies.

<b>Table ES 1: Master Water Plan Recommendations</b>		
<b>Recommendation (MWP Reference)</b>	<b>Key Steps to Implementing Recommendation</b>	<b>Basis of Recommendation</b>
<b>ACTIONS TO IMPROVE FUTURE MASTER WATER PLAN UPDATES</b>		
<p><b>Create a Framework for Maintaining the Master Water Plan</b> (MWP Section 5.2)</p>	<ul style="list-style-type: none"> <li>Update the MWP on a five year cycle, following the completion of Urban Water Management Plans, in years ending in 1 or 6 (i.e. 2016, 2021, etc.).</li> <li>Maintain a current inventory of other water resource data and reports (e.g. water master plans, groundwater studies).</li> <li>Develop a consolidated, coordinated mechanism for improving, gathering, and sharing County-wide water supply and demand information to avoid redundancy and ensure consistency.</li> <li>Consider the analyses conducted to develop Community 2050 when updating the land use-based water demand analysis in the MWP.</li> </ul>	<ul style="list-style-type: none"> <li>Updating the MWP on a regular basis, consistent with UWMP timing, will provide the District and agencies in the County with a reliable planning-level document.</li> <li>Will reduce the demand on District resources by streamlining processes (i.e. with UWMP efforts).</li> </ul>
<p><b>Improve Approach for Quantifying Demands</b> (MWP Section 4.6)</p>	<ul style="list-style-type: none"> <li>Refine future MWP investigation of the demand versus supply on a groundwater basin and/or watershed basis within WPAs.</li> </ul>	<ul style="list-style-type: none"> <li>Understanding between demand and source of supply would be improved if the investigation looked more closely than the WPA level.</li> </ul>
<p><b>Improve Agricultural Demand Estimate</b> (MWP Sections 4.6.3 and 4.8.7)</p>	<ul style="list-style-type: none"> <li>Future planning efforts need to include agricultural demands not captured in the Agriculture Commissioner's pesticide use reports GIS database (e.g. irrigated pastures not intended for commercial sale but for private use are not included in the County's database, livestock water use, etc.)</li> <li>Define stakeholder groups in each WPA to coordinate and refine these (and other) estimates on a watershed and groundwater basin basis for their WPA.</li> <li>Future planning efforts should either develop more accurate agricultural demand estimates or complete a separate study that focuses solely on agricultural demands, and then incorporate the findings into future MWPs.</li> <li>Develop a voluntary pilot program where a representative percentage of agricultural water users could meter and report their water use, and the District would track actual applied water per acre for various agricultural users throughout the County.</li> </ul>	<ul style="list-style-type: none"> <li>Agriculture accounted for nearly 80 percent of the total County demand. Errors in the assumptions or water duty factors could result in large increases or decreases in the total demand.</li> <li>This MWP likely underestimates the agricultural demands for certain water planning areas, in particular the north coast of the County.</li> <li>The irrigation factors used for each crop type could be under or over estimating the total demand.</li> <li>By forming stakeholder groups, the District would encourage local participation and control for determining agricultural water demand.</li> </ul>
<p><b>Improve Rural Demand Estimate</b> (MWP Sections 4.6.4 and 4.8.8)</p>	<ul style="list-style-type: none"> <li>Utilize rural water use information made available by Resource Management System 2009 Annual Summary Report (e.g. via installation of flow meters on non-agricultural wells, monthly water use recording and semi-annual reporting for water purveyors with as few as five connections, etc.), as it becomes available.</li> </ul>	<ul style="list-style-type: none"> <li>Increases accuracy in rural water demand estimates and reduces need for assumptions in water duty factors.</li> </ul>
<p><b>Agricultural and Rural Users Water Management Strategies</b> (MWP Section 4.8.9)</p>	<ul style="list-style-type: none"> <li>The District should participate in and promote a "stakeholder driven" water balance evaluation on a watershed and groundwater basin basis within the County to better understand the relationship between supply and demand.</li> </ul>	<ul style="list-style-type: none"> <li>Although the agricultural and rural water demands were quantified on a WPA basis, there is too much uncertainty in the demand and the exact source of supply to arrive at a reasonable conclusion on whether an existing and/or future water supply deficit exists for most WPAs.</li> </ul>

<b>Table ES 1: Master Water Plan Recommendations</b>		
<b>Recommendation (MWP Reference)</b>	<b>Key Steps to Implementing Recommendation</b>	<b>Basis of Recommendation</b>
<b>Environmental Water Management Strategy</b> <i>(MWP Sections 4.6.5 and 4.8.10)</i>	<ul style="list-style-type: none"> <li>Develop policies for District's role in further developing the Environmental Water Demand values throughout the WPAs (e.g. installing stream gauges, leading studies, promoting local control).</li> </ul>	<ul style="list-style-type: none"> <li>Site- and project- specific instream flow requirements allow the environmental water demand to be quantified and represented on a sub-watershed or creek basis, while the current analysis considered the Environmental Water Demand on a WPA level.</li> </ul>
<b>PROJECTS AND PROGRAMS</b>		
<b>Contingency Plan or Reliability Supply</b> <i>(MWP Section 4.8.1)</i>	<ul style="list-style-type: none"> <li>Suggest that each community in the County consider developing a contingency plan or reliability supply, if they have not already done so. Provide technical expertise or administrative support to County Service Areas.</li> </ul>	<ul style="list-style-type: none"> <li>Facilitates implementation of a combination of emergency conservation measures/new supplies.</li> <li>Ability to address the uncertainties with climate change and the potential impacts to water supply.</li> <li>Without a contingency or reliability plan, a community may be unable to respond to extended periods of below average water supply.</li> </ul>
<b>Stream Gauge Installation</b> <i>(MWP Section 3.2.2)</i>	<ul style="list-style-type: none"> <li>Continue to prioritize and establish data collection locations in accordance with the District's Data Enhancement Plan, District funds, and the established role of the District in implementing the Environmental Water Management recommendations., attempting to place new sites where past, inactive gauges existed (providing a period of record that will complement any new data collected).</li> </ul>	<ul style="list-style-type: none"> <li>Placing gauges on major creeks near the confluence with significant tributaries, on some smaller streams and tributaries, and at major cities along the major creeks would provide valuable information for developing instream flow requirements.</li> <li>The eastern portion of the County (i.e., WPAs 9, 10, 11, 14, and 15) was ultimately excluded from the environmental water demand analysis due to the lack of unimpaired data and regional physiographic differences.</li> </ul>
<b>Water Conservation/ Water Use Efficiency</b> <i>(MWP Sections 4.5, 4.7.4, and 4.8.3)</i>	<p>Determine the District's role in:</p> <ul style="list-style-type: none"> <li>Promoting agencies within the County to join Partner in Water Conservation.</li> <li>Increasing communication with the agricultural and rural community, and promote use of conservation measures by rural and agricultural users.</li> <li>Increasing knowledge of supply limitations and findings of this study.</li> <li>Local stakeholder groups should establish conservation goals for different groundwater basins throughout the County</li> </ul>	<ul style="list-style-type: none"> <li>Conservation supports the Contingency and Reliability Supply Plan recommendation.</li> <li>Consistent with the State's water conservation goals.</li> <li>Improves management of water supplies.</li> </ul>
<b>Regional Water Supply Strategies</b> <i>(MWP Section 4.8.2)</i>	<ul style="list-style-type: none"> <li>Lead the effort to optimize the use of unsubscribed SWP or NWP to promote enhanced use of existing available resources that support local agency use and exchanges.</li> </ul>	<ul style="list-style-type: none"> <li>Optimizing the use of surface water supplies could preserve groundwater for agricultural users or for times when there are reductions in surface water deliveries.</li> </ul>
<b>Unsubscribed State Water Project</b> <i>(MWP Sections 4.7.8, 4.8.2, and 4.8.11)</i>	<ul style="list-style-type: none"> <li>Understand which entities may be interested in receiving additional State Water by compiling a list of interested parties.</li> <li>Complete the hydraulic capacity study of the SWP Coastal Branch to determine if sufficient capacity exists to transmit additional State Water to coastal communities.</li> <li>Understand exchange opportunities with other resources within the District that may free up a portion of the existing State Water allocation.</li> </ul>	<ul style="list-style-type: none"> <li>This effort will identify the potential for the delivery of additional unsubscribed State Water and support the optimization of unsubscribed surface water supplies. Use of unsubscribed SWP will also be considered in evaluating and negotiating the use of any extra capacity in the Coastal Branch.</li> </ul>

<b>Table ES 1: Master Water Plan Recommendations</b>		
<b>Recommendation (MWP Reference)</b>	<b>Key Steps to Implementing Recommendation</b>	<b>Basis of Recommendation</b>
	<ul style="list-style-type: none"> <li>• Develop and/or update District policies regarding which entities have priority to receive State Water.</li> <li>• Provide a final opportunity to existing SWP participants to execute Drought Buffer Agreements.</li> <li>• Negotiate use of excess capacity and District allocation with CCWA and DWR guided by District needs and priorities, as-needed.</li> </ul>	
<b>Streamline Institutional Agreements</b> (MWP Section 4.8.6)	<ul style="list-style-type: none"> <li>• Determine the District's role in developing "boiler plate" agreements, or streamlined, standard processes for local agencies to implement a transfer agreements, and emergency intertie agreements.</li> </ul>	<ul style="list-style-type: none"> <li>• Local agencies have requested that the District lead the development of a template agreement for interagency agreements or water transfers.</li> </ul>
<b>Interagency Arrangements and Exchanges</b> (MWP Section 4.8.6)	<ul style="list-style-type: none"> <li>• Develop policies for District's role in promotion of opportunities to move water within the County and to match demands with available sources at different times.</li> <li>• Identify and conduct pilot projects to evaluate options</li> </ul>	<ul style="list-style-type: none"> <li>• Exchanges would allow entities with water supply needs that cannot feasibly connect directly to the NWP or SWP to receive a supply from a source to which they are already connected via exchange.</li> </ul>
<b>Groundwater Evaluations</b> (MWP Section 4.8.4)	<ul style="list-style-type: none"> <li>• Develop policies for District's role in these efforts (i.e. basin monitoring programs, Groundwater Management Plans per basin, education and outreach programs).</li> </ul>	<ul style="list-style-type: none"> <li>• Updates the perennial yield and groundwater information for basins that have not been studied for years.</li> <li>• Promotes the management of groundwater supplies.</li> </ul>
<b>Groundwater Banking/ Recharge</b> (MWP Sections 4.7.9 and 4.8.5)	<ul style="list-style-type: none"> <li>• Develop policies for District's role in these efforts (i.e. creation of advisory committees of stakeholders to develop basin-wide groundwater management plans, manage the use of available aquifer space for recharge, identify and evaluate local opportunities to reduce runoff and increase recharge, etc.).</li> <li>• Develop policies or evaluate existing policies that pertain to which water supplies can be used for this purpose.</li> </ul>	<ul style="list-style-type: none"> <li>• Groundwater banking is generally viewed as being difficult to implement and monitor if overlying land owners are not part of the banking project. Overlying land owners could extract water and benefit from a project that was funded by other parties. Or the operations of the banking project, if not designed and operated properly, could negatively affect neighboring overlying users.</li> <li>• County policies may discourage the use of water that is available for banking from being used.</li> </ul>