
MASTER WATER PLAN

With cyclical droughts, declining groundwater levels, degradation of groundwater quality, and the limited availability of surface water supplies, it is important for all entities in San Luis Obispo County (“County” for government; “county” for geographic domain) to effectively manage available water resources to protect the public health and safety, maintain viable ecosystems, avoid seawater intrusion, and allow for sustainable agriculture.

To that end, this Master Water Plan (MWP) is a compilation of the current and future water resource management activities being undertaken by various entities within the County and is organized by Water Planning Area (WPA). The MWP explores how these activities interrelate, analyzes current and future supplies and demands, identifies future water management strategies and ways to optimize existing strategies, and documents the role of the MWP in supporting other water resource planning efforts.

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.

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 water from the State Water Project (SWP) and the Nacimiento Water Project (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. Establish 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:** Water demands were quantified on a WPA basis. Recognizing that some areas do not have adequate assessments of the water demand and 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:** Establish 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 permits 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:** The information in this MWP will be integrated into the region's Integrated Regional Water Management Plan (IRWM Plan). If the District continues to lead efforts in maintaining an IRWM Plan for the region (which is the County line), it may make sense to just update the IRWM Plan. Regardless of the document that houses the information contained and generated from this MWP, updates should occur on a five year cycle, following the completion of Urban Water Management Plans (UWMPs). 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 document updates. The District should encourage entities that do not prepare UWMPs to provide projected demand information.

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.

Interested persons not reading the entire MWP will want to become familiar with at least their own WPA as well as the regulations and planning documents of other agencies in the area where they live.

Table ES 1: Master Water Plan Recommendations		
Recommendation (MWP Reference)	Key Steps to Implementing Recommendation	Basis of Recommendation
ACTIONS TO IMPROVE FUTURE MASTER WATER PLAN UPDATES		
<p>Create a Framework for Maintaining the Master Water Plan (MWP Section 5.2)</p>	<ul style="list-style-type: none"> • Determine whether to maintain both an IRWM Plan and a MWP <ul style="list-style-type: none"> - 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.) and in coordination with the County's Resource Management System. • Encourage all water purveyors to project water demand into the future. • Maintain a current inventory of other water resource data and reports (e.g. water master plans, groundwater studies). • Develop a consolidated, coordinated, web-based mechanism for improving, gathering, and sharing county-wide water supply and demand information to avoid redundancy and ensure consistency. • Utilize a web-based approach to maintain data. • Consider the analyses conducted to develop the Land Use and Circulation Element and Community 2050, and updates to the Resource Management System when updating the land-use-based water demand analysis in the MWP. 	<ul style="list-style-type: none"> • 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. • Will reduce the demand on District resources by streamlining processes (i.e. with UWMP efforts).
<p>Improve Approach for Quantifying Demands (MWP Section 4.6)</p>	<ul style="list-style-type: none"> • Refine future MWP investigation of the demand versus supply on a groundwater basin and/or watershed basis within WPAs. 	<ul style="list-style-type: none"> • Understanding of demand and source of supply would be improved if the investigation looked more closely than the WPA level.
<p>Improve Agricultural Demand Estimate (MWP Sections 4.6.3 and 4.8.7)</p>	<ul style="list-style-type: none"> • Future planning efforts need to include agricultural demands not captured in the Agriculture Commissioner's pesticide use permits GIS database (e.g. irrigated pastures, livestock water use, etc.). • Define stakeholder groups in each WPA to coordinate and refine these (and other) estimates on a watershed and groundwater basin basis for their WPA. • 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. • 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. 	<ul style="list-style-type: none"> • Agriculture accounted for nearly 80 percent of the total county current water demand. Errors in the assumptions or water duty factors could result in large increases or decreases in the total demand. • This MWP likely underestimates the agricultural demands for certain water planning areas, in particular the north coast of the county. • The irrigation factors used for each crop type could be under or over estimating the total demand. • By forming stakeholder groups, the District would encourage local participation and control for determining agricultural water demand.
<p>Improve Rural Demand Estimate (MWP Sections 4.6.4 and 4.8.8)</p>	<ul style="list-style-type: none"> • 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, etc.), as it becomes available. 	<ul style="list-style-type: none"> • Increases accuracy in rural water demand estimates and reduces need for assumptions in water duty factors.

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Agricultural and Rural Users Water Management Strategies <i>(MWP Section 4.8.9)</i>	<ul style="list-style-type: none"> 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. 	<ul style="list-style-type: none"> The agricultural and rural water demands were quantified on a WPA basis. It is recognized that some areas do not have adequate assessments of the water supplies available to conclude whether a supply deficit exists.
Environmental Water Management Strategy <i>(MWP Sections 4.6.5 and 4.8.10)</i>	<ul style="list-style-type: none"> 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). 	<ul style="list-style-type: none"> 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.
PROJECTS AND PROGRAMS		
Contingency Plan or Reliability Supply <i>(MWP Section 4.8.1)</i>	<ul style="list-style-type: none"> 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. 	<ul style="list-style-type: none"> Facilitates implementation of a combination of emergency conservation measures/ new supplies. Ability to address the uncertainties with climate change and the potential impacts to water supply. Without a contingency or reliability plan, a community may be unable to respond to extended periods of below average water supply.
Stream Gauge Installation <i>(MWP Section 3.2.2)</i>	<ul style="list-style-type: none"> 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). 	<ul style="list-style-type: none"> 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. 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.
Water Conservation/ Water Use Efficiency <i>(MWP Sections 4.5, 4.7.4, and 4.8.3)</i>	<p>Establish the District’s role in:</p> <ul style="list-style-type: none"> Promoting agencies within the county to join Partners in Water Conservation. Increasing communication with the agricultural and rural community, and promote use of conservation measures by rural and agricultural users. Increasing knowledge of supply limitations and findings of this study. Local stakeholder groups should establish conservation goals for different groundwater basins throughout the county. 	<ul style="list-style-type: none"> Conservation supports the Contingency and Reliability Supply Plan recommendation (e.g. secures drought buffer). Consistent with the State’s water conservation goals. Improves management of water supplies.
Regional Water Supply Strategies <i>(MWP Section 4.8.2)</i>	<ul style="list-style-type: none"> 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. 	<ul style="list-style-type: none"> Optimizing the use of surface water supplies could preserve groundwater for agricultural users and County residents or for times when there are reductions in surface water deliveries.
Unsubscribed State Water Project <i>(MWP Sections 4.7.8, 4.8.2, and 4.8.11)</i>	<ul style="list-style-type: none"> Understand which entities may be interested in receiving additional State Water by compiling a list of interested parties. Complete the hydraulic capacity study of the SWP Coastal Branch to determine if sufficient capacity exists to transmit additional State Water to coastal 	<ul style="list-style-type: none"> 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.

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	<p>communities.</p> <ul style="list-style-type: none"> • Understand exchange opportunities with other resources within the District that may free up a portion of the existing State Water allocation. • Develop and/or update District policies regarding which entities have priority to receive State Water. • Provide a final opportunity to existing SWP participants to execute Drought Buffer Agreements. • Negotiate use of excess capacity and District allocation with CCWA and DWR guided by District needs and priorities, as-needed. 	
<p>Streamline Institutional Agreements (MWP Section 4.8.6)</p>	<ul style="list-style-type: none"> • Establish the District's role in developing "boiler plate" agreements, or streamlined, standard processes for local agencies to implement transfer and emergency intertie agreements. • Establish the District's role in the development of governance structures to implement future projects and programs, where appropriate (e.g. Nacimiento Project Commission). 	<ul style="list-style-type: none"> • Local agencies have requested that the District lead the development of a template agreement for interagency agreements or water transfers.
<p>Interagency Arrangements and Exchanges (MWP Section 4.8.6)</p>	<ul style="list-style-type: none"> • 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. • Identify and conduct pilot projects to evaluate options. 	<ul style="list-style-type: none"> • 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.
<p>Groundwater Evaluations (MWP Section 4.8.4)</p>	<ul style="list-style-type: none"> • Develop policies for District's role in these efforts (i.e. basin monitoring programs, Groundwater Management Plans per basin, education and outreach programs). 	<ul style="list-style-type: none"> • Updates the perennial yield and groundwater information for basins that have not been studied for years. • Promotes the management of groundwater supplies.
<p>Groundwater Banking/ Recharge (MWP Sections 4.7.9 and 4.8.5)</p>	<ul style="list-style-type: none"> • 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.). • Develop policies or evaluate existing policies that pertain to which water supplies can be used for this purpose. 	<ul style="list-style-type: none"> • 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. • County policies may discourage the use of water that is available for banking from being used.