

## Chapter 4 Implementing Projects and Programs

### 4.1 Project Review Process

To be completed

### 4.2 Coordination with Water and Land Use Agencies

**Integrated Regional Water Management (IRWM) Plans must:**

- **Document the local water planning documents on which it is based including:**
  - A list of local water plans used in the IRWM Plan.
  - Discussion of how the IRWM Plan relates to planning documents and programs established by local agencies.
  - A description of the dynamics between the IRWM Plan and local planning documents.

#### 4.2.1 Water Planning History

The first MAC integrated regional water management planning effort was completed in 2006. This initial effort was based on a cooperative endeavor between the "partnering agencies" which included Amador Water Agency, Calaveras County Water District, Amador County, City of Jackson, City of Sutter Creek, City of Plymouth, Amador Regional Sanitation Authority, and East Bay Municipal Utility District. These partnering agencies entered into a Memorandum of Understanding (MOU) in October 2006 for the purpose of funding the development of the first MAC Plan and coordinating water resources planning and implementation activities.

The first MAC Plan process included other entities and stakeholders with interests in regional water planning in addition to the partnering agencies. These stakeholders played an essential role in plan development by providing a variety of ideas, values, perspectives, and cultures that represented the diversity present within the region. These stakeholder participants included Calaveras County, Calaveras Public Utilities District, Eastern San Joaquin Groundwater Banking Authority, City of Ione, Jackson Valley Irrigation District, City of Lodi, Pacific Gas and Electric Company, Protect Historic Amador Waterways, and the Upper Mokelumne River Watershed Council. These stakeholders participated and provided input through their attendance at stakeholder meetings, by direct correspondence, and via other communications.

The geographic boundary developed and used during this initial MAC regional planning process was broader than what is reflected in the current MAC region. The primary difference is that areas within Eastern San Joaquin County, which remain within the Northeastern San Joaquin County Groundwater Banking Authority's (GBA) IRWM region, have been removed from the MAC region. This area was initially included in both regions (thus constituting an overlap area) because of the interest of both regions in evaluating mutually-beneficial conjunctive use opportunities. Subsequent to the completion of the two regions' initial IRWM plans, it was decided that eliminating the overlap area, and thereby eliminating the associated governance complications, was a better approach. Thus, the decision to delete what is essentially a portion of the Lower Mokelumne River watershed from the MAC region was made in conjunction with the GBA region. The resulting change in the adjoining region's boundary was subsequently approved by DWR as part of the 2009 RAP process.

The cooperative planning that resulted in the MAC region's initial regional plan has not always been the norm. For many decades, the competing water needs of Amador and Calaveras counties and EBMUD presented obstacles to cooperative development of water resource solutions. These decades of rivalry and

discord had rendered cooperative regional water planning an impossible challenge until recently. With the creation of the Upper Mokelumne River Watershed Authority (UMRWA) in 2000 and ongoing regional water resource planning venues promoted by the Integrated Regional Water Management Act and the Mokelumne River Forum, new opportunities to work together to develop solutions to today's water resource problems began to emerge. The boundary of the MAC region was configured in part to reflect this history, and in part to further opportunities for these historically competitive interests to work cooperatively to find mutually-acceptable water management solutions.

Several of the Authority's recent initiatives and accomplishments, briefly described below, are indicative of the local water planning conducted in the region, its ties to regional water resource planning and programs in the MAC Region, and interconnectivity with the IRWMP Update.

*Inter-regional Conjunctive Use Concept Evaluation* - The Authority's water agency members have been exploring potential inter-regional water resource project alternatives with their counterparts in northeastern San Joaquin County through the Mokelumne River Forum, a Department of Water Resources- (DWR-) facilitated process. Mokelumne River Forum stakeholder discussions have led to the identification of the Inter-regional Conjunctive Use Project (IRCUP) as a potential multi-region project involving water district members of both UMRWA and the San Joaquin Groundwater Banking Authority. UMRWA may have a coordinating role in evaluating the feasibility of this and other potential inter-regional projects.

*Upper Mokelumne River Watershed Assessment and Planning Project* - One of the Authority's milestone tasks, this \$1.3 million project was completed in December 2007. The project was undertaken to advance the understanding of watershed water quality and related environmental issues, and to develop tools which will facilitate the long-term evaluation and management of Upper Mokelumne River watershed water and natural resources. Funding for the project was provided by Authority member agencies (\$317,500) and by grants from Propositions 50 and 84 (\$950,000). Development of this comprehensive watershed project was guided by a Project Advisory Committee (PAC), which included stakeholders representing a diverse set of watershed interests such as water, resource management, environmental resources, agriculture, timber, recreation and national forest lands. Baseline watershed water quality was characterized, providing a reference point for assessing water quality impacts associated with future changes in the watershed. Also, a physical hydrologic watershed model was developed using the Watershed Analysis and Risk Management Framework (WARMF) tool. The WARMF model was used to analyze the watershed's existing hydrologic and water quality characteristics as to simulate how water quality conditions could change based on changes to land uses and activities. Activities and reports prepared as part of this project included:

- *Wildfire Models* – Fire behavior was modeled throughout the watershed to gain a better understanding of high risk areas and potential impacts from wildfires. *FlamMap* was used to determine the relative hazard and flammability of selected watershed areas. This model allows prediction of fire behavior on a spatial basis by modeling flame length, heat release, rate of spread and type of fire (e.g. surface fire, crown fire). The *FARSITE* model was used to simulate potential fire behavior and predict where and how fast fire would spread from pre-selected burn ignition sites in the watershed. The fire behavior simulation outputs were used to develop three new categories of land use / land cover for the watershed based on burn severity: low, moderate and high. The spatial distribution of the burn severity categories for each selected ignition site was used as an input to the WARMF model to simulate potential effects on water resources resulting from wildfires in specific vulnerable areas of the watershed.
- *Water Quality Vulnerability Zones* – Areas within the watershed considered to have very high to moderate vulnerability to water quality contamination were identified based on key physical characteristics of the watershed including slope, soils, vegetation and proximity to water. A map was developed identifying watershed vulnerability zones.

- *Watershed Assessment* – The water quality in the Upper Mokelumne River watershed was assessed in a three-step process. Guided by the stakeholder PAC, water quality benchmarks were established, specific water quality parameters of concern were identified, and selected parameters exhibiting historical exceedences were analyzed to determine source locations and characteristics.
- *Upper Mokelumne River Watershed Management Plan* – A management plan was prepared, addressing the findings of the watershed assessment by coupling scientifically valid data and technically-based recommendations to maintain and improve source water quality with stakeholder understanding and support. The PAC-guided plan contains a series of recommended management actions designed to reduce sources of contaminants, manage contaminated flows and sediments, and encourage regulatory and institutional controls.
- *Water Conservation Plan: A Guide for Assisting Authority Members Prepare Water Agency Conservation Plans* – This plan was prepared to provide UMRWA member water agencies with guidance in establishing individual agency-specific water conservation plans and thus aid in their efforts to improve water conservation and water recycling. The plan is designed to serve as a resource document for water agency staff and it includes basic water conservation plan elements found throughout the water utility industry. It also includes recommended water conservation measures and programs which may be adapted to fit the specific needs of water agencies in the region.

#### 4.2.2 Local Water Planning Documents

The MAC IRWMP and this update were developed based on collaborative discussions regarding regional needs, proposed projects, and teaming for regional effectiveness. As various regional stakeholders shared their needs and objectives, similarities and opportunities for collaboration were identified. The RPC began developing a regional plan to bring about integrated projects for the benefit of the region, building on these similarities and opportunities. During plan preparation and development, data and water management strategies were collected from a number of existing local and/or sub-regional planning documents, and were integrated into the regional strategies presented in this document. Examples of local planning documents reviewed during the IRWMP development and update include Urban Water Management Plans, Water Supply Master Plans, Capital Improvement Plans, Recycled Water Master Plans, project Environmental Impact Reports/Environmental Impact Statements, and grant applications for other state and federal programs. Table 4-1 summarizes key planning reports used in the IRWMP preparation process and update.

Add and delete as necessary as the process continues

**Table 4-1: Major Planning Reports Used to Create the M/A/C IRWMP**

Document Title/Description	Publication Date	Agency(ies)/ Entity(ies)	Relation to IRWMP
Bear River Water Supply Alternatives	March 2005	AWA, CCWD	Directly related to the Bear River Reservoir Expansion Program.
Camanche South and North Shore Water Treatment Plants Evaluation	May 2003	EBMUD	Directly related to the Camanche North Shore and Camanche South Shore Wastewater Improvements projects.
Camanche Water Treatment Plant Replacement Project Mitigated Negative Declaration	July 2001	EBMUD	Directly related to the South Shore Camanche Regional WTP Project.
Camanche Regional Water System Feasibility Study	October 1999	EBMUD	Directly related to the South Shore Camanche Regional WTP Project.

City of Plymouth, Estimate of Cost to Bring Water from AWA to Plymouth	June 2004	City of Plymouth	Directly related to the Plymouth Pipeline Improvement Project.
Condition Assessment, EBMUD Upcountry Wastewater Collection System Condition Assessment and Capital Improvement Program	January 2005	EBMUD	Directly related to the Camanche North Shore, Camanche South Shore and Pardee Recreation Area Wastewater Improvements projects.
Continuing Authorities Program Section 205 Flood Damage Reduction Project – Cosgrove Creek	May 2005	CCWD	Directly related to the Cosgrove Creek Project.
Cosumnes & Mokelumne Rivers Floodplain Integrated Resources Management Plan	January 2006	Southeast Sacramento County Agricultural Water Authority	For understanding of regional integrated planning for floodplain, riparian and riverine environments along the Cosumnes and Mokelumne Rivers.
County Water Master Plan	April 1995	CCWD	For general understanding of local water resources issues in Calaveras County.
Final EIR, Volume One: Updated Water Supply Master Program	September 1993	EBMUD	Relates to Inter-Regional Conjunctive Use Project as it discusses groundwater storage/conjunctive use as an alternative with groundwater storage to occur in the Lodi area.
Freeport Regional Water Project Draft EIR/EIS	July 2003	Freeport Regional Water Authority (joint powers authority between EBMUD and Sacramento County Water Agency)	This EIR/EIS contains the Enlarge Pardee Reservoir project as an alternative to the Freeport Regional Water Project.
Identification and Evaluation of Potential Off-Stream Water Storage Sites in the Upper Mokelumne River Hydrologic Unit	No Date	No Name	Directly related to the Off-Stream Storage on the Mokelumne River and Off-Stream Storage on the Calaveras River projects.
Lower Mokelumne Watershed Stewardship Plan	May 2002	San Joaquin County Resource Conservation District	For general understanding of existing watershed studies and planning along the Mokelumne River.
MORE WATER Project Phase 1 Report	June 2004	Mokelumne River Water & Power Authority, San Joaquin County Public Works	This report contains the Inter-Regional Conjunctive Use Project as an alternative.
Multi-Hazard Mitigation Plan	June 2006	Amador County	For general information regarding mitigation strategies for reducing potential losses resulting from fire, flood and other possible hazards. Directly relates to several projects.
Plymouth Water Service Study	December 2003	City of Plymouth	Directly related to the Plymouth Pipeline Improvement Project.

Preferred Alternative Report, Wastewater Improvement District #11 – Lake Camanche Village	July 2004	AWA, EBMUD	Directly related to the Lake Camanche Wastewater Improvement Project.
Reconnaissance Study of Two Potential New Water Supply Sources	November 1995	Amador County	Directly related to the Bear River Reservoir Expansion Program.
A Study of Water Supply for the City of Plymouth	June 1990	City of Plymouth	Directly related to the Arroyo Ditch Pipe Conversion Project.
Upper Mokelumne River Watershed Assessment and Planning Project	November 2005	Upper Mokelumne River Watershed Authority	For general understanding of existing watershed studies and planning along the Mokelumne River.
Urban Water Management Plan, Draft	August 2011	AWA	For understanding of Amador-area urban water needs, management and planning objectives.
Urban Water Management Plan	June 2011	CCWD	For understanding of Calaveras-area urban water needs, management and planning objectives.
Urban Water Management Plan	June 2011	EBMUD	For understanding of EBMUD service-area urban water needs, management and planning objectives.
Various County General Plans	Various	Amador, Calaveras, San Joaquin and Alpine Counties, City of Ione, Jackson, Lodi, Plymouth, Sutter Creek and Amador City	For general understanding of local land use, environmental/water resources, economic, and administrative management issues.
Wastewater Facilities Planning Report	May 2004	City of Jackson	Directly related to the City of Plymouth Wastewater Improvements Project.
Water Supply Management Program 2040 Plan	October 2009	EBMUD	Identified and recommended solutions to meet dry-year water needs through 2040. Included an evaluation of climate change effects on water supply and demand.
Western Calaveras Irrigation District Water Supply and Conveyance System Project Report and Draft EIR	January 1974	CCWD	Directly related to the New Hogan Reservoir Pumping Project.

The IRWMP will also be used as a source of information for other documents as well. It is intended to serve as an umbrella document, referencing and integrating many documents while also acting as a consolidated source of information. Figure 4-1 depicts this relationship. The MAC IRWMP is not intended to drive or direct other planning processes.

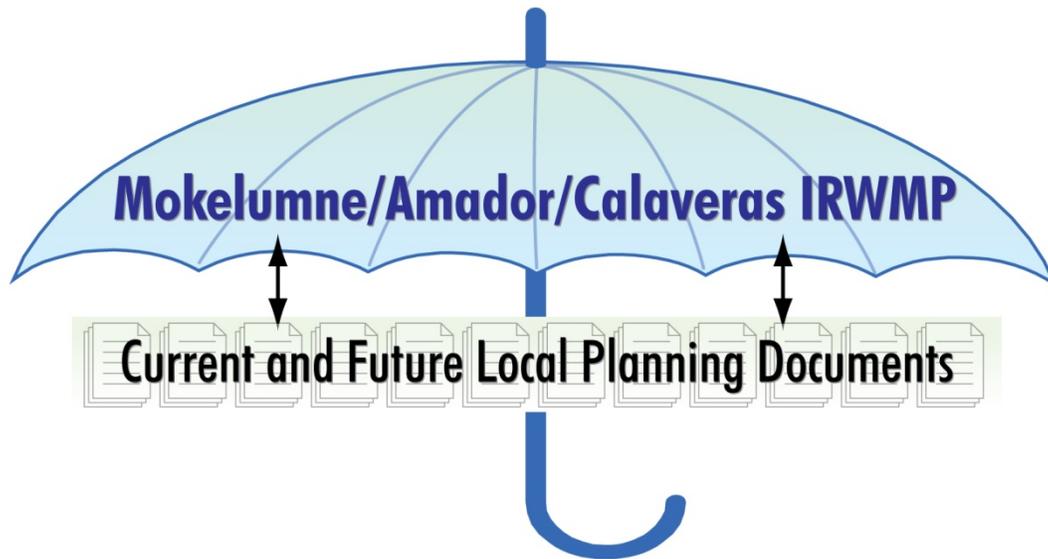


Figure 4-1: Relationship between IRWMP and Local Planning Documents