

ATTACHMENT 3. WORK PLAN

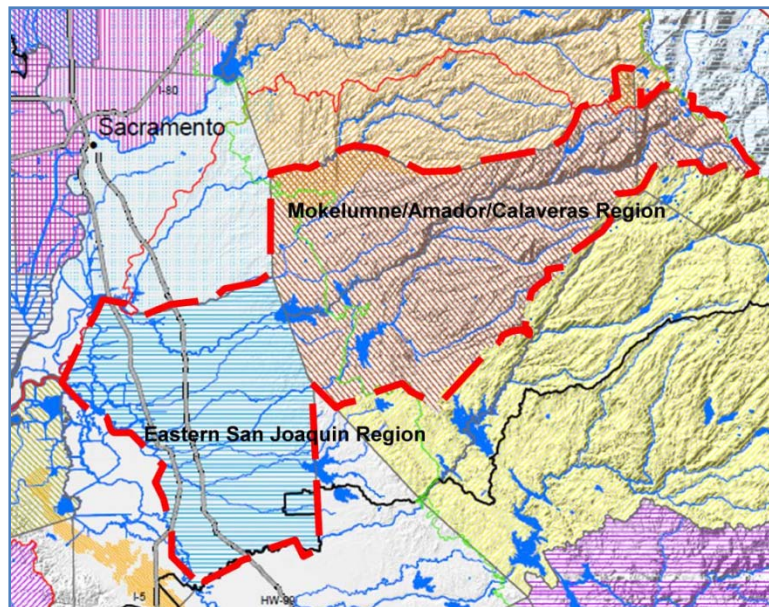
Integrated Regional Conjunctive Use Project Concept Plan

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This section presents the Work Plan in a format consistent with the Budget (Attachment 4) and Schedule (Attachment 5). The Work Plan presents the proposed process the Northeastern San Joaquin County Groundwater Banking Authority (GBA) and the Upper Mokelumne River Watershed Authority (UMRWA) will use to develop the Integrated Regional Conjunctive Use Project (IRCUP) Concept Plan.

The Work Plan is preceded by a section on the background on the GBA and UMRWA, their IRWM Plans, and the proposed IRCUP Concept Plan. The GBA adopted the Eastern San Joaquin IRWMP in 2007. The UMRWA adopted the Mokelumne/Amador/Calaveras IRWMP in 2006. The two IRWM Regions are shown in Figure 1.

Figure 1 - ESJ/MAC Inter-Regional Planning Area



Background and Plan Context

History

IRWM planning process that the IRWM planning effort has taken to date

In 2002, the State established the Integrated Regional Water Management Grant Program, administered by DWR and State Water Resources Control Board, to encourage communities to develop Integrated Regional Water Management Plans (IRWMPs) and better coordinate regional solutions to California's water resource issues. Development of these IRWMPs is incentivized by competitive grant applications to help fund planning and implementation of projects that improve the state's water supply reliability, water quality, and environment.

GBA member agencies share common traits and issues, including:

- Use of the same groundwater basin
- Primary water issues of declining water levels, and migration of naturally-occurring poor quality water, and storm water runoff
- Inadequate surface water resources
- Common geography
- Generally similar demographics

UMRWA member agencies have the following common goals and interests, including:

- A growing population
- Limited surface storage
- A desire to promote recreational opportunities and preserve the environmental beauty of the central Sierra and the watershed lands, including but not limited to opportunities related to Mokelumne River Wild and Scenic River status
- Common geography
- Similar demographics within the Foothills

Common goals and interests of both GBA and UMRWA include:

- Reliance on the Mokelumne River watershed and its tributaries to meet water supply needs
- A need to develop conservation and recycled water programs to encourage smart use of water
- Financial challenges such as agency funding abilities, the presence of numerous disadvantaged communities, and affordability in the agricultural sector



The Sierra-origin water supplies, the depleted Central Valley groundwater basin, and interlinking conveyance such as the Mokelumne River and EBMUD Mokelumne Aqueduct present an opportunity for an efficient inter-regional solution to the water management challenges of each Region.

The Objective of this proposal is to develop the Integrated Regional Conjunctive Use Project (IRCUP) Concept Plan. The East San Joaquin Region's existing IRWMP was adopted in July 2007. The Mokelumne/Amador/Calaveras IRWMP was adopted in November 2006.

Facilitation will be performed throughout the work effort. Professional facilitation will bring together the varying interests present within the MAC and GBA regions, keeping the discussion focused moving the IRCUP planning process forward, and encouraging input from all stakeholder communities (including those that represent the disadvantaged communities).

Inter-regional discussions have been taking place since 2005 as part of the efforts of the Mokelumne River Forum. The Memorandum of Understanding that formed the Forum is attached as Appendix 3-1. The most recent update of the DWR California Water Plan discusses the Mokelumne River Forum's Inter Regional Conjunctive Use Project concept¹. The IRCUP description from this plan is reproduced below as Figure 2.

The IRCUP Concept Plan will be developed through the following tasks:

Task 0 – Project Management and Administration

Management of the project team and administration of the DWR contract.

Task 1 –Project Definition and Success Criteria

Detailed problem definition, facilitated objective setting, and description of water supply timing and volume. Technical studies will give definition to the water needs of each region helping to determine the timing and volume of those needs, and identification of water to supply the program from existing entitlements, especially water surplus to existing needs or made available through implementation of conservation and reclamation programs.

Task 2 – Governance

¹ 2009 California Water Plan, Volume 1, Chapter 4, p.51



Facilitated identification and development of workable governance structures.

Task 3 – Environmental Issues, Benefits, and Constraints

Assess likely environmental impacts and benefits.

Task 4 – Institutional Issues & Development

Develop performance measures, success criteria, and identify potential impediments to implementation. As the preceding tasks are completed, a conceptual design of the IRCUP will be crafted.

Task 5 – IRCUP Concept Plan

Draft and final reports

Regional Water Management Group and Region

The Northeastern San Joaquin County Groundwater Banking Authority (GBA) is the Regional Water Management Group for the Eastern San Joaquin Region.

The Upper Mokelumne River Watershed Authority (UMRWA) is the Regional Water Management Group for the Mokelumne/Amador/Calaveras Region.

Through its Region Acceptance Process, DWR has accepted both the MAC and the Eastern San Joaquin regions as a Proposition 84 funding-eligible regions within the San Joaquin IRWM Funding Area.

Plan Status

The Eastern San Joaquin IRWM Plan was adopted in July 2007. A Program Environmental Impact Report on the Plan will be adopted during winter 2010.

The Mokelumne/Amador/Calaveras IRWMP was adopted in November of 2006, and an update is being contemplated.

In addition to this inter-regional application, both Regions are separately applying for IRWM Planning Grants to update their IRMW Plans.



Figure 2 - IRCUP Description in 2009 California Water Plan

Box 4-13 Mokelumne River Forum and Interregional Conjunctive Use

A forum made up primarily of water agencies and local governments with an interest in the Mokelumne River has met since 2005 to discuss how to meet water management needs in the Sierra foothills, San Joaquin County, and the East Bay while resolving long-standing water rights disputes. The result of those discussions is a concept called the Mokelumne River Inter-Regional Conjunctive Use Project (IRCUP).

The IRCUP envisions conjunctive use on an inter-regional scale, with the potential to provide water supply and environmental benefits to a broad range of Mokelumne River basin stakeholders. Benefits would include:

- Storage and supplies for drought protection and to meet the future water needs of the citizens of Amador and Calaveras Counties.
- Long-term drought protection for areas of Alameda and Contra Costa Counties that are served by the East Bay Municipal Utility District (EBMUD).
- Drought protection, replenishment of water to reverse groundwater basin overdraft, and water to serve as a means to create a hydraulic barrier to prevent further salinity intrusion for the citizens of San Joaquin County.
- Replenishment of the groundwater basin by storing wet weather flows and then using that stored water to meet the supply and environmental needs of the citizens overlying the Eastern San Joaquin Groundwater Basin.

The forum has recently begun to expand its discussions to consider environmental principles and alternative water management solutions, such as demand-side management and the use of treated storm water and disinfected wastewater for groundwater recharge.

The Mokelumne River flows from the western Sierra Nevada into the Sacramento-San Joaquin River Delta and provides water for the environment, agriculture, hydropower generation, and communities in the watershed. Water is also exported for use in the EBMUD service area.

Mokelumne River Forum Members

- Alpine County
- Amador County
- Amador Water Agency
- Calaveras County Water District
- Calaveras Public Utility District
- California Department of Water Resources
- City of Lodi
- City of Stockton
- San Joaquin County Flood Control and Water Conservation District
- Mokelumne River Water and Power Authority
- East Bay Municipal Utility District
- Jackson Valley Irrigation District
- North San Joaquin Water Conservation District
- Stockton East Water District
- Woodbridge Irrigation District

Elements of the Mokelumne River Integrated Regional Conjunctive Use Project

Wet Year Operations

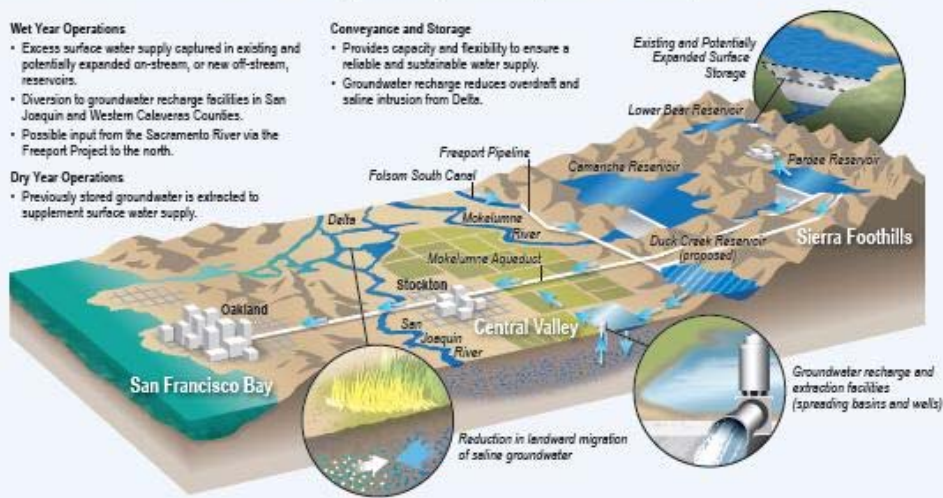
- Excess surface water supply captured in existing and potentially expanded on-stream, or new off-stream, reservoirs.
- Diversion to groundwater recharge facilities in San Joaquin and Western Calaveras Counties.
- Possible input from the Sacramento River via the Freesport Project to the north.

Dry Year Operations

- Previously stored groundwater is extracted to supplement surface water supply.

Conveyance and Storage

- Provides capacity and flexibility to ensure a reliable and sustainable water supply.
- Groundwater recharge reduces overdraft and saline intrusion from Delta.



Public process used to identify stakeholders

Public process used to identify stakeholders and how they were included in the planning and decision making process for the IRWM Plan

East San Joaquin IRWM Plan participants include 14 water agencies, 13 municipal and county agencies, six state and federal agencies, and over 14 community interest groups. These groups are listed in Table 1. All member agencies are represented on the GBA Board and Coordinating Committee, and each has an equal vote in the decision-making process.

The GBA and its past, present, and future IRWMP activities are supported through a Memorandum of Understanding (MOU) between the San Joaquin County Flood Control and Water Conservation District and the DWR Conjunctive Water Management Branch. Through this MOU, DWR has been able to provide facilitation services through the Center for Collaborative Policy, in-kind technical services through the DWR Central District, and funding for studies to further the goal of developing locally supported conjunctive use projects providing benefit to the San Joaquin Region and beyond.

The primary GBA focus is on mitigating conditions of groundwater overdraft. However, the integrated regional planning efforts purposefully include outreach efforts pre- and post-IRWMP that consider a broader range of integrated water management strategies that span beyond the Regional Water Management Area.

The Upper Mokelumne River Watershed Authority is a regional water management group as defined by the California Water Code. It is a Joint Powers Agency, comprised of six water agencies and the counties of Amador, Calaveras and Alpine. The six water agencies are Amador Water Agency, Calaveras County Water District, Calaveras Public Utility District, East Bay Municipal Utility District, Jackson Valley Irrigation District and Alpine County Water Agency. The Authority was formed in 2000 to address then existing and emerging issues related to water quality, water supply and the environment. During its ten year existence the Authority has served as a venue for developing constructive, community supported solutions to water and watershed issues, a venue which had historically not existed.

The Authority has been engaged in a wide variety of water resource matters. At the time it was formed, it was Pacific Gas & Electric's (PG&E's) anticipated divestiture of its hydropower assets (pursuant to California's energy deregulation program), and the Authority's acquisition of PG&E's Mokelumne River Project that were the focus of the



Table 1 - Eastern San Joaquin IRWMP Participants

Participating Entity	Groundwater Banking Authority Member	GBA Coordinating Committee	Authority over Water Supply or Water Management	Basis and Nature of Authority
Water Agencies				
Amador Water Agency			X	Retail water agency, Regional water partnership
Calaveras Public Utility District			X	Retail water agency, Regional water partnership
California Water Service Company	X	X	X	Retail water agency
Central Delta Water Agency	X	X	X	Wholesale water agency
Central San Joaquin Water Conservation District	X	X	X	Retail water agency
Contra Costa Water District			X	Retail water agency
Jackson Valley Irrigation District			X	Retail water agency, Regional water partnership
North San Joaquin Water Conservation District	X	X	X	Retail water agency
San Joaquin County Flood Control and Water Conservation District	X	X	X	County government; Flood management agency
San Joaquin Farm Bureau Federation ¹	X	X		Industry group; Community organization
South Delta Water Agency	X	X	X	Wholesale water agency
South San Joaquin Irrigation District			X	Retail water agency
Stockton East Water District	X	X	X	Wholesale and retail water agency
Woodbridge Irrigation District	X	X	X	Retail water agency
Municipalities and County Government				
Alpine County			X	Regional water partnership
Amador County			X	Regional water partnership
Calaveras County			X	Regional water partnership
City of Escalon			X	Wastewater agency
City of Lathrop			X	Wastewater agency
City of Lodi	X	X	X	Retail water agency; Wastewater agency; Municipal power
City of Manteca		X	X	Retail water agency; Wastewater agency
City of Ripon			X	Wastewater agency
City of Stockton	X	X	X	Retail water agency; Wastewater agency
Mokelumne River Water and Power Authority		X	X	Regional water partnership
San Joaquin Area Flood Control Association			X	Flood management agency
San Joaquin County		X	X	County government ² ; Wastewater agency; Flood management agency; Stormwater management; Well permitting
Stanislaus County			X	Regional water partnership
State and Federal Agencies				
California Department of Water Resources		X	X	State agency; CWMB MOU
Lawrence Livermore Lab				Federal agency
Natural Resource Conservation Service				Federal agency
U.S. Army Corps of Engineers				Federal agency
U.S. Geologic Survey		X		Federal agency
US Bureau of Reclamation				Federal agency
Miscellaneous Community Interests				
Contra Costa Water District			X	Retail water agency
East Bay Municipal Utility District		X	X	Retail water agency
Galt Economic Development Task Force				Community organization
Great Valley Center				Community organization
Mokelumne/Amador/Calaveras (MAC) Association				Inter-regional water management group
Mokelumne Forum				Inter-regional water management group
Morada Area Association		X		Community organization
Office of Assemblyperson Barbara Matthews				Representative
Office of State Senator Charles Poochigian				Representative
Pacific Gas and Electric				Electrical corporation
Restore the Delta				Community organization
Sierra Club				Environmental group
Stockton Area Water Suppliers			X	Water management group
Stockton Chamber of Commerce				Industry organization

¹ Associate Member

² County is Responsible for Special Districts except for Lockeford and Linden who self govern.



Authority's attention. When the federal court approved PG&E's bankruptcy reorganization plan, Authority member concerns regarding the divestiture of the Mokelumne River Project were generally abated and Authority acquisition efforts halted. With acquisition of PG&E's Mokelumne Project no longer an objective, the Authority in 2005 refocused its attention on water quality issues, potential watershed projects and cooperative water supply planning efforts between the Authority's member agencies, including taking the lead on future efforts as associated with the MAC IRWMP (including but not limited to its pending update).

Several of the Authority's recent initiatives and accomplishments were described in the MAC region's Regional Acceptance Process (RAP) application, submitted to California Department of Water Resources (DWR) in April of 2009. These initiatives are also summarized in a separate IRWMP planning grant application as being submitted to DWR concurrent with this inter-regional application. Throughout its most recent effort, UMRWA strives to illustrate their wide ranging interests and commitment to regional water resource planning and programs.

GBA and UMRWA member agencies are also participants in the Mokelumne Forum which is a stakeholder group representing water, recreational, and environmental interests of the Mokelumne River watershed.

There are significant, on-going discussions between the Mokelumne Forum, the GBA and UMRWA. A joint chapter on the inter-regional IRCUP concept was included in the IRWMPs of each RWMG (see 2007 GBA IRWMP Chapter 8, Inter-Regional Integration and the 2006 MAC IRWMP, Section 5.5.3). This Work Plan will further describe facilities, governance and operations for the inter-regional IRCUP).

UMRWA has conducted outreach by working to include broad, community-based participation in the MAC IRWM planning process. That outreach has brought in participants that include other public agencies, private corporations, disadvantaged communities and non-governmental organizations; these entities are identified and listed in Table 2. To help give voice to those groups and entities who've expressed interest in the IRWM process, UMRWA formed what they term a "Regional Participants Committee" (RPC) to facilitate the exchange of ideas, advice and guidance. The third column in Table 2 indicates the participant's working relationship in the MAC regional planning process as either RPC member or stakeholder.

The RPC members are presently participating in the IRWM planning process. Stakeholders are those organizations that have been invited to participate, but to date, have chosen to instead follow the IRWM planning process through public forums. Many



Table 2 - Mokelumne/Amador/Calaveras IRWMP Participants

Participant Categories	Organizations/Stakeholders	Working Relationship w/MAC Plan
Wastewater agencies	Amador Regional Sanitation Authority	Stakeholder
Cities and special districts	Amador City City of Ione City of Jackson City of Plymouth City of Sutter Creek Mokelumne Hill Sanitation District Wallace Community Services District Amador Water Agency Calaveras County Water District	Stakeholder Stakeholder RPC member RPC member Stakeholder RPC member Stakeholder RPC member RPC member
Electrical corporation	Pacific Gas and Electric	RPC member
Stewardship organizations	Amador Fly Fishers Foothill Conservancy Alpine Watershed Group Upper Mokelumne Watershed Council	RPC member RPC member RPC member RPC member
Industry organizations	Sierra Pacific Industries	RPC member
Disadvantaged communities	City of Jackson City of Plymouth Mokelumne Hill West Point	RPC Member RPC member RPC member RPC member
Federal agencies	US Forest Service	RPC member

of these stakeholders are expected to participate in the planning process in the future, either through the RPC or through the public outreach process.

Although this IRCUP inter-regional effort will not necessarily delve into the IRWMP update process that will be on-going within both the GBA and MAC regions concurrent with the IRCUP planning, it should be noted that both the GBA and UMRWA have committed to similar IRWMP **Management Actions** related to planning and stakeholder involvement including:

- GBA/UMRWA will provide information regarding regional water balances and availability of supplemental supply if such analyses are conducted for the IRCUP effort. GBA/UMRWA intend to provide local purveyors information as they



develop their IRWM Plans to allow them to reach appropriate conclusions regarding the sufficiency of supply for SB 221 and SB 610 assessments

- GBA/UMRWA will work with local planning agencies to ensure that areas that should be set aside to recharge the groundwater basin are reserved for that purpose and are not subject to development.
- As part of their respective IRWMP updates, GBA/UMRWA will coordinate with local planning agencies to ensure that growth projections, proposed land use changes, and types of proposed developments are consistent with water planning efforts, as required by SB 221 and SB 610. Significant deviations from projected growth and water needs will be noted and corrective action taken. Corrective actions could include securing additional sources of water, or making a finding pursuant to SB221 or SB 610 that an adequate water supply does not exist and notifying the water purveyor.
- GBA/UMRWA will work with local water purveyors and serve as a clearinghouse for water conservation measures and performance data. Water conservation programs will be evaluated and actions taken as needed.
- Increased water conservation efforts (as well as potential uses of recycled water) will be identified and plans developed for implementation of cost-effective demand management measures based on the reports on effectiveness.
- GBA will continue to develop and publish its newsletter which highlights GBA messages, meetings, accomplishments, efforts, and contemporary water management issues.
- GBA will maintain its Speakers Bureau to provide timely water related information to the public.
- GBA's web site (<http://www.gbawater.org>) will continue to present information on GBA projects, water supplies and resources, water education, Agency publications, a calendar of events, meeting agendas, and general information about GBA. UMRWA utilizes Calaveras County Water District's web site (<http://www.ccwd.org/macirwmp.html>) to present information on UMRWA related efforts, including its MAC IRWMP update.



Disadvantaged Communities

The process used to identify the region's DACs and how the Applicant engaged them in the IRWM Planning process

ESJ Region

A disadvantaged community is defined as a community with an annual mean household income (MHI) less than 80% of the statewide MHI. According to the 2000 Census data, 80% of California's statewide annual Median Household Income (MHI) is \$37,994.

MHI and population data assembled from the Census data for San Joaquin County show a total population of approximately 491,361 with a total of 160,532 households within the Regional Planning Area. 72,522 of those households are in disadvantaged census blocks. Disadvantaged communities by census tract² are shown in Figure 3.

San Joaquin County Demographics, 2000 Census

Population	491,361
Households	160,532
Persons/Household	3.1
Households in Disadvantaged Census Tracts	72,522
Percent of Households in Disadvantaged Tracts	45%

Considerable portions of the regional planning area meet the definition of Disadvantaged Communities (DACs). Disadvantaged Community areas are located in:

- major portions of Thornton and Walnut Grove
- areas located in the central and eastern portions of the City of Lodi
- neighborhoods in the City of Stockton mostly located in central and eastern regions
- throughout eastern Lathrop
- southeastern Manteca

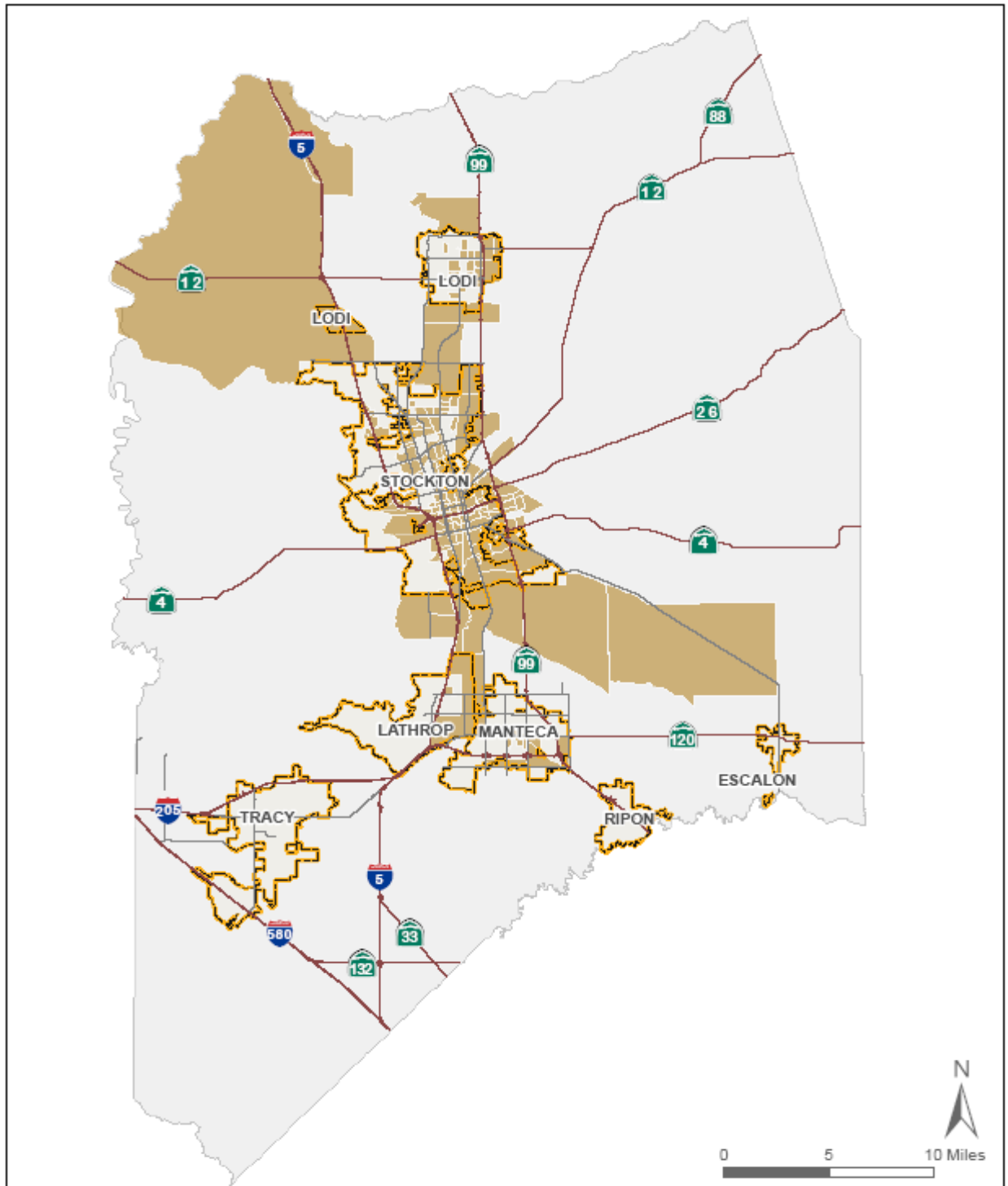
DACs are represented on the GBA Board of Directors through members appointed from the Lodi and Stockton City Councils. The GBA Board is also chaired by a member of the San Joaquin County Board of Supervisors.

The GBA employs specific mechanisms to assist DACs and to encourage their participation in the IRWMP Update process. Regular GBA meeting locations will be

² Analysis of Census 2000 spatial and statistical data was compiled by the San Joaquin County Public Works Department Geographical Information System Division.



Figure 3 - Disadvantaged Communities by Census Tract



maintained with publicly-noticed meetings sent via e-mail lists and posted on the GBA website. Participation in the collaborative process will continue to be allowed regardless of the ability to contribute financially to the Plan.

UMWRA Region

Like the GBA, the MAC Region also contains Disadvantaged Communities (DACs). Based on the 2000 U.S. Census for median household income, the cities of Jackson (Amador County) and Plymouth (Amador County) are DACs, as are the communities of Mokelumne Hill (Calaveras County), Rail Road Flat (Calaveras County), San Andreas (Calaveras County), and West Point (Calaveras County).

Amador Water Agency (AWA, an UMRWA member and agency within the MAC region) performed a survey in 2005 of the Camanche region and identified the North Shore Lake Camanche Unit 6 & Recreation Areas area as a disadvantaged community as well. This information will be included in the planned MAC IRWMP update.

Additionally, the MAC IRWMP region also contains Amador City (Amador County) and Mountain Ranch (Calaveras County) that do not qualify as a “disadvantaged community” by the MHI indicator, but do have Median Family Incomes (MFIs) that are well below 80% of the state MFI. There were no disadvantaged communities in the portion of Alpine County within the MAC IRWM planning region during preparation of the 2006 MAC IRWM Plan.

Overall, the disadvantaged communities in the MAC Region were smaller than those in the State, and have a higher median age. This indicates that many of the households in the MAC IRWMP region are maintained by older persons, most likely retired and living on fixed incomes.

Identified disadvantaged areas in the MAC Region will be reviewed and revised in the upcoming MAC IRWMP update to incorporate changes in economic status in the State of California. More recent data will be used for that DAC analysis, ideally the 2010 U.S. Census.

Tribes

Government Code³ requires local governments to consult with California Native American Tribes identified by the Native American Heritage Commission (NAHC) for the purpose of protecting, and/or mitigating impacts to cultural places. The GBA has

³ PRC §75102



contacted NAHC and have received a list of tribal representatives for the region. There are no tribal reservations or facilities within the Eastern San Joaquin Region.

Water-related Objectives and Conflicts

The process used to identify the regions' water related objectives and conflicts

ESJ Region

The GBA has employed a consensus-based approach in its goal to develop "...locally supported conjunctive use projects that improve water supply reliability in San Joaquin County...and provide benefits to project participants as a whole."

The GBA and its past, present, and future IRWMP activities are supported through a Memorandum of Understanding (MOU) between the San Joaquin County Flood Control and Water Conservation District and the DWR Conjunctive Water Management Branch. Through this MOU, DWR has been able to provide facilitation services through the Center for Collaborative Policy, in-kind technical services through the DWR Central District, and funding for studies to further the goal of developing locally supported conjunctive use projects providing benefit to the San Joaquin Region and beyond.

The GBA is governed by a Board composed of representatives of all member agencies. Technical oversight is provided by a Coordinating Committee. The Coordinating Committee is comprised of GBA member agency representatives and GBA staff and serves in an advisory capacity to the GBA Board of Directors. Input from other stakeholders and interested parties was welcomed during the development of the IRWMP. Continued collaboration and participation is a major focus for the implementation of the IRWMP and any future IRWMP updates.

GBA member agencies serve as project proponents for ICU Program actions and projects. Member agencies will be able to tier off of the ICU Program EIR when preparing project specific environmental impact disclosure documents. This approach to looking at conjunctive water management in Eastern San Joaquin County has enabled projects and project proponents to integrate and collaborate rather than develop projects in a competitive local atmosphere.

The IRWMP was prepared in three phases with input from the GBA Coordinating Committee and other stakeholders convened as the IRWMP advisory panel. The charges given to the GBA Coordinating Committee were to:



- review and revise, as necessary, previous estimates of water supply and demand
- identify and solicit input from stakeholders with interest in long-term reliable water supplies for the region, and
- identify a suite of preliminary alternatives that will help GBA achieve its goals in water supply management for the next two decades. Proposed projects and management actions are tailored to address at least one key water management issue in the basin

Mission statement

The Mission of the GBA is to employ a consensus-based approach to collaboratively develop stakeholder-supported projects and programs that mitigate and prevent the impacts of long-term groundwater overdraft. Managing the underlying groundwater basin is critical in providing reliable water supplies, which are essential for the economic, social, and environmental viability of the San Joaquin Region. Developing and implementing an IRWMP is key to carrying out this Mission.

Objective

As described in Chapter 5 of the IRWMP, the objective for the IRWM Plan was developed by the GBA to address the underlying issues listed above, consistent with the Plan Purpose. The Objective statement adopted by the GBA is as follows:

- It is the Objective of the GBA to: Ensure the long-term sustainability of water resources in the San Joaquin Region while:
- Equitably distributing benefits and costs;
- Minimizing adverse impacts to agriculture, communities, and the environment;
- Maximizing efficiency and beneficial use of supplies; and,
- Protecting and enhancing water rights and supplies.

The following **Problem Statement**⁴ was developed in this process:

Long-term groundwater overdraft due to lack of sufficient surface water supplies and long-term reliance on groundwater threatens the social, economic, and environmental viability of the San Joaquin Region. Without action, groundwater levels will continue to decline resulting in saline groundwater intrusion from the west, reduction in groundwater quality due to elevated nitrates and salts,

⁴ IRWMP p.5-1



increased pumping costs, increased seepage losses from local rivers and streams, increased lateral inflow from neighboring sub-basins, and other potentially devastating groundwater and surface water impacts.

The related **Purpose Statement**⁵ developed states:

The Purpose of the Eastern San Joaquin IRWMP is to define and integrate key water resource strategies and to establish the protocols and course of action for implementation of the Eastern San Joaquin Integrated Conjunctive Use Program (ICU Program). The ICU Program is a comprehensive prioritized menu of projects and actions that fulfills the Mission of the Authority.

Chapter 5 of the IRWMP provides a detailed list of the **stakeholder issues and Community Values** developed from the previously developed Groundwater Management Plan (2004), the Countywide Water Management Plan (2002), and the Mokelumne Aquifer Recharge and Storage Project (1996), and individual and group meetings.

This process identified the key issues that stakeholders have expressed as central to the IRWMP and were addressed by the IRWMP or considered in its development. The following 17 key water management issues emerged as a result of this process:

- Groundwater overdraft
- Saline groundwater intrusion
- Degradation of groundwater quality
- Subsidence and irrecoverable basin storage capacity
- Environmental quality of the community
- Health of the Sacramento-San Joaquin Delta
- Supply reliability during multi-year droughts
- Competing urban, agricultural, and environmental water demands
- Planned urban growth
- Recreational opportunities and access
- Expansion of agriculture into historically non-irrigated areas
- Groundwater management and governance
- Sustainability of economies dependant on sufficient water supplies of adequate quality
- Limited opportunities to develop new surface water sources

⁵ IRWMP p.5-2



- Complexity of cooperation involving numerous local, regional, State, and Federal agencies
- Flood protection
- Funding and financing

The **Community Values** that the GBA developed that are central to the **performance measures and evaluation criteria** for conjunctive use projects developed in the Eastern San Joaquin Region are as follows:

- Be implemented in an equitable manner
- Maintain or enhance the local economy
- Protect groundwater and surface water quality
- Be affordable
- Minimize adverse impacts to entities within the County
- Provide more reliable supplies
- Exhibit multiple benefits to local land owners and other participating agencies
- Maintain overlying landowner and Local Agency control of the Groundwater Basin
- Restore and maintain groundwater resources
- Minimize adverse impacts to the environment, community, and culture
- Protect the rights of overlying land owners
- Increase amount of water put to beneficial use within the San Joaquin region
- Support beneficial conservation programs

The GBA met approximately twice a month during the two-year IRWM planning period. Summaries from these meetings and other GBA Coordinating Committee/GBA Board of Director Meetings are published on the GBA's website at www.gbawater.org.

In the IRWMP, four ICU Program Alternatives were developed to address declining groundwater levels and degradation of groundwater quality near the Delta. All four ICU Program Alternatives are analyzed in a Program Environmental Impact Report in accordance with the California Environmental Quality Act (CEQA). The ICU Program Draft EIR is scheduled to be certified in July 2010.

Inter-Regional Collaboration

The GBA has defined a **Regional Integration Area** as that portion of the state that may influence, provide guidance to or contribute to the IRWMP. Stakeholders outside of the IRWM planning area involved in regional integration planning with the GBA include:



- Alpine County
- Amador County Water Agency
- Calaveras County Water District
- Calaveras Public Utility District
- East Bay Municipal Utility District
- Mokelumne/Amador/Calaveras (MAC) Association
- Mokelumne Forum
- Mokelumne River Water and Power Authority
- South Sacramento
- Stanislaus County

MAC (UMRWA) Region

The following list of water resource conflicts in the MAC region was compiled from two sources; (1) the MAC region stakeholder group, the RPC, which met in January 2009, and (2) through a facilitated discussion that identified a number of regional water resource conflicts and issues. Additional issues and conflicts were obtained from the Upper Mokelumne River Watershed Assessment and Planning Project (UMRWAPP), and effort undertaken by UMRWA from 2005 thru 2007, and are denoted below with that source identification. These potential conflicts and issues were organized under seven topic headings for presentation in UMRWA's 2009 RAP application for the MAC region, and have been shown below in the same format.

Land Use and Water Use Conflicts

- Amador County General Plan housing element could result in more development in areas with no water/wastewater infrastructure
- The Calaveras County General Plan Update and the Water Element sponsored by Calaveras County Water District are encouraging higher density development patterns surrounding existing infrastructure allowing increased opportunities for conjunctive use operations Supply and infrastructure not adequate to meet growth planned for in the general plans of Amador County and its cities
- Provision of infrastructure is problematic within dispersed, low density areas
- Watershed protection versus community economic needs
- Groundwater overdraft versus development approvals
- Groundwater quantity and quality is not adequate to accommodate growth
- Increased population in watersheds per the General Plans will increase presence and expedite the transport of contaminants to water bodies (UMRWAPP)



Environmental Protection

- Obtaining Wild and Scenic River status versus preserving opportunity to develop additional surface water storage
- PG&E pumped storage project on North Fork versus preserving or restoring river natural systems
- Third party impacts from reuse and conservation (reduced return flows)
- Protecting and improving fish passage on lower Mokelumne and Calaveras Rivers versus river-sourced water supply development needs and opportunities
- Management of federal lands resulting in environmental impacts

Water Quality Conflicts

- Promoting and improving water-related recreation opportunities versus recreational water quality impacts
- Groundwater overdraft in the Eastern San Joaquin Groundwater Basin contributing to deteriorating groundwater quality levels in the portion of the basin underlying Calaveras County
- Wastewater discharge water quality
- Failing septic system contaminant leakage to surface water and groundwater versus body contact recreation and drinking water (UMRWAPP)
- Wastewater treatment levels and technology versus environment and benefits
- Improper disposal of household wastes (UMRWAPP)
- Wastewater treatment plan overflows during high precipitation events (UMRWAPP)
- Inactive mines without restoration cause leaching of soils with high mineral content and surface runoff of contaminants to water bodies (UMRWAPP)
- Increased impervious surfaces exacerbates flooding which contributes contaminants to surface waters versus designing streets and compact development with techniques to reduce peak flows, minimize runoff, and remove contaminants during flow (UMRWAPP)

Supply Management

- New water supply versus recycled water versus conservation of supplies
- Stormwater management and rights to use this water
- Climate change impacts
- Water rights concerns



- Supplies not matched to use (e.g., industrial users receiving potable supplies)
- White water recreation versus flat water recreation

Forest Management

- Timber harvesting disturbance of vegetation and soils which contributes loadings to surface waters (UMRWAP)
- Roads and road maintenance practices contribute to erosion, peak runoff, and transport of contaminants in runoff to surface waters (UMRWAP)

Fire Management

- Wildfires cause disturbance of vegetation and soils which contributes loadings to surface waters (UMRWAP)
- Fire response to protect landowner and water quality objectives versus managing naturally-occurring fires (UMRWAP)

Economic Impacts

- Costs of projects and financing
- Aging existing water and wastewater infrastructure
- Drinking water regulations may not reflect realistic protection of human health (treatment levels too onerous)
- Local economic opportunities versus out of region resources

While these regional issues and conflicts do represent a more current picture of the regional water resources situation, ongoing changes to the region, both in the form of economics and statewide water management, it is still necessary to revisit these issues and conflicts as part of UMRWA's upcoming IRWM Plan update. This process will continue to be developed through facilitated public discussions and the RPC. The results of the facilitated discussions would be used to help in IRCUP planning efforts, where and when appropriate, and assuming the timing of said discussions dove-tails with IRCUP planning.



Regional Priorities

The process used to determine criteria for developing regional priorities

ESJ Region

The GBA has an established process for prioritizing projects that was developed in a collaborative, open forum where stakeholders and the public were included. This process has further evolved as projects identified in the IRWMP have moved toward implementation. The process is documented, and includes guidelines and criteria, expressed in plain language, that are understandable for regional stakeholders and the public.

The application of the adopted Performance Measures provided an unranked list of project alternatives. Though it is possible that a single alternative could rank the highest for all Performance Measures, it was found that all alternatives received a mixed ranking (e.g. Alternative X provides the most high quality water, but is twice as expensive as Alternative Y). For this portion of IRWMP development, Prioritization Criteria were developed with the GBA Board and Coordinating Committee to select the best projects or alternatives to develop. Adopted Prioritization Criteria are presented in Table 3⁶.

Table 3 - Prioritization Criteria

<ol style="list-style-type: none">1. Need2. Feasibility<ul style="list-style-type: none">• Technical• Ability to phase• Institutional3. Readiness to Proceed<ul style="list-style-type: none">• Water Rights• Engineering• Identified Financing• Environmental Documentation4. Public and Stakeholder Acceptance
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Projects are prioritized collaboratively using the process. Stakeholders and the public are able to review the ranking and see an explanation of the ranking. All projects under consideration must satisfy Plan Objectives and present a wise investment for regional and

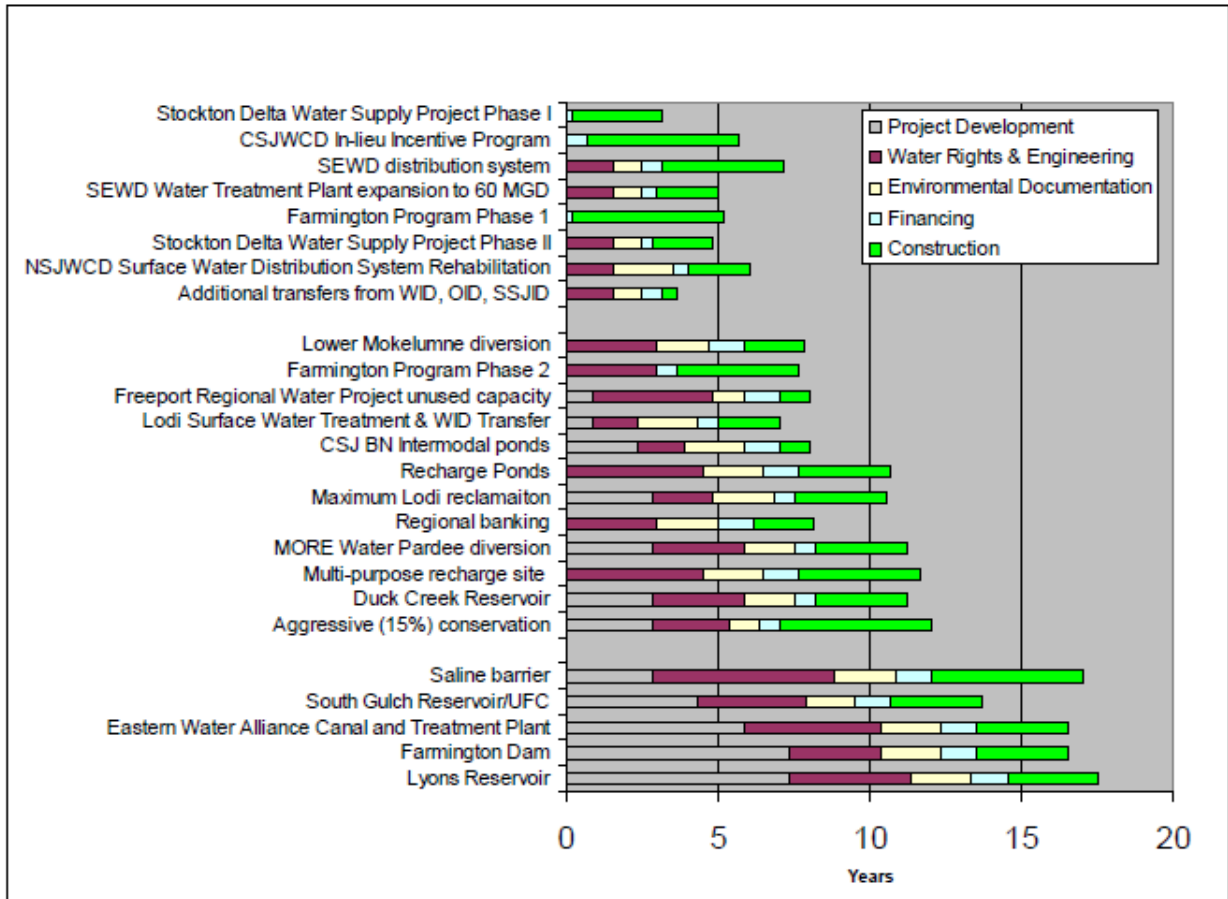
⁶ GBA 2007 IRWMP, Table 7-3



State funding. This important step in the IRWMP process, and will be continued in an open, transparent process during the Plan Update.

The prioritized project list and associated implementation timeline is presented as Figure 4⁷.

Figure 4 - Prioritized Project Implementation Timeline



⁷ GBA 2007 IRWMP, Figure 7-37



Data management and technical analysis

The data and technical analysis collected/performed and how that data is managed

ESJ Region

The GBA has numerous data management systems existing or in development to support its various monitoring programs. It is imperative that the GBA continue to implement a data management system as a means to store, archive, and access data in a timely, unambiguous way meaningful to decision makers.

The GBA compiles records of producers, production wells, and annual production. DWR maintains a database to store river flow, water quality and water level data collected by the County, USGS, and water agencies. Significant additional information is anticipated to be collected as part of this Plan to better characterize the groundwater system and the performance of recharge projects⁸.

The 2007 includes seven adopted Management Actions related to data management as follows:

- 1. Action:** GBA will continue development of a data management system based on a relational database structure to efficiently compile, store, archive, and access collected data. The system will be designed to provide data for a geographic information system and to accommodate data from additional collection efforts developed through implementation of this Plan⁸. **2. Action:** GBA will make compiled data available to local water suppliers⁸.
- 3. Action:** GBA will expand its aquifer characterization program to improve understanding of basin conditions, leading to more effective recharge project operations. Geophysical methods will be employed as appropriate to identify the sites most appropriate for groundwater recharge⁹.
- 4. Action:** GBA will expand its monitoring well network as appropriate to track aquifer response from pilot and full-scale groundwater recharge and production facilities⁹.

⁸ GBA 2007 IRWMP, 9.2.1.7 Data Management

⁹ GBA 2007 IRWMP,9.2.2.2 Aquifer Characterization



5. **Action:** Data collected will be compatible and integrated with regional modeling and data management efforts⁹.
6. **Action:** GBA will continue water quality monitoring efforts and will collect and summarize drinking water quality data from cities, coordinating these efforts with other entities including USGS, the State Department of Health Services, the Central Valley Regional Water Quality Control Board, the State Department of Water Resources, and others. GBA will explore the viability of acting as a regional clearinghouse for this data. Data will be compiled, compared and tracked in a data management system. All data will be made available to area water purveyors. Needs for additional water quality sampling will be determined¹⁰.
7. **Action:** GBA will coordinate with regional water quality agencies, including the U.S. EPA, California EPA, Central Valley RWQCB, the California Department of Health Services, and San Joaquin County Environmental Health Services to identify potential water quality threats to candidate recharge sites, and compile this information into a data management system for use in selection of recharge sites¹¹.

MAC (UMRWA) Region

Regional priorities or goals for the MAC Region as associated with water resource management were developed and last documented in the 2006 MAC IRWM Plan. These goals and objectives were originally developed through a series of workshops conducted to outline, develop and formalize the goals and to create measurable objectives to provide a basis for decision-making. Considered in the development of the regional priorities were identification of regional needs and issues, statewide priorities, and consideration of State priorities and objectives. Based on these regional needs, issues and priorities, the following regional overall goals were developed:

Overall Goals:

- Goal 1:** Develop a comprehensive IRWMP for the Mokelumne/Amador/Calaveras area that incorporates regional water supply, water quality, flood control

¹⁰ GBA 2007 IRWMP, 9.2.1.2 Water Quality

¹¹ GBA 2007 IRWMP, 9.2.4.1 Recharge Site Management Activities



and environmental protection and enhancement objectives consistent with those of Proposition 50, Chapter 8 (Prop. 50 Chap. 8).

- Goal 2:** Improve and maximize coordination of individual water district, agency, and city plans, programs, and projects for mutual benefit and optimal regional gain.
- Goal 3:** Identify, develop, and implement collaborative plans, programs, and projects that may be beyond the scope or capability of a single entity, but which would be of mutual benefit if implemented among multiple parties.
- Goal 4:** Facilitate regional water management efforts that include multiple water supply, water quality, flood control, and environmental protection and enhancement objectives.
- Goal 5:** Foster coordination, collaboration, and communication between entities and interested stakeholders to achieve greater efficiencies, enhance public services, and build public support for vital projects,
- Goal 6:** To realize regional water management objectives at the least cost through mutual cooperation, elimination of redundancy and enhanced competitiveness for State and Federal grant funding.

For these overall goals, several regional specific goals were identified, and measurable objectives established for each specific goal. The specific goals and objectives are discussed below.

Water Supply Goal

The regional goal for water supply is *to improve regional water supply reliability, reduce dependence on imported water, promote water conservation, water reuse, and protect watershed communities from drought with a focus on interagency conjunctive use of regional water resources*. Measurable objectives established for this goal include:

1. Meeting 100% of urban and agricultural demand in wet to dry years, including the first year of water shortages.
2. Meeting 85% of urban and 75% of agricultural demands in second and subsequent years of water shortages.
3. Optimizing and sustaining the use of existing surface water entitlements from the Mokelumne and Calaveras Rivers.
4. Protecting existing water rights and county of origin protections.
5. Providing a variety of water supply sources to meet current demands.
6. Maximizing use of recycled water from wastewater treatment plant with an overall target reuse goal of 50% of plant effluent by 2020.



7. Optimizing the use of groundwater storage and conjunctive use options.
8. Implementing water conservation plans for both urban and agricultural uses.
9. Providing a variety of water supplies to support planned growth, anticipated increases in industrial and agricultural demand, and shifts in water supply availability resulting from climate changes.
10. Providing a reliable supply of water to meet alternative water uses such as fire suppression and municipal irrigation.

Flood Protection Goal

The regional goal for flood protection is *to ensure flood protection strategies are developed and implemented through a collaborative and watershed-wide approach and are designed to maximize opportunities for comprehensive management of water resources*. Measurable objectives for this goal include:

1. Developing outlines of regional projects and plans necessary to protect existing infrastructure from flooding and erosion from the 100-year event.
2. Working with stakeholders to preserve existing flood attenuation by implementing land management strategies throughout the watershed.
3. Developing approaches for adaptive management to minimize maintenance requirements and protect quality and availability of water while preserving ecologic and stream functions, and enhancing when appropriate.
4. Providing community benefits beyond flood protection, such as public access, open space, recreation, agricultural preservation, and economic development.

Water Quality Goal

The regional goal for water quality is *to protect and improve water quality for beneficial uses consistent with regional community interests and the RWQCB Basin Plan through planning and implementation in cooperation with local and state agencies and regional stakeholders*. Measurable objectives for this goal include:

1. Meeting or exceeding all applicable water quality regulatory standards.
2. Meeting or exceeding urban water quality targets established by stakeholders.
3. Delivering agricultural water to meet water quality guidelines established by stakeholders.
4. Meeting or exceeding recycled water quality targets established by stakeholders.
5. Aid in meeting Total Maximum Daily Loads established, or to be established, for the Mokelumne and Calaveras River watersheds.
6. Protecting surface waters from contamination and threat of contamination (including through SSOs and SSMPs).



7. Protecting groundwater basins from contamination and threat of contamination.
8. Managing existing land uses while preserving or enhancing environmental habitats.
9. Developing environmental water to meet water quality guidelines established by stakeholders.
10. Minimizing impacts from storm water through implementation of Best Management Practices or other detention projects.
11. Managing existing land uses for recycled water discharges and allowable water-based discharges.

Environmental Protection and Enhancement Goal

The environmental protection and enhancement goal is *to work with the community and environmental stewards to preserve the environmental health and well-being of the Mokelumne and Calaveras River watersheds by identifying opportunities to assess, restore and enhance natural resources of streams and watershed when developing water supply, water quality, and flood protection strategies.* Measurable objectives for this goal include:

1. Identifying opportunities to assess, protect, enhance, and/or restore natural resources when developing water management strategies.
2. Minimizing adverse effects on biological and cultural resources, including riparian habitats, habitats supporting sensitive plant or animal species, and archaeological sites when implementing strategies and projects.
3. Identifying opportunities for open spaces, trails and parks along creeks and other recreational projects in the watershed to be incorporated with water supply, water quality, or flood protection projects.
4. Projecting elements should maintain and, to the extent practicable, enhance the local environment and contribute to the long-term sustainability of agricultural, commercial, industrial, and urban land uses and activity within the basin.
5. Identifying opportunities to protect, enhance, or restore habitat to support Mokelumne (including Dry Creek, Sutter Creek and Jackson Creek) and Calaveras River watersheds in conjunction with water supply, water quality, or flood protection projects.

Regional Communication and Cooperation Goal

The regional communication and cooperation goal is *to develop a forum for regional communication, cooperation, and education, including models for partnerships and inter-basin cooperation, protocols for reducing inconsistencies in water management*



strategies between regional entities, and strategies for maintaining resource costs within the local socioeconomic environment. The measurable objectives for this goal include:

1. Developing format for consensus decision-making by regional entities.
2. Creating prioritization strategy and protocols for integrated water management decision-making.
3. Fostering collaboration between regional entities to minimize and resolve potential conflicts.
4. Building relationships with State and Federal regulatory agencies and other water forums and agencies to facilitate permitting of water-related projects.
5. Opening and fostering lines of communications between regional and inter-regional entities to reduce inconsistencies in water management strategies and to maximize benefits from water-related projects.
6. Opening avenues of communication with general public and offer opportunities to provide feedback on the IRWM and water-related projects.
7. Identifying opportunities for public education about water supply, water quality, flood management, and environmental protection.
8. Maintaining water and wastewater rates to remain within the socioeconomic means of the community.

While UMRWA / the MAC Region has made progress towards achieving these goals, present day is a dynamic situation. UMRWA plans, as part of their upcoming IRWM Plan update, to review and revise, as appropriate, these regional goals and objectives, to reflect the current situation in the MAC Region in terms of water resources management. In doing so, the RPC and public workshops will be the primary venues for developing and vetting the regional priorities to be documented and utilized in the MAC IRWM Plan update.

UMRWA will integrate the information gleaned during the goal and objective update process to help guide them in working the GBA as part of the approach to the tasks as identified for IRCUP Planning.



Integrated Resource Management Strategies / IRWM Plan Implementation

How integrated resource management strategies will be employed

How the IRWM Plan will be implemented

ESJ Region

The 53 **Management Actions** listed in Chapter 9 of the IRWMP constitute the Groundwater Banking Authority's plan and pledge to employ water management strategies and implement the Integrated Regional Water Management Plan.

Management Actions have been grouped into the following categories:

- **Monitoring** – Monitoring of water parameters such as water levels, water quality, import quantities, water budgets, etc., plus monitoring of population growth and development, effectiveness of water conservation measures, and land subsidence. Data management will be closely tied to this function.
- **Improved Basin Characterization** – Continued exploration, infiltration rate testing, aquifer characterization, modeling, improvements to understating of the water budget.
- **Continued Long-Term Planning** – Includes review of land use plans, additional water supply identification, and Plan updates.
- **Groundwater Protection** – This category could include recharge site management, identification and destruction of abandoned wells, hazardous material response, protection of recharge areas.
- **Construction and Implementation** – Identification of implanting agencies for high priority projects, and coordinate with those agencies in putting them into service.
- **Governance** – Development of regional governance structures to acquire water supplies, manage the groundwater basin, and equitably distribute benefits and costs.
- **Financing** – Implementing the IRWM Plan will require an array of financing mechanisms such as bonds, grants, or low interest loans. Some implementing agencies have available revenue streams for implementing projects, while others do not. Cost savings may be incurred through implantation of conservation and water reuse projects. In addition, cooperative funding agreements between the



GBA and local, state, or federal agencies may also provide funding for IRWM Plan projects and management actions.

- **Public Participation/Community Outreach** – Continued coordination with the GBA Board and Coordinating Committee, the San Joaquin County Advisory Water Commission, as well as regional water managers and community groups.

MAC (UMRWA) Region

In their 2006 IRWM Plan, the MAC region considered water management strategies in both the development of its regional goals and objectives (as summarized previously) and as a criteria for prioritizing projects in their Plan. Specifically, each proposed project was evaluated as to the water management strategies employed and then the projects were compared with respects to both the regional goals and objectives and water management strategies met. This analysis occurred as part of a tiered prioritization process.

One key change that occurred between Prop 50 IRWM Plan Guidelines and the Prop 84 IRWM Plan Guidelines (DWR, 2010) was that the strategies to be considered in the IRWM Plan were both renamed (to Resource Management Strategies) and expanded to include improved flood management, practice resources stewardship, and improved operational efficiency transfers. As part of the IRWM Plan update, all projects included in UMRWA's to-be-updated IRWM Plan will have to be reevaluated as to how they meet both updated regional objectives and the new resource management strategies. If needed, the regional objectives and goals will be revised as part of UMRWA's MAC IRWM Plan update to maximize the appropriate incorporation of resource management strategies.

Further, all projects to be included in the MAC IMWM Plan update (both existing and new projects) will be evaluated as to the additional potential for integration and synergistic development of benefits. Then, the existing project prioritization process will be examined to ensure that it is (1) still applicable to the region and (2) reflective of these changed standards. The revised prioritization process resulting from this examination will be used by UMRWA to evaluate all projects to be included in the MAC IRWM Plan update.



Expected Impacts and Benefits

What impacts and benefits are expected

ESJ Region

The GBA is the forum that fosters regional integration amongst member agencies and with other regional participants. The GBA will continue to interact with other agencies and groups throughout the region to increase the social, economic, and environmental viability of the Region and beyond. This integration of these strategies increases the potential for broad-based support by spreading benefits to multiple interests and agencies. Integration also produces synergistic effects and makes additional funding sources available.

Benefits and impacts were studied extensively and documented in the 2007 IRWMP and in the 2010 Program EIR on the Plan.

Benefits quantified in the 2007 IRWMP and 2010 Program EIR include:

- Balancing long-term water demands with available and supplemental water supplies
- Increased water supply reliability and sustainability
- Reduced water demand
- Increased water supply
- Stabilized groundwater basin water table elevations, managed within a historically acceptable operating band
- Coordinated and integrated water supply and stormwater management operations
- Increased flood control capability
- Improved operational efficiency
- Improved water quality
- Groundwater quality protection
- Improved resource stewardship
- Integration with land use planning
- Improved regional governance
- Inter-regional water management and cooperation
- An inclusive, integrated planning process incorporating a wide range of planning processes including land use, flood control, and energy use
- Scalable implementation

Impacts quantified in the 2007 IRWMP and 2010 Program EIR include:



- Cost and financing impacts
- Construction-related impacts
- In-stream flow reductions
- Biological habitat impacts
- Energy consumption and greenhouse gas emissions

The GBA has adopted unbiased performance and prioritization criteria for developing and implementing projects and actions, and has defined and is implementing monitoring protocols to gauge Plan success. The Program EIR also commits the GBA to environmental monitoring, mitigation and reporting measures associated with implementing the IRWM Plan.

A process was developed for determining the impacts and benefits of the plan development and implementation as well as complying with the California Environmental Quality Act as it is applicable to adoption and implementation of the Plan. This is described as a work item below.

MAC (UMRWA) Region

Development and implementation of the MAC IRWM Plan as to be updated will provide both impacts and benefits to the MAC Region. Key benefits achieved through the Plan update and implementation are expected to include:

- **Development of regional projects and programs with synergistic benefits.** For example, UMRWA envisions that the proposed South Shore Camanche Regional Water Treatment Plant project will have benefits beyond simply serving the water treatment needs of the local community.
- **Integration of program and projects within a hydrology region or subregion.** For example, UMRWA envisions the IRCUP (for which the grant is focused on), will, when designed, provide water storage that will both ensure reliability of supply during periods of drought as well as mitigate impacts to the Mokelumne River by allowing conjunctive management of surface water and groundwater supplies.
- **Resolution of water-related conflicts within and/or between regions.** As mentioned previously in this IRCUP Planning Grant application, in the MAC Region, there are on-going intra-regional conflicts over the need for additional surface storage with regards to the potential impacts on the Mokelumne River. Additionally, there are continuing water-related conflicts between the MAC Region and downstream and distant Mokelumne River water users over the allocation of supplies in dry years. In both cases, projects have been historically



proposed and discussed that could potentially end these conflicts. UMRWA hopes that through its IRWM Plan update effort it can include, as one particular focused task, utilize a collaborative-based decision making approach that will prove to be of benefit not only the MAC Region, but also the GBA IRWM Region, helping to resolve the years-old conflicts between the regions over water supply issues.

- **Addresses critical water supply or water quality needs of disadvantaged communities.** Contained in the existing (2006) MAC IRWM Plan, and proposed for the MAC IRWM Plan update, are several projects that will directly address water supply and quality for DACs. An example of this is the Lake Camanche Tank Rehabilitation and Lateral Replacement Project. That particular effort would directly benefit the Lake Camanche area, an identified DAC within the MAC Region.
- **Effectively integrates water management with land use planning.** The MAC Region's RPC is only one regional forum in which land use planners and water managers come together to jointly address water resource management issues. By directly addressing this connection in their IRWM Plan update, the MAC Region will be working to solidify this relationship, memorializing the realization of the connection between land use and water resources, and will be providing protocols that will help foster future collaboration between both sets of decision makers. With UMRWA serving as the lead agency for the MAC Plan, it is uniquely positioned to integrate water management and land use planning within the region. With UMRWA comprised of the three Counties with land use authority over virtually the entire MAC Region (Amador, Calaveras and Alpine Counties), and the six water agencies with water supply responsibilities in the region, UMRWA has a fundamental interest in ensuring the integrate of water management and land use decision making.
- **Addresses Statewide priorities.** Implementation of the work proposed by UMRWA in their MAC IRWM Plan update will address drought preparedness, water use efficiency, water reuse, climate change response actions, expanded environmental stewardship, surface water and groundwater quality protection, ensured equitable distribution of benefits and collaboration with Native American tribes in the region.

One caveat should be noted regarding UMRWA's proposed MAC IRWM Plan update. Specifically, if the sought-after grant funding is not received (as part of a separate UMRWA grant application submitted concurrent with this IRCUP Planning grant application), the likelihood of the MAC IRWM Plan update being prepared diminishes and, at the least, could need to be scaled back significantly due to funding limitations.



The MAC Region is a sparsely-populated area and does not have a large rate-payer base from which to fund projects and plans. Furthermore, UMRWA as a JPA is not in a position to levy fees or rates to pay for such planning measures. To this end, the MAC Region relies on State assistance to achieve detailed planning measures. By funding the IRWM Plan grant, as well as funding this IRCUP inter-regional planning grant, it is viewed that regional water conflicts may finally be put to rest within the collective MAC and GBA Regions, as the risk of a slower-paced development and implementation strategy (regarding regional and inter-regional water management solutions) will be much lower. During a time in which so much other risk appears to be present (i.e., the risk of climate change, the challenges of population growth, etc.), the need for DWR support is acute.

Meeting IRWM Plan Standards

For an existing IRWM Plan, describe how that plan meets the current IRWM Plan standards

The Eastern San Joaquin IRWM Plan was developed to meet all IRWM Plan standards as of 2007, plus inclusion of the new standards suggested by the 2006 Regional Water Management Act (Proposition 84).

The IRWM Plan identifies and addresses all major water-related objectives and conflicts within the region, and considers all of the resource management strategies identified in the California Water Plan. The management strategies considered and/or included in the Plan are summarized in Table 4.

The Plan uses an unbiased, integrated, multi-benefit approach to project selection, design, and prioritization. The Plan includes performance measures and monitoring to document progress toward meeting plan objectives.

The adopted Plan, once implemented, will provide multiple benefits, and includes the following project elements:

- Water supply reliability, water conservation and water use efficiency.
- Storm water capture, storage, and management.
- Acquisition, protection, and restoration of open space and watershed lands.
- Groundwater recharge and management projects.
- Contaminant and salt removal through reclamation, desalting, and other treatment technologies and conveyance of reclaimed water for distribution to users.
- Water banking and exchange, and improvement of water quality.



- Drinking water treatment and distribution.
- Ecosystem and fisheries protection.

Table 4 - Resource Management Strategies Considered in the 2007 IRWMP

Resource Management Strategies Identified in the California Water Plan (Bulletin 160-05, December 2005)			
Strategy #	Strategy Considered	Included in IRWMP	Notes
1	Agricultural Lands Stewardship	Considered	Does not address Plan objectives
2	Agricultural Water Use Efficiency	Yes	
3	Conjunctive Management and Groundwater Storage	Yes	Recharging aquifers for conjunctive management of surface and groundwater supplies is key element of Plan
4	Conveyance	Yes	New pipelines, tunnels, canals, and on-farm distribution systems Not practical for region
5	Desalination	Considered	
6	Drinking Water Treatment and Distribution	Yes	
7	Economic Incentives (Loans, Grants, and Water Pricing)	Yes	
8	Ecosystem Restoration	Yes	
9	Floodplain Management	No	
10	Groundwater Remediation/Aquifer Remediation	Yes	Saline intrusion project
11	Matching Water Quality to Water Use	Yes	
12	Pollution Prevention	Yes	
13	Precipitation Enhancement	Considered	Not practical for region
14	Recharge Areas Protection	Yes	
15	Recycled Municipal Water	Yes	
16	Surface Storage—CALFED	Considered	
17	Surface Storage—Regional/Local	Yes	
18	System Reoperation	Yes	
19	Urban Land Use Management	Yes	
20	Urban Runoff Management	No	
21	Urban Water Use Efficiency	Yes	
22	Water Transfers	Yes	
23	Water-Dependent Recreation	Yes	
24	Watershed Management	Yes?	
Other Resource Management Strategies			
25	Crop idling for water transfers	Considered	
26	Dewvaporation	No	Not practical for region
27	Fog collection	No	Not practical for region
28	Irrigated land retirement	Yes	
29	Rainfed agriculture	No	Not practical for region
30	Waterbag transport/storage technology	No	Not practical for region
Other Resource Management Strategies Not Included in California Water Plan			
31	Water Supply Reliability	Yes	
32	Regional Groundwater Banking Partnerships	Yes	
33	Imported water	Yes	
34	Land use planning	Yes	



MAC (UMRWA) Region

As noted previously, the existing MAC IRWM Plan, as prepared in November 2006, was developed based on the Proposition 50 Guidelines. In order to meet the current IRWM Plan Standards, multiple sections of the existing Plan require updating and some entirely new sections will be developed. This effort will be underway once more is known relative to the separate IRWM Plan grant application UMRWA has submitted separate from this IRCUP multi-regional planning grant.

Since completion of the 2006 MAC IRWM Plan, the MAC Region has modified their boundaries, removing the portion of the Region that once overlaid San Joaquin County. Additionally, since the development of the original IRWM Plan, the region has revised its governance structure, and the Upper Mokelumne River Watershed Authority (UMRWA) began managing the IRWM planning process. While most of these changes were documented in the 2009 RAP application as submitted by UMRWA to DWR, these changes have not yet been incorporated into a revised IRWM Plan (i.e., they are pending the more formal update as will be embarked upon should the UMRWA IRWM Planning grant application be successful).

Updating the 2006 IRWM Plan will allow new information, along with revisions, amendments and changes to other parts of the Plan, to be incorporated, and further allow the updated Plan to meet current plan standards and ensure it most accurately reflects the recent progress made in the planning process.

As previously noted, the Prop 84 IRWM Plan Standards include several new and extensively modified requirements. These sections reflect data gaps in the existing MAC IRWM Plan and include:

- Climate change and adaptive management
- Resource management strategies
- Project review process
- Land use planning and its relation to the IRWM planning

In order for the MAC IRWM Plan update to meet Prop 84 Plan Standards, UMRWA proposed to analyzed and develop said sections for incorporation into the updated plan (should their IRWM Planning grant application be funded by DWR).

Table 5 below describes how the existing MAC IRWM Plan meets the current IRWM Plan standards as described in the *Proposition 84 & Proposition 1E IRWM Guidelines* (August 2010).



Table 5 - Existing MAC IRWM Plan and Current IRWM Plan Standards

IRWM Plan Standard	IRWM Plan to Include	Existing Plan Meets Current Standards	Update Required
Governance	<ul style="list-style-type: none"> • Name the RWMG responsible for development and implementation of the Plan. • RWMG and individual project proponents who adopted the Plan. • Description of the IRWM governance structure. • Description of how the chosen form of governance addresses various activities and decisions. 	No	The existing Plan was developed by a number of agencies that signed an MOU forming the MAC Region. The RWMG is now the Upper Mokelumne River Watershed Authority (UMRWA); discussion of UMRWA and the governance structure was included in the Region's RAP submittal to DWR in 2009. This will be included in the Plan Update.
Region Description	<ul style="list-style-type: none"> • Description of the watersheds and water systems within the Region. • Description of internal boundaries. • Description of water supplies and demands, including potential effects of climate change. • Comparison of current and future water quality conditions in the Region. • Description of social and cultural makeup of the regional community. • Description of major water related objectives and conflicts. • Explanation of how the IRWM regional boundary was determined and why it is appropriate. • Identification of neighboring and/or overlapping IRWM efforts and explanation of planned/working relationship. 	Partially	Since completion of the 2006 Plan, MAC's regional boundaries have been modified. The portion of the Region overlying San Joaquin County has been removed. This will be captured in the Plan Update. The potential effects of climate change on the Region will also be summarized. A full description of the climate change analyses will be included in the Climate Change section of the updated MAC IRWM Plan.



IRWM Plan Standard	IRWM Plan to Include	Existing Plan Meets Current Standards	Update Required
Objectives	<ul style="list-style-type: none"> • Present Plan objectives that are measurable and describe the process used to develop them. • Explanation of prioritization of objectives if they are prioritized or reason they are not prioritized. 	Yes	A general update to the section will be included in a Plan Update to revisit the objectives as they were initially developed years ago.
Resource Management Strategies (RMS)	<ul style="list-style-type: none"> • Resource management strategies considered to meet IRWM objectives and which strategies were incorporated into the Plan. • Effects of climate change. 	Partially	The existing Plan included discussion of water management strategies, but many strategies have since been added to the IRWM Plan Standards. These will be added to the Plan Update. Climate change will be a factor in considering the RMS.
Integration	<ul style="list-style-type: none"> • Structures and processes that provide opportunities to develop and foster integration. 	Yes	A general update to this section will be included in a Plan update.
Project Review Process	<ul style="list-style-type: none"> • Procedures for submitting a project to the RWMG. • Procedures for review of projects considered for inclusion into the Plan. • Displaying the lists of selected projects. 	Partially	The existing plan includes a project prioritization section; this section will be updated to reflect potentially new objectives for the Region and address the new standards of the project review process as a whole. Additionally, a process for periodically updating projects in the plan will be formulated.
Impact and Benefit	<ul style="list-style-type: none"> • Discussion of potential impacts and benefits of Plan implementation. 	Yes	This section will be updated to reflect other revised sections.



IRWM Plan Standard	IRWM Plan to Include	Existing Plan Meets Current Standards	Update Required
Plan Performance and Monitoring	<ul style="list-style-type: none"> • Performance measures and monitoring methods to ensure the objectives of the Plan are met. 	Yes	This section will be updated to reflect other revised sections.
Data Management	<ul style="list-style-type: none"> • Process of data collection, storage, and dissemination to IRWM participants, stakeholders, public, and the State. 	Yes	This section will be updated to reflect other revised sections.
Finance	<ul style="list-style-type: none"> • Possible funding sources, programs, and grant opportunities for the development & ongoing funding of the Plan. • Funding mechanisms (e.g. rate structures) for projects that implement the Plan. • Explanation of the certainty and longevity of known or potential funding for the Plan and projects included in the Plan. • Explanation of how O&M costs for projects would be covered. 	Yes	This section will be updated to reflect other revised sections.
Technical Analysis	<ul style="list-style-type: none"> • Data and technical analyses that were used in the development of the Plan. 	Yes	This section will be updated to reflect other revised sections.
Relation to Local Water Planning	<ul style="list-style-type: none"> • A list of local water plans used in the Plan. • Discussion of how the Plan related to planning documents and programs established by local agencies. • Description of the dynamics between the Plan and local planning documents. 	Yes	This section will be updated to reflect other revised sections.



IRWM Plan Standard	IRWM Plan to Include	Existing Plan Meets Current Standards	Update Required
Relation to Local Land Use Planning	<ul style="list-style-type: none"> • Current relationship between local land use planning, regional water issues, and water management objectives. • Future plans to further a collaborative, proactive relationship between land use planners and water managers. 	Partially	Land use within the Region was briefly discussed in the existing Plan; it will be expanded upon and include a more robust description.
Stakeholder Involvement	<ul style="list-style-type: none"> • Description of public process that provides outreach and an opportunity to participate in the Plan development and implementation. • Process used to identify, inform, invite and involve stakeholder groups in the IRWM process. • Discussion of how RWMG will endeavor to involve DACs and Native American tribal communities in the IRWM planning effort. • Description of the decision making process. • Discussion regarding how stakeholders are necessary to address the objectives and resource management strategies. • Discussion of how collaborative processes will engage a balance of the interest groups regardless of their ability to contribute financially to the Plan's development or implementation. 	Partially	DACs will be identified using 2010 U.S. Census data, followed by additional outreach. The section would be updated to include all outreach endeavors for the Regional's IRWM planning since completion of the existing Plan in 2006. Additionally, this section of the IRWM Plan will be revised to reflect the creation of the RPC and new Outreach Plan elements.



IRWM Plan Standard	IRWM Plan to Include	Existing Plan Meets Current Standards	Update Required
Coordination	<ul style="list-style-type: none"> • Identification of process to coordinate water management projects and activities of participating local agencies and stakeholders to avoid conflicts and take advantage of efficiencies. • Identification of neighboring RIWM efforts and how cooperation/coordination with these efforts will be accomplished. • Identification of areas where a State agency may be able to assist in communication, cooperation, or implementation of Plan components, processes, projects, etc. 	Yes	This section will be updated to reflect other revised sections.
Climate Change	<ul style="list-style-type: none"> • Discussion of the potential effects of climate change on the IRWM region, including an evaluation of the IRWM region's vulnerabilities to the effects of climate change and potential adaptation responses. • Process that discloses and considers greenhouse gas emissions when choosing between project alternatives. 	No	Climate change was not addressed during the development of the existing Plan. A brand new analysis will be conducted in order to address climate change and adaptive management in the Region.

Agency Coordination

ESJ Region

Water users in the Region have worked together for years in various arenas. Coordination and cooperation is demonstrated by long-term functional governance such as the GBA Board and Coordinating Committee, the San Joaquin County Advisory Water Commission (AWC), the Mokelumne River Water and Power Authority, the Mokelumne Forum, and the Stockton Area Water Suppliers (SAWS). The successful formulation of the GBA and its recognition as a regional entity shows the region's desire to work closely together on water planning issues.



The IRWMP Update process will be structured to allow and encourage continued effective coordination between planning efforts. The plan integration process will:

- Ensure other planning agencies participate as stakeholders in the IRWMP. This would mean not just inviting, but actively encouraging participation
- Seek common objectives between planning efforts where possible
- Collect a wide range of water planning-related information that can be shared by agencies
- Look for joint or integrated strategies between plans
- Tier or coordinate actions between agencies so they complement each other and address mutual objectives
- Look for duplication in planning efforts and minimize them
- Incorporate agencies as funding partners where strategies align
- Check back with agencies after compilation of the IRWMP Update to ensure no conflicts exist
- Adopt follow-on Management Actions, similar to those adopted in the 2007 IRWMP, that the GBA and member agencies commit to following.
- Monitor and audit progress of Plan implementation regularly, and update the Plan as needed.

UMRWA Region

Within the MAC Region, UMRWA is seen as the primary entity which brings together the Region's water agencies and County Government interests. As noted in previous sections of this grant application, through the strategy as developed by UMRWA to update their existing IRWM Plan, they have developed a Regional Participants Committee (RPC) that reaches out to the remaining governmental / community / interest-based organizations and non-profits.

UMRWA and its members also utilize the Mokelumne River Forum as a means to coordinate beyond the regional boundaries. Further, through participation in groups such as the Mountain Counties Water Resources Association, UMRWA and its members reach out to coordinate responses / approaches to water-related issues that of greatest concern.

As noted previously, as the MAC IRWM Plan is updated, the means by which UMRWA and its members coordinate not only with those within their region but those beyond their region will be reviewed. Updates are anticipated, as new venues continue to arise to reach out locally, regionally, and inter-regionally.



Work Plan Content

Work plan tasks are specific tasks that will be performed as part of the proposal. These tasks should be consistent with the budget and schedule. Detailed task descriptions must be supported with the estimates used in the budget. Explain the applicant's plan and proposed efforts.

This section presents the scope of the Work Plan for the development of an Inter-Regional Conjunctive Use Program (IRCUP) Concept Plan. The Tasks, and Subtasks correspond to those in Attachment 4 (Budget) and Attachment 5 (Schedule).

Limitations. The initial phase of IRCUP development covered by this effort will consider only existing water rights, existing storage and existing conveyance facilities, but will consider new groundwater recharge and extraction facilities. Special consideration will be given to quantifying water that could be made available through demand management (conservation and reclamation) efforts.

The Work Plan consists of six principal Tasks, each with one or more principal subtasks. While the schedule assumes grant award in the first week of January 2011, it will be adjusted based on the actual date of award.

Both the Eastern San Joaquin RWMG and the Mokelumne/Amador/Calaveras RWMG are submitting Planning Grant applications. The principal tasks for the two Groups' applications are presented for context in Table 3. This separate Inter-Regional Planning Grant application will develop elements of the proposed Integrated Regional Conjunctive Use Program (IRCUP) discussed in Chapter 8 of the GBA's 2007 IRWM Plan and Chapter <Y> of the <2006> MAC IRWM Plan and has the following principal Tasks:

Task 0 – Project Management and Administration

Management of the project team and administration of the DWR contract.

Task 1 –Project Definition

Detailed problem definition, facilitated objective setting, and description of water supply timing and volume. Technical studies will give definition to the water needs of each region helping to determine the timing and volume of those needs, and identification of water to supply the program from existing entitlements, especially water surplus to existing needs or made available through implementation of conservation and reclamation programs.



Table 6 - Outline of Individual Planning Grant Scopes (provided for context)

<p>Eastern San Joaquin Region ESJ Region 2010 IRWMP Update</p>	<p>Mokelumne/Amador/Calaveras Region MAC Region IRCUP Conflict Resolution Plan</p>
<p>Task 0 – Project Management and Administration</p>	<p>Task 1 – Update and Integrate IRWM Plan</p>
<p><i>Project management and grant administration</i></p>	
<p>Task 1 – Update Existing Plan</p>	<p>Task 2 Assessment and Collaborative Decision Making Plan</p>
<p><i>Progress assessment and updating of 2007 IRWM Plan</i></p>	
<p>Task 2 – Update Program Preferences</p>	<p>Task 3 -- Public Outreach</p>
<p><i>Adapt preferred Alternatives to meet wider range of benefits</i></p>	
<p>Task 3 – Address New IRWM Requirements</p>	<p>Task 4 -- Funding Administration</p>
<p><i>Analysis of climate change, storm/floodwater management, and land use integration</i></p>	
<p>Task 4 – Develop Advanced Planning</p>	
<p><i>Feasibility level of development of critical projects</i></p>	
<p>Task 5 – Develop Inter-Regional Joint IRCUP Project</p>	
<p><i>Feasibility level of development of groundwater banking facilities</i></p>	
<p>Task 6 – Complete & Adopt Revised Plan</p>	
<p><i>Revise and adopt Plan Update</i></p>	



Task 2 – Governance

Facilitated identification and development of workable governance structures.

Task 3 – Environmental Issues, Benefits, and Constraints

Assess likely environmental impacts and benefits.

Task 4 – Institutional Issues & Development of Success Criteria

Develop performance measures, success criteria, and identify potential impediments to implementation. As the preceding tasks are completed, a conceptual design of the IRCUP will be crafted.

Task 5 – IRCUP Concept Plan

Draft and final reports

Task 0 – Project Management and Administration

This Task encompasses contract and grant management, procurement of consultants and management of consultant contracts, internal coordination of work efforts, and external communication and coordination with stakeholders.

Task 0A – Contract Administration

This subtask includes administration of the DWR Grant contract, and the coordination with consultant and vendor contracts. It is assumed that initial Task Orders can be issued by DWR within 12 weeks of Grant award. Issuance of the initial Task Order would constitute Notice to Proceed by DWR. Consultant procurement and work on the Plan Update would start (at risk) before this Notice to Proceed.

Task 0B – Project Management

This subtask includes consultant procurement and contracting, monitoring of progress in Work Plan execution, review of consultant invoices, and reviewing progress against the project budget and schedule. This subtask also included communication, coordination, and data gathering with GBA agencies and stakeholders, and bi-weekly project management conference calls.

Task 0C – Project Reporting

The Work Plan must contain, as specific tasks, the submittal of quarterly reports ... and other written documents expected to be generated during performance of the proposal.



Subtask 0C includes preparation of monthly reports describing project progress, expenditures, and identifying upcoming Tasks and any deviations from the project schedule or budget with a recommended plan for correction. This subtask also includes quarterly reports to DWR grant administrators in a mutually-acceptable format.

The draft and final project reports are listed under Task 5.

Task 0D – Presentations

Numerous presentations to the Mokelumne Forum, GBA and UMRWA Boards, and stakeholders are anticipated during IRCUP Concept Plan development . For this subtask, it is assumed that an interactive presentation of progress and decisions to be made would occur an average of once every two months over the 30-month period of IRCUP development. Presentations would be made, at a minimum, to the GBA Board, the UMRWA Board, and the Mokelumne Forum. In addition, there will be four significant half-day workshops to interact with stakeholders on issues, criteria, governance, Concept Plan alternatives and recommendations for their input and approval. Major presentations are also planned prior to completion of Task 1, 2, 3, and 4 and the Draft and Final project report. This subtask also assumes four presentations to DWR grant administrators over the course of the effort.

Task 0 Deliverables

Review, input, and execution of Grant task orders; Procurement of facilitation, engineering, modeling, and specialty consultant contractors; Review and processing of consultant invoices, preparation of progress reports including quarterly progress reports to DWR; Bi-weekly project management conference calls, including summary notes and action item lists; Coordination with and data gathering from member agencies and stakeholders; Presentations and stakeholder workshops including development of an agenda, briefing materials and presentation slides, facilitated discussion, and maintenance of action item lists.

Task 1 –Project Definition

The This purpose of this initial task is to document the MAC and GBA regions’ goals for the Concept Project, including descriptions of water supply timing and volume desired by project participants.

Facilitation will be performed throughout the work effort. Professional facilitation will bring together the varying interests present within the MAC and GBA regions, keeping the discussion focused moving the IRCUP planning process forward, and encouraging input from all stakeholder communities (including those that represent the disadvantaged communities).



The Mokelumne Forum includes members from both the ESJ and MAC regions, and has been successfully working with facilitator Michael Harty of Kearns and West for several years. The ESJ/MAC Groups propose to extend Mr. Harty's involvement into the tasks of defining key IRCUP parameters (Task 1), and developing workable governance (Task 2).

The facilitator will:

- Meet with GBA and UMRWA stakeholders to confirm their expectations and timeframe, and develop a coordination plan
- Work with the engineering consultant to define needed parameters
- Conduct personal or small-group interviews regarding fundamental issues, water supply desires
- Draft an assessment report describing the responses
- Facilitate development of the joint project Fundamental Objectives
- Facilitate discussions among the project participants present commonalities and resolver conflicts between aspirations of project participants.

The engineering consultant will:

- Prepare a comprehensive list of parameters needed to describe the joint project alternative
- Develop base operating scenarios for the IRCUP, including proposing operating rules and estimates
- Evaluate hydrology and operations

To establish inter-regional management priorities, the project team will:

- Summarize stakeholder issues into a White Paper for dissemination to stakeholders for discussion and review
- Identify issues that stakeholders have in common to define key areas of focus
- Summarize key water management issues at a stakeholder workshop and solicit stakeholder and public input
- Coordinate planning efforts with other agencies, both within the planning area and within the region
- Facilitate discussion amongst the Regions and stakeholders
- Develop a project descriptions technical memorandum describing recommended project sizes, operations, and implementation steps



It is anticipated that this analysis and ensuing technical memorandum will be used as the basis for further project development and discussion in subsequent phases. Formal adoption of the project description and operations is not anticipated for this phase.

Task 1 Deliverables:

Stakeholder interviews; Facilitated stakeholder workshops; Stakeholder White Paper summarizing key IRCUP component sizes and operations issues; Project descriptions and recommend project/component sizes will be described in a Technical Memorandum

Task 2 – Governance

The ESJ and MAC groups have been working together cooperatively for over four years. The first phases of the joint Integrated Regional Conjunctive Use Project (IRCUP) might be implemented in as soon as two years. This Task will employ facilitated discussions among the parties to identify and develop workable governance structures for the adoption, construction, and operation of the IRCUP.

An essential element for developing the Concept IRCUP Project will be creation of a mutually acceptable inter-regional governance arrangement that meets both regions' needs. The objective of this task is to evaluate several potential governance options and determine a mutually acceptable preferred governance structure.

Both the GBA and UMRWA are Joint Powers Authorities which are represented by individual agencies with both common and individual interests. These JPAs are consensus-based forums in which projects can be developed by stakeholders in a manner that maximizes benefits throughout both Regions.

Developing an overarching governance structure for development, implementation, and operation of the IRCUP joint project will employ an inter-regional approach to develop broad-based support for projects. Such support deters or reduces litigation, protest, and opposition. In addition, regional projects are more competitive in the funding arena at both the State and Federal levels. A potentially negative aspect of this management framework is the perceived loss of control over a project, and the parties can be anticipated to look after their own interests. Nonetheless, the envisioned mutually-beneficial joint project will be weighed and measured on its merits and its fate decided on by its constituents. It is highly unlikely that a mediocre project without broad-based consensus will survive an onslaught of political, legal, and regulatory challenges.



This effort will be the forum for its member agencies to develop the groundwater recharge and banking project governance. The forum will create the mechanism and accountability for member agencies to manage project development and implementation, provide fair distribution of costs and benefits, and provide mechanism for dispute resolution and future adaptation.

The facilitator will:

- Meet with GBA and UMRWA stakeholders, likely in conjunction with the Task 1 interviews
- Develop consensus on the membership of a Governance Working Group who will be the principal Governance Agreement drafting committee
- Facilitate discussion with the Governance Working Group and the Mokelumne River Forum general membership to determine workable governance structures acceptable to all parties
- Develop a recommendation as presented, and document in a Technical Memorandum

It is assumed that the final Governance Technical Memorandum will be recommended by the Forum, but will not be adopted by member Boards and Councils until other parts of the total IRCUP are ready to move forward.

Task 2 Deliverables:

Stakeholder interviews; Facilitated stakeholder workshops; Recommended governance Technical Memorandum

Task 3 – Environmental Issues, Benefits, and Constraints

In this Task, the project team will assess likely environmental impacts and benefits and determine environmental fatal flaws and permitting issues.

The Team will determine whether there are identifiable environmental fatal flaws or permitting issues before recommending a preferred IRCUP configuration and proceeding into potential future full, project-level environmental documentation. The Team will examine hydrologic impacts from new diversions on minimum instream flow requirements. The Team will identify data gaps and base mapping requirements.

Geographic information system (GIS) data from readily available local, state, and federal sources will be collected to construct an initial GIS database. Potential types of data



include special-status species, sensitive habitats, flood vulnerability, general plan designations, aerial photographs, cultural resources, infrastructure, geology, and water resources. The project team will develop conceptual design of needed groundwater banking and extraction facilities, and associated operations plan. Finally, we will hold Focus Group meetings with regulators and potentially affected parties to hear, understand, and document their concerns.

We will conduct two public workshops and prepare a scoping report. The first workshop will be near the end of the Task 1 effort and the second will be towards the end of this phase of study during development of the draft Task 3 technical memorandum. The Team will facilitate the workshops by presenting the project description, describing the CEQA process and opportunities for subsequent review, and briefly review the Initial Study/Notice of Preparation process to identify the important environmental issues to be evaluated in a subsequent EIR phase. The Team will prepare meeting minutes to summarize the public and stakeholder comment and include these in the scoping report.

The Team will prepare an Environmental/Regulatory Compliance Plan. Based on the assessment of available data, scoping workshops and public comment, a plan for obtaining required permits and complying with determining applicable regulatory process will be developed.

Included in this assessment will be a determination of the need for a permit under Section 404 of the Clean Water Act or Section 7 of the Endangered Species Act. If the IRCUP is found to involve federally significant activities, we will determine whether preparation of an Environmental Impact Statement would be necessary.

While this will not be a formal EIR process, specific environmental resource topics to be addressed in this assessment will generally parallel those typically required in an EIR. This includes specific sections for each resource topic listed below:

- Water Resources, including groundwater, surface water, and water quality
- Land Use
- Public Services and Utilities
- Biological Resources
- Recreation, and Aesthetics
- Flooding and Drainage
- Air Quality
- Geology and Soils
- Transportation and Circulation
- Noise/Vibration
- Public Safety (including toxics)



- Cultural and Historic Resources

Task 3 Deliverables:

Fatal flaws analysis; Surface water supply modeling and impacts assessment; Identification of data gaps and base mapping requirements; Conceptual layout of groundwater recharge and extraction facilities and associated operating plan; Two scoping meetings and scoping report; Environmental/Regulatory Compliance Plan; Federal permitting assessment; Mock-up Initial Study/Notice of Preparation; Stakeholder environmental workshop

Task 4 – Institutional Issues & Development of Success Criteria

In this Task, the project team will develop performance measures, success criteria, and discuss potential impediments to implementation. For this task, we will present preliminary findings obtained from the initial project screening to promote brainstorming of other potential alternatives for meeting the ESJ/MAC Fundamental Objectives determined in Task 1.

The Team will propose performance measures to gauge the degree to which proposed joint project alternatives address the Fundamental Objectives and build a simple screening model based on to evaluate project elements against these performance measures.

The Team will conduct a workshop where stakeholders propose and discuss possible combinations of facilities, operations, and management actions (alternatives) designed to meet ESJ/MAC objectives. The Team will then apply the screening model to predict the likely results of the proposed alternatives so stakeholders can compare the relative merits of each alternative using the agreed upon performance criteria. The product of this task will be a matrix of projects and actions that best implements each of ESJ/MAC fundamental objectives.

Based on the screening model results, up to three alternatives supported by the Forum group that best satisfy the fundamental objectives will be recommended.

Recommendations for additional data and further analyses required to implement the long-term solutions in subsequent phases will be identified. The steps required to develop a comprehensive Integrated Conjunctive Use strategy implementing the best alternatives will be presented and explained to the Mokelumne Forum, stakeholders, and interested parties.



Integration Review. Also in this Task the projects and alternatives will be reviewed in relation to other projects being considered in the two Planning Regions, as well as all the needs and strategies of the Regions. In this Task the project team will work with stakeholders to assess synergies of the proposed project mix, or whether a particular project would interfere with other projects being proposed or other needs, infrastructure, programs in the region or neighboring regions. The project team will consider opportunities to combine projects or expand them to benefit others.

This task requires a significant amount of effort in that it requires looking at all projects from different levels and perspectives to determine and evaluate various combinations of alternatives. This subtask will include completion of an environmental justice project review. Multiple projects will affect stakeholders throughout the region and an environmental justice review will seek to identify and correct or avoid unfair distribution of environmental burdens or access to environmental goods.

Data management. Data collected and developed during this planning process will be shared among participants and will be available to DWR. As appropriate, data and reporting will be posted on a project website as part of the stakeholder and community participation program.

This task will include consolidation of existing data from ESJ and MAC members and may include recommendations for data collection, quality control, reporting, and analysis to be undertaken as an element of the implementation program. The project team will employ a data system management specialist to prepare an appropriate method and platform to allow the GBA and MAC groups and stakeholders access to information compiled in the development of the plan.

Finance Plan. A preliminary Finance Plan will be developed to identify potential sources of funding for the projects and continued implementation of the IRCUP Plan. The finance plan will be designed to have an appropriate weighting and scheduling of local and external funding. Recommended financing options will be explained and presented in the final report.

The overall purpose of this task is to identify specific projects that are needed to implement the IRCUP Plan. These projects will be prioritized to meet regional water management objectives and to follow preferred water management strategies. A proposed implementation schedule that extends beyond the adoption of the Plan will be developed.



Task 4 Deliverables:

Develop Performance Measures and success criteria; Discuss and determine potential impediments to implementation; Stakeholder alternatives workshop; Rate and rank alternatives against Performance Measures; Recommend alternatives to pursue in subsequent phases; Technical Memorandum describing implementation steps and strategies; Integration review; Preliminary Finance Plan; IRCUP project schedule

Task 5 – IRCUP Concept Plan

Administrative Draft Plan. The draft report will incorporate the findings and Technical Memoranda from the preceding Tasks, draw conclusions and recommend a scope for the next phase of Joint IRCUP development. When the first draft of the report has been completed, the Team will review it to ensure that all of the planned objectives have been met. When the Team is satisfied with the draft report, the Team will incorporate all necessary edits and the draft IRCUP concept plan will be submitted to the various agency boards and councils for review.

When the administrative draft Concept Plan has been completed, the members of the GBA and UMRWA will brief their respective boards and councils. The boards and councils will review the draft Concept Plan and make any comments before the Plan is presented to the public. Because the GBA and UMRWA will provide status updates on the IRCUP Concept Plan during its preparation, the comments received from the boards and councils are anticipated to be minimal, and the public IRCUP Concept Plan will be released to the public shortly after being presented to the various boards and councils and their comments are addressed.

After checking for completeness and ensuring that the updated IRWMP satisfies the requirements of the Integrated Regional Water Management Planning Act and Proposition 84, the GBA will then decide whether to release the draft for public review and comment.

The project team will prepare a draft IRCUP Concept Plan for public review. The GBA and UMRWA members will provide a link to download the IRCUP Concept Plan on their websites, and copies will be available in local libraries. GBA and UMRWA will set the duration of public review on its release. A 30 day review period is anticipated.

Final Plan. The GBA, UMRWA and the project team will review the public comments, incorporate them into an appendix to the IRCUP Concept Plan, and assemble a revised draft IRCUP Concept Plan to the GBA and UMRWA membership. The consultant will produce the required number of hard copies, as well as electronic copies of the final



IRCUP Concept Plan, and distribute the requested number of copies to the members of the GBA.

Adopt IRCUP Concept Plan, The governing boards and council of the participating agencies will have one final review of the IRCUP Concept Plan. It is anticipated that within two months of receiving the final IRWMP, the governing boards will adopt it.

Task 5 Deliverables:

Administrative draft IRCUP Concept Plan, Draft IRCUP Concept Plan, Final IRCUP Concept Plan, Public hearings



Appendix 3-1. MOKELUMNE FORUM MEMORANDUM OF UNDERSTANDING

TO COOPERATIVELY INCREASE WATER SUPPLY, IMPROVE WATER SUPPLY RELIABILITY, AND IMPROVE WATER QUALITY IN THE SERVICE AREAS OF THE PARTIES

Final March 25, 2005

This Memorandum of Understanding (MOU) is entered into this ____ day of _____, 2005, by and among the California Department of Water Resources (DWR), Alpine County, Amador County, Amador Water Agency, Calaveras County Water District, Calaveras Public Utilities District, City of Lodi, City of Stockton, East Bay Municipal Utility District, Jackson Valley Irrigation District, North San Joaquin Water Conservation District, San Joaquin County Flood Control and Water Conservation District and Mokelumne River Water and Power Authority, Stockton East Water District and/or Central San Joaquin Water Conservation District, and Woodbridge Irrigation District, also referred to collectively as “the Parties.”

The Parties, and other organizations and interest groups (e.g., the San Joaquin Farm Bureau Federation and others) that elect to participate in the collaborative process herein referenced in Article 1, shall collectively constitute the “Mokelumne River Forum.”

RECITALS

- A. The State Legislature has determined that the conjunctive management of water resources is an effective way to improve the reliability of water supplies for all regions of the State.
- B. The Department of Water Resources seeks to facilitate and support water resource management efforts, particularly those that could increase dry-year water supplies, while providing management and protections for groundwater resources.
- C. Water resources originating from the Mokelumne River Watershed have been and will remain a significant source of the water for people, the environment, and agribusiness and provide an invaluable contribution to the economy and public well-being.
- D. The Parties recognize that there is potential for improvement in groundwater management and for conjunctive management of ground and surface water



resources, and are willing to explore the possibility of increasing the availability of water supplies through regional conjunctive use efforts and new or enhanced water storage (ground and surface).

ARTICLES

NOW, THEREFORE, the Parties recognize that this MOU is a statement of principles and objectives and not a binding agreement, and the Parties agree to the following:

1. The Parties will work to resolve conflicting issues, develop an appropriate collaborative process, and enter officially into the “Mokelumne River Forum” to work cooperatively through stakeholder participation to examine and enhance ongoing conjunctive water management activities, explore new initiatives, and in identify potentially feasible solutions to meet the outlined objectives of the Parties.
2. The Parties acknowledge that other water-related planning programs may be ongoing concurrently with the Mokelumne River Forum effort, and the Parties hereby commit to coordinate with those other programs to minimize duplication and reconcile conflicts.
3. The Parties will endeavor to increase the availability and reliability of water resources from the Mokelumne River watershed area through cooperation, open communication, and consensus building among the Parties in a forum process including a broad range of regional stakeholders.
4. The Parties will share all technical data, analyses, conclusions, and findings developed through the course of implementing this MOU.
5. The Parties will work cooperatively to accomplish the following objectives:
 - Develop mutually beneficial and regionally focused solutions to meet the water supply and related needs of the Parties by pursuing water supply availability, reliability, and quality that are acceptable to all participants in the Mokelumne River Forum.
 - Develop solutions that resolve conflicts among and between the Parties and stakeholders and assist in meeting:
 - Up-country consumptive water and infrastructure needs (Amador, Calaveras, and Alpine);
 - San Joaquin County water supply needs (basin overdraft);
 - Dry-year drinking water needs of the Parties; and



- o Water needs for agriculture, the environment and recreation.
6. The Parties will engage in a collaborative process to accomplish the tasks outlined in Appendix A (“Tasks”) to facilitate regional consensus-based planning efforts. The Parties envision a two-year process to accomplish the tasks.

IN WITNESS WHEREOF, the Parties hereto have executed this Memorandum of Understanding as of the day and year first written above.

**STATE OF CALIFORNIA
DEPARTMENT OF WATER RESOURCES**

ALPINE COUNTY

AMADOR COUNTY

AMADOR WATER AGENCY

CALAVERAS COUNTY WATER DISTRICT

CALAVERAS PUBLIC UTILITIES DISTRICT

CITY OF LODI

CITY OF STOCKTON

EAST BAY MUNICIPAL UTILITY DISTRICT

JACKSON VALLEY IRRIGATION DISTRICT

NORTH SAN JOAQUIN WATER CONSERVATION DISTRICT

**SAN JOAQUIN COUNTY FLOOD CONTROL AND WATER CONSERVATION DISTRICT AND
MOKELUMNE RIVER WATER AND POWER AUTHORITY**

**STOCKTON EAST WATER DISTRICT AND/OR CENTRAL SAN JOAQUIN WATER
CONSERVATION DISTRICT**

WOODBIDGE IRRIGATION DISTRICT

