

# *Upper Kings Basin Water Forum Briefing Booklet*

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# *Executive Summary*

This briefing booklet provides information about the Upper Kings Basin Water Forum (Water Forum), the Upper Kings Integrated Regional Water Management Plan (IRWMP), current water issues and possible solutions within the Upper Kings Basin.

It is intended to solicit input on the draft Agreements-in-Principle within.

We are asking for:

- Your comments on the concepts contained in the draft Agreements-in-Principle;
- Your “Early Review and Authorization to Proceed” with the negotiation; and
- A resolution or a similar document from your organization providing this authorization.

**Please adopt your resolution by January 15, 2007.** Your timely action is needed, so we can proceed with developing a draft solution.

The IRWMP will define projects and programs to manage and develop the surface and groundwater supplies in a sustainable manner.

The Water Forum, consisting of representatives of local water districts, cities, counties and other interest groups, is working through a collaborative planning process to develop strategies to resolve water resource problems within the Upper Kings Basin.

The vision of the Upper Kings Basin Water Forum is a sustainable supply of the Kings River Basin’s finite surface and groundwater resources through regional planning that is balanced and beneficial for environmental stewardship, overall quality of life, a sustainable economy and adequate resources for future generations.

Over the past two years the Water Forum has:

- Undertaken numerous technical studies;
- Defined the regional problems to be addressed;
- Adopted goals and objectives;
- Identified the benefits anticipated from adoption of the IRWMP and the potential negative consequences to be avoided;
- Established a planning framework for identifying projects; and
- Reviewed water management strategies and potential solutions.

The draft Agreements-in-Principle outlined in this briefing booklet are intended to reflect previous discussions and a general understanding among Water Forum members regarding the approach to developing and implementing the IRWMP.

It is requested that you engage your Water Forum representative in a thorough discussion of all items contained in the draft Agreements-in-Principle and provide him or her with comments on the overall concepts, along with a resolution providing authorization for your representative to proceed with the development of a draft solution package of recommendations. A sample resolution is provided in the appendix for your use.



# *Introduction*

## *Introduction*

### **Purpose of this Booklet**

This briefing booklet provides information about the Upper Kings Basin Water Forum (Water Forum), the Upper Kings Integrated Regional Water Management Plan (IRWMP), current water issues and possible solutions within the Upper Kings Basin. It is intended to solicit stakeholder and community input on the draft Agreements-in-Principle contained within. In addition, the Water Forum seeks to obtain the approval of stakeholders to proceed with further discussion and negotiation.

### **The Integrated Regional Water Management Plan**

Planning is the art and science of deciding what to do and how to get it done. The IRWMP will define projects and programs to manage and develop the surface and groundwater supplies in a sustainable manner. The IRWMP will be the result of a collaborative planning process that is intended to plan for the future as well as reduce or avoid conflicts related to the water supply, groundwater management, ecosystem restoration and water quality. In addition, the IRWMP will:

- Define regional water resource goals and objectives;
- Integrate projects under the major theme of groundwater management and conjunctive use, including programs related to water quality, ecosystems management, flood control and land use/recreation;

- Identify projects and programs to manage and develop the surface water and groundwater supplies in a sustainable manner;
- Prioritize near-, mid- and long-term actions and solutions;
- Establish the ongoing process for funding and governance to achieve the stated goals; and
- Seek to be consistent with statewide preferences and priorities where these are consistent with local goals and objectives.

## The Upper Kings Basin Water Forum

The Water Forum is a multi-stakeholder group tasked with coordinating the overall planning process on behalf of the IRWMP partners. Representatives of local water districts, cities, counties and other interest groups are working through a collaborative planning process to develop strategies to resolve water resource problems within the Upper Kings Basin.

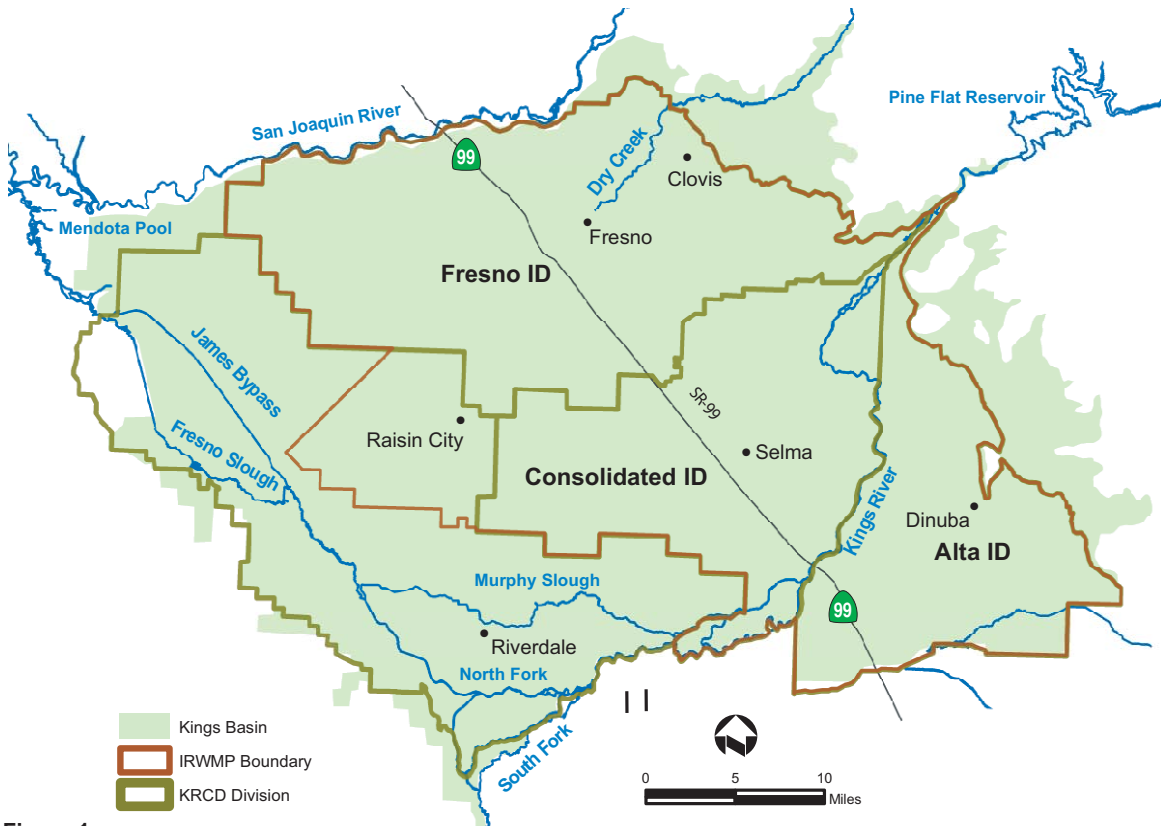
The Water Forum will:

- Coordinate the overall planning process;
- Develop and implement a public affairs strategy to provide outreach and educate the public and decision makers;
- Evaluate and compare project alternatives;
- Identify and prioritize cost-effective, local and regional solutions;
- Identify and pursue sources of funding;
- Coordinate needed environmental review of the final alternative projects and programs;
- Seek to ensure compatibility and consistency with land use and water supply plans;
- Create and define opportunities to share data and information;
- Evaluate local and regional economic impacts and benefits of proposed projects; and
- Identify potential environmental and ecosystem benefits associated with developing the IRWMP.

The Water Forum provides the wide array of input and support needed so regional benefits are achieved and priority issues are addressed. Water Forum participants realize water, land use and environmental resource issues are interrelated and of regional scope, requiring both local and regional solutions. This ensures that responses to one issue do not result in undue impacts on other issues.

Water Forum participants plan to circulate the IRWMP for public review and comment during the 2nd Quarter 2007. By June 30, 2007, the 13 implementing jurisdictions will adopt the final IRWMP.

The IRWMP must be completed by this date to meet state requirements and qualify for state bond funding that is available under Proposition 50, Chapter 8, to implement capital projects. During the next two years, about \$380 million in funding from Proposition 50, Chapter 8, will be provided to support the development and implementation of projects identified in IRWMPs that meet the State's standards. In addition to this money, other state and federal funding sources require project proponents to work regionally to resolve issues, and funding is likely to be contingent on regional cooperation and participation in a regional plan.



**Figure 1**  
**Kings Basin and IRWMP Boundary**

# *Vision Statement*



## **Vision Statement**

The vision of the Upper Kings Basin Water Forum is a sustainable supply of the Kings River Basin's finite surface and groundwater resources through regional planning that is balanced and beneficial for environmental stewardship, overall quality of life, a sustainable economy and adequate resources for future generations.

## Consequences of Inaction

The Water Forum has identified negative consequences to be avoided through development of the IRWMP. Historically, local management of the Upper Kings Basin was limited to independent operations by each overlying water agency and individual water users. If water agencies and users continue to act independently and seek to resolve groundwater overdraft from a local perspective, it is likely that we may experience:

- Intensified competition and conflict;
- Continued groundwater overdraft; and
- Increased risk of water quality impairment, land subsidence, litigation and elevated pumping costs.

In addition, a combination of small local projects may not be as cost effective as regional programs or larger projects with multiple participants.



## Benefits of Regional Cooperation, Planning and Project Implementation

The anticipated key benefits of a regional approach as defined in the IRWMP include:

- Establishment of goals and policies for the most economical and best use of available water resources in the region;
- Effective management of groundwater overdraft in the Upper Kings Basin as a whole;
- Reduced potential for conflicting goals and projects among those who share the same river and basin;
- Improved local and regional water supply reliability and drought protection;
- Cost effectiveness of large regional projects as compared to multiple small local projects;
- Reduced cost of developing one regional plan versus multiple plans by individual agencies;
- Increased operational flexibility of the water infrastructures in the region for common benefit;
- Reduced potential for conflicts and litigation;
- Protection and improvement of groundwater quality;
- Shared development and use of the same hydrologic model and analytical tools for project evaluation;
- Reduced cost of data collection, sharing and management; and
- Increased chance of obtaining state grant funds as a regional partnership, rather than as a local agency.

It is anticipated that the IRWMP will preserve the agricultural economy while accommodating planned urban growth. It is expected that technical analysis associated with development of the IRWMP will provide valuable data and information to support local decision-making by both land use and water agencies. It also may be assumed that by working together, the region will achieve increased political influence and be more capable of leveraging local funding with state and federal grants.

## Overview of the Planning Process

The State of California is encouraging local entities to work collaboratively within a region, to establish common water resource management goals and objectives, and to develop a regional planning framework that integrates land, water and habitat projects. The IRWMP acts as a nexus between statewide and local planning efforts, helping to synchronize the large, complex planning processes, regulations and priorities at the state level with the specific issues, data, concerns, planning and implementation needs at the local level.

The Water Forum's planning framework will be used to identify and evaluate projects, plans and policies that may be included in the final IRWMP. The planning framework specifically:

- Defines how the Water Forum will work with the community to identify water management strategies and projects;
- Reviews and defines criteria for prioritizing projects that are fair, rigorous and fully integrated;
- Identifies how projects, programs and policies are to be integrated into the IRWMP; and
- Increases the number and quality of projects to be included in the IRWMP so they meet the IRWMP goals and fit within the already established statewide planning framework.

The planning framework will help the Water Forum and IRWMP region to be more competitive for state financial support.

## Call to Action

Stakeholders and the general public are encouraged to provide feedback on the draft Agreements-in-Principle.

To those organizations or agencies that have appointed representatives as participants in the Upper Kings Basin Water Forum, your input is needed. It is time to review the attached draft Agreements-in-Principle that are part of this document and provide guidance to your Upper Kings Basin Water Forum representative.

In order to garner fruitful comments, do the following:

- Engage your representative in a thorough discussion;
- Find out the “whys” behind the draft Agreements-in-Principle;
- Listen to their perspective – they understand the potential tradeoffs needed for a win-win solution; and
- Provide direction, but please do not spend time word-smithing. We need to thoroughly understand your concerns with the overall concepts. We are not asking for any approval of specific language at this time.

We are asking for:

- Your comments on the concepts contained in the draft Agreements-in-Principle;
- Your “Early Review and Authorization to Proceed” with the negotiation; and
- A resolution or a similar document from your organization providing this authorization.

**Please adopt your resolution by January 15, 2007.** Your timely action is needed, so we can proceed with developing a draft solution.

If you need more information or would like someone to talk with your group, contact Toni Munoz-Woods, public affairs associate for Kings River Conservation District, (559) 237-5567 ext. 105 or [tmunoz@krcd.org](mailto:tmunoz@krcd.org).

## Next Steps

The next steps in completing the IRWMP include:

- Completing the development of the Integrated Groundwater and Surface Water Model;
- Working with Water Forum members to identify projects in the following areas:
  - Δ Groundwater recharge, water supply and conservation.
  - Δ Water quality, drinking water treatment and wastewater reclamation.
  - Δ Flood plain management.
  - Δ Ecosystems management.
  - Δ Land use planning, recreation and public access.
- Completing the engineering feasibility studies;
- Configuring and evaluating IRWMP alternatives, including evaluation of costs and benefits;
- Preparing the governance and financing program;
- Developing the monitoring and data management plan;
- Developing the environmental compliance and permitting strategy; and
- Preparing draft and final IRWMPs and working with stakeholders to adopt the final IRWMP.

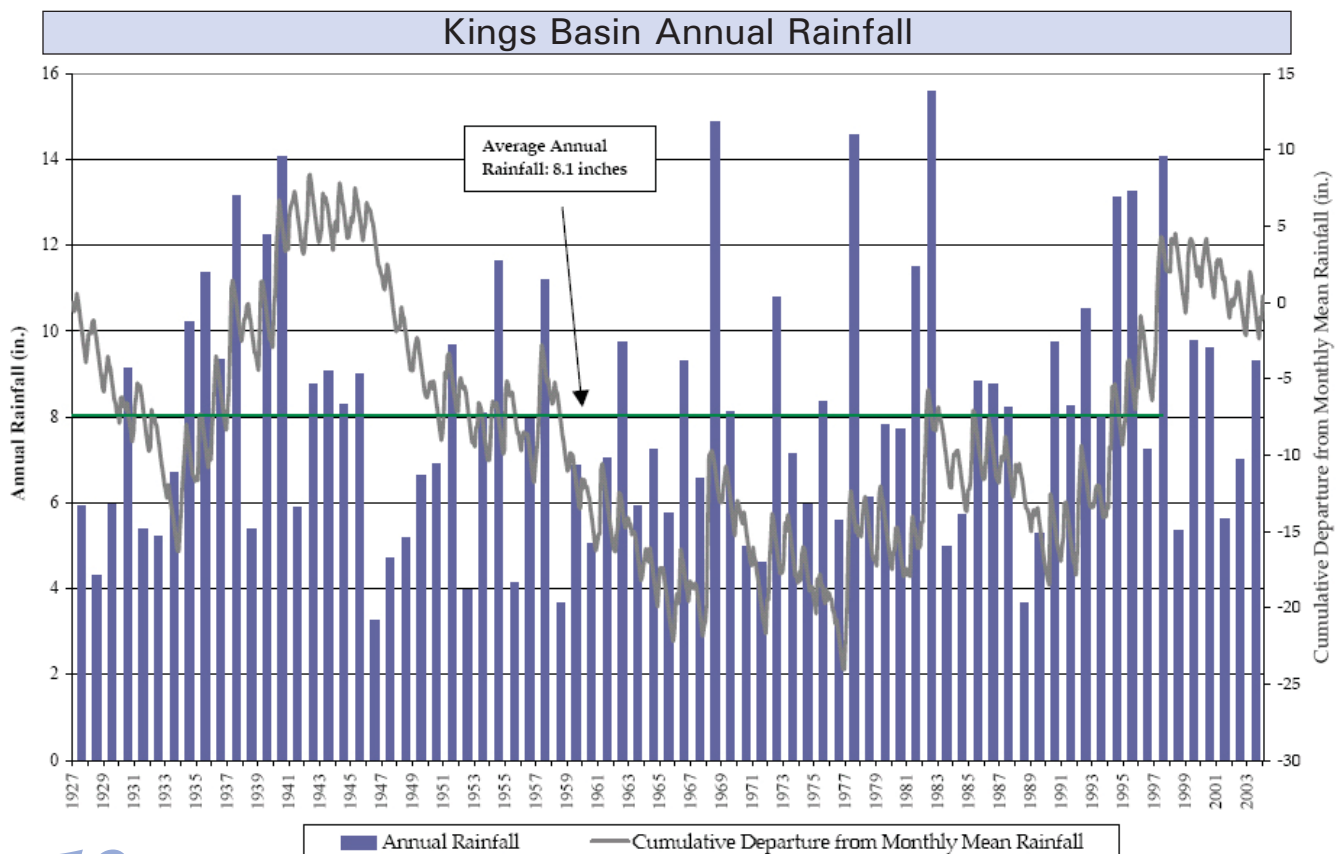
# Regional Issues

## Water Supply Reliability

Water demand has exceeded the available surface and groundwater supplies as they are currently developed and managed with the existing capital facilities and institutional arrangements.

A reliable surface water supply is not assured in normal and dry years. Groundwater makes up the balance of urban and agricultural water demands when surface water is not available. Some areas are totally reliant on groundwater. All groundwater users are contributing to the regional overdraft.

Long-term sustainability and reliability of the surface water and groundwater supply must be addressed. To increase supply reliability, there is a defined need to improve the capture and storage of storm water and surface water annually (winter storage for summer use), during multi-year climatic variations (wet-year surface or groundwater storage to meet dry-year demands) and for further conjunctive use of the available surface and groundwater supply and storage. The ability to utilize the available groundwater storage is contingent upon construction of capital facilities and agreements for how to operate and manage the available groundwater storage space.



## Groundwater Overdraft

Overdraft of the groundwater resource is evidenced by declining groundwater levels, increased pumping costs and loss of groundwater supply in some areas in the eastern part of the planning area. Overdraft increases competition for the available supply and creates conflicts between geographic areas within the region and between agricultural, environmental and urban water users. Declining groundwater levels and groundwater migration across jurisdictional boundaries are potential sources of increased conflict.

Site-specific issues associated with groundwater quality, groundwater recharge and the need for water and wastewater management facilities to address overdraft have been identified as high priority issues.

## Degradation of Water Quality

Water quality problems can be a result of natural or man-made conditions. Migration of poor-quality water is a factor in the operation of the groundwater basin. Degradation of water quality in parts of the planning region has the potential to reduce the available supply or increase treatment costs, and existing water quality needs to be maintained or improved to ensure there is water of sufficient quality to meet current and future agricultural, urban and environmental requirements.

A wide range of local, state and federal programs, both regulatory and voluntary, needs to be coordinated effectively to avoid additional burdensome regulations and provide benefits to the region.

## Protection of Water Rights

Existing water rights agreements must be acknowledged and will provide the basis for further basin planning and management. The existing agreements managed by the Kings River Water Association, on behalf of its 28 members, demonstrate local interests can solve and manage conflicts at a local level. Protecting existing rights is a premise for this planning effort and is required to avoid conflicts.

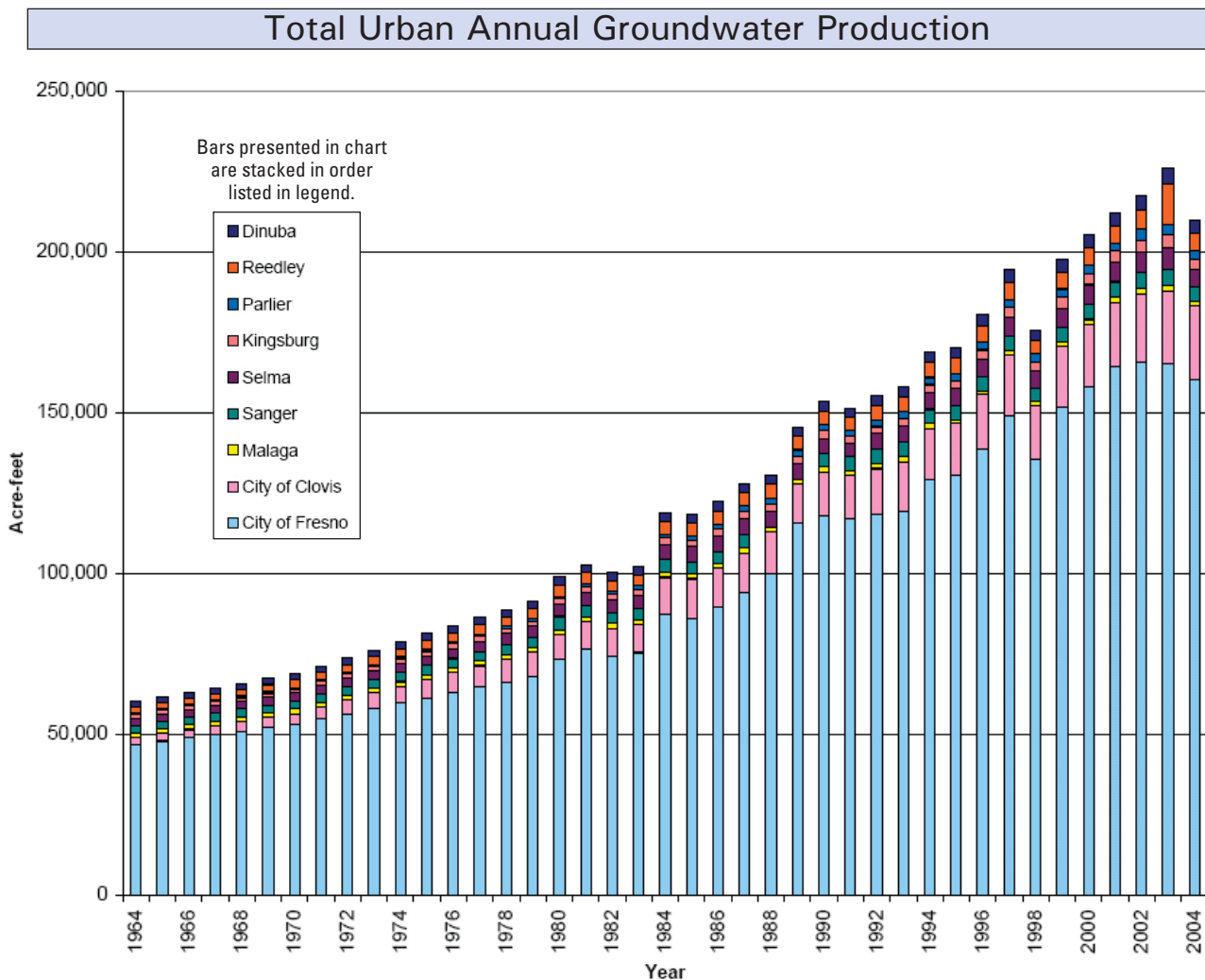
Overlying groundwater rights must also be protected to avoid conflicts. Agreements similar to those that direct surface water management need to be developed for the operation of the groundwater basin and any potential groundwater management facilities for recharge and storage.

## Protection of the Environment

Community and social programs designed to protect or enhance environmental conditions must be identified and factored into project designs. Environmental protection goals and objectives may be in conflict with economic development goals and objectives. However, ignoring ecosystem needs could have detrimental effects on the environment. Furthermore, ignoring these needs could result in projects that do not meet regulatory requirements, subjecting them to legal challenges, schedule delays, cost overruns or abandonment. Integrated solutions to land use and water supply issues will need to factor in potential ecosystem management benefits and costs.

## Urban Development

Significant urban development is occurring throughout the planning area, placing increased demands on already stressed resources and increasing the potential for conflicts between existing and new water users. Recent legislation requires urban areas to document and prove that long-term water supplies are available. Urbanization tends to reduce the amount of applied irrigation water and can have a potential effect on the amount of groundwater recharge. Potential conflicts exist due to inconsistent planning horizons, lack of compatibility between land use and water supply plans, decreased water quality, increased treatment costs and requirements for both drinking water and wastewater treatment.



Data Source: WRIME Technical Memorandum, Phase 1, Task 4, May 2006.

## Sustaining the Agricultural Economy

The Upper Kings Basin is a rich agricultural region, and agriculture is a pillar of our local economy. Agricultural interests developed and paid for many of the local water supply facilities and hold some of the most senior water rights in the Kings Basin. Existing agricultural land uses need to be protected to avoid conflicts associated with water and land use conversions.



## Protection of Life and Property from Flooding

Major storm events have the potential to impact existing land use. Regional and local flood control facilities may need improvements to manage flood runoff and protect existing or proposed land uses. Urbanization increases impervious areas which can lead to increased runoff and the associated impacts to existing drainage systems, water delivery infrastructure and downstream agricultural land uses. Cities and water districts need to work together to avoid these impacts and plan for long-term regional flood control solutions.

# Water Management Strategies



## *Water Management Strategies*

The Upper Kings Basin IRWMP will need to consider the statewide program preferences and priorities, factoring them into the process used to prioritize local projects and develop the final IRWMP. The California Water Code and implementing legislation for Proposition 50 specify preference be given to specific project types. These program preferences and priorities are reflected in the project evaluation criteria and will be taken into consideration during the State’s review process when establishing funding priorities.

## **Integrating Projects with Multiple Benefits**

The objectives of the Upper Kings Basin IRWMP have been specifically crafted so that projects will achieve multiple benefits. The process for defining priorities and configuring IRWMP alternatives is also intended to demonstrate preference for projects that provide regional, as compared to strictly local, benefits. The objectives integrate groundwater recharge, storm water capture, ecosystems enhancement and wastewater reclamation into the overall IRWMP strategy.

## Supporting and Improving Local and Regional Water Supply Reliability

The Upper Kings Groundwater Basin has been recognized by the State as being in critical overdraft (DWR, Bulletin 118), and the IRWMP is targeted towards resolution of overdraft. IRWMP projects will seek to bring the basin back into balance by integrating water management strategies into a coherent whole. The projects may include groundwater recharge, conservation, and reclamation and reuse of recycled wastewater. Any project (structural) or program (non-structural) proposed that helps to increase the water supply reliability and reduce the impacts of overdraft, especially in dry years, will be recognized as providing regional benefits.

## Contributing to the Long-Term Attainment and Maintenance of Water Quality Standards

The Upper Kings Basin is experiencing a range of groundwater quality problems which include presence of nitrates, organic chemicals, arsenic and other contaminants that could cause impairment and/or result in problems complying with drinking water standards. The groundwater recharge elements of the IRWMP will result in clean Kings River water being stored in the groundwater basin. This will help dilute existing contaminant levels.

## Eliminating or Significantly Reducing Pollution in Impaired Waters and Sensitive Habitat Areas

The IRWMP will protect and enhance the fishery in the Kings River consistent with the existing Fisheries Management Program. In addition, the evaluation of regional groundwater recharge projects includes identification of opportunities to improve flows in the Kings River and to create habitat at groundwater recharge locations.

## Reducing Conflict Between Water Users

Regional overdraft of the groundwater basin has the greatest potential to cause conflicts between water users in the IRWMP region, between geographic areas within the region or between regions. The consequences of overdraft, in terms of declining water levels, increased pumping costs, subsidence and migration of poor-quality water, are experienced to different degrees depending on the location. In the long term, overdraft could also impact economic development opportunities, cause conflicts between overlying users and result in litigation to define rights and entitlements. The IRWMP seeks to develop regional, physical solutions to groundwater overdraft that are fair and equitable, which anticipate and avoid potential conflicts.



# *Agreements-in-Principle*

These draft Agreements-in-Principle are intended to reflect previous discussions and a general understanding among Water Forum members regarding the approach to developing and implementing the Upper Kings Basin Integrated Regional Water Management Plan (IRWMP). The draft Agreements-in-Principle provide a starting point and focus for continued discussion about specific solutions. While necessary in providing a direction for continued negotiation, the draft agreements are only preliminary.

This document is intended to help Water Forum partners and participants further engage their communities in exploring our region's water resource issues and solutions. Be aware that this document is being reviewed simultaneously by a variety of stakeholder boards and councils, each with diverse interests. The process to develop a regional solution will not work if each board narrowly focuses on what they want to the exclusion of what other groups need.

It should also be noted, the review of the draft Agreements-in-Principle is expected to move on a parallel track with the process to identify capital projects.

It is requested that you engage your Water Forum representative in a thorough discussion of all items contained in the draft Agreements-in-Principle. We are not asking that you approve the specific language of the draft Agreements-in-Principle at this time. Rather, we need you to provide your Water Forum representative with comments on the overall concepts, along with a resolution providing authorization for your representative to proceed with the development of a draft solution package of recommendations. A sample resolution is provided in the appendix for your use.

# *Agreements-in-Principle*

## **Common Understanding**

1. The Water Forum participants represent public agencies and community organizations that overlie the Upper Kings Basin and share a common groundwater resource. Any action affecting groundwater within any of the overlying land-use or water-district jurisdictions could impact that area and also have effects (positive or negative) throughout the basin.
2. Overdraft of the Kings Groundwater Basin is a common problem for the cities, counties and water districts in the region. If allowed to continue, it could threaten the region's economic prosperity and could reduce agricultural productivity as well as urban growth and development. This problem cannot be solved by any individual entity or jurisdiction; it is a regional problem that requires a regional solution.
3. Solutions conceived in a vacuum to serve a limited area of interest or impact cannot adequately address regional water resource problems related to overdraft, water supply reliability, water quality, flood control or ecosystems management.
4. Groundwater overdraft has the potential to result in conflicts between geographic areas and different water use sectors in the basin. Local control and management must be demonstrated, and if the area does not take the initiative to develop an IRWMP, it is possible that solutions could be imposed by the courts or the State.

5. Conjunctive use and groundwater management projects are needed to halt and reduce overdraft, avoid conflicts over the available groundwater supplies, and meet the IRWMP goals and objectives.
6. Conjunctive use and groundwater management is the integrating theme for the IRWMP. The planning framework has been designed to integrate water quality, ecosystem, flood control and land use/recreation management strategies within this prevailing theme.
7. The IRWMP will recognize, preserve and protect Kings River water rights.

## Regional Goals

The regional goals address the primary problems and resource conflicts in the Upper Kings Basin.

1. Halt and ultimately reverse the current overdraft, and provide for sustainable management of surface water and groundwater.
2. Increase the water supply reliability, enhance operational flexibility, and reduce system constraints.
3. Improve and protect water quality.
4. Provide additional flood protection.
5. Protect and enhance aquatic ecosystems and wildlife habitat.

## Water Resource Objectives

Water resource objectives have been specifically crafted to address the priority water resource problems and to begin integrating water quality, flood control, ecosystems management and land use strategies in order to provide multiple benefits and the greatest return on investment.

1. Define local and regional opportunities and capital facility needs for groundwater recharge, water reuse/reclamation and drinking water treatment.
2. Develop large-scale, regional conjunctive use projects and artificial recharge facilities to:
  - a. Capture storm and flood water currently lost to the region;
  - b. Enhance operational flexibility of existing water facilities, consistent with existing agreements, entitlements and water rights;
  - c. Improve the ability to store available sources of surface water in the groundwater basin;
  - d. Provide multi-purpose groundwater recharge facilities that provide flood control, recreation and ecosystem benefits; and
  - e. Integrate the fishery management plan.
3. Design programs to improve water conservation and water use efficiency by all water users.
4. Promote ‘in- lieu’ groundwater recharge to reduce reliance on groundwater through: reclamation and reuse of treated wastewater; surface water treatment and delivery for municipal drinking water; and delivery of untreated water for agricultural use.
5. Negotiate and develop institutional arrangements and cost sharing agreements for water banking, water exchange, water reclamation and water treatment.

6. Develop and enhance wildlife habitat through surface water reclamation, recharge and treatment facilities.
7. Identify beneficial interconnections or improvements of conveyance systems to provide multiple benefits.

## Solutions Principles, Planning Framework and Implementation Strategy

1. Solutions must be consistent with existing agreements, water rights and entitlements.
2. Solutions must be cost effective, affordable, feasible, meet the water demands for land uses anticipated in adopted general plans, provide multiple regional benefits and be consistent with local, state and federal legal and statutory requirements.

### **3. Conjunctive Use and Groundwater Management**

- a. The Upper Kings Basin should be managed cooperatively and locally for the benefits of all users. Agreements are needed for operating and managing the available groundwater storage space, groundwater banking, use of other agencies' facilities, joint use of shared facilities, funding new facilities or improving existing facilities and governing project implementation.
- b. Available groundwater storage space should be used and developed through construction of, or improvements to, capital facilities that capture, convey and recharge local or imported surface water.
- c. The IRWMP will provide for improvements in the capture and storage of local storm water and surface water annually (winter storage for summer use) and during multi-year climatic variations (wet-year surface or groundwater storage to meet dry-year demands). In the event that the problem is not solved, the IRWMP will provide for the evaluation of transfers, imports, exchanges and groundwater banking to bring more water into the Kings region.

- d. Land needs to be acquired through purchase or easement to accommodate development of dedicated recharge facilities, spreading agreements with overlying land owners or construction of aquifer storage and recovery wells.
- e. Persons or entities intentionally recharging surface water into the groundwater basin shall retain the right to extract and use the water.
- f. Recharge areas should be protected from development or mitigations should be defined.
- g. Within two years of the adoption of the IRWMP, criteria shall be adopted to achieve compliance with the Groundwater Management Plan (SB 1938) requirements.
- h. Recharge facilities should be located upgradient of existing municipal wells when feasible in order to provide a clean source of water to the groundwater basin and dilute contamination. Recharge facilities should not cause migration of known contaminants that would affect municipal or domestic supplies.

#### **4. Water Quality**

- a. The IRWMP should facilitate and encourage the appropriate use of recycled and remediated water, including conjunctive use and recharge programs, where feasible and cost effective.
- b. The IRWMP water quality program should identify capital facility priorities for drinking water treatment plants and wastewater treatment plants.
- c. The IRWMP should actively address water quality and contamination issues, promote appropriate remediation measures and rely primarily on voluntary, cooperative programs to reduce and prevent degradation of water quality.

- d. A priority of the IRWMP should be to identify and integrate programs in the region intended to prevent pollution from all sources (agricultural irrigation and storm water discharge, urban wastewater and storm water discharge, point sources and other non-point sources). Management programs preventing contamination are more cost effective than remediation, treatment and cleanup. Allowing water quality to be degraded reduces the available supply or increases the cost of treatment prior to use.
- e. Within two years of the adoption of the IRWMP, an integrated depth-to-groundwater map shall be prepared and circulated for public use.
- f. Within two years of the adoption of the IRWMP, the means to test for, and map, problematic water quality constituents (e.g., nitrates and DBCP) shall be developed.

## **5. Water Conservation**

- a. The IRWMP should promote water conservation.
- b. Agricultural Water Management Plans (AWMPs) and Urban Water Management Plans (UWMPs) should be developed to guide public agency investments in water conservation within the region and to help consolidate water resource data for purposes of regional water resource planning.
- c. UWMPs are to be developed as required by state law. UWMPs should be consistent with the guidelines defined by the Urban Water Conservation Council and approved or accepted by the California Department of Water Resources. Within the region, UWMPs are required to obtain state funding and, as a result, are required for cities that are proposing projects for inclusion in the IRWMP. Those urban areas with less than 3,000 service connections should seek to implement Best Management Practices (BMPs) for urban water conservation that are cost effective.

- d. AWMPs should be developed and maintained for each irrigation district, consistent with the guidelines and requirements of the Agricultural Water Conservation Council.
- e. The intentional over-application of surface water for irrigation in above-normal and wet years is part of conjunctive use in the Kings region since it provides groundwater recharge. Normal measures of irrigation efficiency do not apply under these conditions, and application above the immediate crop water requirements for purposes of groundwater recharge is to be regarded as a beneficial use for purposes of the IRWMP.

## **6. Ecosystems Management**

- a. The IRWMP will include ecosystems management strategies where cost effective and appropriate:
  - i. Improve or provide incidental habitat value or restoration benefits for migratory or resident species;
  - ii. Include measures to avoid, minimize or mitigate impacts early in the design process to avoid project delays; and
  - iii. Investigate the potential for integrating flood storage, habitat and conjunctive use project elements.
- b. Ecosystems restoration design concepts will be incorporated into the design of groundwater storage and banking facilities to improve or provide habitat. Projects will seek to create partnership opportunities with state and federal resource agencies and other nongovernmental organizations
- c. The Kings River Fisheries Management Program is incorporated into the IRWMP by reference.

- d. Priorities for developing or protecting open space and increasing recreational opportunities will be included in the IRWMP to provide multiple benefits and define priorities for seeking grant funding from the State.
- e. The goals and objectives of the Kings River Conservancy pertaining to river access and habitat improvement should be supported by the Water Forum.

## **7. Flood Control**

- a. Flood flows that currently flow out of the IRWMP area (down the North Fork of the Kings River or into the Tulare Basin) should be captured for recharge purposes when consistent with existing agreements.
- b. The irrigation districts shall work with local flood control agencies, the counties and the cities to mitigate impacts to downstream irrigation conveyance systems that result from increased runoff from new urban development.
- c. Opportunities to use flood control retention/detention facilities for recharge operations shall be identified.
- d. Long-term solutions developed to manage uncontrollable flood flows, such as additional surface storage in the Kings River watershed, shall continue to be supported.
- e. Other regional flood control priorities shall be identified, and funding shall be obtained through state and federal grants or low-interest loans.

## **8. Land Use and Water Supply**

- a. Cities and counties are responsible for land use planning and approving new development, whereas the overlying water districts are responsible for planning, development and management of water supplies. The IRWMP, state law and common sense all dictate that the land use and water supply agencies work together to address regional problems that are not within the power or ability of any one jurisdiction to solve.

- b. All parties acknowledge that the region will continue to experience residential, commercial and industrial growth and that existing water production and service systems will need to be expanded to meet this increase in demand. The IRWMP shall serve to provide a clear planning process to assist the affected public agencies in meeting their projected growth needs.
- c. New development contributes to the water supply problem and has impacts that must be mitigated at the time of project approval. Cities must recognize their contribution to regional problems and work with the water districts and counties to provide mitigation for water supply and flood related impacts.
- d. Water and land use planning must be closely coordinated and consistent with state law. New development must work with the cities and water districts to demonstrate that there is a long-term, sustainable water supply.
- e. The IRWMP must propose water supply solutions that ensure a sustainable supply for current or proposed development and include strategies that mitigate water supply and flood impacts of new development. Water supply and flood mitigations/solutions must be implemented through the land use planning and decision process as conditions or requirements for new development.
- f. Within one year of the adoption of the IRWMP, a groundwater impact fee on urban development shall be considered by the local irrigation districts and incorporated entities as one of the mechanisms to mitigate the effects of new development on groundwater resources. Such a fee would be assessed on a per-acre basis only upon completion of appropriate studies and findings by the cities and districts. The fee would be dedicated solely and exclusively to acquire new water supplies or fund conjunctive use capital facilities or improvements.

## **9. Monitoring, Data Sharing and Data Management**

- a. The IRWMP will define a monitoring program for the region to ensure the benefits and impacts of the plan are documented and to facilitate periodic review of plan performance.
- b. A program for data management and sharing should be defined and recommended. A regional data management system will be developed to allow resource and land use authorities to make more informed decisions.

## **Plan Development, Adoption and Governance**

It should be noted that details on governance, project implementation and oversight are subject to negotiation and will be influenced by the type of projects and programs that are finally recommended for implementation.

1. The Water Forum will develop the IRWMP and the accompanying implementation plan that will ultimately be considered for adoption by the participating agencies and organizations.
2. The IRWMP, when completed, will include an implementation plan that details the strategy for long-term governance and oversight.

## Funding

It should be noted that some regional projects may only provide local benefits, or improvements may be needed within one jurisdiction only to meet regulatory requirements. The economic analysis conducted for the IRWMP will help local agencies and the Water Forum evaluate those projects that provide local and regional benefits so appropriate cost-sharing arrangements can be developed.

1. The IRWMP should serve to support the pursuit of cost-effective water supply and water treatment facilities by public agencies, both individually and collectively.
2. Costs must be equitably shared by those that receive project benefits and/or have contributed to the overdraft problem.
3. State and federal funding will be sought jointly for projects identified in the IRWMP, which spells out local priorities and regional benefits, defines local funding and clearly explains how projects are to be governed, developed and implemented.
4. Entities that are not part of the ongoing Water Forum process or a future successor effort should not receive endorsement, support or local funding contributions for projects seeking state or federal funds, which are contingent upon coverage under a regional plan.
5. It is anticipated that any procurement of state or federal funds will require a local match. Firm funding arrangements must be in place if the region is to be competitive for subsequent grants or low-interest loan programs.
6. A range of local funding mechanisms should be considered, such as user fees, benefit assessments, impact fees and general fund revenues.
7. Revenues should be allocated to programs that require funding on an ongoing basis (e.g., monitoring, plan oversight and coordination) and those that are specific to a defined project with specified benefits and costs (e.g., replenishment fee, groundwater impact fee, etc.).



# *Appendices*

## *Appendices*

# Sample Resolution

*Whereas, the Upper Kings Basin Water Forum's diverse group of agricultural and urban water users, environmental organizations, local governments, public agencies and water providers have determined there is the potential for further depletion and negative impacts to the Upper Kings Basin; and*

*Whereas, water demand has exceeded the available surface and groundwater supplies as they are currently developed and managed; and*

*Whereas, overdraft of the groundwater resource is evidenced by declining groundwater levels, increased pumping costs and loss of groundwater supply in some areas; and*

*Whereas, migration of poor-quality water in the groundwater basin has the potential to reduce the available supply or increase treatment costs; and*

*Whereas, existing water rights agreements must be acknowledged and protected; and*

*Whereas, environmental protection and enhancement goals must be factored into project designs; and*

*Whereas, significant urban development is placing increased demands on already stressed resources and increasing the potential for conflicts between existing and new water users; and*

*Whereas, existing agricultural land uses need to be protected to avoid conflicts associated with water and land use conversions; and*

*Whereas, urbanization increases impervious areas which can lead to increased runoff from storm events and impacts to the existing drainage systems, water delivery infrastructure and downstream agricultural land uses; and*

*Whereas, the Upper Kings Basin Water Forum has developed a set of draft Agreements-in-Principle that provide a contextual framework to discuss more specific solutions; and*

*Whereas, based upon review and comments on the draft Agreements-in-Principle, the Upper Kings Basin Water Forum will develop a draft solution package for review and refinement that will ultimately lead to a final agreement that will be presented to the implementing jurisdictions as a total package for approval; now:*

*THEREFORE BE IT RESOLVED, that the attached comments (if any) on the concepts contained in the draft Agreements-in-Principle are hereby transmitted to the Upper Kings Basin Water Forum; and*

*BE IT FURTHER RESOLVED, that we hereby support the draft Agreements-in-Principle and understand that they will serve as the foundation for the Upper Kings Integrated Regional Water Management Plan.*

# *Glossary*

## ***Agreements-in-Principle***

General understandings among members of the Upper Kings Basin Water Forum to provide a necessary framework for developing the IRWMP negotiation. Agreements-in-Principle represent a milestone of progress that has been made but are not final recommendations.

## ***Aquifer***

A body of rock or sediment that is sufficiently porous and permeable to store, transmit and yield significant or economic quantities of groundwater to wells and springs.

## ***Capital Facilities***

Public facilities necessary to support development, including but not limited to roads, water, sewers, waste disposal, affordable housing, schools, police and fire protection facilities.

## ***Conjunctive Use***

The coordinated and planned management of both surface water and groundwater resources in order to maximize the efficient use of the resource; that is, the planned and managed operation of a groundwater basin and a surface water storage system combined through a coordinated conveyance infrastructure. Water is stored in the groundwater basin for later, planned use by intentionally recharging the basin during years of above-average surface water supply.

## ***Conservation***

The preservation of resources through efficient and careful use.

## ***Conveyance System***

Canals, aqueducts or piping that carries water from the intake or well to the general area of the distribution system; does not include the distribution system itself or storage tanks, treatment plants or other infrastructure associated with the distribution system.

## ***Groundwater***

Water that is stored naturally or artificially in the ground, usually in aquifers.

## ***Groundwater Banking***

A water management strategy that includes agreements that allow for the temporary storage of surface water in a groundwater basin for subsequent withdrawal and/or transfer.

## ***Groundwater Basin***

An aquifer or a stacked series of aquifers with reasonably well-defined boundaries in a lateral direction and having a definable bottom.

## ***Groundwater Budget***

A numerical accounting of the recharge, discharge and changes in storage of an aquifer, part of an aquifer or a system of aquifers.

# Glossary

## ***Groundwater In Storage***

The quantity of water in the zone of saturation.

## ***Groundwater Management***

The planned and coordinated management of a groundwater basin or portion of a groundwater basin with a goal of long-term sustainability of the resource.

## ***Groundwater Management Plan***

A comprehensive written document developed for the purpose of groundwater management and adopted by an agency having appropriate legal or statutory authority.

## ***Groundwater Overdraft***

The condition of a groundwater basin in which the amount of water withdrawn by pumping exceeds the amount of water that recharges the basin over a period of years during which water supply conditions approximate average conditions.

## ***IRWMP***

Integrated Regional Water Management Plan

## ***Mitigation***

Actions taken to avoid, minimize or compensate for impacts that are the result of a proposed project. These activities are designed to decrease the degree of damage to an ecosystem or address other third-party effects that may result from a project or action.

## ***Recharge***

Water added to an aquifer, or the process of adding water to an aquifer. Groundwater recharge occurs either naturally, as the net gain from precipitation, or artificially as the result of human influence.

## ***Reclaimed Wastewater***

Treated wastewater that can be reused for beneficial purposes such as irrigation.

## ***Remediation***

Clean-up of contaminated water by a variety of methods.

## ***Stakeholders***

Persons, agencies, groups or other parties who have a “stake” in a common issue, project, etc.

## ***Subsidence***

The lowering of the natural land surface due to groundwater (or oil and gas) extraction.

# *Glossary*

## *Sustainable*

Meeting the needs of the present without compromising the ability of future generations to meet their needs.

## *Surface Water*

All water naturally open to the atmosphere (rivers, lakes, reservoirs, ponds, streams, impoundments, seas, estuaries, etc.)

## *Treatment*

Any method, technique or process designed to remove solids and/or pollutants from solid waste, waste-streams and effluents.

## *Upgradient*

The direction from which water flows in an aquifer.

## *Upper Kings Basin*

An area that generally includes most of the Kings Groundwater Basin and the lands within Alta Irrigation District, Consolidated Irrigation District, Fresno Irrigation District and Raisin City Water District along with the cities and county area within these jurisdictions.

## *Upper Kings Basin Water Forum*

A multi-stakeholder group of representatives of local water districts, cities, counties and other interest groups who are working through a collaborative planning process to develop strategies to resolve water resources problems within the Upper Kings Basin.

## *Water Rights*

Legally protected rights to take possession of water occurring in a natural waterway and to divert that water for beneficial use.

## *Water Transfer or Exchange*

A business agreement between willing partners that could include the short-term or long-term sale or exchange of water consistent with existing water rights and in compliance with local, state and federal laws.

# Forum Roster

## Water Agencies

### **Alta Irrigation District**

Chris Kapheim, General Manager

### **Consolidated Irrigation District**

Mark Gilkey, General Manager

### **Fresno Irrigation District**

Gary Serrato, General Manager

Laurence Kimura, Assistant General Manager

### **Fresno Metropolitan Flood Control District**

Bob van Wyk, General Manager

### **Kings River Conservation District**

David Orth, General Manager

Lyn Garver, Assistant to the General Manager

Cristel Tufenkjian, Chief,

Community Relations & Public Affairs

Melissa Hunter, Public Affairs Associate

Toni Munoz, Public Affairs Associate

### **Kings River Water Association**

Steve Haugen, Watermaster

### **Raisin City Water District**

Jerry Boren, President

## Local Government

### **City of Clovis**

Lisa Koehn, Assistant Public Utilities Director

Renee Mathis, Engineering Program Supervisor

Kevin Brodie, Deputy City Engineer

### **City of Dinuba**

Ed Todd, City Manager

Dan Meinert, Deputy City Manager

Monte Sylvester, Utilities Supervisor

Rene Tellez, City Engineer

## Local Government

### **City of Fowler**

Jim Simonian, Mayor

David Elias, City Manager

### **City of Fresno**

Rene Ramirez, Director of Public Utilities

Lon Martin, Assistant Public Utilities Director

Brock Buche, Project Engineer,

Water Division

Glenn Knapp, Professional Engineer,

Water Division

Mohammad Moaddab, Reclamation

Coordinator, Wastewater Division

Amber Adams, Public Works Manager

### **City of Kerman**

Ron Manfredi, City Manager

### **City of Kingsburg**

Don Pauley, City Manager

### **City of Parlier**

Lou Martinez, City Manager

David Cantu, Public Works Supervisor

Shun Patlan, Community Development

Coordinator

### **City of Reedley**

Rocky Rogers, Public Works Director

### **City of Sanger**

Jim Drinkhouse, City Manager

John Mulligan, Deputy Public Works Director

### **City of Selma**

D-B Heusser, City Manager

Roseann Galvan, Administrative Analyst

Jerry Howell, GIS Specialist

## Local Government

### **County of Fresno**

Bart Bohn, County Administrative Officer  
Phil Desatoff, Senior Geologist

### **County of Kings**

Jon Rachford, Supervisor, District 2

### **County of Tulare**

Brian Haddix, County Administrative Officer  
Laurie Mercer, Community Development  
Specialist III

## State Government

### **California Department of Fish & Game**

Bill Loudermilk, San Joaquin Valley-Southern  
Sierra Regional Manager  
Dale Mitchell, Regional Aquatic Program  
Manager

### **California Department of Water Resources Division of Planning and Local Assistance**

Tom Lutterman, Engineer Geologist –  
Headquarters  
Paula Landis, Chief of San Joaquin District  
Ben Igawa, Senior Engineer,  
Water Resources – San Joaquin District

### **California Regional Water Quality Control Board, Central Valley Region**

Lonnie Wass, Supervising Water Resources  
Control Engineer  
Pam Buford, Staff Environmental Scientist

## Environmental Organizations

### **California Native Plant Society**

Warren Shaw, Past President

### **El Rio Reyes Trust**

Connie Krahn, President  
Kent Kinney, Vice President

## Environmental Organizations

### **Fresno Audubon Society**

Fred Peterson, Conservation Chair

### **Kings River Conservancy**

Hank Urbach, Director

### **Kings River Fisheries Management Program, Public Advisory Group**

Hank Urbach, Member

### **Sierra Club**

David Cehrs, Hydrologist

## Higher Education

### **California State University, Fresno Department of Civil Engineering**

Bret Swain, Graduate Student representing  
Dr. William Wright

### **California State University, Fresno California Water Institute**

Karl Longley, Coordinator, Water Resources  
Programs

## Consultants

### **Center for Collaborative Policy**

Greg Bourne, Managing Senior Mediator

### **URS Corporation**

Ralph Boyajian, Vice President/Branch  
Manager  
Steve Ottemoeller, Water Resources Specialist  
Lance Johnson, Water Resources Engineer

### **WRIME, Inc.**

Saquib Najmus, President  
Ali Taghavi, Principal  
Matt Zidar, Principal  
Elias Tijerina, Senior Engineer

*Notes:*