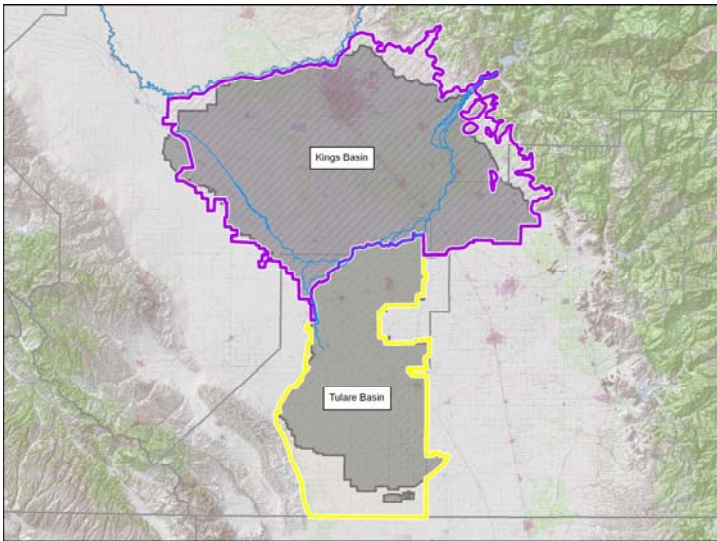




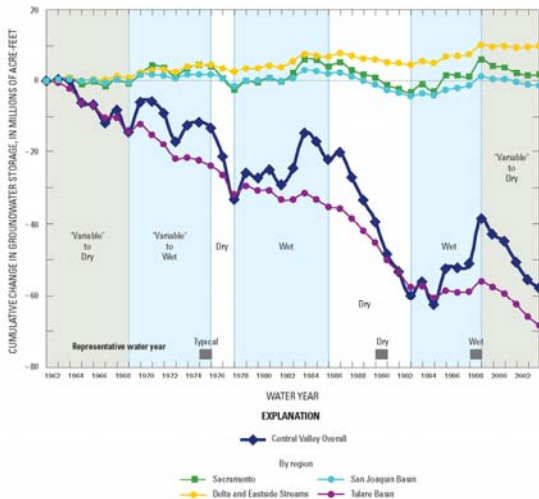
# Sustainable Groundwater Management through an Integrated Regional Water Management Plan (IRWMP)

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Kings River Conservation District



## Basin Characteristics

- Part of the Tulare Lake Hydrologic Region
  - 10.9 million acres
  - 12 distinct Basins/7 sub-basins
- Kings Groundwater Basin
  - 976,000 acres
  - 93 MAF of storage to 1,000 ft (2003 Bulletin 118)
- Tulare Groundwater Basin
  - 524,000 acres
  - 12 MAF of storage to 300 ft (DWR 1995)



## Local Management

- AB 3030 (January 1, 1993)
- Provided criteria and guidance for elements of a Groundwater Management Plan
  - Monitoring, conjunctive use, well construction and destruction policies, recharge, storage, conservation, land use planning
- 54 agencies within Kings River Service Area prepared and implemented AB3030 Plans

## Local Management

- SB 1938 (2002)
  - Local planning/stakeholder involvement
  - Establish Basin Management Objectives
    - Groundwater levels
    - Groundwater Quality
    - Subsidence
  - Implement Monitoring
- 23 agencies in the two basins have updated AB 3030 Plans to SB1938 standard

## Critical Condition

- Overdraft
  - Increasing demand
  - Reduced Surface Supply reliability
- Water Quality
  - Salinity
  - Nitrates
  - Arsenic
- Inadequate Planning and Coordination

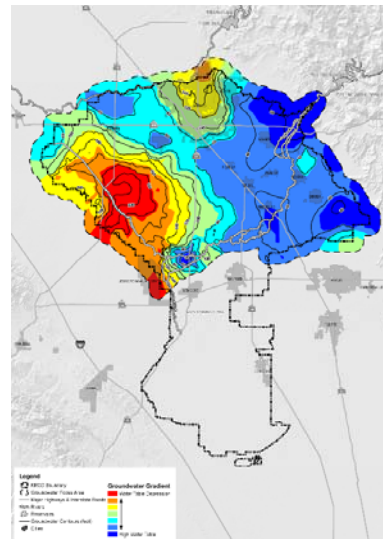
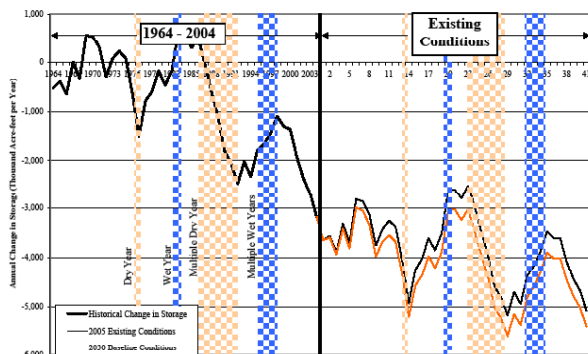
## Legislative History of IRWMP

- SB 1672 (2002)
  - To encourage local agencies to work cooperatively to manage local and imported water supplies for quality, quantity and reliability
  - IRWMP required if seeking Prop 50 grant funds
- IRWMP Act amended in 2006 and 2008

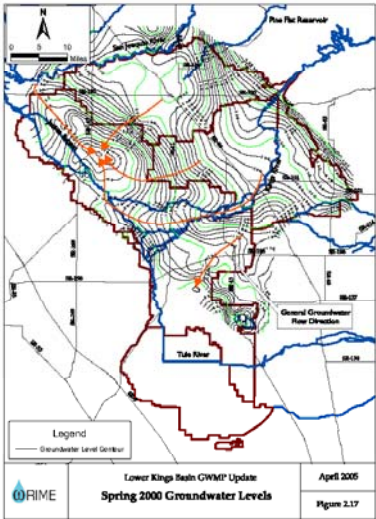
## Upper Kings Water Authority

- Formation of Basin Advisory Panel in 2001
- Creation of the “Forum” in 2004
- Supported by DWR
- Development of IRWMP
- Development of Interactive GW Model
- Adoption of IRWMP in 2007
- Formation of Joint Powers Authority in 2009

Figure 4-17. Cumulative Change in GW Storage in IRWMP Area



Depth to Groundwater Spring 2007



### Kings Basin Groundwater Flow Patterns



## Plan Priorities

- Coordinated Monitoring
  - Integrated SB1938 Monitoring
    - » Elevations, Quality, Subsidence
  - Interactive GW Model
- Projects to increase water supply reliability & preserve quality
  - Groundwater recharge, conveyance
  - Recycling
  - Metering
- Protect and enhance aquatic ecosystems and wildlife habitat



## Governance Structure

**Members** – voting members, only public entities

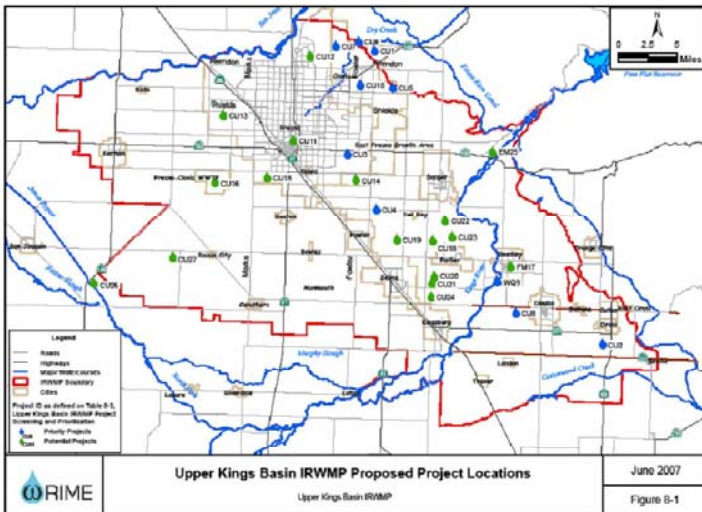
**Interested Parties** – non-voting (on the Advisory Committee) may be public and non-public entities (non-governmental organizations and local & state agencies) advisory capacity participate in committees and sub-committees seek their support before decisions are made

**Administrative Manager** – executive and fiscal agent, non-voting



## Diversity of Water Authority Membership

- |   |                                 |
|---|---------------------------------|
| Kings River Conservation District                   | City of Clovis                  |
| Alta Irrigation District                            | City of Kingsburg               |
| Consolidated Irrigation District                    | City of Reedley                 |
| Fresno Irrigation District                          | City of Sanger                  |
| Kings River Water Association                       | City of Selma                   |
| Raisin City Water District                          | City of Kerman                  |
| Fresno Audubon Society                              | City of Parlier                 |
| California Native Plant Society                     | City of Fowler                  |
| Kings River Fisheries Program Public Advisory Group | City of Fresno                  |
| California Water Institute                          | City of Dinuba                  |
| Department of Water Resources                       | County of Fresno                |
| Center for Collaborative Policy                     | County of Kings                 |
| California Department of Fish & Game                | County of Tulare                |
| Regional Water Quality Control Board                | El Rio Reyes Conservation Trust |
| Kings County Water District                         | Sierra Club                     |
| Kings River Conservancy                             | Tulare Basin Wildlife Partners  |
| Self-Help Enterprises                               |                                 |



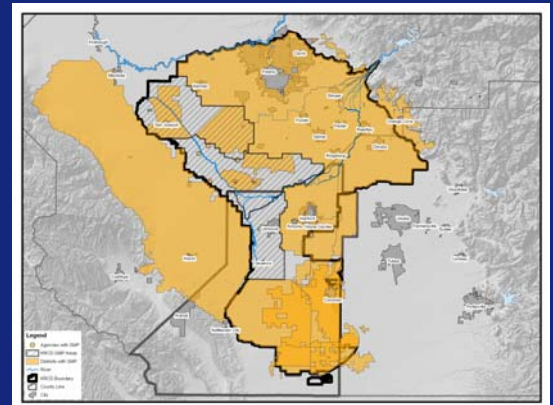
Upper Kings Basin IRWMP Proposed Project Locations

June 2007

Figure 5-1



## Groundwater Management Plans in the Region





## More Collaboration is Needed

- Supply side management unlikely to support future water demands
- Better integration with land use planning
- Ag/Urban/Environmental needs assessment and prioritization
- Increased emphasis on conservation, measurement, efficiency

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## In Conclusion

- Sustainability can be reached IF:
  - Surface supply reliability is enhanced
  - Sizable investment/increase in recharge
  - Aggressive conservation
  - Aggressive recycling
  - Support from land use community

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