

KINGS BASIN WATER AUTHORITY

2013 ANNUAL REPORT

(OCTOBER 2012 – SEPTEMBER 2013)

OCTOBER 16, 2013

PREPARED BY:



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1 – INTRODUCTION

The Kings Basin Water Authority (KBWA) adopted an updated Integrated Regional Water Management Plan (IRWMP) in October 2012. The IRWMP established a goal of preparing an annual report (see Section 9.5 of IRWMP) to document progress and serve as a reference document for future IRWMP updates. This report includes information on current water conditions in the Kings Basin; status of IRWMP objectives and implementation projects; changes in governance, policies and membership of the Kings Basin Water Authority; and proposed IRWMP amendments.

This report discusses and documents project activities directly related to or processed through the Authority or IRWM related funding. It should be recognized that the stakeholders undertake numerous activities outside of the IRWM that may contribute to the Goals and Objectives of the region, however this report is not intended to document all individual stakeholder activities outside of IRWM efforts.

This is the first annual report for the KBWA. The report follows the Kings River water year and covers October 1, 2012 to September 30, 2013.

2 – PHYSICAL CONDITIONS IN BASIN

2.1 – Surface Water Hydrology

Kings River

The water supply in the Kings River is commonly represented by the ‘Percent Hydrologic Year’. This represents the percent of river runoff compared to the long-term historical average. This reflects precipitation, snowpack, and river flow, and is directly related to the volume of water available to local water users. The ‘Percent Hydrologic Year’ for the 2012 and 2013 Kings River water years is shown in Table 1.

Table 1 - Kings River Percent Hydrologic Year

Kings River Water Year	Percent Hydrologic Year
2012	48%
2013	40% ¹

San Joaquin River

Water deliveries in the Friant Division of the Central Valley Project (CVP) are based on Class I and Class II allocations. Class I water is generally reliable and only restricted in very dry years. Class II water is generally only available in wet years, or when reservoir storage is temporarily unavailable. The allocations vary each year based on water supplies which are a function of precipitation, snowpack and reservoir storage. The CVP water year differs from the Kings River water year and runs from March 1 to February 28. The Class I and Class II allocations for the 2012 and 2013 water years are shown in Table 2.

Table 2 – San Joaquin River Water – Friant Division Allocations

Water Year	Class I	Class II
2012	50%	0%
2013	62%	0%

The long-term average Class I and Class II allocations are approximately 94% and 40%.

¹ The 2013 Kings River ‘Percent Hydrologic Year’ was provided verbally by the Kings River Water Authority. The value will be updated in the final report to be presented at the October KBWA Board meeting.

2.2 – Groundwater Levels

Groundwater level contours were developed for Spring 2012 including groundwater level elevation (Attachment 1), groundwater depth (Attachment 2), and change in groundwater levels between 2011 and 2012 (Attachment 3).

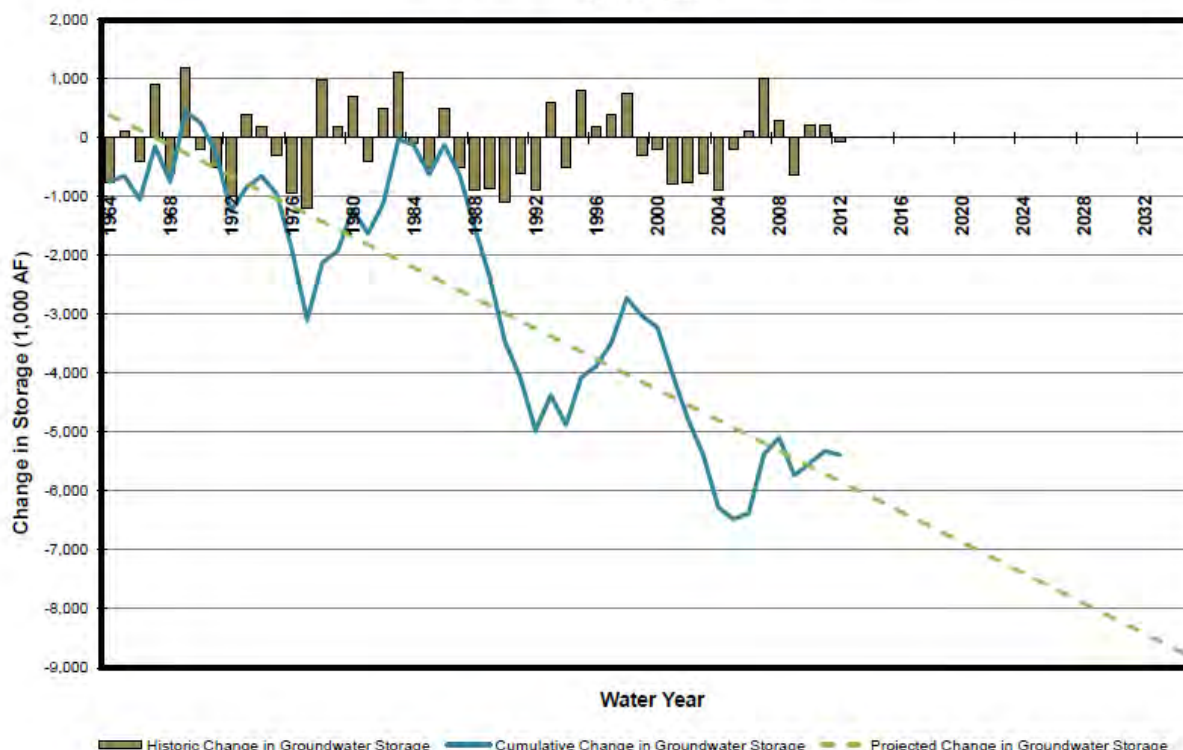


Figure 1 - Change in Groundwater Storage in Kings Basin (1964-2035)

Groundwater storage was estimated to decrease by 64,000 AF from 2011 to 2012. This is based on an assumed average specific yield of 11.6% in the aquifer and the change in groundwater levels shown on Attachment 3. This period was dry year so a decrease is expected. However, the rate of decline was still lower than the long-term average rate of decline. This may be due to above average rainfall in the previous two years which increased soil moisture, groundwater reserves, and reservoir storage.

2.3 – Water Quality

A summary of water quality for disadvantaged communities in the Kings Basin was collected for the Kings Basin Water Authority Disadvantaged Community Pilot Project Study (see Section 4.1 for more information on the study). The study collected information on drinking water, wastewater, and stormwater quality from sources including community surveys, Department of Water Resources, California Department of Public Health and the Tulare Lake Basin Study. The characteristics of drinking water, wastewater, and stormwater were quantified from these sources and summarized in several tables, indicating the severity of concerns. These characteristics include number

of water supply sources, flood risk (FEMA or DWR provided), wastewater violations, and drinking water quality constituents such as nitrate, coliform, and DBCP.

3 – STATUS OF MEASURABLE OBJECTIVES

Following is list of measureable objectives from Chapter 5 of the 2012 IRWMP and progress made in meeting those objectives during the year. Progress for most objectives is documented when projects are completed that were either funded through grants secured by KBWA, or were on the KBWA projects list and funded through other sources. Some objectives, such as those related to public outreach or education, are not necessarily performed as part of projects on the KBWA list, and their progress is reported on an on-going basis.

Measurement Objective No. 1: Increase amount of groundwater in storage with intent to eliminate the groundwater overdraft in 20 years

Measurement: Report of change in overdraft in accordance with Section 12.2 of the IRWMP and net effect of new projects capacity/performance

Status: Annual reporting information is shown in Figure 1. It will take several years of monitoring to determine if the long term goal of correcting the overdraft in the basin is being accomplished. The KBWA will continue to monitor groundwater conditions annually, and is in the process of updating the basin model to include more recent data and understanding of the groundwater conditions since the original basin model was developed. As described in Section 4 of this report, several projects from the IRWMP Project List have been implemented and are helping to reduce the overdraft.

Measurement Objective No. 2: Identify opportunities and Projects

Measurement: List of projects and opportunities and their potential.

Status: The KBWA solicited potential projects from members and interested parties in June 2013. The final project list was updated in August 2013. The Project List is adopted by separate action of the KBWA Board and is available on the KBWA website. A copy of the current Project List is included as Attachment 4.

The KBWA DAC Study (see Section 4.1 for more details) identified 38 potential projects, developed five into ‘Pilot Projects’ and prepared reports for each. Some of the projects will eventually be added to the KBWA Project List. The following table summarizes the Pilot Projects and their potential to be implemented, pending receipt of funding.

Pilot Project Title	Project Potential
Economy of Scale Evaluation	Excellent
Easton Area Community Survey	Excellent
Lanare Sewer System	Good
City of Orange Cove Water Supply Project	Excellent
Armona CSD Interested Party Application	Good
Home Garden CSD Water Treatment Project	Good

Measurement Objective No. 3: Identify DAC priority needs and promote/support solutions to DAC water issues

Measurement: DAC studies and project development/implementation

Status: The KBWA DAC Study divided the KBWA IRWMP boundary into five Subregions: Northern Tulare County, Fresno/Clovis and Surrounding Areas, Western Fresno County, Eastern Fresno County and Northern Kings County. Within each Subregion a matrix was developed to identify potential opportunities. The following table summarizes the number of opportunities discussed through the course of the Study.

Subregion	Number of Potential Opportunities Identified through KBWA DAC Study
Northern Tulare County	12
Fresno/Clovis and Surrounding Areas	4
Western Fresno County	10
Eastern Fresno County	5
Northern Kings County	7
Total	38

From these potential opportunities, the Subregion stakeholders identified the most critical opportunity and a Pilot Project Report was developed for it, including preliminary engineering analysis, cost estimates and next steps to continue development of the project. Refer to the DAC study for more details.

The DAC Workgroup held meetings to identify challenges and seek methods to improve preparation/submission of DAC projects in grant applications.

The Tulare Basin Wildlife Partners applied for and was awarded funding to develop a DAC specific webpage on the Tulare Basin Watershed Initiative website. The Tulare Basin Wildlife Partners, in collaboration with Easton CSD, prepared a successful Facilitation Services Grant Request through the DWR IRWM program.

Measurement Objective No. 4: Increase average annual supply and reduce demand

Measurement: Documentation of amount of increase/decrease

Status: Groundwater banking projects within the region have increased average annual supply by capturing water that would otherwise be lost to the region and making it available through extraction at a later time. In addition, water meters installed within the region are providing incentive to reduce demand that is proving to range from 10-20% reductions within the region. A listing of the IRWMP projects implemented within the region is included in Section 4.

Measurement Objective No. 5: Increase dry year supply

Measurement: Documentation of amount of increase

Status: Similar to Measurement Object No. 4, groundwater banking and water conservation efforts remain the focus of improving dry year supply within the region. Refer to Section 4 for a project list.

Measurement Objective No. 6: Increase regional conveyance capacity

Measurement: Total acre-feet available (both capacity and re-operation)

Status: Some of the IRWMP projects implemented have included conveyance capacity, but no IRWMP projects that solely increase conveyance capacity have been initiated.

Measurement Objective No. 7: Compile baseline water quality data for ground and surface water

Measurement: Report of data collected and evaluate changes in the basin in annual report by considering population served and compliance orders from available sources such as ECHO and SDWIS.

Status: A compilation of water quality data concerns within DACs was included in the DAC Pilot and Tulare Lake Basin DAC study. The region has not yet initiated a specific region wide water quality data analysis.

Measurement Objective No. 8: Encourage Best Management Practices, policies and education that protect water quality

Measurement: Documentation of efforts/education

Status: The KBWA DAC Study performed extensive outreach to the DACs in the King Basin. This includes educating residents about the IRWMP, potential water quality issues, solutions to water quality problems and possible ways to prevent future problems. This outreach was performed through meetings held in many communities in the Kings Basin. The Study divided the Region in to five smaller Subregions. Within each Subregion, a minimum of four community meetings were held to discuss water-related issues, identify problems and educate the community members about solutions and better practices. Additionally, informational handouts were distributed at the meetings and all materials were posted on an accessible website.

Measurement Objective No. 9: Identify sources of water quality problems and promote/support solutions to improve water quality

Measurement: Report of information gathered

Status: The DAC Pilot Study promoted and supported solutions to improve water quality throughout the region. This was accomplished by identifying problems and educating the communities about solutions and better practices. In addition, several conceptual pilot projects that addressed water quality were evaluated.

Measurement Objective No. 10: Increase surface storage

Measurement: Documentation of amount

Status: The increase of surface storage was limited to minimal surface storage increase associated with the groundwater recharge basin or banking facilities included on the IRWMP project list. No larger or significant surface storage project has been undertaken within the region.

Measurement Objective No. 11: Sustain the Kings River Fisheries Program

Measurement: Report on program

Status: The Kings River Conservation District, Kings River Water Association, and California Department of Fish and Wildlife continues to implement the Kings River Fisheries Program. In the last year the Program completed an Incubator Building which is now operational. The building replaces the old streamside incubator operation. This project was funded with a grant from the Martin Family and the Kings River Conservancy administered the grant. The Fisheries Program also contracted with Fugro Pelagos Inc. to conduct an aquatic LIDAR survey of the tailwater fishery from the dam to the Highway 180 bridge. The survey also included several miles of Mill and Hughes creeks. The data is currently being analyzed and will lay the ground work for future habitat enhancement projects.

Measurement Objective No. 12: Pursue opportunities to incorporate habitat benefits into projects

Measurement: List of opportunities considered and accomplishments

Status: Tulare Basin Wildlife Partners (TBWP) and the Tulare Basin Watershed Initiative (TBWI) prepared a white paper/analysis of 'Ecosystem Benefits' for inclusion in IRWMPs and projects based on the Implementation Grant guidelines. The white paper was provided to the KBWA and consultants for use in preparation of the Round 2 Implementation grant application. The TBWP provided riparian corridor maps to the GIS Tulare Basin IRWM group effort and the KBWA. TBWP met with Fresno Irrigation District to identify potential stream courses for riparian and habitat improvement.

Measurement Objective No. 13: Increase public awareness of IRWM efforts

Measurement: Public relations and annual reporting

Status: With the support of the KBWA Outreach Work Group and staff, the KBWA public relation activities for water year October 2012 – September 30, 2013 included the development of communication tools, media and community relations and support in achieving the goals and objectives of the Kings Basin IRWMP. The Outreach Work Group worked on two projects. First, the Work Group began to develop a website for the KBWA. Currently the KBWA webpages are hosted on the Kings River Conservation

District's website, www.krcd.org. Work completed for the year included the development of a site map for the website and content for the pages. The domain name has also been registered, www.kingsbasinauthority.org. The next task is to build the website. The Outreach Work Group has also been used as a resource to provide input on KRCD's Resource Legacy Fund California Water Foundation Grant. The purpose of the grant is to provide education and awareness to land-use planners and decision makers about groundwater conditions and issues through the IRWMP process.

Media relations and presentations were also conducted. Numerous presentations were conducted during the year regarding the KBWA IRWMP efforts to groups including the Association of Environmental Planners, the Southern San Joaquin Valley League of Cities, Water Education Foundation Central Valley tour participants, Stanford Woods Institute, State legislative committees, and local elected officials. Also, outreach to KBWA Members and Interested Parties governing bodies were made to provide an update on KBWA activities. Media relations promoting KBWA IRMWP efforts included a published Letter to the Editor in Sacramento Bee from KBWA Chair Harry Armstrong, an article printed in the Porterville Recorder, and a meeting with a Fresno Bee reporter.

Through the KBWA DAC Study, an initial meeting was held in each five separate Subregions. The purpose of this meeting was to explain and educate the community members concerning IRWM. The discussion focused on explaining the function of an IRWMP, the role the DACs can play, and how each community can become more involved in regional water planning efforts. As a result of this Study, one DAC has joined the IRWMP as an Interested Party, one more has the application materials prepared and nine more are actively seeking joining the IRWMP.

The Tulare Basin Wildlife Partners (TBWP) performed the following public outreach on IRWM efforts: 1) IRWM activities for the Kings Basin were reported in the TBWP quarterly newsletter; 2) presentation to the Tulare County Water Commission; and 3) outreach to Federal agencies on the Tulare Basin Watershed Initiative and collaboration with IRWMPs including the Kings Basin (through the Combined Federal Campaign).

Measurement Objective No. 14: Involve local water districts and land use agencies in generating and confirming the current and future water needs to ensure compatibility and consistency with land use and water supply plans.

Measurement: Tracking of involvement with land use planning officials and inclusion in planning documents.

Status: As noted in Measurement Objective 13, the Authority is involved in a grant that will focus on increasing awareness of the IRWMP and water conditions within the region to local land use planners. The Authority, along with local DWR staff, made a presentation to the local chapter of the American Planning Association (APA), an association comprised of local land use planners and planning professionals, regarding the development of the IRWMP and its implications to local planning efforts.

Measurement Objective No. 15: Comply with SBX7-7

Measurement: Review of compliance by stakeholders

Status: The City of Fresno has completed installation of 111,996 water meters for single-family residences and irrigation services. The meters were installed between 2009 and 2012. AB 514 and the U.S. Bureau of Reclamation required recipients of Federal project water to have meters installed by January 2013. Since the initiation of the meter installation project, the City has seen water use decline as follows:

:

Calendar Year	Total Production (AF)	Annual Change (AF)	Cumulative Change (AF)
2008	168,122	-	-
2009	157,817	-10,305	-10,305
2010	147,052	-10,765	-21,070
2011	140,029	-7,023	-28,093
2012	138,673	-1,356	-29,449

Per capita water usage has declined from a 10-year baseline of 313 gpcd to 241 gpcd in 2012. Some of the decline may be attributed to economic and climatic conditions.

4 – IMPLEMENTATION PROJECTS

4.1 – Regional Studies

Disadvantaged Community Pilot Project Study. In partnership with the Department of Water Resources, the KBWA prepared the Kings Basin Disadvantaged Communities Pilot Project Study to develop an inventory of the Disadvantaged Communities (DACs) within the Kings Basin Region (portions of Fresno, Tulare and Kings Counties) and learn how to better integrate and engage the DACs in the IRWM planning process. The final study was completed in July 2013. The objectives of the Study are defined as:

- 1) Develop a comprehensive inventory of all disadvantaged communities and their water-related needs, initiate first-time intentional outreach to all identified DACs, and integrate contact information into the Kings Basin IRWMP mailing lists;
- 2) Engage and integrate DACs effectively into the Kings Basin IRWMP by developing Subregion groups to conduct regional water planning to address priority DAC needs; and
- 3) Develop conceptual (pilot) project descriptions and cost estimates to include in the Kings Basin IRWMP master project list, and facilitate partnerships between DACs and other IRWMP Members and Interested Parties.

4.2 – Project List

The KBWA Project Group solicited projects from members and interested parties in the summer of 2013. New projects were reviewed and the list was updated in August 2013. Several projects were also identified as part of the DAC Pilot Study. These projects will likely be added to the KBWA list in the near future.

4.3 – Completed or On-going Projects

Completed and on-going projects since the KBWA was first established are listed in **Attachment 1 – Past and Present Grant Contracts.**

4.4 – Grant Funding

The following grant funds were awarded in the 2013 water year:

Stormwater Flood Management Grant Round 2. The Fresno Metropolitan Flood Control District (FMFCD) was recommended for a \$6.891 million grant from the Stormwater Flood Management Grant Program in 2013 to fund the proposed Dry Creek Flood Control Improvement Project. The total project cost is estimated to be \$13.78 million. The project consists of modifications and improvements to FMFCD's flood control facilities in the Big Dry Creek watershed, including the Pup Creek tributary. The project's primary goal is to provide better flood protection for the Cities of Fresno and Clovis, and surrounding areas. A toe drain improvement at Big Dry Creek Dam is a key component to the overall project for reducing the risk of a dam breach and improving operational safety. The project also includes acquisition of the Pup Creek Enterprise Detention Basin, the Big Dry Creek Detention Basin and the Dry Creek Extension Basin

and basin improvements at each site to allow more effective and flexible routing of flood waters downstream. The project will increase stormwater storage capacity, increase groundwater recharge, and improve groundwater quality. Other goals are enhancement of wildlife habitat, public outreach, and recreational opportunities.

California Water Foundation. The California Water Foundation (CWF) is an initiative of the Resources Legacy Fund and provides grants to selected entities to support innovative water management projects. CWF has sponsored two grant projects in the region. The Kings River Conservation District is managing the contracts. The first contract, Kings Basin Satellite Telemetry Continuous Groundwater Monitoring, will install continuous monitoring stations in existing wells that will be assessed through satellites to provide daily data on groundwater elevations. A second grant is being developed that will include updating the existing KBWA groundwater model, add dedicated monitoring wells in the lower Kings Basin, and provide outreach to the land use planning communities regarding groundwater issues (prime recharge areas and overdraft). The KBWA Outreach Work Group will assist with these efforts.

Implementation Grant Application. A DWR Implementation Grant application was submitted in early 2013 that included five projects:

- Fresno Irrigation District's Phase 1 – Southwest Flood Water Protection & Utilization Project
- Laguna Irrigation District's Laguna Irrigation District Recharge Basin 11 Project
- Bakman Water Company's Water Meter Installation
- City of San Joaquin Water Conservation/Meter Project
- City of Kerman's Residential Water Meter Project – Phase III

The application requested \$8.734 million. The total estimated costs for all the projects is \$10.438 million. The KBWA is still waiting for a response to the grant application.

4.5 – Lessons Learned

The Fresno Metropolitan Flood Control District offered some lessons learned from the Fancher Creek Flood Control Improvement Project: The District underestimated the time and effort to prepare quarterly grant reports and invoices. Construction costs were also underestimated leaving the possibility of a higher cost share than anticipated (55% versus 50%). They also underestimated the costs for PG&E to provide power to new facilities.

5 – GOVERNANCE, POLICIES AND MEMBERSHIP

5.1 – Changes in Governance and Policies

The KBWA adopted *Policy No. UKB-005 – Requirements for Applications to Join the UKBIRWMA* on January 16, 2013. The policy establishes a process and required documentation to become a member or interested party of the KBWA.

A quorum for the Advisory Committee was changed from a majority of the committee members to thirteen committee members.

5.2 – Changes in Government Regulations

The Irrigated Lands Regulatory Program General Order will require groundwater monitoring in addition to the surface water monitoring that has been performed for several years. This will increase efforts and costs for the Kings Basin Coordinated Groundwater Monitoring Plan (KBCGMP).

The CV-Salts program is performing conceptual modeling with the Central Valley Hydrologic Model (CVHM). The results will likely have impacts on how salt and nutrient management plans are prepared. This will need to be addressed in the Kings Basin Coordinated Groundwater Management Plan.

5.3 – Changes in Members and Interested Parties

California State University at Fresno and Malaga County Water District joined as Interested Parties. The City of Kingsburg and Raisin City Water District changed their status from Member to Interested Party.

5.4 – Coordination with Other IRWMPs

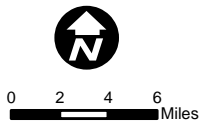
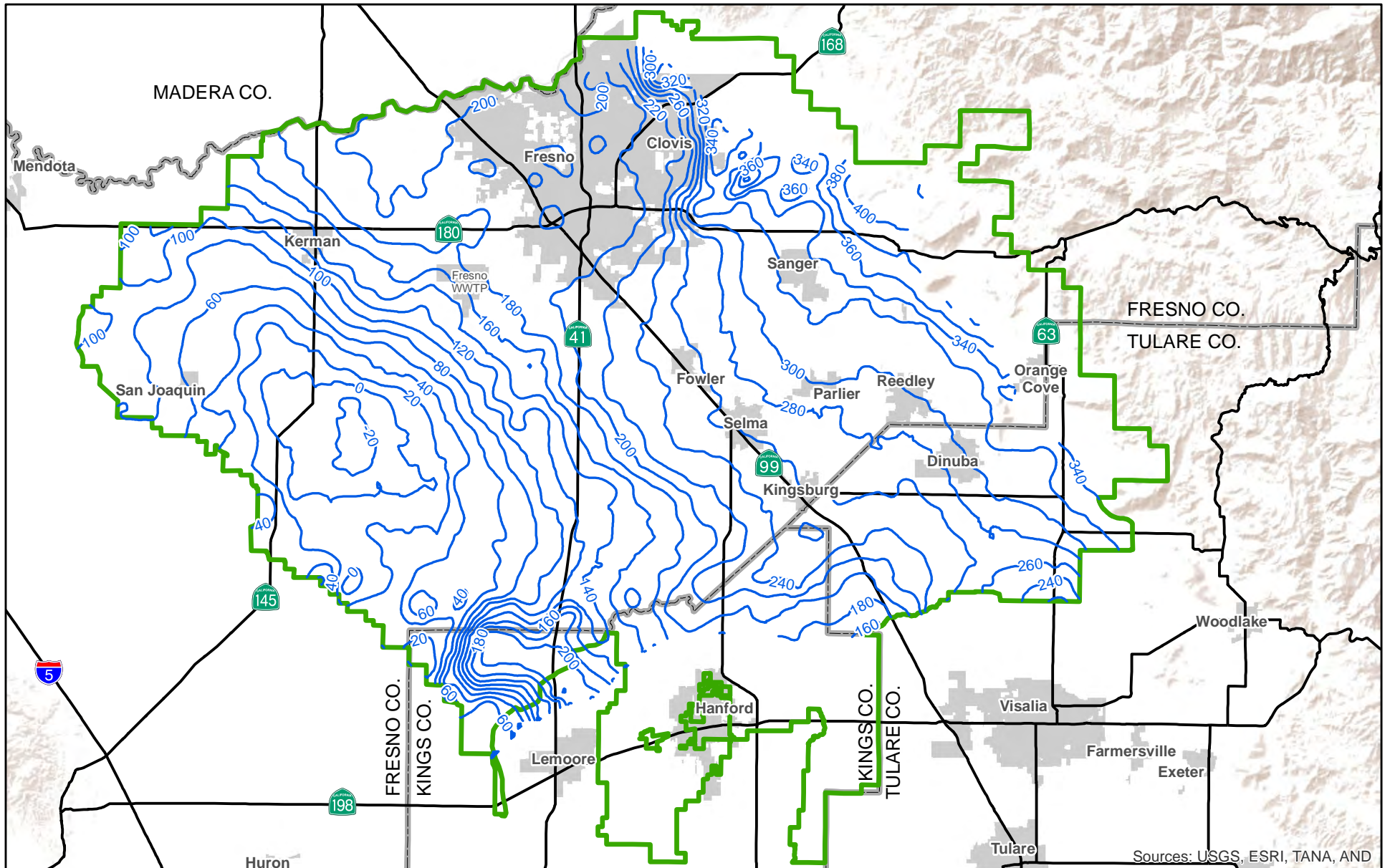
The KBWA has participated in several efforts to coordinate with neighboring IRWMPs. These efforts continued in 2013 and included:

- Participation in IRWMP ‘Round Table of Regions’ meetings, a statewide effort to bring all IRWMPs together to discuss important issues.
- Regularly attending meetings for the Tulare Basin Integrated Regional Planning Effort, a regional collaboration by several IRWMPs to discuss inter-regional topics in the Tulare Lake Basin

6 – PROPOSED IRWMP AMENDMENTS

No amendments to the IRWMP were proposed by any stakeholders.

The 2012 KBWA IRWMP was developed according to IRWMP Guidelines developed by the Department of Water Resources. When the IRWMP was completed the 'Draft' 2012 Guidelines were available. The DWR released the 'Final' IRWMP Guidelines in November 2012, shortly after the KBWA has adopted the IRWMP. The IRWMP was compared to the 'Final' Guidelines for compliance, and appears to comply with all of the new standards. The primary changes in the 2012 IRWMP standards were related to climate change, and, in particular, a vulnerability assessment was required. The 2012 KBWA IRWMP includes a climate change vulnerability assessment using the methodology recommended in the Final IRWMP standards.

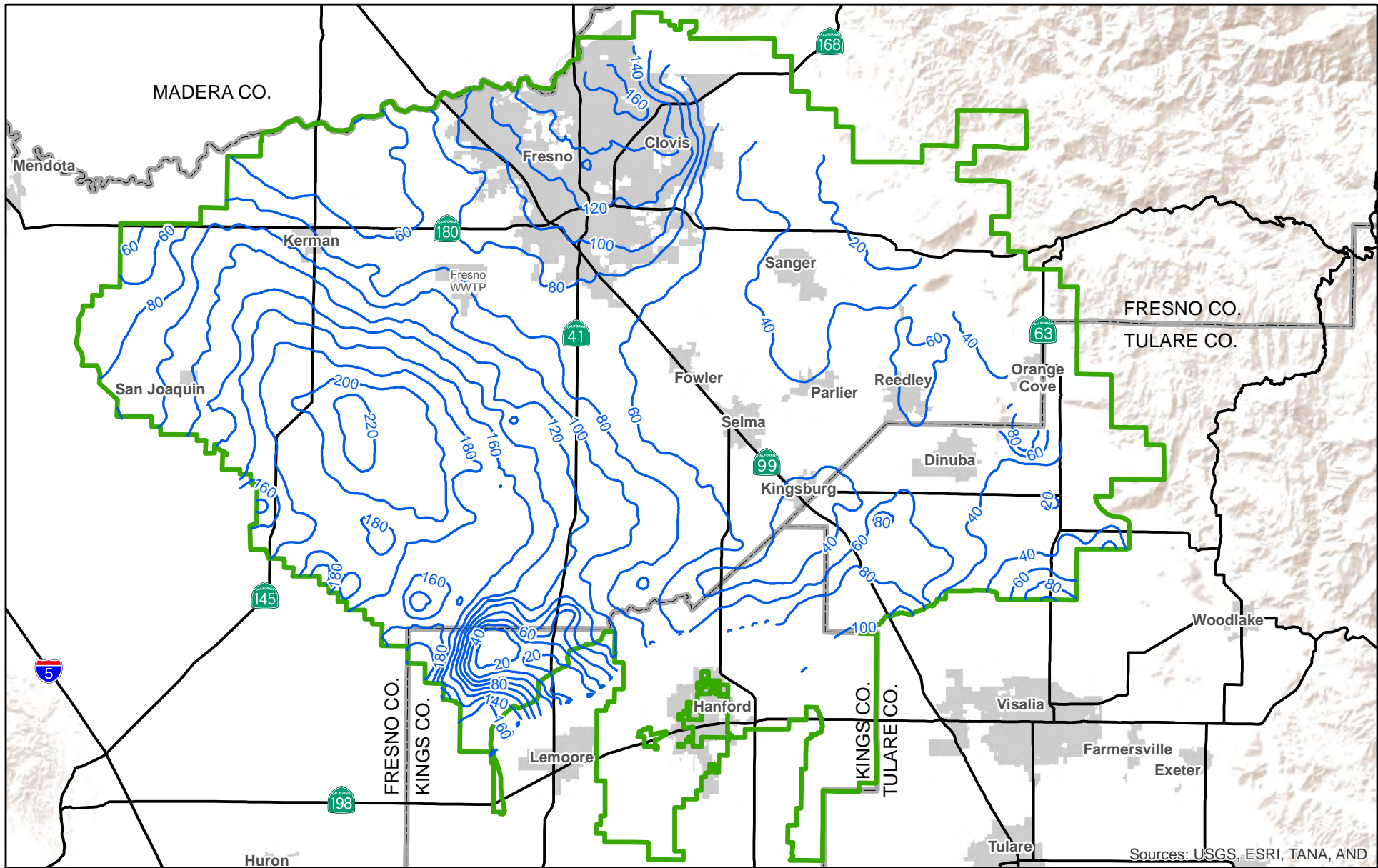


- Legend
- Line of Equal Water Elevation (20ft Interval)
 - UKBIRWMA
 - City

ATTACHMENT 1

Spring 2012 - Groundwater

Water Surface Elevation






Sources: USGS, ESRI, TANA, AND





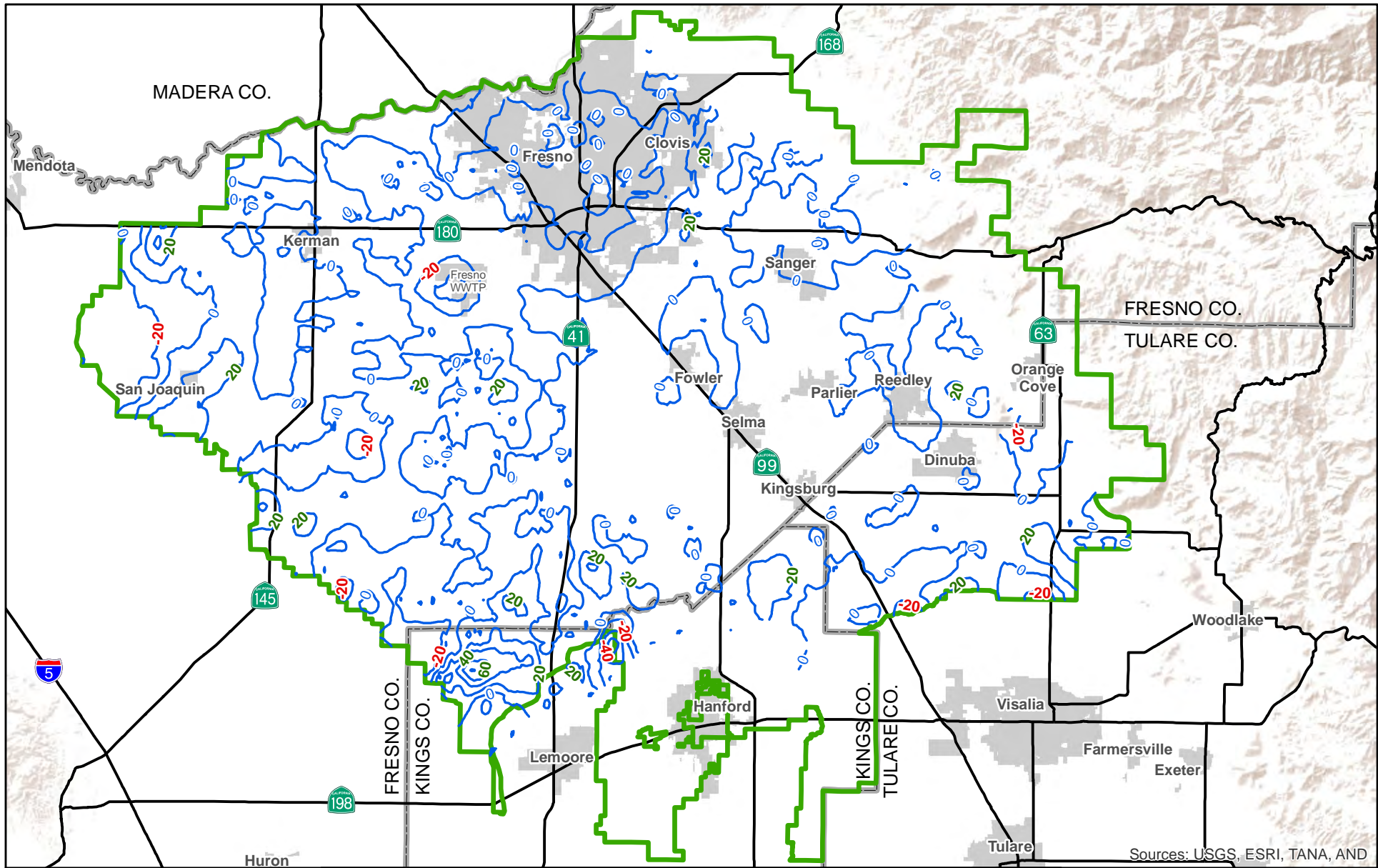
Legend

-  Line of Equal Depth to Water (20ft Interval)
-  UKBIRWMA
-  City

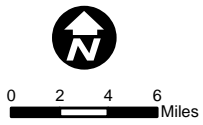
ATTACHMENT 2

Spring 2012 - Groundwater

Depth to Water



Sources: USGS, ESRI, TANA, AND



- Legend
- Line of Equal Change in Depth to Water (20ft Interval)
 - UKBIRWMA
 - City

ATTACHMENT 3

Spring 2012 - Groundwater
Change of Groundwater Surface
2011 - 2012



KINGS BASIN IRWMP PROJECT LIST

Adopted 01-16-2013

Project ID	Member/IP Organization	Project Title	Project Status	Halt, and ultimately reverse, the current overdraft and provide for sustainable management of surface and groundwater					Increase amount of groundwater storage with intent to eliminate the groundwater overdraft in 20 years	Identify opportunities and Projects	Identify DAC priority needs and promote/support solutions to DAC water issues	Increase average annual supply and reduce demand	Increase dry year supply	Increase regional conveyance capacity	Compile baseline water quality data for ground & surface water	Encourage Best Management Practices, policies & education that protect water quality	Identify sources of water quality problems & promote/support solutions to improve water quality	Increase surface storage	Sustain the Kings River Fisheries Management Program	Pursue opportunities to incorporate habitat benefits into projects	Increase public awareness of IRWM Efforts	Involve local water districts and use agencies in generating and confirming the current and future water needs to ensure compatibility and consistency with land use and	Comply with SBX7-7
				RG1	RG2	RG3	RG4	RG5															
1	Bakman Water Company	Bakman Water Company Water Meter Installation	Ready For Construction	P	S	S										S							P
2	Bakman Water Company	SCADA system for wells improved groundwater management, operations, supply reliability & conservation	Planning	S	P	S											S						S
3	Biola Community Services District	Biola CSD Drinking Water Improvement Project	Preliminary Design	S	P	S										S							
4	City of Clovis	City of Clovis, Water Intertie (North)	Preliminary Design	S	P					S													
6	City of Clovis	Clovis Harlan Recycled Water Extension	Preliminary Design	P	S																		
7	City of Clovis	Tarpey Village Metering Project	Planning	P	S																		
8	City of Dinuba	Dinuba Reclamation Conservation & Recreation (RCR) Project	Preliminary Design	P	S	S		S		P						S	S	S	S		S		S
11	City of Fresno/Water Division	Nielsen Recharge Facility	Preliminary Design	P	S	S	S			P													
12	City of Fresno/Water Division	Three Reclamation Water Wells at the Fresno/Clovis Regional Wastewater Reclamation Facility	Preliminary Design	P	S	S				P													
15	City of Fresno/Water Division	Tertiary Treatment at Fresno/Clovis Regional Reclamation Facility	Ready For Construction	P	S	S				P													
16	City of Fresno/Water Division	Northwest Fresno Regional Recharge Facility	Preliminary Design	P	S	S	S			P													
17	City of Fresno/Water Division	Southeast Fresno Stormwater Detention, Greenbelt and Environmental Habitat Restoration Area	Conceptual	S	P	S	S	S		P													
18	City of Fresno/Water Division	Regional Groundwater Banking Facility	Planning	P	S	S	S			P													
19	City of Fresno/Water Division	Southeast Surface Water Treatment Facility	Preliminary Design	P	S	S				P													
20	City of Fresno/Water Division	Southeast Fresno Regional Recharge Facility	Planning	P	S	S	S			P													
21	City of Fresno/Water Division	Southwest Fresno Regional Recharge Facility	Planning	P	S	S	S			P													
22	City of Fresno/Water Division	Northeast Fresno Recycled Water Transmission Pipeline and Reclamation Facility Supply Pipeline	Conceptual	P	S	S				P													
24	City of Fresno/Water Division	Sunnyside Area Sewer Conversion	Conceptual		S	P																	
25	City of Fresno/Water Division	Fort Washington Sewer Conversion	Conceptual		S	P																	
26	City of Kerman	City of Kerman Water Meter Project	Preliminary Design	P	S					P													
27	City of Parlier	Parlier Water Storage Project	Planning & Preliminary Design	S	P					P													
29	City of San Joaquin	City of San Joaquin Water Meter Project	Conceptual	P						P													
32	City of Selma	Storm Drain Upgrade	Ready For Construction				P																
33	City of Selma	Storm Drain Storage/Recharge Project	Planning				P																
34	Consolidated Irrigation District	Recharge Basin near South and Highland	Preliminary Design	P	S	S	S	S		P													
35	Consolidated Irrigation District	Ward Drainage Canal Capacity Enlargement and Recharge Project	Conceptual	P	S	S	S	S		P													
36	Consolidated Irrigation District	Recharge Pond Near Kingsburg/Selma Branch Canal Divide	Planning	P	S	S	S	S		P													
37	Consolidated Irrigation District	Fowler Switch Capacity Improvement Project	Conceptual	S	P		S			S													
38	Consolidated Irrigation District	Fowler Switch / C&K Canal Intertie Project	Planning	S	P		S			S													
39	Consolidated Irrigation District	Recharge Pond off Kingsburg Branch Canal	Planning	P	S	S	S	S		P													
40	Consolidated Irrigation District	Recharge Pond off Ward Drainage Canal	Conceptual	P	S	S	S	S		P													
41	Consolidated Irrigation District	Recharge Pond off Cole Slough Canal	Conceptual	P	S	S	S	S		P													
42	Consolidated Irrigation District	Westside Banking Facility	Planning	P	S	S	S	S		P													
43	Consolidated Irrigation District	C&K Canal Capacity Improvement Project	Conceptual	S	P		S			S													
44	Consolidated Irrigation District	Santa Fe Pond Enlargement	Conceptual	P	S	S	S	S		P													
54	County of Fresno	CSA 43 Raisin City Sewer Feasibility Study	Conceptual & Planning			P																	
61	Easton CSD	Easton Safe Drinking Water Feasibility Study Project	Conceptual		S	P																	
65	Fresno Irrigation District	FID Measurement and Metering Project	Planning	P	S					S													
66	Fresno Irrigation District	Southwest Flood Water Protection and Utilization Project	Planning	P	S	S	S	S		P													
67	Fresno Irrigation District	Jameson Pond	Preliminary Design	P	S					S													
68	Fresno Irrigation District	Oleander Basin Banking Project	Planning	P	S					S													
71	Fresno Irrigation District	Eastside Streams Improvement Project	Conceptual		P		S	S		S													
72	Fresno Irrigation District	Big Dry Creek Recharge Project	Conceptual	P	S		S	S		P													
73	Fresno Metropolitan Flood Control Dist.	Dry Creek Improvement Project	Conceptual, Planning, Preliminary Design, Ready for Construction	S		S	P	S		S													
74	Fresno State University	Recycling Well Water with Nitrates for Crop Production	Conceptual		P	S																	

P = Primary
S = Secondary



KINGS BASIN IRWMP PROJECT LIST

Adopted 01-16-2013

Project ID	Member/IP Organization	Project Title	Project Status	Halt, and ultimately reverse, the current overdraft and provide for sustainable management of surface and groundwater					MO1	MO2	MO3	MO4	MO5	MO6	MO7	MO8	MO9	MO10	MO11	MO12	MO13	MO14	MO15
				RG1	RG2	RG3	RG4	RG5															
75	Fresno State University	Recycling Turbid Well Water for Crop Production	Conceptual		P							P			S								
76	Fresno State University	Developing a Model GWMP of Integrated, All-in-One Strategy for Conservation, Groundwater, and Wastewater Management	Conceptual	P	S	S						S			P	S				S			
77	Fresno State University	Experiment Using Non-Potable Water as an Alternative to Potable Groundwater or Surface Water in Cooling Towers and then Re-cycling that Water for Crop Production	Conceptual	S	P	S									P	S							
80	Kings River Conservancy	The Kings Ribbon of Gems - North Riverside Park	Ready For Construction			S		P															
100	Kings River Conservancy	The Kings Ribbon of Gems - Sanger Kings River Park and River Access	Preliminary Design			S		P								P		S					
106	Kings River Conservation District	Kings River Levee Evaluation	Ready For Construction		S		P		P				S										
107	Kings River Conservation District	Kings River Levee Critical Repairs	Planning		S		P			P			S										
108	Kings River Conservation District	North Fork Channel Recharge Project - Site 16	Conceptual	P	S	S	S	P	P		S	S	S										
116	Kings River Conservation District	McMullin Recharge Project - Site #1	Planning	P	S	S	S	P	P		S	S	S										
117	Kings River Conservation District	Kings River North Fork Flood Protection and Wildlife Enhancement Project	Preliminary Design		S		P			P			S										
118	Laguna Irrigation District	Laguna Groundwater Recharge Site 11	Planning	P	S	S	S	S	P		S	S	S										
120	London Community Services District	London Water Conservation Project	Ready For Construction	P	S	S			P		S											S	
123	Self-Help Enterprises	Seville Community Flood Control Project	Conceptual				P			S	P		S										
124	Self-Help Enterprises	Yettem Community Flood Control Project	Conceptual				P			S	P		S										
125	Sultana Community Services District	Sultana Safe Drinking Water Feasibility Study Project	Planning																				

P = Primary
S = Secondary

ATTACHMENT 5 - Upper Kings Basin IRWM Authority – Past & Present Grant Contracts

Last updated: August 2013

Program & Agency	Project Title	Project Proponents	Project Description	Grant Award/Request	Status
Prop 13 Groundwater Storage Construction Grant Program (CDWR)	Alta Irrigation District Coordinated Groundwater Storage Project	KRCD Alta ID City of Dinuba	Dinuba project is a twenty-eight acre, three-cell stormwater retention and recharge basin located within the City of Dinuba. AID's Traver Pond project is the enlargement of an existing five-acre recharge basin to sixteen-acres.	Grant: \$4,615,072 Project Cost: \$5,187,903 Contract executed with CDWR, June 2006	Completed in 2011
Prop 13 Groundwater Storage Construction Grant Program (CDWR)	Fresno Irrigation District Waldron Pond Banking Facility Expansion	FID	The Waldron Pond Banking Facility is a groundwater recharge and recovery project that provides water to urban suppliers, agriculture suppliers, and facilitates the environmental benefits of improving the Kings River fishery. The project constructed eight recovery wells, five monitoring wells, and thirteen new recharge basins expanding the existing facility to 270 aggregate acres of recharge area.	Grant: \$4,615,072	Completed in 2008
Prop 50 IRWM Planning Grant Program (CDWR)	Upper Kings Basin Water Forum Integrated Regional Water Management Plan	KRCD/Water Forum	Initial development of the Upper Kings Basin IRWMP.	Grant: \$500,000 Project Cost: \$1,000,000	Completed July 2007
Prop 50 IRWM – Discretionary Funds – Integrated Regional Groundwater Model Demonstration (CDWR)	Kings Basin Integrated Groundwater Surface-water Model (Kings IGSM)	KRCD/Water Forum	The Kings IGSM was developed to support the planning analysis required for the Upper Kings Basin IRWMP project. It provides an analytical tool for the region that can represent the groundwater and surface water flow systems and their interactions; and can provide quantitative information on a comparative basis to help evaluate alternative conjunctive water management strategies.	Grant: \$500,000 Project Cost: \$1,000,000	Completed model development Spring 2007; calibration report published November 2007
Prop 84 River Parkways and Urban Streams Restoration Grant Programs (CA Resources Agency)	Kings Ribbon of Gems – North Riverside Park	Kings River Conservancy KRCD/Water Forum	Implementation of a project identified in the "Kings Ribbon of Gems" plan. 38-acre river parkway located below Pine Flat on the north bank of the Kings River upstream of Choinumni Park. Two components: 1) 1.5-mile river access trail with 0.5-mile ADA compliant section plus picnic areas, 2) ADA restroom, with adjacent ADA parking area.	Grant: \$284,674 Project Cost: 298,374 Contract executed with Resources Agency Summer 2011.	Project is complete. Ribbon cutting ceremony occurred in Spring 2013.

Prop 50 Round 2 IRWM Implementation Grant Program (SWRCB)	Upper Kings Basin Water Forum Project	KRCD/Water Forum Alta ID City of Fresno Fresno ID	AID Traver Pond Project provides dry year supply and is a component of a surface water exchange agreement w/ Cutler & Orsi PUDs. City's project installs 10k of a planned 110k residential water meters. FID Jameson Pond Expansion adds sixty additional acres to an existing forty-acre recharge facility.	Grant: \$6,064,375 Project Cost: \$18,112,895 Contract executed with SWRCB, December 2008	Construction for all projects complete. AID and KRCD have reallocated \$107k in unused grant funds to City of Fresno through amendment. Contract close out anticipated in May 2013.
Prop 50 Supplemental – AKA Mini 50 – Grant Program (CDWR)	The Fresno Irrigation District Jameson Pond Expansion Project Phase II The City of Fresno Residential Water Meter Project Phase II	UKBIRWMA City of Fresno Fresno ID	Fresno ID's Jameson Pond Phase II Expansion enhances water supply capacity by constructing an addition recovery well. The City's Phase II meter project installs an additional 5k meters (of planned 110k) complete with AMR devices and software.	Grant: \$2,099,868 Project Cost: \$4,661,500 Contract executed with CDWR, September 2011	City of Fresno UWMP Update has been approved by DWR and invoicing has resumed. FID has reallocated ~\$90k in unused grant funds to City of Fresno component through contract amendment and remainder will be used by FID. Contract anticipated to close out mid-2013.
Prop 84 IRWM Disadvantaged Communities Pilot Program (CDWR)	UKBIRWMA – Disadvantaged Communities (DAC) Outreach & Planning Pilot	UKBIRWMA	Project seeks to map DACs and their water needs; develop mechanisms to effectively engage and integrate DACs into the IRWM planning process; develop conceptual project descriptions and cost estimates to include in the IRWMP project list; and identify/facilitate partnerships between member agencies and DACs.	Grant: \$500,000 Project Cost: \$500,000 Contract executed with CDWR, January 2012	Multiple meetings have been held in the 5 sub-regions and pilot projects for each have been selected. Contract completion anticipated by July 2013.
Prop 84 Round 1 IRWM Planning Grant Program (CDWR)	UKBIRWMA – Integrated Regional Water Management Plan Update	UKBIRWMA	The objective of the project is to update the 2007 Upper Kings Basin IRWMP to: 1) Satisfy new State guidelines for IRWMPs; 2) More thoroughly address Statewide Priorities and Program Preferences; 3) Update the plan to include recent information; 4) Address inadequacies in the existing IRWMP; 5) Expand the focus on Disadvantaged Communities; 6) Document successes and lessons learned since the original plan was drafted; 7) Document governance and policy improvements since the original plan was drafted; 8) Engage more stakeholders; and 9) Improve the overall regional planning process.	Grant: \$236,890 Project Cost: \$336,850 Contract executed with CDWR, September 2011	IRWMP completed and adopted by the Authority Board in July 2013. Unused grant funds are being used to prepare the first annual plan progress report. Anticipated contract close out by Summer 2013.
Prop 1E Round 1 IRWM Stormwater Flood Management Grant Program (CDWR)	Fancher Creek Flood Control Improvement Project	City of Fresno w/ Fresno Metropolitan FCD	The Fancher Creek Detention Basin removes 682 acres from the 100-year floodplain, redirects runoff that may contain pollutants into stormwater management basins, and result in approximately 740 acre feet of additional surface water recharge per year. Once complete, the basin will have sufficient capacity to provide the 100-year control of the Fancher Creek flows.	Grant: \$2,231,086 Project Cost: \$4,462,173 Contract executed with CDWR, Summer 2012.	Contract executed, labor compliance plan complete, and construction has begun for most component projects.
Prop 84 Round 1 IRWM Implementation Grant Program (CDWR)	UKBIRWMA – Groundwater Overdraft Reduction and Disadvantaged Community Water Supply Reliability Projects	UKBIRWMA Bakman WC w/ FID Consolidated ID County of Fresno City of Clovis City of Fresno East Orsi CSD w/ AID	Bakman WC's project entails installation of 2,453 residential water meters. Consolidated ID's project develops a 75-acre groundwater banking facility. County of Fresno Drummond Jensen project removes an unincorporated neighborhood from septic by connecting to City of Fresno. City of Clovis' project entails expansion of its surface water treatment facility to reduce groundwater pumping. City of Fresno's project would install an additional 10k residential water meters. And East Orsi CSD's project rehabilitates two existing muni wells in a	Grant: \$8,496,000 Project Cost: \$15,316,390 Contract executed with CDWR, July 2012	Invoicing is current through March 2013. City of Fresno's UWMP update has been approved by DWR and invoicing for that project will resume once City executes a sub-agreement with the Authority. All but City of Fresno have executed sub-

			DAC to extract from a higher quality zone of the aquifer.		agreements with the Authority.
Prop 84 Local Levee Grant Program (CDWR)	Kings River Levee Evaluation Project	KRCD	The objective of this project is to reduce flood risk on the Kings River by evaluating flood project levees, identifying deficiencies, and recommending appropriate management actions.	Grant: \$2,000,000 Project Cost: \$2,292,922 Contact executed with CDWR, February 2013	Contract executed in February. Levee survey work has begun.
Prop 1E Round 1 Flood Corridor Grant Program (CDWR)	McMullin On-Farm Flood Capture and Recharge Project	KRCD Terranova Ranch McMullin Recharge Group Raisin City WD James ID	Project is Phase 1 in a multi-phase project to capture North Fork Kings flood flows for on-farm recharge activities (direct/in-lieu recharge, irrigation). Objectives will be achieved through flood easements on 250 acres; upgrade to turnout along Kings River, McMullin Grade Crossing, Terranova Canal, and implementation of Flood Flow Capture on 1250 acres. Project will divert flood flows up to 500 cfs.	Grant: \$5,000,000 Project Cost: \$5,000,000 Contract executed with CDWR, February 2013	Contract executed in February. TetraTech has prepared a task order for H&H study which will accompany a contract with KRCD.
California Water Foundation	Kings Basin Remote Groundwater Monitoring Project	KRCD	Installation of satellite-based remote groundwater monitoring equipment on nine existing wells located on or near Manning Avenue between James ID and Alta ID.	Grant \$44,763 Project Cost ~\$55,000 Contract executed with CWF, Summer 2012	Installation of telemetry equipment is complete. Staff continues to calibrate equipment. Contract close out anticipated by late Spring 2013.
California Water Foundation	Implementation of Interlinked Groundwater Management Strategies in the Kings Basin	KRCD	Installation of constructed monitoring wells within Management Areas A & B, update of the Kings IGSM and model run of IRWMP projects, and land use outreach.	Grant \$1,000,000 Project Cost ~\$1,050,000 Contract executed with CWF, February 2013	Contract executed covering first \$750k of work. First progress report has been submitted. Staff is currently working through the details of updating the model, installing monitoring wells, and beginning land use outreach activities.
Prop 1E Round 2 IRWM Stormwater Flood Management Grant Program (CDWR)	Dry Creek Flood Control Improvement Project	Fresno Metropolitan FCD (project is included in the Kings Basin IRWMP project list)	The project consists of modifications to FMFCD's flood control facilities in the Big Dry Creek and Pup Creek watersheds. The project's primary goal is to provide better flood protection for the Cities of Fresno and Clovis, and surrounding areas. The project includes improving the structural integrity of the Big Dry Creek Dam, and channel improvements to allow more effective and flexible routing of flood waters at three points downstream of the Dam along the Dry Creek system. In addition, the project includes construction of one floodwater detention basin and expansion of an existing flood water detention basin in order to increase stormwater storage capacity, increase groundwater recharge, and improve groundwater quality.	Grant: \$6,891,010 Project Cost: \$13,782,021 Draft Awards announced by CDWR, June, 12 2012.	Draft Awards announced by CDWR, June, 12 2013.

Cumulative Award: **\$45,078,810**

Cumulative Projects Cost: **\$76,671,100**