

Appendix A – Project Descriptions

Project Descriptions

Various water management strategies were evaluated for inclusion in the Sacramento Valley Integrated Regional Water Management Plan (IRWMP). Overall water management in the Sacramento Valley can be improved by implementing projects, programs, or policies that address the water management strategies. Many projects were developed by local water entities to meet the needs identified in the water management strategies. Because of the integrated nature of water resources management in the valley, most projects support multiple strategies. The projects identified as part of this planning process are listed in the tables below, and are organized to highlight the primary strategy addressed by the individual project.

The projects presented in Tables A-1 through A-7 are listed by project type.

Water Management and Planning Projects – Water management and planning projects are an important component to preserve and sustain the long-term viability of the region’s economic prosperity and environmental well-being. The specific types of management and planning activities needed include the following:

- Integrated Regional Planning
- Groundwater Management
- Project Planning

TABLE A-1
Water Management and Planning

Project Title	Project Sponsors	Counties	Project Description
Integrated Regional Planning			
Redding Basin Water Resources Management Plan	Shasta County Water Agency	Shasta	Continue Resources Management Plan, multi-step planning process – Environmental Assessment of Basin Water Supply and Management Alternatives; Reclamation and Shasta County Water Agency are the resource agency leads.
Butte County IWRP, Model Calibration and Water Use Forecast	Butte County	Butte	Perform integrated watershed and resource conservation and groundwater monitoring and modeling, and forecast water use. Model calibration is ongoing and expected to be completed late 2006.
Yuba County Water Agency IRWMP	Yuba County	Yuba	Prepare an IRWMP for Yuba County and associated projects identified by the Sacramento Valley IRWMP.
Yolo County Flood Control and Water Conservation District IRWMP	Yolo County Flood Control and Water Conservation District	Yolo	Prepare an IRWMP for Yolo County and associated projects identified by the Sacramento Valley IRWMP. Approximately 200 actions have been proposed for implementation consideration to date.

TABLE A-1
Water Management and Planning

Project Title	Project Sponsors	Counties	Project Description
Groundwater Management			
Groundwater Modeling Program	Butte County	Butte	Perform model calibration and scenario modeling, and prepare annual updates. Model calibration and scenario modeling are currently underway. Updates will be prepared when funding is available.
Colusa County Groundwater Management Plan	Colusa County and Water Purveyors	Colusa	Develop basin management objectives, a countywide groundwater management plan, and a countywide monitoring plan.
Project Planning			
Tehama-Colusa Canal Authority Canal Extension	Tehama-Colusa Canal Authority	Tehama, Colusa, and Yolo	Investigate an extension of the Tehama-Colusa Canal to meet regional water supply needs in the North Bay, Yolo/Zamora, and the Williams area.
SVWMA Long-Term Workplan	NCWA/SVWMA Signatories	All	Develop the SVWMP Long-term Workplan as specified in the SVWMA.
Stony Creek Conveyance Options/ Constant-head Orifice Operations	Tehama-Colusa Canal Authority	Tehama and Glenn	Perform a feasibility study for Stony Creek conveyance options, investigate an interim solution to operate a constant-head orifice, coordinate among agencies, and plan for permits.
Butte County Integrated Water Resources Program	Butte County	Butte	Perform a feasibility study and identify pilot projects according to its integrated water resources program. Pilot projects proposed to be funded under the Proposition 50 application include identification of recharge zones and the evaluation of recharge opportunities, the installation of two solar-powered production wells in the Lower Tuscan Aquifer to help further identify the associated geology, and a contribution toward water supply reliability on the Ridge through partial funding for the Magalia Dam project. Initial implementation of the environmental monitoring plan and development of a watershed model are anticipated to be pursued when funding becomes available.
Stony Creek/Orland Unit Water User's Authority Investigation	Orland Unit Water User's Authority	Glenn	Continue to investigate providing increased in-stream flows both on Stony Creek and the Sacramento River to assist in meeting local and regional needs. Investigation would include groundwater production, system improvements, and Black Butte Reservoir re-operation.

Notes:

- NCWA = Northern California Water Agency
 Reclamation = U.S. Bureau of Reclamation
 SVWMA = Sacramento Valley Water Management Agreement
 SVWMP = Sacramento Valley Water Management Program

Conjunctive Water Management Projects – Conjunctive water management projects are becoming increasingly important to improve water supply reliability in the region. Three critical types of projects required to successfully implement conjunctive water management in the Sacramento Valley include the following:

- Groundwater Monitoring/Groundwater Assessment Projects
- Groundwater Production Projects
- Groundwater Recharge Projects

TABLE A-2
Conjunctive Water Management Projects

Project Title	Project Sponsors	Counties	Project Description
Groundwater Monitoring/Assessment Projects			
Lower Tuscan Monitoring, Recharge, and Data Management Element	Butte County	Butte and Tehama	This project includes 10 stream gauging stations, 25 stream-aquifer temperature monitoring wells, and 5 groundwater monitoring wells and associated infrastructure. Four active stream gauging stations in the Lower Tuscan Aquifer outcropping will be used, and installation of six additional stations will be required. Twenty-five stream-aquifer temperature monitoring wells will be installed in the reaches of five perennial streams in Butte and Tehama Counties. Six groundwater monitoring wells will be installed in the recharge zone of the Lower Tuscan Aquifer outcropping. Six groundwater monitoring wells will be installed in the aquifer recharge zone for the Lower Tuscan Aquifer. The wells will be integrated into the Department-Butte County cooperative monitoring well network. This project was submitted for funding under the Proposition 50 implementation grant.
Anderson-Cottonwood Irrigation District Water Management Program, Phases 1c and 1d	Anderson-Cottonwood Irrigation District	Shasta	This program includes installing a 1,000-foot single-completion monitoring well and extensometer (to be the first extensometer in the Redding Groundwater Basin). Funding was sought for this well and extensometer under AB303 (December 2004 round). The monitoring network being constructed under this program will support Anderson-Cottonwood Irrigation District's conjunctive management program. Thirteen groundwater monitoring wells have been installed to date. Funding for one additional monitoring well and an update of the Redding Groundwater Basin Model are still required.
Glenn County Groundwater Monitoring Program	Glenn County	Glenn	This program includes continuation of successful monitoring network through installation of up to 10 multi-completion wells and 2 extensometers to complete the monitoring network.
Butte County Groundwater Monitoring Program	Butte County	Butte	This program's monitoring activities are ongoing and being conducted in cooperation with the Department's Northern District. Additional monitoring wells and extensometer installation will be added to the grid as funding becomes available and further research warrants.

TABLE A-2
Conjunctive Water Management Projects

Project Title	Project Sponsors	Counties	Project Description
Implementation of the Groundwater Subcommittee Groundwater Monitoring Well Pilot Program	Various districts	All	This program includes installation of three to four multi-completion monitoring wells and two river-stage recorders, one on the Sacramento River and one on the Feather River. The evaluation of data collected under this program would augment current Department efforts to better define Sacramento Valley Groundwater Basin characteristics. This pilot program is being developed by the SVWMP Groundwater Subcommittee, in conjunction with SVWMP proponents, to leverage areas of existing groundwater production capability near the Sacramento River to achieve several goals, including providing data to improve estimates of potential impacts on nearby streams, further define aquifer properties at SVWMP project locations, and support model refinement.
Colusa Groundwater Monitoring Program	Colusa County	Colusa	This program includes installation of up to 13 multi-completion monitoring wells and 3 extensometers to begin building a Colusa County groundwater monitoring network.
Installation of Groundwater Monitoring Wells Recommended by SVWMP Groundwater Subcommittee (Phase I)	NCWA Joint Exercise of Powers, and various districts	All	This project includes installing approximately 100 single- or dual-completion monitoring wells throughout the Sacramento Valley in accordance with SVWMP Groundwater Subcommittee recommendations, in coordination with local districts and counties. These wells will enhance existing monitoring consistent with SVWMP and other program (e.g., Environmental Water Account) goals and objectives. These wells would not include those proposed by counties and/or districts and would be coordinated with the Monitoring Well Pilot Program identified above.
Joint Sutter Basin Groundwater Management Program	Sutter Mutual Water Company and Reclamation District No. 1500	Sutter	This program includes groundwater investigation, development, and implementation of a monitoring plan, and installation of up to six multi-completion monitoring wells in partnership with Reclamation District No. 1500 and Sutter County. This is a district/company-implemented effort to support the Sutter County Groundwater Program. This effort would also allow the Reclamation District 1500 Groundwater Management Plan to be updated.
Basin Management Objective Information Center	Butte County	Butte	This project includes developing a Web-based information center with geographic information system (GIS) components. The project should be completed by the end of 2006, and is being funded with monies obtained through the AB303 program.
Cooperative Program for Groundwater Studies between the County of Glenn and the Colusa Basin Drainage District	Glenn County	Glenn and Colusa	This program includes investigating the potential for groundwater recharge in conjunction with the operation of flood detention facilities prior to design and construction as part of the Colusa Basin's Integrated Watershed Management Plan.

TABLE A-2
Conjunctive Water Management Projects

Project Title	Project Sponsors	Counties	Project Description
Stony Creek Fan Partnership Conjunctive Management Program	Orland Artois, Orland Unit, and Glenn-Colusa Irrigation District	Glenn	This program includes furthering groundwater exploration in the Glenn-Colusa Irrigation District, Orland Unit, and Orland Artois service areas as part of the Department's Integrated Storage Investigation Program.
Tehama County Groundwater Monitoring	Tehama County	Tehama	This project includes expanding the groundwater monitoring network to support Tehama County's AB 3030 plan and data collection equipment to enhance evaluation of regional aquifer response in Tehama County. The project also includes installing dataloggers on several existing monitoring wells and installing two additional triple-completion monitoring wells.
Groundwater Production Projects			
Lower Tuscan Water Supply Reliability Project	Butte County	Butte	This program includes installation of two production wells in the Lower Tuscan Aquifer powered by photovoltaic for water supply reliability in the Richvale Irrigation District and Biggs-Gridley Water District.
Princeton-Codora-Glenn Irrigation District Water Management Program	Princeton-Codora-Glenn Irrigation District	Glenn	This program includes the use of up to three existing wells in conjunction with the installation of up to two new production wells.
Provident Irrigation District Water Management Program	Provident Irrigation District	Glenn	This program includes the use of up to three existing wells in conjunction with the installation of up to two new production wells.
Glenn-Colusa Irrigation District Water Management Program	Glenn-Colusa Irrigation District	Glenn	This program includes the use of one district-owned production well and installation of up to ten new district-owned production groundwater wells.
Anderson-Cottonwood Irrigation District Water Management Program Phase 2	Anderson-Cottonwood Irrigation District	Shasta	Phase 2 of this program includes installation of up to 12 production wells and development of an operational plan. This is a continuation of the conjunctive management program in cooperation with Shasta County.
Collins/Bullards Bar Groundwater Substitution	Browns Valley Irrigation District	Yuba	This program includes reservoir re-operation with installation of three groundwater production wells in the lower portion of Browns Valley Irrigation District.
Browns Valley Irrigation District Water Management Project	Browns Valley Irrigation District	Yuba	This project includes installing a lift pump and conveyance pipe to supply Yuba River water to the upper-level rice fields, currently served from Collins Lake, and to allow Collins Lake water to be supplied to the lower rice fields as needed (using the same conveyance pipe).
Maxwell Irrigation District Water Management Project	Maxwell Irrigation District	Colusa	This project includes the use of two installed production wells, installation of up to two additional extraction wells, and associated monitoring.

TABLE A-2
Conjunctive Water Management Projects

Project Title	Project Sponsors	Counties	Project Description
Reclamation District No. 108 Water Management Project	Reclamation District No. 108	Colusa and Yolo	This program includes developing five production wells and analyzing basin response for the first phase, to yield up to 8,000 acre-feet and installing dataloggers on the monitoring network to continue a joint 6-year effort with the Department to investigate and develop the local groundwater resource. This program supports the Colusa County Groundwater Resources Management Plan and monitoring effort.
South Sutter Water District Conjunctive Water Management Program	South Sutter Water District	Sutter	This program includes enlarging and extending district laterals and using existing wells.
Natomas Water Management Project, Phase 1	Natomas Central Mutual Water Company	Sutter, Sacramento	This project includes using existing groundwater production wells, monitoring, and analyzing results, and installing two new groundwater production wells and one multi-completion monitoring well.
River Garden Farms Water Management Project	River Garden Farms	Yolo	This program includes installation of two production wells and possible use of an existing well.
Garden Highway Mutual Water Company Water Management Program	Garden Highway Mutual Water Company	Sutter	This program includes installation of three production wells and two multi-completion monitoring wells.
Reclamation District No. 1004 Water Management Project	Reclamation District No. 1004	Colusa	This project includes installation of two groundwater production wells.
Meridian Farms Water Management Project	Meridian Farms	Sutter	This project includes installation of one groundwater production well.
Pelger Mutual Water Company Water Management Project	Pelger Mutual Water Company	Sutter	This project includes installation of one groundwater production well.
Pleasant Grove-Verona Mutual Water Company Water Management Project	Pleasant Grove-Verona Mutual Water Company	Sutter	This project includes installation of one groundwater production well.
Water Management Project	Deer Creek Irrigation District	Tehama	This project includes the use of one existing groundwater production well.
Feather Water District Water Management Project	Feather Water District	Sutter	This project includes installation of one groundwater production well.
Plumas Mutual Water Company Water Management Project	Plumas Mutual Water Company	Sutter	This project includes the use of one existing groundwater production well.
Joint Sutter Basin Water Management Program Phase II	Sutter Mutual Water Company and Reclamation District No. 108	Sutter	This program includes installation of six new production wells.

TABLE A-2
Conjunctive Water Management Projects

Project Title	Project Sponsors	Counties	Project Description
Sutter Extension Water District Water Management Project	Sutter Extension Water District	Sutter	This program includes installation of one groundwater production well.
Water Management Project	Lewis Ranch	Colusa	This project includes installation of one production well.
Groundwater Recharge Projects			
Butte Water District Conjunctive Water Management Program	Butte Water District	Butte	This program includes installation of two production wells, monitoring wells, and a recharge program.
Yuba County Second Point of Diversion	Yuba County Water Agency	Yuba	This program includes installation of diversion (on Feather River downstream of Yuba River), treatment, and conveyance facilities to deliver Yuba River water to existing and new urban water users in western Yuba County. This project would provide a surface water supply to existing and new urban areas in-lieu of the groundwater that is currently used to meet all municipal water demands in the area.
Wheatland Canal In-lieu Recharge Project	Yuba County Water Agency	Yuba	This project consists of an extension of the South Yuba Canal to convey about 40,000 acre-feet per year of surface water to Wheatland Water District. This surface water supply will be used in-lieu of groundwater, which will improve local groundwater levels and groundwater quality.

Note:

Department = California Department of Water Resources

Water Quality Projects – Water quality protection and improvement projects, and nonpoint-source control strategies are underway to improve water quality in the region. Additionally groundwater monitoring and assessment strategies monitor changes in groundwater quality. Some of the specific water quality improvement strategies for the region include the following:

- Sacramento Valley Water Quality Coalition (2007 Water Quality Monitoring)
- Agricultural Tailwater Recovery Projects
- Wastewater Treatment and Reuse

TABLE A-3
Water Quality Projects

Project/ Subwatershed	Location	County	Project Description
Sacramento Valley Water Quality Coalition			
Butte-Sutter-Yuba	Five locations		This project includes surface water quality sampling for physical, chemical, and microbiological parameters with toxicity and follow-up monitoring. The monitoring will focus on high-priority drainages during the storm and irrigation season in the Butte-Sutter-Yuba Subbasin.
Colusa Basin	Six locations		This project includes surface water quality sampling for physical, chemical, and microbiological parameters with toxicity and follow-up monitoring. The monitoring will focus on high-priority drainages during the storm and irrigation season in the Colusa Basin.
El Dorado	Two locations		This project includes surface water quality sampling for physical, chemical, and microbiological parameters with toxicity and follow-up monitoring. The monitoring will focus on high-priority drainages during the storm and irrigation season in the El Dorado Subwatershed.
Lake-Napa	Three locations		This project includes surface water quality sampling for physical, chemical, and microbiological parameters with toxicity and follow-up monitoring. The monitoring will focus on high-priority drainages during the storm and irrigation season in the Napa-Lake Subbasin.
Pit River	Three locations		This project includes surface water quality sampling for physical, chemical, and microbiological parameters with toxicity and follow-up monitoring. The monitoring will focus on high-priority drainages during the storm and irrigation season in the Pit River Subwatershed.
Placer-Nevada-South Sutter-North Sacramento	One location		This project includes surface water quality sampling for physical, chemical, and microbiological parameters with toxicity and follow-up monitoring. The monitoring will focus on high-priority drainages during the storm and irrigation season in the subwatershed
Sacramento- Amador	Two locations		This project includes surface water quality sampling for physical, chemical, and microbiological parameters with toxicity and follow-up monitoring. The monitoring will focus on high-priority drainages during the storm and irrigation season in the subwatershed.
Shasta-Tehama	Two locations		This project includes surface water quality sampling for physical, chemical, and microbiological parameters with toxicity and follow-up monitoring. The monitoring will focus on high-priority drainages during the storm and irrigation season in the subwatershed.

TABLE A-3
Water Quality Projects

Project/ Subwatershed	Location	County	Project Description
Solano-Yolo	Four locations		This project includes surface water quality sampling for physical, chemical, and microbiological parameters with toxicity and follow-up monitoring. The monitoring will focus on high-priority drainages during the storm and irrigation season in the subwatershed.
Upper Feather River	Three locations		This project includes surface water quality sampling for physical, chemical, and microbiological parameters with toxicity and follow-up monitoring. The monitoring will focus on high-priority drainages during the storm and irrigation season in the subwatershed.
Agricultural Tail Water Recovery			
Maxwell Irrigation District Integrated System Improvement Project	Maxwell Irrigation District	Colusa	This project includes conducting a study and a system improvement construction project for Maxwell Irrigation District's delivery and drainage systems to determine the potential for increased integrated systems efficiency in the subbasin.
Butte Water District Main Canal Automation Project	Butte Water District	Butte	This project includes recovery of tailwater for use on rice lands to reduce pollutant loading to the Yuba River.
Colusa Basin Drain Study	NCWA	Colusa	This study includes evaluating water quality in the Colusa Basin Drain, the relationship with receiving water quality, and potential infrastructure and management alternatives.
Wastewater Treatment and Reuse			
Various Projects	Multiple Agencies	Sutter and Yuba	These projects contribute to multiple benefits by improving water quality in the Feather and Sacramento Rivers, and improved water supply reliability. The individual projects are listed in the Water Recycling Projects included in Table A-4.

System Improvement/Water Use Efficiency Projects – Water use efficiency projects refer to potential projects and operational changes that could improve water management at the farm or district level. Some of the types of projects could improve local water quality, enhance regional water system flexibility, or meet local or regional water supply needs might include the following:

- Agricultural Water Conservation
- Automation and Measurement
- Water Recycling

TABLE A-4
System Improvement/Water Use Efficiency Projects

Project Title	Project Sponsor	County	Project Description
Agricultural Water Conservation			
Browns Valley Irrigation District Dry Creek Pump Station	Browns Valley Irrigation District	Yuba	Construct a pump station and pipeline to divert irrigation return flows for agricultural reuse.
Paradise Ridge Water Supply Reliability Project	Butte County	Butte	Construct a low-flow diversion on Little Butte Creek and a pipeline bypassing Magalia Reservoir for water supply and quality improvement.
Reclamation District No. 1004 Canal Lining Project	Reclamation District No. 1004	Colusa	Line canal to reduce diversions and eliminate spills.
Lewis Ranch Canal Replacement Project	Lewis Ranch	Colusa	Replace the uppermost reaches of the canal through a gravel bed to conserve water, reduce diversions, and eliminate spills.
Sutter Mutual Water Company Irrigation Recycling Project	Sutter Mutual Water Company, Reclamation District No. 1500	Sutter	Perform a feasibility analysis of a tailwater recovery system.
Sutter Mutual Water Company Canal Lining	Sutter Mutual Water Company	Sutter	Line canal to reduce diversions and eliminate spills.
Anderson-Cottonwood Irrigation District Churn Creek Bottom Improvements, Phase 1b	Anderson-Cottonwood Irrigation District	Shasta	Construct a pipeline to replace a leaky canal lateral in the reach east of the Sacramento River and help landowners currently using flood irrigation convert to sprinkler irrigation, which would reduce water use by some landowners.
Deer Creek Irrigation District Near-term System Improvements Project	Deer Creek Irrigation District	Tehama	Line canals and implement improvements.
Heritage Center Water-Wise Irrigation Demonstration Site Project	Placer County Water Agency	Placer	
Deer Creek Irrigation District Long-term System Improvements Feasibility Investigation	Deer Creek Irrigation District	Tehama	Perform the Deer Creek Agricultural Water Use Efficiency Program Long-term System Improvement Feasibility Investigation.
South Feather Water and Power Canal Seepage Reduction Program	South Feather Water and Power	Butte	Reduce canal losses.

TABLE A-4
System Improvement/Water Use Efficiency Projects

Project Title	Project Sponsor	County	Project Description
Automation and Measurement			
Anderson-Cottonwood Irrigation District Main Canal Modernization Project	Anderson-Cottonwood Irrigation District	Shasta	Modernize the Main Canal (some automation, some control structure replacement) to increase efficiencies and reduce spills.
Glenn-Colusa Irrigation District Flow Measurement Devices in Main Canal, Lateral System, and Drain Outflow Points/Automation Program	Glenn-Colusa Irrigation District	Glenn and Colusa	Permit, design, and construct 12 flow measurement devices at previously identified system outflow points; permit, design, and construct five Main Canal check structures.
Sacramento River Basinwide Water Management Plan Cooperative Water Measurement Study	Sacramento River Settlement Contractors and Reclamation	Regional	Examine appropriate water measurement efforts in the Sacramento Valley resulting from the Basinwide Regional Water Management Plan.
Sacramento River Basinwide Water Management Plan Subbasin-level Water Management Study	Sacramento River Settlement Contractors	Regional	Study and install measurement devices to allow for subbasin-level water measurement to support improved subregional water management.
Proposal for Utilizing GIS-based Pesticide Permitting Application to Facilitate Advancing Water Management	Glenn County	Glenn	Advance the frequency and specificity of data and information gathering critical to water management at the local level to integrate water management through a technologically advanced pesticide permitting program. This proposal would make county land and water use survey information available digitally on an annual basis rather than the Department's historical 5-year rotational basis.
Regional Water Measurement Program for the Feather River Service Area	Biggs-West Gridley Water District		Conduct Regional Water Measurement Program.
Replacement and Automation of Elevation Control Structure 875	Western Canal Water District	Butte	Replace and automate Elevation Control Structure 875.
Tehama-Colusa Canal Automation Upgrade	Tehama-Colusa Canal Authority	Tehama	Upgrade structures in Tehama-Colusa Canal.
Yolo/Colusa Flow Lab.	Yolo County Flood Control and Water Conservation District	Yolo	Expand the Yolo County Flood Control and Water Conservation District flow measurement network.

TABLE A-4
System Improvement/Water Use Efficiency Projects

Project Title	Project Sponsor	County	Project Description
Maxwell Irrigation District Integrated System Improvement Project	Maxwell Irrigation District	Colusa	Study and install measurement devices in Maxwell Irrigation District to allow for subbasin-level water measurement in support of improved subregional water management.
Main Canal Automation	Butte and Sutter Extension Water Districts	Feather	Automate control structures along the Main Canal.
Water Recycling			
Regional Reclaimed Water Facilities Feasibility Study	Yuba City/ Marysville/Linda County Water District	Yuba/ Sutter	Perform a feasibility study to determine technical, economic, and legal (water rights and transfers) feasibility for a regional wastewater reclamation facility.
Reclaimed Water Facility Upgrade, Marysville	City of Marysville	Yuba	Upgrade the reclamation facility to provide up to 2 million gallons per day of recycled water for landscape and agricultural irrigation.
Reclaimed Water Facility Upgrade, Linda County Water District	Linda County Water District	Yuba	Upgrade the reclamation facility to provide up to 5 million gallons per day of recycled water for landscape and agricultural irrigation, reduce treated wastewater flows to the Feather River, and help the state achieve diazinon and mercury total maximum daily loads.
Reclaimed Water Facility Upgrade, Yuba City	Yuba City	Sutter	Upgrade the reclamation facility to provide recycled water for landscape and agricultural irrigation, reduce surface water withdrawals from the Feather River, reduce treated wastewater discharge, and help the state achieve diazinon and mercury total maximum daily loads.
Reclaimed Water Distribution System, Marysville	City of Marysville	Yuba	Install a distribution system to municipal area in levee and up to Hallwood/Yolo County Water Agency Irrigation District. This project is phased using projected demands.
Reclaimed Water Distribution System, Linda County Water District	Linda County Water District	Yuba	Install a recycled water distribution system that will convey unrestricted use Title 22 recycled wastewater to end users for landscape or agricultural irrigation.
Reclaimed Water Distribution System, Yuba City	Yuba City	Sutter	Install a recycled water distribution system that will convey unrestricted use Title 22 recycled wastewater to end users for landscape irrigation in the soil.
Yuba City Water Conservation Program	Yuba City	Sutter	Fund the first year of a new water conservation program.
Yuba City Water Meter Retrofit Project	Yuba City	Sutter	Retrofit existing hookups within newly annexed areas of Yuba City.

TABLE A-4
System Improvement/Water Use Efficiency Projects

Project Title	Project Sponsor	County	Project Description
Agricultural Reclaimed Water Distribution System, Yuba City	Yuba City	Sutter	Convey recycled water to local agricultural water purveyors.
Joint Reclaimed Water Conveyance Project, Yuba City and Linda County Water District	Yuba City/Linda County Water District	Sutter/ Yuba	Convey secondary treated wastewater from the Yuba City Wastewater Reclamation Facility to the Linda County Water District Wastewater Reclamation Facility to create unrestricted-use tertiary treated water for landscape and agricultural irrigation.

Ecosystem Restoration Projects – Ecosystem restoration projects include those activities associated with the conservation and enhancement of aquatic and terrestrial species and their habitats. Conservation strategies are often imbedded in other strategies, and can be generally identified to include the following:

- Fish Screen and Fish Passage Projects
- Wildlife Habitat Improvement Projects

TABLE A-5
Ecosystem Restoration Projects

Project Title	Proponent	County	Project Description
Fish Screen and Fish Passage			
Red Bluff Diversion Dam	Tehama-Colusa Canal Authority	Tehama	TCCA has identified the installation of a new pumping facility with improved fish protection/screening as the preferred alternative. Reclamation has not announced their preferred alternative for fish passage near Red Bluff Diversion Dam.
Meridian Farms Fish Screen	Meridian Farms Water Company	Sutter	This project will provide for two new fish screening diversion and pumping facilities located at Meridian and Grimes.
Natomas Fish Screen	Natomas Mutual Water Company	Sutter/ Sacramento	NMWC currently maintains five pumping plants along the Sacramento River and the Natomas Cross Canal. These pumping plants divert surface water from the Sacramento River and Natomas Cross Canal into the NMWC service area. The five pumping plants maintain a total maximum water diversion capacity of 630 cubic feet per second (cfs). This project involves a number of alterations to minimize impacts to fish species.
Fish Screen	Pleasant Grove-Verona Mutual Water Company	Sutter	This project involves the installation of a new fish screen facility or system to prevent entrainment of endangered juvenile salmonids and other fish species.
Fish Screen	Reclamation District No. 2035	Yolo	This project involves the installation of a new fish screen facility or system to prevent entrainment of endangered juvenile salmonids and other fish species.

TABLE A-5
Ecosystem Restoration Projects

Project Title	Proponent	County	Project Description
Fish Screen	Bella Vista Water District	Shasta	This project involves the installation of a new fish screen facility or system to prevent entrainment of endangered juvenile salmonids and other fish species
Fish Screen	Small Diversion Fish Screen Programs	Multiple	This project involves the installation of a new fish screen facility or system to prevent entrainment of endangered juvenile salmonids and other fish species on small diversions. Projects include Cachil, Cannel, Yerxa, Westchester, State Ranch, River Garden Farms, Layton/ Skaggs, RD1000.
Yuba South Canal Fish Screen	Yuba County Water Agency	Yuba	This project includes construction of a fish screen on the Yuba River South Canal Diversion upstream of Daguerre Point Dam.
Fish Screen	Feather Water District	Sutter	This project involves the installation of a new fish screen facility or system to prevent entrainment of endangered juvenile salmonids and other fish species.
Fish Screen	South Sutter Water District	Sutter	This project involves the installation of a new fish screen facility or system to prevent entrainment of endangered juvenile salmonids and other fish species.
Fish Screen	White Mallard	Sutter	This project involves the installation of a new fish screen facility or system to prevent entrainment of endangered juvenile salmonids and other fish species.
Wildlife Habitat Improvement			
Implementation of Lower Yuba River Accord	Yuba County Water Agency	Yuba	This project includes implementation of the Fisheries Agreement components of the Lower Yuba River Accord to improve in-stream habitat and support long-term fisheries monitoring.
Yuba River Habitat and Restoration and Conservation Project	Yuba County Resource Conservation District	Yuba	This project includes improvements previously industrial and vacant lands along the Yuba River near Marysville to improve habitat along the river.
Yuba City Water Supply Phase 1 Fish Screen Project	Yuba City	Sutter	The project includes replacement of existing water supply intake on the Feather River to facilitate future growth. The project would install new fish screen for existing water supply intake on the Feather River.

Flood Management Projects – Flood management and stormwater management activities are currently underway to improve flood protection in many critical areas across the region. Flood management is a priority issue for much of the region and California, for the purpose of saving lives and protecting private property and public facilities. Project to address this priority issue might include the following:

- Flood Management Projects
- Stormwater Management Projects

TABLE A-6
Flood Management

Project Title	Project Sponsor	County	Project Description
Flood Management Projects			
Bear-Feather Levee Setback	Three Rivers Levee Improvement Authority	Yuba	Construct a levee setback connecting the right bank of Bear River to the left bank of Feather River to improve flood protection for Reclamation District No. 784 and habitat inside the levee.
Yuba-Bear Levee Improvement	Three Rivers Levee Improvement Authority	Yuba	Improve levees along Bear River, Interceptor Canal, and Yuba River to improve flood control protection for Reclamation District No. 784.
Forecast-Coordinated Operations	Yuba County Water Agency	Yuba	Coordinate operations of Lake Oroville and New Bullards Bar Reservoir during major flood events, with improved forecasts, to reduce peak flows in Yuba and Feather Rivers downstream and provide for regional flood management.
Wheatland Flood Protection Improvement	Reclamation District No. 2103 Reclamation District No. 817	Yuba	Improve flood protection for the City of Wheatland by improving levees along right bank of Bear River and left bank of Dry Creek.
Colgate Powerhouse Tailwater Depression	Yuba County Water Agency	Yuba	Allow Colgate Powerhouse to operate during high water in the Yuba River to provide operational flexibility in releasing additional flows from New Bullards Bar Reservoir.
Yuba City Flood Control Projects	Yuba City	Sutter	Implement engineering design for four flood control projects within Levee District 1 right-of-way.
New Bullards Bar Reservoir Outlet Capacity Increase	Yuba County Water Agency	Yuba	Increase outlet capacity and provide operational flexibility in New Bullards Bar Reservoir.
Stormwater Management Projects			
Yuba City Stormwater Quality Improvement Project	Yuba City	Sutter	Provide signage for all inlets within Yuba City and Sutter County that read "No Dumping. Flows to River." Also include public outreach campaign under the Sutter County/Yuba City Stormwater Management Plan.
Design of Recharge/Detention Basins	Colusa Basin Drainage District	Glenn	Continue investigation and design of recharge/detention basins on South Fork Willows Creek and Wilson Creek as part of the ongoing Colusa Basin Drainage District Integrated Water Management Plan.

Surface Water Supply Reliability Projects – New surface water storage projects in the Sacramento Valley have been considered for regional water supply and management because of the benefits it could offer. A wide range of surface storage projects have been identified and evaluated in the Sacramento Valley including the following:

- Surface Storage Projects
- Surface Water Delivery Systems

TABLE A-7
Surface Water Supply Reliability Projects

Project Title	Project Sponsor	County	Project Description
Surface Water Supply Reliability Projects			
Shasta Enlargement	N/A	Shasta	The CALFED Integrated Storage Investigation Program evaluated a wide range of surface water and groundwater storage locations throughout Central and Northern California. Future study and investigation will be needed to determine the feasibility and impacts of raising Shasta Dam to increase surface storage capacity.
Sites Reservoir	N/A	Colusa	The CALFED Integrated Storage Investigation Program evaluated a wide range of surface water and groundwater storage locations throughout Central and Northern California. Future study and investigation will be needed to determine the feasibility and impacts.
Magalia Dam	Paradise Irrigation District	Butte	The Magalia Dam has not been operated at full capacity since 1997, because of dam safety issues. This project would refurbish and strengthen the dam to restore surface storage capacity, eliminate water quality issues caused by lower water levels, and eliminate the cost of pumping presently incurred.
Garden Bar Water and Power Project	South Sutter Water District	Nevada, Placer, Yuba, and Sutter	The project would include development of a multi-use reservoir and power generation project on the Bear River immediately upstream of the existing Camp Far West Reservoir.
Surface Water Delivery Systems			
Wheatland Canal In-lieu Recharge Project	Yuba County Water Agency	Yuba	This project would improve water supply reliability and improved water quality for agricultural water users in southeast Yuba County. Because of the in-lieu groundwater recharge benefits of this project; it is listed in Table A-2 under Groundwater Recharge Projects.
Yuba County Second Point of Diversion	Yuba County Water Agency	Yuba	This project will improve water supply reliability for municipal water users in Yuba County. Because of the in-lieu groundwater recharge benefits of this project; it is listed in Table A-2 under Groundwater Recharge Projects.