

California Bay-Delta Program

Storage Program Multi-Year Program Plan (Years 6-9)

(State FYs 2005-2006 to 2008-2009, Federal FY 2006-2009)

Implementing Agencies:

Department of Water Resources

United States Bureau of Reclamation

The May Revision of the Governor's FY 2006 budget identifies three key activities for the CALFED Program that are to be accomplished by November 1, 2005. They are: an independent program and fiscal review; a re-focusing of the efforts of the California Bay-Delta Authority and the other CALFED state agencies; and the development of an action plan for long-term financing.

The outcome of these three activities likely will have considerable impact on how the CALFED Bay-Delta Program is implemented and financed in succeeding years. Therefore, although this Program Plan describes activities that are anticipated to occur during the next four years, the Authority is being asked to approve it based only on those activities scheduled to occur during FY 2006.

July 2005



Goals, Objectives, Targets, and Performance Measures

Goals and Objectives

The goal of the Storage Program is to increase water supply reliability, improve water quality, and support ecosystem restoration through expanded storage capacity and increased operational flexibility. A complementary action, the San Luis Reservoir Low Point Improvement Project (SLLPIP), identified in the ROD under the Conveyance Program has been shifted to the Storage Program to better reflect its goals of water quality and water supply.

The CALFED Record of Decision (ROD) identified seven commitments to be met for surface and groundwater storage. Each of these commitments is being assessed individually as well as in coordination with one another to ensure consistent assumptions, review, and coordination with other California Bay-Delta Program goals. As the implementing agencies, DWR and Reclamation are conducting planning and feasibility studies on the five surface storage projects identified as part of the overall water management strategy. Reclamation and Santa Clara Valley Water District are co-managing SLLPIP. In addition, DWR is working with local agencies and stakeholders to develop partnerships and provide assistance for planning and developing locally controlled and managed conjunctive use programs and projects.

For each ROD commitment, key objectives have been identified for the Storage Program:

- Development of approximately 250 Thousand Acre Feet (TAF) of In-Delta Storage.
 - Provide fishery benefits and enhances water project flexibility.
 - Could be achieved through implementation of a re-engineered In-Delta storage project that will meet the ecosystem needs in the Delta and provide water supply reliability.
 - State and Federal agencies will make a decision regarding the feasibility of an In-Delta storage project and the appropriateness of initiating negotiations with Delta Wetlands owners or other appropriate landowners for acquisition of necessary property.
 - State and Federal agencies will develop a project plan that addresses local concerns regarding effects on neighboring lands and complete any additional needed environmental documentation.
- Enlargement of Shasta Lake storage by approximately 300 TAF.
 - Increase the pool of cold water available to maintain lower Sacramento River temperatures needed by anadromous fish.
 - Provide other water management benefits, such as water supply reliability.
 - To the extent possible, includes features to benefit other identified ecosystem, flood control, and related water resources needs.

- Expansion of Los Vaqueros Reservoir by up to 400 TAF.
 - Increase dry year supply reliability for Bay Area water users.
 - Provide less costly long-term EWA supply and to the extent possible increase the water quality of deliveries to M&I customers.
 - Department of Water Resources (DWR) and U.S. Bureau of Reclamation (Reclamation) are working with Contra Costa Water District (CCWD) and interested stakeholders to assure that previous commitments, including local voter approval required for expansion, are respected.
- Development of up to 1.8 MAF (Million Acre Feet) of North-of-the-Delta Offstream Storage
 - Enhance water management flexibility in the Sacramento Valley while reducing diversions on the Sacramento River during critical fish migration periods.
 - Increases reliability of supplies for a significant portion of the Sacramento Valley.
 - Provides storage and operational benefits for other California Bay-Delta Programs, including water quality and the Environmental Water Account.
- Development of 250 TAF to 700 TAF of Storage in the Upper San Joaquin River Basin.
 - Contribute to the restoration of and improved water quality for the San Joaquin River.
 - Facilitate conjunctive management and water exchanges that improve the quality of water deliveries to urban communities.
 - Improve Central Valley Project (CVP) water supply reliability South- of- the- Delta.
 - Increase flood protection in the San Joaquin Valley.
 - Increase power generation.
- San Luis Reservoir Low Point Improvement Project
 - Evaluate a bypass to the San Felipe Unit at the San Luis Reservoir to increase the operational flexibility of storage in San Luis Reservoir and ensure a high quality, reliable water supply for San Felipe Division contractors.
- Groundwater Conjunctive Management Projects with Total Capacity of 500 TAF to 1 MAF.
 - Increase water supply reliability statewide through the planned, coordinated local management and use of groundwater and surface water resources.
 - Develop a basic understanding of individual groundwater basins.
 - Identify basin management strategies and objectives.
 - Plan and conduct groundwater studies.
 - Design and construct conjunctive use projects.

Targets

The CALFED ROD identified actions to be pursued in Stage 1 to expand storage capacity, which is critical to the successful implementation of all aspects of the CALFED Program. Inadequate State and Federal funding and difficulty in executing consultant contracts have made meeting the ROD milestones difficult.

Surface Storage Investigations

Lack of adequate State and Federal funding and Federal feasibility study authorization have delayed all five original surface storage investigations and the SLLPIP investigation. In Year 4, Congress provided Federal feasibility study authorization for the Los Vaqueros Reservoir Expansion (LVE), North-of-the-Delta Offstream Storage (NODOS), and Upper San Joaquin River Basin Storage investigations (USJRBSI). In Year 5, the President signed legislation authorizing the CALFED Program (P.L. 108-361) which includes authorization for Federal appropriations to continue studying storage projects.

The Shasta Lake Water Resources Investigation (SLWRI) has prior Federal feasibility study authority and Reclamation is proceeding with the National Environmental Policy Act (NEPA) process. Reclamation's findings on the potential environmental effects on the McCloud River associated with a Shasta Dam raise will be document in the Federal feasibility report and environmental compliance documents. DWR is participating to the extent allowed by the Public Resources Code 5093.542(c). The In-Delta Storage program (IDSP) has not received Federal feasibility study authorization; however, DWR has proceeded with a State feasibility study. Any additional efforts will be depend on available funding.

The San Luis Reservoir Low Point Improvement Project has be delayed due to late funding of the studies and increase in scope to evaluate storage, water treatment and other project alternatives. The studies to date have been funded by a State Proposition 13 grant of \$14.8 million. P.L. 108-361 provided Federal Feasibility Study authority for this project; however, no funding was appropriated for this project in Year 5. Federal funding is contained in the President's budget for Year 6.

The Program Manager and program staff briefs the Bay-Delta Public Advisory Committee (BDPAC) Water Supply Subcommittee on program status on a regular basis. The Subcommittee will make recommendations to the BDPAC as necessary. The following table shows the ROD dates for completing environmental review and documentation for all the surface storage projects and the new schedule if full funding were available in the future.

Surface Storage Investigations Schedule¹

Project	Complete Environmental Review and Documentation	
	Published in ROD	Current Schedule ²
In-Delta Storage	Dec 2002	Dec 2006
Shasta Lake Enlargement	Dec 2004	Oct 2008
Los Vaqueros Reservoir Expansion	Dec 2003	Dec 2007
North-of-the-Delta Offstream Storage	Aug 2004	Dec 2007
Upper San Joaquin River Storage	Jun 2006	Aug 2009
San Luis Reservoir LPIP	Dec 2003	Dec 2007

Groundwater Conjunctive Management

The ROD target is to facilitate and fund locally supported, managed, and controlled groundwater and conjunctive use projects with a total of 500 TAF to 1 MAF of additional storage capacity by 2007. Progress toward this target is being assessed in terms of the capacity to deliver additional water with new projects, facilities, and operations, rather than just available storage. This is thought to be a better measure of the improvement in water supply reliability. Actions for Years 6 – 9 include completing implementation of the most promising projects and aggressively pursuing implementation of additional projects by the end of Stage 1.

If additional funding becomes available for grants and loans, the state will continue to provide funding to local agencies to construct conjunctive use projects to develop additional capacity to meet the targeted goal. Lacking such funding, the local implementation of new projects is expected to slow considerably. Full program funding will also allow DWR to continue working with local agencies to develop locally controlled and managed groundwater programs and provide oversight on projects awarded funding through the grants and loans program.

The ROD also identified the need for improving the effectiveness of groundwater management throughout the state. Effective monitoring and institutional structures are critical to the success of conjunctive management projects, as well as to other CALFED programs, such as water transfers and EWA. Passage of SB 1938 in 2002 provided new requirements for groundwater management plans, and made the award of grant funding contingent on compliance. This incentive has led to the development or update of many GWMPs in the state.

Under existing funding levels, DWR will provide assistance to local agencies for groundwater program development and conduct oversight on projects previously awarded funding through the grants and loans program. No additional grants or loans would be awarded specifically for conjunctive use facilities; however, such projects may be included in regional plans that compete for grant funding for integrated regional water management.

¹ Sufficient and stable funding are critical for the successful completion of feasibility studies and environmental documentation.

² The current schedule is assuming a decision to proceed and available funding.

Performance Measures

The Surface Storage Program has been reporting the progress of planning efforts to CALFED committees and project stakeholders. Specific project contributions to supply reliability, Delta and local drinking water quality, and ecosystem restoration have been published. The Program has been developing Common Assumptions to establish standard methods and models necessary to perform further hydrologic, water quality and economic analysis. These analyses will provide a common baseline to 1) compare specific project contributions to local and system wide supply reliability, water quality and ecosystem restoration 2) estimate system wide cumulative benefits, and 3) prioritize projects if necessary. Site specific, regional, and system-wide performance measures will be jointly developed from these data with input from project stakeholders and guidance from CBDA.

Performance Measures

Performance measures translate program goals and objectives into measurable benchmarks of success. Performance measures range from relatively simple metrics (such as project expenditures) to complex cross program assessments (such as water supply reliability). As such, current work on Performance Measures includes counting the simple metrics and laying the technical and scientific groundwork that will allow us to perform more complex assessments later.

The Science Program and the Storage Program have been continuously working to design performance measures for the program. The Science Program has articulated the following three levels of Performance Measures. These will be refined as they are tailored for the unique needs of each program. For Storage, examples of performance measures include:

- **Administrative measures.** Site-specific indicators that track direct responses of specific projects or groups of projects (such as number of dollars spent and the number of projects funded).
- **Quantifiable accomplishments directly related to program actions.** Indicators that track the responses of groups of projects on a local or regional level (such as acre-feet of conserved or storage water, miles improved levees, or fish counts).
- **System-wide indicators.** Indicators that track broad, often complex, responses of groups of projects (such as water supply reliability or ecosystem health).

In Year 6, Storage science will address Indicators, Targets, Objectives, and Conceptual Models. Indicators related to the five potential surface storage projects are being developed through collaborative work groups and peer review as part of the Common Assumptions effort. In the context of the Common Assumptions work, these indicators are referred to as the following common reporting metrics for all the surface storage investigations.

Water Supply Reliability	
Sacramento Valley	
CVP Ag	Long-Term Average and Driest Years Contract Delivery (TAF/year)
CVP M&I	Long-Term Average and Driest Years Contract Delivery (TAF/year)
Bay Area	
CVP Ag	Long-Term Average and Driest Years Contract Delivery (TAF/year)
CVP M&I	Long-Term Average and Driest Years Contract Delivery (TAF/year)
SWP M&I	Long-Term Average and Driest Years Contract Delivery (TAF/year)
San Joaquin Valley (not including San Joaquin River and its tributary's water users)	
CVP Ag	Long-Term Average and Driest Years Contract Delivery (TAF/year)
CVP M&I	Long-Term Average and Driest Years Contract Delivery (TAF/year)
SWP Ag	Long-Term Average and Driest Years Contract Delivery (TAF/year)
Groundwater Banking	Long-Term Average Delivery (TAF/year)
South and Central Coast	
SWP M&I	Long-Term Average and Driest Years Contract Delivery (TAF/year)
Total For All Regions	
Ag, M&I, and GW Banking	Long-Term Average and Driest Years Contract Delivery (TAF/year)
Ecosystem	
Sacramento River	
Shasta Lake	Percentage of Period End-of-Sept Storage less than 1.9 MAF
Delta	
X2 Location	(February thru June) Long-Term Average and Driest Years X2 Location (km from Golden Gate)
Qwest	(February thru June) Long-Term Average and Driest Years Flow (cfs)
Delta Outflow	(February thru June) Long-Term Average and Driest Years Flow (cfs)
EWA	
NOD - Delivered to Delta inflow	Long-Term Average and Driest Years Delivery (TAF/year)
SOD - Delivered to San Luis	Long-Term Average and Driest Years Delivery (TAF/year)
Environmental Programs	
Delivery for Environmental Purposes	Long-Term Average and Driest Years Delivery (TAF/year)
Delta Water Quality	
Improve Delta Water Quality	Long-Term Average and Driest Years Delivery to Delta Inflow (TAF/year)
Level 4 Refuge	
NOD	Long-Term Average and Driest Years Delivery (TAF/year)
SOD	Long-Term Average and Driest Years Delivery (TAF/year)
Water Quality	
San Joaquin River	
Vernalis	Long-Term Average and Driest Years EC (umhos/cm)
Delta	
Emmaton	Long-Term Average and Driest Years EC (umhos/cm) and DOC (mg/L)
Jersey Point	Long-Term Average and Driest Years EC (umhos/cm) and DOC (mg/L)
Bay Area	
Old River at Rock Slough	Long-Term Average and Driest Years EC (umhos/cm), Bromide (mg/L), and DOC (mg/L)
Los Vaqueros Old River Intake	Long-Term Average and Driest Years EC (umhos/cm), Bromide (mg/L), and DOC (mg/L)
Los Vaqueros Middle River Intake (proposed)	Long-Term Average and Driest Years EC (umhos/cm), Bromide (mg/L), and DOC (mg/L)
Delta Export	
Tracy	Long-Term Average and Driest Years EC (umhos/cm), Bromide (mg/L), and DOC (mg/L)
Banks	Long-Term Average and Driest Years EC (umhos/cm), Bromide (mg/L), and DOC (mg/L)
Delta Stage and Scouring	
Stage	
Old River Head Barrier	Monthly minimum (ft), 10th Percentile, and Maximum Change in Monthly Minimum (ft)
Middle River at Mowry	Monthly minimum (ft), 10th Percentile, and Maximum Change in Monthly Minimum (ft)
Old River at Tracy Rd Bridge	Monthly minimum (ft), 10th Percentile, and Maximum Change in Monthly Minimum (ft)
Grant Line Canal	Monthly minimum (ft), 10th Percentile, and Maximum Change in Monthly Minimum (ft)
Scouring	
Clifton Court Forebay Intake	Monthly Maximum (ft/s) and 90th Percentile
Los Vaqueros Old River Intake	Monthly Maximum (ft/s) and 90th Percentile
Los Vaqueros Middle River Intake (proposed)	Monthly Maximum (ft/s) and 90th Percentile
Cost Estimates	
Capital Cost	(2004 \$)
Annual O&M	(2004 \$)

The Conjunctive Water Management Program (CWMP) will continue to coordinate with the Science Program in developing Performance Measures to assess feasibility studies and project implementability, and in determining potential benefits and beneficiaries to ensure program consistency by June 2006. Performance measure standards will consider criteria for completion and conclusions of feasibility studies conducted, economic efficiency, environmental benefits provided, water produced to meet local, regional, and statewide needs, and improvements in water quality. TO track progress in groundwater management, the number and location of GWMPs throughout the state is being tracked; however, this is an imperfect measurement since local agencies are not required to submit the plans to DWR.

For the grant proposal review process, the program developed a standardized methodology to characterize the operations of individual projects for comparison of project yields, cost per acre-foot of water produced, and economic efficiency (benefit:cost ratio). As projects are completed and begin to operate, these measures of project benefit will be validated or updated. The program coordinated with the Science Program in development of Proposal Solicitation Process (PSP) reviews.

The CWMP is funding and coordinating with the Water Science and Technology Board of the National Research Council on a study of "Sustainable Underground Storage of Recoverable Water." The proposal will provide guidance to the State and local agencies in addressing scientific issues and limitations in the effective use of groundwater storage.

Accomplishments

As part of the federal planning process, four of the five surface storage investigations (SLWRI, NODOS, LVE, and USJRBSI) either completed or began their Initial Alternative Information Reports, and the fifth project (IDSP) completed a draft State Feasibility Study. Environmental documentation processes began on three of the projects (NODOS, IDSP, and USJRBSI).

The Storage Program developed a Common Assumptions effort to standardize methods and models necessary for hydrologic, water quality, and economic analysis. In January 2005 to assess the potential benefits of four of the five storage projects: SLWRI, NODOS, IDSP, and LVE a comparable set of CALSIM II and DSM2 model runs of various operational scenarios were completed. The scenarios for each of the projects combined various potential benefits definitions with specific priorities to define alternate ways in which each project could be operated.

Over \$200 million in Proposition 13 funding was awarded in 2004 for the construction of 35 groundwater storage and recharge projects that are expected to yield approximately 300,000 acre feet per year. Coupled with local cost shares for projects, total investment in the groundwater storage program amounts to nearly \$1 billion to date. Improvements in groundwater management and construction of conjunctive use projects will benefit water supply reliability, the Environmental Water Account, ecosystem restoration, water transfers, and other CALFED programs.

Specific project accomplishments include:

In-Delta Storage

Conducted two public workshops and received comments highlighting the need for further investigations on water quality, risk analyses, project operations, and economics.

Collected information on property damage, seepage to adjacent islands, and drinking water quality impacts from the 2004 Jones Tract flooding event for use in future modeling studies.

Completed environmental surveys on the great garter snake to fill data gaps.

Shasta Lake Enlargement

Initiate the NEPA process in Fall 2005.

Los Vaqueros Reservoir Expansion

Completed field surveys and baseline for the Habitat Evaluation Procedures (HEP).

Completed a stand-alone CALSIM II model incorporating LVE operations

Complete an Initial Alternatives Information Report in Summer 2005.

North-of-the-Delta Offstream Storage

Completed biological and cultural resources field studies.

Completed draft descriptions of the affected environments of the EIR/EIS chapters.

Completed feasibility engineering study on reverse flow facilities for releasing water back to the river,

Completed feasibility engineering studies on dams and appurtenant structures, conveyance facilities, and road relocations.

Upper San Joaquin River Storage

Completed and released scoping report in December 2004.

Completed a draft report on conjunctive management opportunities in Spring 2005.

Completed an Initial Alternatives Information Report in June 2005.

San Luis Reservoir Low Point Improvement Project

Completed a Federal Appraisal Study due for release in August 2005. The Appraisal Study will be used to define the scope of the Feasibility Study.

Groundwater Storage / Conjunctive Water Management

Feasibility Study Grants - Awarded \$6.4 million in Local Groundwater Management Assistance Act (AB 303) grants in Year 5, bringing the total number of awards to 129. A total of 28 feasibility studies/pilot projects were funded under Proposition 13, and 14 are complete as of Year 5.

Technical Assistance to Locals – Entered into two new MOUs with local agency partners. Provided technical and financial assistance to existing MOU partners to study the groundwater basins and assess opportunities for conjunctive water management

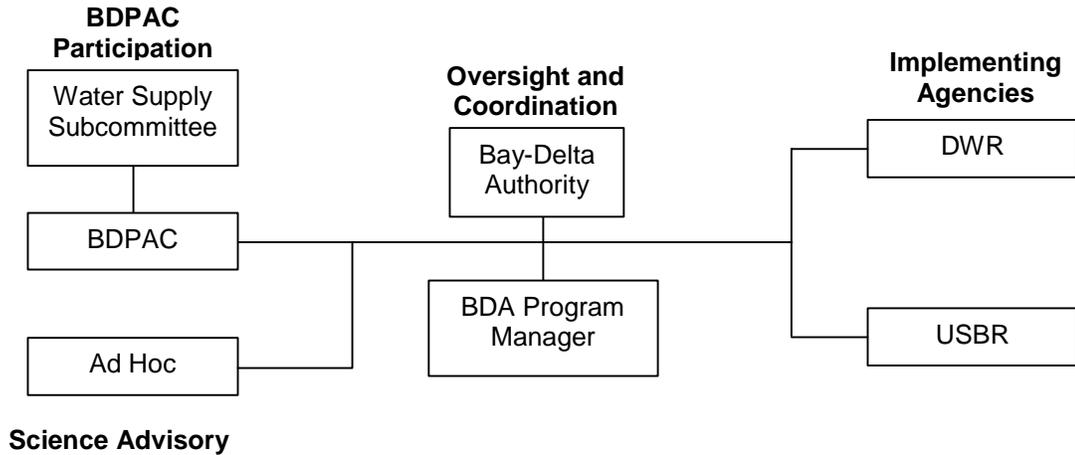
Provided technical and financial assistance to local partners for assessing in-basin needs, project formulation, and commencement of pilot projects. Working to expand partnerships regionally and integrate additional water management elements into planning process.

Providing technical and financial assistance to local partners for development of groundwater management plans to comply with SB 1938.

Provided independent facilitation/mediation services to local partners to improve stakeholder involvement, foster local support for improved groundwater management, and to enhance stakeholder understanding of water resource issues and needs.

Implementation Grants and Loans – Executed contracts for 17 grants and loans totaling \$85.7 million in Proposition 13 funds for construction projects in Year 5, bringing to 32 the number of funded projects. The estimated average annual yield of the Year 5 projects is 160 TAF, bringing the total projected capacity over 300 TAF. Six of the projects funded in the first two cycles were completed in Year 5.

Program Structure



Agency	Roles and Responsibilities
California Bay-Delta Authority	<ul style="list-style-type: none"> • Oversight and coordination. • Lead agency with DWR on Water Management Strategy.
Department of Water Resources	<ul style="list-style-type: none"> • Lead agency for California Environmental Quality Act (CEQA) compliance on surface storage projects. • Responsible for implementation of groundwater conjunctive management program
U. S. Bureau of Reclamation	<ul style="list-style-type: none"> • Lead agency for National Environmental Policy Act (NEPA) compliance on surface storage projects and the San Luis Reservoir Low Point Improvement Project.
Bureau of Indian Affairs	<ul style="list-style-type: none"> • Participating agency.
U.S. Fish and Wildlife Service	<ul style="list-style-type: none"> • Participating agency.
U.S. Forest Service	<ul style="list-style-type: none"> • Participating agency.
National Oceanic and Atmospheric Administration Fisheries	<ul style="list-style-type: none"> • Participating agency.
U. S. Army Corps of Engineers	<ul style="list-style-type: none"> • Participating agency.
Department of Fish and Game	<ul style="list-style-type: none"> • Participating agency.
Glenn-Colusa Irrigation District	<ul style="list-style-type: none"> • Management Team Partner in the North-of-the-Delta Offstream Storage.
Tehama-Colusa Canal Authority	<ul style="list-style-type: none"> • Management Team Partner in the North-of-the-Delta Offstream Storage.
Contra Costa Water District	<ul style="list-style-type: none"> • Manages Los Vaqueros Reservoir Expansion.
Santa Clara Valley Water District	<ul style="list-style-type: none"> • Lead agency for CEQA compliance for the San Luis Reservoir Low Point Improvement Project.
Local Groundwater Agency partners	<ul style="list-style-type: none"> • Lead agencies for development and implementation of groundwater studies and conjunctive water management projects.

Major Activities

A critical component of the Storage Program is helping potential project partners assess their interest in participating in the surface storage projects. DWR and Reclamation are working cooperatively to develop the Federal alternatives reports, plan formulation reports, and feasibility studies and environmental documents. Using this information, the Storage Program will develop partnerships with potential participants to advance alternatives development and plan formulation.

Surface storage projects are continuing with technical studies on project options and alternatives for feasibility study and environmental documentation. Currently, no funding has been appropriated for the In-Delta Storage Project (IDSP). If funding is available, DWR will complete and finalize the *Supplemental Study Report* for IDSP and begin discussions on joint partnerships with interested stakeholders. This report is the culmination of years of investment of public funds and will lead to an informed and defensible decision on the project.

The Common Assumptions effort is continuing to refine modeling packages for evaluating each project. The next package, the Plan Formulation Common Model Package, will be available in fall 2005 and will include CALSIM II, DSM2, LCPSIM, and CVPM. The final package, Feasibility Common Model Package, will be used for the feasibility studies and environmental documentation in early-2007.

For the San Luis Reservoir Low Point Improvement Project, Reclamation in conjunction with Santa Clara Valley Water District will prepare a Feasibility Report and joint EIS/EIR. The Regulatory Compliance Work Group, Fisheries Work Group, and Stakeholder Committee will continue to assist in project planning in Years 6-9.

DWR will continue to provide assistance to local agencies for groundwater program development and conduct oversight on projects previously awarded funding through the grants and loans program.

Major activities for the Storage Program in the coming years will be highly dependent on available State and Federal funding. The following schedule assumes full funding is available in Years 6-9. Without sufficient and stable funding, prioritization and potential deferral of specific projects may be required.

Specific program activities include:

In-Delta Storage

Funding: None

Schedule: If funding is available

Complete and finalize the *Supplemental Study Report*

Led by DWR

Shasta Lake Enlargement

Funding: \$4.0 million

Schedule:

Initiate NEPA process and conduct scoping meetings in Fall 2005

Complete Plan Formulation Report in Spring 2006

Complete Draft Feasibility Study Report and draft environmental documentation in Winter 2007

Complete Final Feasibility Study Report and final environmental documentation in Fall 2008

Led by Reclamation

Los Vaqueros Reservoir Expansion

Funding: \$7.2 million

Schedule:

Initiate CEQA/NEPA process and conduct scoping meetings in Fall 2005

Complete Plan Formulation Report in Spring 2006

Complete Draft Feasibility Study Report and draft environmental documentation in Spring 2007

Complete Final Feasibility Study Report and final environmental documentation in Winter 2008

Co-Led by Reclamation, DWR, and Contra Costa Water District

North-of-the-Delta Offstream Storage

Funding: \$5.1 million

Schedule:

Work with potential project participants to develop project formulation and description in Summer 2005

Finalize the Sacramento River flow regime summary report in Summer 2005

Complete Initial Alternatives Information Report in Fall 2005

Complete the Plan Formulation Report in Summer 2006

Complete Draft Feasibility Study Report and draft environmental documentation in Fall 2006

Complete Final Feasibility Study Report and final environmental documentation in Fall 2007

Led by DWR

Upper San Joaquin River Storage

Funding: \$3.5 million

Schedule:

Complete Plan Formulation Report in Summer 2007

Complete Draft Feasibility Study Report and draft environmental documentation in Summer 2008

Complete Final Feasibility Study Report and final environmental documentation in Summer 2009

Led by Reclamation

San Luis Reservoir Low Point Improvement Project

Funding: \$0.6 million

Schedule:

Complete a Plan of Study in Winter 2006

Complete Draft Feasibility Study Report and draft environmental documentation in Winter 2007

Complete Final Feasibility Study Report and final environmental documentation in Winter 2008

Co-Led by Reclamation and Santa Clara Valley Water District

Groundwater Storage / Conjunctive Water Management

Feasibility Study Grants

Funding: \$0

Schedule: n/a

Led by DWR

Technical Assistance to Locals – DWR will continue to work with local agencies to develop locally controlled and managed groundwater programs. In addition, DWR will continue to provide oversight on projects awarded funding through the grants and loans program. DWR is working with local agency partners to implement SB 1938, which placed requirements on groundwater management plans, most notably, an element of regional coordination.

Funding: \$6.868 million

Schedule: Ongoing

Under existing funding levels, DWR will provide assistance to local agencies to develop locally controlled and managed groundwater projects and programs. DWR will work with local agency partners to assist in competitiveness for future grant funding.

Led by DWR

Implementation Grants and Loans – Competitive grant programs are being developed from Proposition 50, Chapter 8, which may be applicable to conjunctive use and groundwater storage projects. Funding from Proposition 13 will be committed to projects selected for funding in fiscal year 2003-04.

Funding: \$97.8 million

Schedule: Ongoing

Local agencies, with DWR oversight, are implementing the most promising projects and aggressively pursuing implementation of additional projects by the end of Stage 1. Under existing funding levels, DWR will provide oversight on projects previously awarded funding through the grants and loans program. No additional grants or loans specific to groundwater storage would be awarded. If additional funding is available, the grants and loans program would continue to provide funding to local agencies to construct conjunctive use projects to develop additional yield to meet the targeted goal.

Led by DWR

Public Involvement and Outreach

Surface Storage Investigations

For each surface storage investigation, DWR and Reclamation have ongoing public and stakeholder outreach. Specific activities that occurred in the past year and those that are expected to occur in the upcoming year are listed below.

Public Involvement –

In August 2004, a public workshop for Shasta Lake Enlargement was held to coordinate with stakeholders. When an NOI is issued for the project, a series of scoping meetings will be held.

DWR conducted two public workshops after the release of the State Draft Feasibility Study for the In-Delta Storage Project in February 2004.

A public advisory vote passed in April 2004 with over 60 percent of the voters supporting further studies of the Los Vaqueros Reservoir Expansion project. Three scoping meetings are planned in fall 2005 when NEPA/CEQA processes are initiated.

Reclamation, with support from DWR held a public workshop in Fresno in July 2004 for the Upper San Joaquin River Basin Storage Investigation to brief stakeholders on the progress of the investigation. The next workshop is scheduled for April 2005.

Several scoping meetings were held last year to generate a broad range of potential alternative solutions to the San Luis Reservoir LPIP. More public meetings will be held before the Draft EIS/R is completed in May 2006.

Stakeholder Consultation –

The Common Assumptions effort is underway to develop information that will allow the five surface storage projects' performance, costs, and benefits to be compared using a consistent approach, and will inform decisions about project priorities. This effort includes representatives of Federal and State water resources and regulatory agencies along with private entities from the agriculture and environmental communities.

DWR and Reclamation will continue to work with Glenn-Colusa Irrigation District (GCID) and Tehama-Colusa Canal Authority (TCCA) to coordinate outreach activities on NODOS. The NODOS team is working on establishing partnerships with potential project participants to define potential project formulations and operations.

DWR will begin discussions on partnerships with interested stakeholders of the In-Delta Storage Project after the supplemental feasibility report is released.

DWR and CCWD initiated discussions on developing a Joint Powers Authority and other options for the purposes of defining a lead agency for CEQA and on developing advisory committee agreements with South Bay Aqueduct water agencies. There are also regular Agency Coordination Work Group meetings

held to brief interested regulatory and local Bay Area Water Agency signatories to the LVE MOU and receive their feedback on the studies.

Reclamation has entered into a number of MOAs with cooperating agencies to request their participation in developing alternatives for the USJRBSI. Stakeholder interviews were conducted to receive input on conjunctive management opportunities and issues in the region.

The San Luis Reservoir LPIP has established the Regulatory Compliance Work Group, Fisheries Work Group, and Stakeholder Committee to assist in project planning.

CBDA Agency Coordination –

Reclamation and DWR present regular updates to the CALFED Agency Coordination Team and BDPAC Water Supply Subcommittee on the surface storage investigations, including SLLPIP, and on the Common Assumptions process.

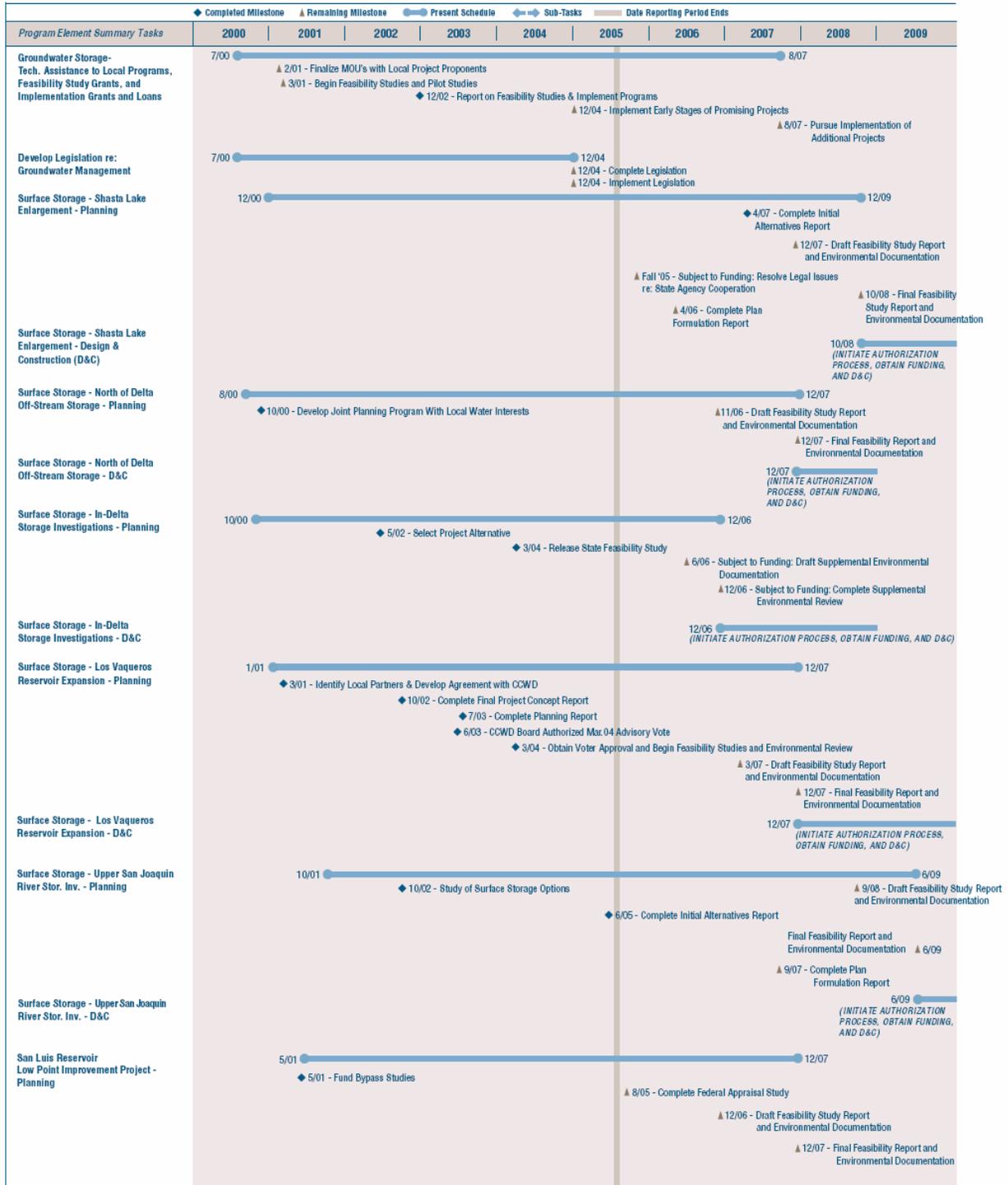
Groundwater Conjunctive Management

Public Involvement - DWR will hold public meetings and meetings of statutorily required advisory committees to develop grant applications and funding recommendations for grant programs. Public meetings will be held to solicit input on preliminary funding recommendations.

Stakeholder Consultation – Local agency advisory groups conducting basinwide planning and developing local conjunctive water management programs will generally meet monthly or quarterly, depending upon the consensus of the stakeholders. These groups will include local governments, water agencies, environmental and business interests, and other interested parties.

CBDA Agency Coordination – CBDA staff will be consulted in the development of the Proposition 50 Integrated Regional Water Management Grant Program, and during review of grant applications. The CBDA will be briefed following the review and evaluation of Proposition 50 and Local Groundwater Assistance Fund (AB 303) grant proposals, and provided with preliminary funding recommendations. USBR participation will be necessary for those locally proposed projects that utilize federal facilities or will need discretionary decisions for implementation of conjunctive water management strategies. Review of contracts or water rights by USBR and SWRCB may be necessary as part of local conjunctive water management strategies. Participation by DFG, National Marine Fisheries Service (NOAA Fisheries), and/or U.S. Fish and Wildlife Service (USFWS) may be necessary for those projects that include modifications to existing surface water operations as part of a conjunctive water management strategy.

Schedule



Integrating Science, Environmental Justice, and Tribal Relations

The planning and development of various actions under the Storage Program will involve a coordinated effort with Science, Environmental Justice, and Tribal Relations. This coordinated effort will occur at the working level as well as the management and oversight levels. Specific project teams and/or committees will be utilized and briefings will be made to respective Bay-Delta Public Advisory Committee subcommittees to ensure the needed project implementation in accordance with the ROD.

Science:

The Science Program will aid in developing Performance Measures; creating a Science Standing Board for the Water Management Programs to advise the CBDA on storage issues including the six surface storage programs (including SLLPIP) and the groundwater storage and conjunctive use programs; and also help improve the exchange of information between the Science Program and agencies conducting studies. For example, the Science Program has reviewed the CALSIM II modeling tool, which will be used to evaluate the impacts and benefits of each storage project. The Water Management Science Board may set up steering committees for specialized areas of study for each storage program.

A science review panel will be convened in 2005 to review the Flow Regime Technical Advisory Group Summary and Evaluation Report for North-of-the-Delta Offstream Storage. The report summarized the studies on the upper Sacramento River identified by the TAG and evaluated the changes in the Sacramento River hydrology based on historical observations. In addition, the report considered flow regime modifications and improvements on the Sacramento River using Sites Reservoir.

Science conducted under the Storage Program is intra-related among the project investigations. Cross-program coordination occurs through the Common Assumptions effort by incorporating analysis done by the Water Use Efficiency, Conveyance, Environmental Water Account, Water Transfers, Water Quality, and Ecosystem Restoration program elements.

A Common Assumptions effort was initiated to develop consistency and improve efficiency among all of the surface storage project investigations. All of the surface storage projects share some common requirements which include alternative analyses to comply with the California Environmental Quality Act (CEQA), National Environmental Policy Act (NEPA), and Clean Water Act Section 404 requirements and complete environmental documents and feasibility reports. The Common Assumptions effort will define common CEQA (existing) and NEPA (future no-action) baselines, develop common analytical tools and input assumptions for hydrologic and economic analyses, develop common reporting metrics, and develop cumulative impacts of the proposed project when combined with other expected projects for use by all of the surface storage projects to conduct their analyses.

Through the use of common analytical tools, assumptions, analysis procedures and protocols, and reporting metrics developed by the common assumptions process, the performance and costs and

benefits of the surface storage projects can be compared and contrast. The analyses using common analytical tools and approach will also inform decisions about project prioritization.

The following table lists the major program activities and how each applies science.

Storage Program

Major program activities, Years 6-9	Studies and research	Analysis of existing data	Science Communication	Monitoring	Peer review	Use of Science Boards and technical experts	Cross-program coordination (note which program)	Estimated funding for science portion of this activity
Common Assumptions effort	X	X			X	X	X	\$ 1,500,000
In-Delta Storage investigation	X	X	X		X	X		\$ 600,000
Shasta Lake Water Resources Investigation	X	X		X	X			\$ 400,000
Los Vaqueros Reservoir Expansion investigation	X	X						\$ 350,000
North-of-the-Delta Offstream Storage investigation	X	X	X		X	X		\$ 650,000
Upper San Joaquin River Basin Storage Investigation	X	X			X	X		\$ 300,000
San Luis Reservoir Low Point Improvement Project investigation	X	X						\$ 150,000
Groundwater Storage - Feasibility Study Grants	X			X				\$ 500,000
Groundwater Storage - Technical Assistance to Locals	X			X				\$ 300,000
Groundwater Storage - Implementation Grants and Loans				X			X	

Common Assumptions:

Develop new hydrology for CALSIM III; refine groundwater pumping operations in CALSIM; improve representation of rice decomposition operations in CALSIM; develop mechanisms for integrating water transfers and other water management options (water use efficiency, recycling, and conjunctive use) into CALSIM and economics models; and peer and science panel review of CALSIM III.

In-Delta Storage:

Develop conceptual water quality model; use of field data; publish and present science papers; two peer reviews by the University of Florida Science Department; two reviews by the IDS Science Review Panel

Shasta Lake Water Resources Investigation:

Develop temperature control and flow regime models; flow monitoring; temperature and reservoir monitoring

Los Vaqueros Reservoir Expansion:

Develop 3-dimensional reservoir water quality model; collection and analysis of existing water quality and reservoir data

North-of-the-Delta Offstream Storage:

Develop flow regime-related conceptual models for both potential project impacts and benefits; conduct field studies on riparian habitat and channel migration; analyze water quality and sedimentation in the source waters; develop or apply flow regime-related models; publish and present flow regime-related studies; peer and science panel review of flow regime-related models and studies.

Upper San Joaquin River Basin Storage:

Review completed river restoration plans to determine what contributions can be made from the Storage program.

San Luis Reservoir Low Point Improvement Project:

Conduct algae, fish mortality, and water quality studies; sample and analyze existing water quality and fish data

Groundwater Storage - Feasibility Study Grants:

Implementation of studies and investigations by local agencies to evaluate potential conjunctive management opportunities. Monitor results of program efforts to develop and evaluate performance measures.

Groundwater Storage - Technical Assistance to Locals:

Implementation of studies and investigations by local agencies to evaluate potential conjunctive management opportunities. Monitor results of program efforts to develop and evaluate performance measures.

Groundwater Storage - Implementation Grants and Loans:

Monitor results of program efforts to develop and evaluate performance measures.

Environmental Justice:

Environmental Justice (EJ) is one of the implementation commitments of the ROD. An investigation and evaluation of environmental justice issues are key elements of the Storage Program. One example of an EJ investigation relates to the effects and impacts of a surface storage project on the livelihood of farmworkers in the Delta. This and other EJ issues will be addressed in the environmental documentation for each of the proposed surface storage projects. Conjunctive use projects have the potential to impact private well owners, reliability of local water supplies, and local economies. Efforts will be made to build the capacity of those potentially affected to review and comment on environmental documentation.

Funding for EJ activities under the Storage Program is estimated to be \$250,000 for Year 6. A goal will be to develop strategic plans for outreach to underprivileged area that could be affected by the proposed projects. Through outreach, potentially impacted groups could be engaged early in the process to provide input to the investigations and ensure their needs are being addressed.

EJ training is provided to program managers and staff to support them in gaining a basic understanding of EJ issues and to assist them in identifying and acting on potential issues within their storage investigations. This training will also help managers to become aware of the tools available to strengthen their investigations and decisions.

Program staff is involved with and participates in meetings of the California Bay- Delta Authority BDPAC Environmental Justice Subcommittee, DWR's Environmental Justice Workgroup and the Environmental Justice Steering Committee of the Governor's Office of Planning and Research.

Tribal Relations:

The Storage Program has initiated tribal coordination efforts as part of several of the surface storage investigations. Tribal consultation is one of a number of Implementation Commitments of the ROD and implementing agencies are prepared to consult with federally recognized tribes on a government-to-government basis. The ROD notes specifically that CALFED agencies will enter into formal agreements (such as Memoranda of Understanding) at the request of federally recognized tribal governments to participate in project planning. Reclamation is responsible for compliance with Section 106 of the National Historic Preservation Act and has a trust responsibility to assess potential impacts to Indian Trust Assets for investigations where they have received feasibility authority. Specifically, Reclamation will work collaboratively with federally recognized tribes and the Bureau of Indian Affairs to analyze potential trust impacts.

The California Bay-Delta Authority, program staff from DWR and Reclamation, and the tribes participated in a Tribal Forum where program staff described outreach efforts for each of the surface storage investigations and receive comments from tribes to improve coordination efforts. A briefing on the CBDA Environmental Justice program was included. Tribal coordination for specific projects is discussed briefly in the following section.

Reclamation, DWR, and a number of tribes have been meeting as part of a coordination effort associated with the North-of-the-Delta Offstream Storage (NODOS) investigation. The tribes and

agencies have developed a Guiding Principles document for working with tribes on NODOS. Tribes have also participated in and reviewed historical and cultural resources studies associated with the investigation. The agencies have given regular updates of the investigation status. BIA has also requested and been granted cooperating agency status associated with development of the Environmental Impact Statement. A number of tribes are developing water resources studies to assist in evaluating potential project effects and benefits.

Reclamation has initiated a coordination effort with a number of tribes associated with the Shasta Lake Water Resources Investigation (SLWRI) and the Upper San Joaquin River Basin Storage Investigation. Reclamation meets with federally recognized tribes periodically to address any Indian Trust Asset responsibility, sensitive cultural resource issues, and to identify beneficial opportunities for the tribes.

Non-Federally recognized tribes are also periodically briefed on project status and their concerns and issues noted. For example, although no federally recognized tribes reside in the immediate Shasta Lake area, concerns have been raised by the Winnemem band of the Wintu Indians about potential impacts of enlarging Shasta Dam. Sites of cultural significance to the Winnemem are within the existing gross pool of Shasta Lake and several possible sites would be impacted by raising the dam. Identifying these sites and developing appropriate mitigation measures will be a major focus in the SLWRI.

Conjunctive Water Management Program staff have participated in tribal forums initiated by CBDA staff and in workshops to inform tribal members of the details of grant and loan programs. Local planning processes for groundwater storage include tribal representation where applicable. As an example, in the Upper San Jacinto River Basins area, planning efforts will assist in a settlement between water agencies and the Soboba Band of Mission Indians, and tribal members are involved in the advisory committees.

Cross-Program Relationships

The Storage Program's integration with other California Bay-Delta Program elements requires a balanced approach for linkages with shared State and Federal water management of the State Water Project (SWP) and CVP systems. The program is linked with local and regional agencies for resource management in the Delta.

Conveyance – Coordination with the individual storage programs and coordination with the Conveyance Program is ongoing.

Water Quality – Specific storage programs looking at water quality improvements include NODOS, Los Vaqueros Expansion, and the Upper San Joaquin River Basin Storage Investigations. Groundwater Storage projects are leading to drinking water quality improvements, primarily in southern California.

Levee System Integrity – The In-Delta Storage program is linked with the Delta Levee Program.

Ecosystem Restoration – Coordination with the Ecosystem Restoration Program regarding the In-Delta Storage, Upper San Joaquin River Basin Storage, NODOS, and Los Vaqueros Expansion is ongoing. DWR and Reclamation will inform and consult with the Working Landscapes Subcommittee of BDPAC, California Department of Food and Agriculture, Department of Conservation, and local interest groups as the project(s) develop.

Environmental Water Account (EWA) – Coordination with the EWA office is regular and ongoing with the In-Delta Storage, Los Vaqueros Reservoir Expansion, NODOS, and groundwater storage programs.

Water Use Efficiency – Coordination between the Water Use Efficiency program and Groundwater Conjunctive Management is ongoing, and will be increased to address linkages between water application and groundwater recharge. In addition, surface storage program will coordinate with WUE when developing common assumptions and cumulative impact analyses.

Water Transfer – Individual storage programs will coordinate with the Water Transfer Program as needed. Efforts to improve groundwater management in the Sacramento Valley will lay the groundwork for successful future transfers.

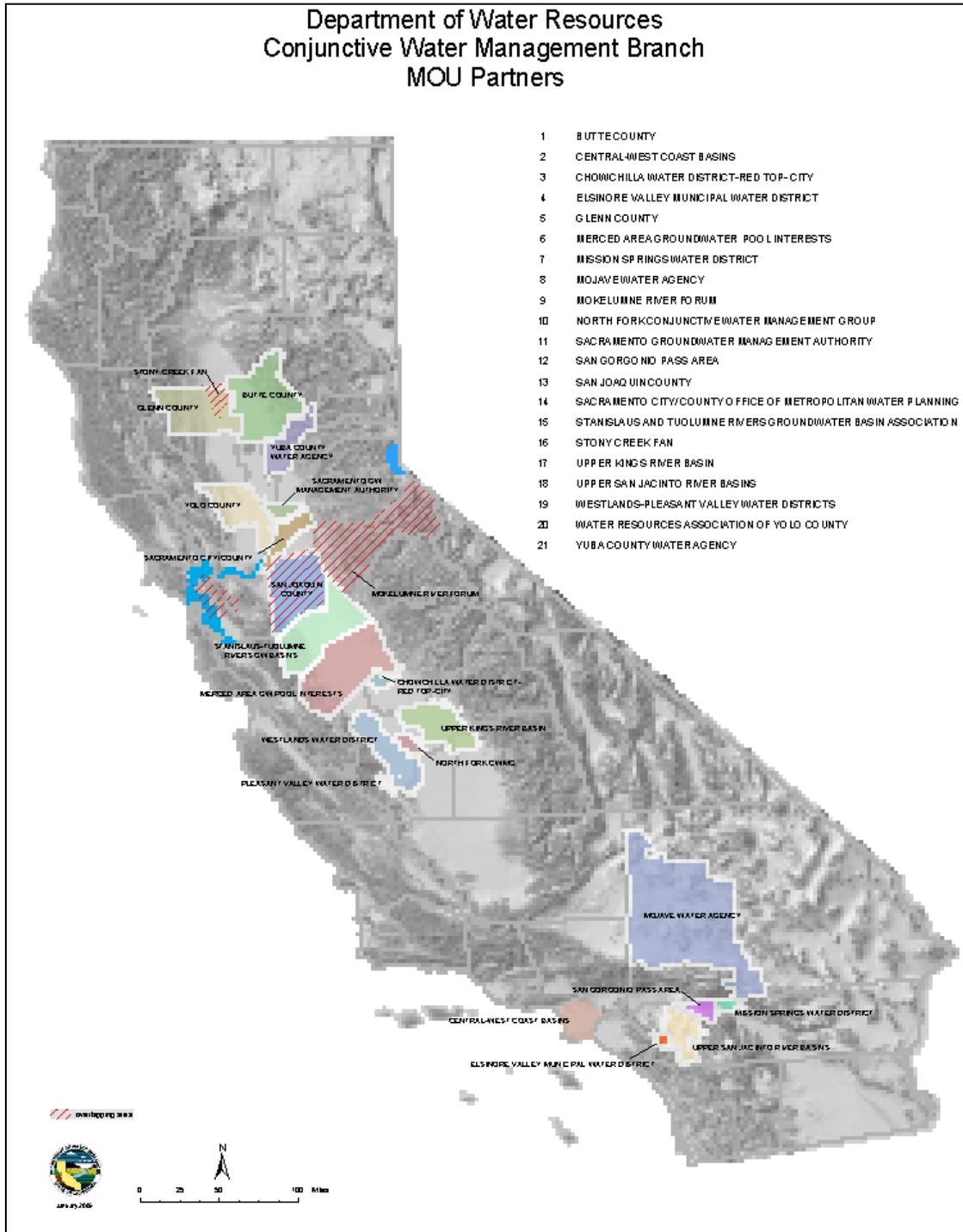
Funding

Storage (\$ in millions)	Yr 6	Yr 7	Yr 8	Yr 9	Total
State ¹	\$18.0	\$14.1	\$3.6	\$0.3	\$36.0
Federal ²	\$11.1				\$11.1
Available Funding Total	\$29.1	\$14.1	\$3.6	\$0.3	\$47.1
<p>1.State funding includes \$8.77m from the final enacted budget in Year 6 (FY 05-06) for the California Bay-Delta Authority (CBDA) and Department of Water Resources (DWR), and \$2.38m in encumbered funds from previous years for surface storage investigations; state funds also include \$6.868 m for groundwater management activities. Funding in Years 7-8 includes base funding for BDA, the remainder of Prop 50 funds available for Surface Storage Investigations, and other funds identified for groundwater management activities.</p> <p>2. Federal funding includes the President's Budget amounts for the US Bureau of Reclamation (Reclamation). This includes Water and Related Resource funding (W&RR) designated by Congress for the CVP Yield Feasibility Investigations and can provide funding for any or all Storage Program tasks. Federal appropriations beyond year 6 are unknown.</p>					

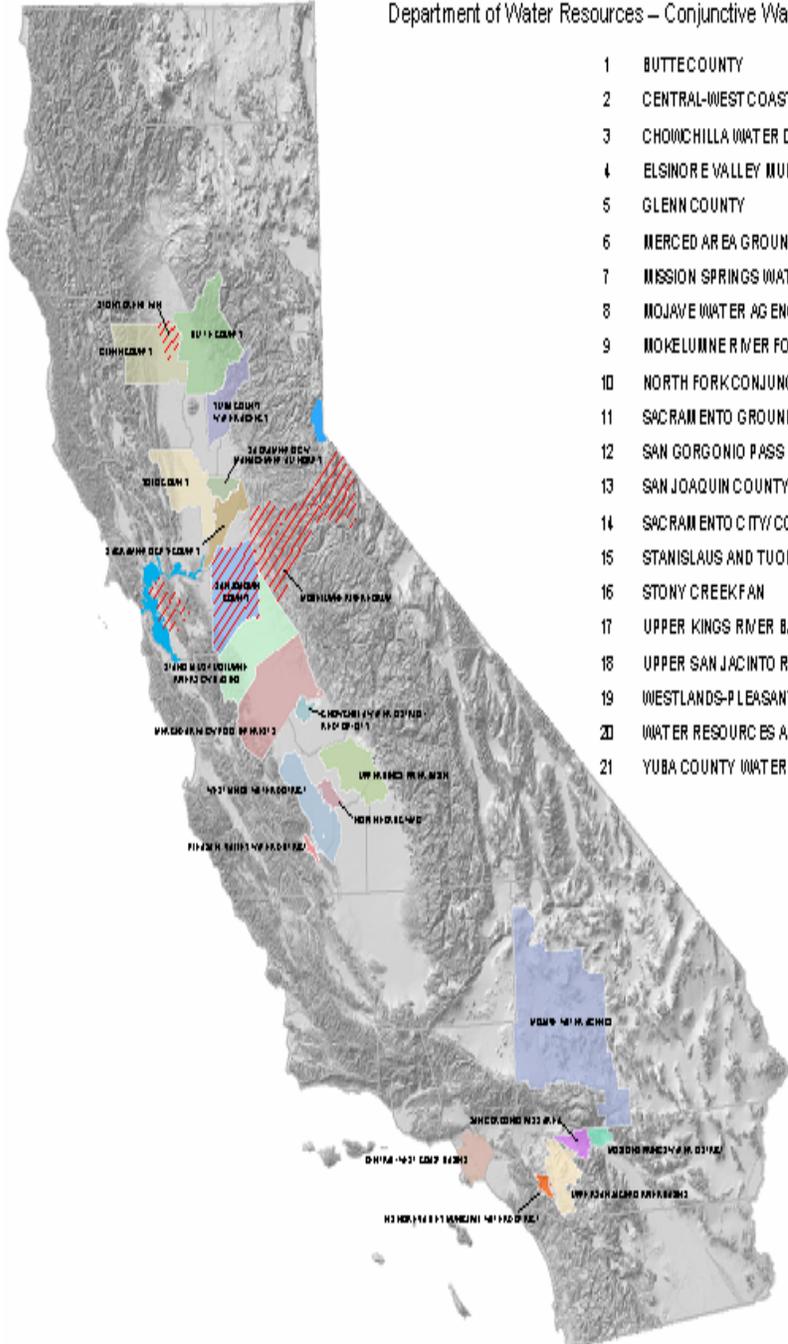
Funding by Task

Storage (\$ in millions)	Yr 6	Yr 7	Yr 8	Yr 9	Total
Groundwater Storage/Conjunctive Water Management Program	\$6.9	\$7.4			\$14.2
Planning Studies	\$20.4	\$5.1	\$2.9		\$28.4
<i>In-Delta Storage Investigations</i>					
<i>Shasta Lake Enlargement</i>	\$4.0				\$4.0
<i>Los Vaqueros Reservoir Expansion</i>	\$7.2	\$1.0	\$1.0		\$9.2
<i>North-of-the-Delta</i>	\$5.1	\$3.1	\$0.9		\$9.3
<i>Upper San Joaquin Storage Investigations</i>	\$3.5	\$1.0	\$1.0		\$5.5
<i>San Luis Reservoir Low Point Improvement-Planning</i>	\$0.6				\$0.6
Oversight and Coordination	\$1.9	\$1.6	\$0.7	\$0.3	\$4.5
Available Funding Total	\$29.1	\$14.1	\$3.6	\$0.3	\$47.1

Geographical Distribution of Activities



Department of Water Resources – Conjunctive Water Management Program – MOU Partners



- 1 BUTTE COUNTY
- 2 CENTRAL-WEST COAST BASINS
- 3 CHOWCHILLA WATER DISTRICT-RED TOP-CITY
- 4 ELSINORE VALLEY MUNICIPAL WATER DISTRICT
- 5 GLENN COUNTY
- 6 MERCED AREA GROUNDWATER POOL INTERESTS
- 7 MISSION SPRINGS WATER DISTRICT
- 8 MOJAVE WATER AGENCY
- 9 MOKELUMNE RIVER FORUM
- 10 NORTH FORK CONJUNCTIVE WATER MANAGEMENT GROUP
- 11 SACRAMENTO GROUNDWATER MANAGEMENT AUTHORITY
- 12 SAN GORGONIO PASS AREA
- 13 SAN JOAQUIN COUNTY
- 14 SACRAMENTO CITY/COUNTY OFFICE OF METROPOLITAN WATER PLANNING
- 15 STANISLAUS AND TUOLUMNE RIVERS GROUNDWATER BASIN ASSOCIATION
- 16 STONY CREEK FAN
- 17 UPPER KINGS RIVER BASIN
- 18 UPPER SAN JACINTO RIVER BASINS
- 19 WESTLANDS-PLEASANT VALLEY WATER DISTRICTS
- 20 WATER RESOURCES ASSOCIATION OF YOLO COUNTY
- 21 YUBA COUNTY WATER AGENCY