

# BDPAC Program Performance and Financing Subcommittee

## WORKING DRAFT IN PROGRESS

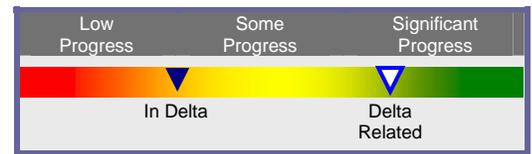
As of March 30, 2007

### CALFED Bay-Delta Program Water Supply Reliability Program Performance

**Water Supply Reliability Goal:** Reduce the mismatch between Bay-Delta water supplies and current and projected beneficial uses dependent on the Bay-Delta system.

**Summary of Progress:** Since the ROD was signed, more water has been reliably delivered than in the years of crisis that led to the establishment of the CALFED Program. New groundwater storage and recycling projects have made significant progress in Stage 1, with new water supplies projected at 687,000 to 860,000 acre

feet. Altogether, including storage projects in the Program and others implemented by stakeholders, groundwater and surface water storage capacity south-of-the-Delta has been increased by more than 4 million acre-feet. Favorable hydrology and implementation of projects to increase operational flexibility have resulted in meeting the target of 65-70% of contract amounts for water deliveries to CVP south-of-Delta water users in each year since the ROD was signed. As a result of implementing the Environmental Water Account, there have been no conflicts between fish and water supply that have resulted in uncompensated water supply reductions since the signing of the ROD.



For the last six years the State has had more reliable water supplies. Despite these major improvements, the Delta's water supply may be less reliable in the future than it is today due to the Palegic Organism Decline (POD), climate change, recent court decisions and other factors. In urban areas, major investments in water use efficiency, reclaimed water and other local resources, and local storage, has helped to stabilize demand for Delta exports. Some important aquatic species in the Delta, including the Delta Smelt, have continued to decline, and some are at an all time low. Scientific research is providing increasing evidence that the export pumps in a through-Delta system may have an adverse affect on some Delta species. As a result, increases in Delta pumping capacity called for in the ROD have not been able to move forward and some are questioning whether existing levels of exports can be sustained. Water conservation grant programs that help local communities reduce their demands on the Delta have not been fully funded at the level originally expected. Surface storage projects in the ROD that can capture surplus flows at times when the risk to the environment is low have been significantly delayed and to date cost-sharing partners for these projects have not been identified.

Increasing conflicts in the Delta between environmental and water supply and quality objectives are creating significant risks to water supply reliability after more than a decade of relative stability.

**Funding:** In Stage 1, CALFED planned to invest over \$5.5 billion in projects supporting the Water Supply Reliability objective. To date, program funding has totaled about \$3.2 billion comprising the following:

<i>Program Element</i>	<i>Expenditures to Date (millions)*</i>			
	<i>State</i>	<i>Federal</i>	<i>Local</i>	<i>Total</i>
Water Use Efficiency	\$315	\$133	\$865	\$1,313
Storage incl. Ground Water	\$374	\$56	\$863	\$1,293
Env. Water Account	\$324	\$35	-	\$359
Conveyance	\$116	\$34	\$93	\$243
Water Supply	\$28	-	-	\$28
Water Transfers	\$2	\$1	-	\$3
<i>Totals:</i>	\$1,159	\$ 259	\$1,821	\$3,239

\* Source: Yearly Funding Reports. Local amounts are estimates attributable to CALFED and are a portion of total local investment that contributes to the Bay-Delta system.

**Strategy:** One of the primary goals of CALFED was to improve the reliability of California's water supply within the context of highly variable hydrology and the competing needs of fish and wildlife and water users. In addition to hydrology, actions taken in Stage 1 assume that water supply reliability is predicated upon the following factors:

- Clear and consistent implementation of all regulatory decisions and project operations.
- Flexibility, water use efficiency and interagency cooperation to avoid water supply/fish/water quality conflicts where possible.
- Investment in infrastructure to improve storage and conveyance capacity.

## In Delta

### Reliable deliveries to agricultural contractors



**Approach:** Increase water delivered to CVP south of Delta agricultural water contractors by 15% of existing contract totals to 60-75% in normal hydrology years.

Implementation of Joint Point of Diversion, operational flexibility, interagency cooperation, and other cooperative water management actions were projected to result in an increase of CVP water for south of Delta agricultural water service contractors of 15 percent (or greater) of existing contract totals to 65 to 70 percent in normal years. It was recognized that this normal year supply improvement may not be achieved in all years due to annual hydrologic variability and its impact on carryover storage conditions.

**ROD Expectations:** 15% increase in normal water years to 65-70%.

**Status:** As a result of Delta improvements and favorable hydrology this water delivery target was met from 2000, when the ROD was signed, through 2006. During 2007, however, adverse hydrology and growing Delta conflicts could threaten achievement of this goal.

As a result of actions taken under the CALFED Program, high levels of cooperation between regulatory and water project agencies and favorable hydrology, this water supply target defined in the ROD has been met.

## Environmental water account (EWA)



**Approach:** The EWA was created to address two problems - declining fish populations and unreliable water supplies. Its purpose is to better protect fish by making it possible to modify water project operations in the Bay-Delta and still meet the needs of water users. To do that, the EWA buys water from willing sellers or diverts surplus water when safe for fish, then banks, stores, transfers and releases it as needed to protect fish and compensate water users. For example, EWA managers might coordinate with water project operators to curtail pumping at specific times to avoid harming fish, and then provide water to cities and farms to compensate for the reduced pumping. *This program is also discussed within the Ecosystem Restoration Program section of the report.*

**ROD Expectations:** 380 TAF of water set aside each year.

**Status:** The EWA has been very successful at eliminating conflict between protection of Delta fish and export water supply. From 1995 through 2006, there were no conflicts between fish and water supply that resulted in uncompensated water supply reductions.

Each year the environmental water account has undergone an independent scientific review. Based on the outcome of these reviews, it is still unclear if the EWA is providing significant benefits to important fish populations or if the investments could provide greater benefits elsewhere.

Over the past six years, approximately \$156 million was spent to purchase a little over 1 million AF of water from sellers and obtain other assets to replace approximately 1.6 million AF of water for fish protection measures taken in the Delta at key times of year while maintaining water deliveries. Changing conditions appear to be threatening water supply reliability during 2007 for the first time in over a decade.

## Water transfers – permit streamlining and public information



**Approach:** The CALFED water transfer program was intended to encourage the development of a more effective water transfer market that facilitates water transfers and streamlines the approval process while protecting water rights, environmental conditions, and local economic interests.

**ROD Expectations:** Anticipated activities included the following: complete measurement and monitoring of available facilities for water transfers by March 2005. Review of existing and proposed legislation for improving contracting processes and permit streamlining by end of 2007.

**Status:** In the first six years of the CALFED Program, over 4.1 million AF of water was transferred to EWA, the DWR Dry Year Program, and to various urban and agricultural water supply agencies. The state Legislature cut all funding for the CALFED Water Transfer program in 2005. This action did not impact the water transfers. The funding cut resulted instead in shutting down the On-Tap Website and water transfer clearinghouse that provided public information about water transfers. Consequently, the ability of the public to provide input to the transfer market was adversely impacted.

## Increase permitted Delta pumping capacity



**Approach:** The SWP Banks Pumping Plant has an existing installed capacity of 10,300 cfs. Flow pumped through Banks is limited to 6,680 cfs, except in July-September when an additional 500 cfs is allowed for the EWA and during winters when San Joaquin River flow is above 1000 cfs.

The ROD called for an increase in SWP pumping from the current limit from March 15 to December 15 to 8,500 cfs; and modify existing pumping criteria from December 15 to March 15 to allow greater use of SWP export capacity by June 2003. By December 2007, increase the SWP capability to 10,300 cfs, screen the intake facility and install permanent operable gates.

Increasing permitted flows has the potential to provide increased water supply reliability and increased water deliveries to SWP and CVP contractors and for environmental uses south of the Delta. Increased pumping capacity could also benefit fisheries by allowing greater pumping when it is safer thereby reducing pumping during periods of stress. These improvements have not been implemented due to concerns over the fishery impacts of through-Delta operations.

**ROD Expectations:** 8500 cfs by 2003, 10,300 cfs by 2006.

**Status:** Due to the delay in identifying the appropriate method to screen the SWP intake facility, increasing the SWP export limit to 10,300 cfs was deferred and the South Delta Improvements Program was redesigned to combine increasing the export limit to 8500 cfs and installing permanent operable gates. A draft EIR/S was released in October 2005 and the final EIR/S was completed in December 2006. No preferred alternative is identified for the operation at the 8500 cfs limit but a 4-gate configuration is identified as the preferred alternatives for the gates. Because of the decline of the Delta pelagic fish populations, a decision on increasing the export limit has been deferred. The installation and operation of the permanent operable gates, and the associated dredging, is being pursued by DWR and the USBR. A decision to construct the gates would not be made until the related biological opinions are complete. A decision to construct the gates would not be made until the related biological opinions are completed. The federal ESA consultation may be combined with re-consultation for the CVP and SWP. If this happens, the schedule for operating the permanent gates would be delayed by at least a year, from 2009 to 2010.

During the preparation of the environmental documents for the South Delta Improvements Program a decision was made to split the environmental documentation on the structural and operational components of the South Delta Improvements Program. Scientific research is providing increasing evidence that the export pumps are having a significant adverse effect on some Delta species. Because of the decline of Delta species the operational component of increasing permitted pumping is on hold.

The Draft Environmental Impact Statement/Environmental Impact Report (EIS/EIR) for South Delta Improvements Program was released in October 2005. The final EIS/EIR was certified in December 2006. This document only covers the structural components of the South Delta Improvements Program – primarily the operable gates.

## Delta Related

### Increase groundwater storage by 500,000 to 1 million acre feet



**Approach:** California can increase its water supply reliability and flexibility, and reduce dry year demand, overdraft, and subsidence through coordinated management and use of groundwater and surface water supplies. Groundwater management includes identifying basin management strategies, planning and conducting groundwater studies, and designing and construction of groundwater projects.

**ROD Expectations:** Aggressive implementation in Stage 1.

**Status:** Development of groundwater storage in California has been very successful. DWR working with local agencies is making demonstrated progress towards meeting this target.

Sixty-two groundwater storage and recharge grants and loans for feasibility studies, pilot projects and construction were awarded for a total of \$205 million. 22 have been completed. An additional \$45 million in state grant funds were awarded for conjunctive use development in Southern California. The Local Groundwater Assistance Program awarded \$27.8 million for 129 projects. Coupled with local cost shares, total investments in groundwater storage totaled more than \$1 billion. When completed, it is estimated that the projects will deliver between 300,000 and 350,000 acre-feet (AF) of yield per year.

### Surface storage in the ROD



**Approach:** Surface storage remains one of the best potential tools in California's water systems to provide operational flexibility. Changes in both global and regional climates are likely to increase the importance of surface storage to meet the states future flood control and water supply needs.

**ROD Expectations:** All planning and permitting completed before the end of Stage 1. Construction started on In-Delta, Los Vaqueros expansion and Shasta before end of Stage 1.

**Status:** Work continues on surface storage investigations for four of five potential projects. DWR and USBR released an update of the CALFED Bay-Delta Program Surface Storage Investigations Progress Report in May 2006. The In-Delta Storage Project State Feasibility Study Report was completed in 2006. Feasibility and environmental studies are underway for the Shasta Lake Water Resources Investigation. Studies for the North-of-the-Delta Off-stream Storage project and Los Vaqueros Reservoir Expansion project are expected to be completed in calendar year 2008. Upper San Joaquin River Basin Storage investigations will be completed in calendar year 2009.

Deadlines included in the ROD were unrealistic and the state and federal agencies are moving forward with completing the necessary studies to determine the priority and implementability of the 5 projects under consideration. Despite the need, surface storage remains a divisive issue in the state which may be contributing to the lack of urgency by the state and federal agencies in moving forward with the necessary investigations. Further slowing the progress on these projects are concerns by water contractors over potential future conveyance restrictions in the Delta resulting from Pelagic organism decline issues and the unwillingness of beneficiaries to commit to funding until conveyance issues are resolved.

It is worth noting that two major surface storage projects (Diamond Valley Lake in Riverside County and Los Vaqueros Reservoir in Contra Costa County) were brought on line during the past decade. These projects were financed solely by local agencies and were developed outside the CALFED process. Altogether, counting both projects assisted by CALFED and those developed independently, groundwater and surface storage capacity south-of-the-Delta has increased by more than 4 million acre-feet.

## Water conservation



**Approach:** Working with the stakeholders and other technical experts, CALFED Agencies developed estimated ranges of potential water savings that could be achieved during Stage 1. These water savings could be generated as follows:

- 520 to 688 TAF in the urban sector
- 260 to 350 TAF in the agricultural sector

These estimates were not intended as targets because focusing on potential water savings alone ignores the substantial contribution that water use efficiency investments can make to other CALFED program goals. The CALFED Agencies have relied on a competitive grant/loan program as the mechanism to assure cost-effective investments in water use efficiency.

**ROD Expectations:** Accelerate implementation of conservation actions to achieve water savings estimates during Stage 1.

**Status:** In the first seven years of the program, 366 agricultural and urban water conservation, recycling and desalinization projects were funded for a total of \$1.3 billion in local, state and federal funds. The agricultural and urban grant recipients reported that they expected the projects to potentially yield 90,000 AF of water when completed. Desalinization recipients reported they expect their projects to yield 35,500 AF when completed.

The Water Use Efficiency Program has not been able to implement the level of investment originally envisioned, primarily due to a decision by the legislature not to fund. There has been some discussion that more progress could potentially be made using both an incentive and a regulatory approach. Despite less than anticipated funding, major urban water suppliers in Southern California have committed to meeting growing needs for water through water use efficiency and local resource investments rather than by increasing reliance on Delta exports beyond currently available amounts.

## Recycling



**Approach:** Water reclamation provides additional opportunities to reduce water demand in a relatively cost-effective and environmentally-benign manner, with multiple benefits for efficiency, dry year reliability and discharge water quality.

**ROD Expectations:** Estimated 225 to 310 TAF of water made available through water reclamation projects by the end of Stage 1.

**Status:** Recycling has been well funded and is on target for the projected expected water yield. Water recycling grant recipients reported expected project yields of 387,000-510,000 AF when projects are complete.

## Lessons Learned:

- **Continued water supply reliability:** Emerging science suggests water supplies may not be as reliable during the next decade without a change in strategy. This science is implicating adverse impacts to water supply activities that continue to rely on through Delta conveyance. This could adversely affect project operations, the delivery of water to replenish south-of-Delta storage, and the transport of water from sellers upstream of the Delta to buyers downstream. Continued progress on water supply reliability will require strategies to deal with these emerging risks.
- **Better understanding of the Delta:** Much has been learned about the Bay-Delta system. Actions to date have furthered the knowledge of Delta hydrodynamics and the understanding of the Delta as a tidal, not a riverine system. Future challenges are also

clearer; climate change, sea level rise and regional climate change are likely to have a substantial effect on the functions of the Delta.

- ***Improved participation in water use efficiency:*** Water use efficiency has not been fully implemented and needs to be more successful in the future. There has been low participation from the agricultural community and it is questionable whether incentive based conservation alone can achieve the level of conservation that may be necessary in the future.
- ***Public input:*** Water transfers are an important part of a balanced water market. Public involvement and input is a key component to this process. The action by the legislature to cut funding did not directly impact the water transfers, however it did adversely impact the ability of the public to gain access to water transfer information and participate.