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September 7, 2004

I am enclosing the 10-Year Finance Plan Program Element Issue Papers as promised in the staff report for Agenda Item 7 for Thursday's meeting of the Bay-Delta Public Advisory Committee (BDPAC). The intent of this document is to frame the finance issues associated with each program element in an attempt to understand differences, and to the extent possible, help stakeholders, BDPAC, the Authority and others reach agreement.

I should note that a public workshop scheduled for August 30 was merged into the BDPAC discussion. It is our intent to structure this part of the meeting in a way to encourage full and open dialogue among stakeholders and the public, as well as among BDPAC members. Another public workshop may be scheduled for September, if necessary, to facilitate additional public and stakeholder involvement.

I appreciate your careful consideration of the issues outlined in this document, and look forward to a productive discussion at Thursday's meeting.

Sincerely,

A handwritten signature in blue ink that reads "Patrick Wright". The signature is fluid and cursive.

Patrick Wright,
Director

Encl.

Draft

10-Year Finance Plan
Program Element Issue Papers

Prepared by the California Bay-Delta Authority

September 2004

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Introduction

Based on direction from the California Bay-Delta Authority (Authority) and the Bay-Delta Public Advisory Committee (BDPAC) and consistent with advice given by the Finance Plan Independent Review Panel, Authority staff is working with stakeholders and agencies to develop a 10-year finance plan for the CALFED Program. The need to do a comprehensive analysis of program objectives, future funding targets, and proposed cost sharing for CALFED is prompted by: 1) the fact that current funding sources (primarily bond funds) will soon be depleted, 2) the review of program benefits and beneficiaries is needed to support a benefits-based cost allocation as called for in the Record of Decision, and 3) the status quo approach to funding the Program primarily through State bonds is being challenged due to the current state fiscal crisis and the pressure by the State Legislature to expand the financial contributions from beneficiaries of the Program.

This effort is, inevitably, a controversial undertaking. Though the concept of beneficiary pays is broadly supported, the task of putting such a principle in place is a difficult one. There are many uncertainties regarding the CALFED Bay-Delta Program actions, targets, costs, and benefits – and cost-sharing arrangements can not be negotiated in the abstract. The CBDA intends to continue working with state and federal agencies and interested stakeholders to develop a 10-year finance plan that acknowledges the uncertainties, develops processes to develop additional information to address the uncertainties, but moves forward with cost sharing proposals on those parts of the program where information is sufficient.

This document forms the basis for the development of the Finance Plan. To ensure strong involvement from stakeholders and the agencies, Authority staff have held numerous meetings over the last few months to increase the understanding of the finance issues facing the CALFED Bay-Delta Program. This document is a result of those discussions. The principles included in this document should provide guidance to any future finance discussion even as funding targets change or specific cost-sharing agreements are reached.

The next step is to develop straw proposals to address the issues – which will be reviewed by stakeholders and agencies and presented to the BDA in October for review and approval. For those parts of the program where it is premature to develop a single proposal for financing, options will be presented and discussions will continue.

The 10-year finance plan – is a “plan”. To implement the plan, each element or project/action will either require Congressional authorization and appropriation, and State legislative and/or voter authorization and appropriation. Ideally, it will be a plan that all the CALFED agencies and stakeholders will embrace and can use to create a common voice for future CALFED Bay-Delta Program funding.

Proposed Finance Principles

The Bay-Delta Authority proposes the following finance principles should be used in developing the 10-year finance plan and future finance efforts. These principles are generated from the discussion supporting the Draft Finance Options Report and as a result of more recent agency and stakeholder meetings on the 10 year finance plan.

1. **Support CALFED Solution Principles:** The CALFED solution principles should always be kept at the forefront of any Bay-Delta finance discussion. Finance agreements should be crafted in a way deemed equitable, affordable, and durable. They should not result in significant redirected impacts and they should reduce Bay-Delta system conflicts.
2. **Follow a Benefits-Based Approach:** In developing finance allocations, the fundamental principle from the Record of Decision of beneficiaries-pays will be emphasized. All cost allocations will correlate program benefits with the groups receiving the benefits and recover cost accordingly.
3. **Public and User Benefits:** All CALFED Bay-Delta Program benefits can be divided into two broad categories: public and resource user. The general public includes state and federal taxpayers and the resource users include water users, other local agencies, recreation, commercial fishing, flood protection and hydropower recipients. While there is often a lack of specific data to draw a clear line between the amount one group benefits vs. another – it is important to maintain the distinction to ensure a benefits-based approach. For example, the lack of State General Fund dollars that would be used to support State public benefits should not be addressed by increased user fees.
4. **Reasonable Funding Targets:** All CALFED agencies and stakeholders should strive to identify funding targets for the CALFED Bay-Delta Program that can meet program objectives, but have also focused on the highest priorities and maximized program efficiency. Additional funding for the Program should be requested from State or federal sources or from resource users only after reasonable funding targets have been developed. In addition, while Program performance will increasingly be judged in future years by programmatic performance measures (i.e. fish populations, reduced flood damages in the Delta); inevitably one form of balance across the CALFED Program will continue to be the available funding to meet the funding targets – which further supports the need for funding targets to reflect high priorities and increased efficiencies.
5. **Mid-point evaluation:** In many, if not all Program elements, additional information is being developed that will better direct program priorities and as a result could modify

proposed funding targets and allocations. Therefore, the Finance Plan should explicitly identify the timing for a check-in and the process for review of the program element priorities. In those programs where there is substantial uncertainty, the Finance Plan will identify a near-term and long-term approach to financing.

6. **Develop Accounting System to Review Program Benefits and Costs:** Once the Finance Plan funding targets and cost allocations are proposed, a system needs to be developed as part of the Plan that tracks the link between program benefits and revenue. This system will allow program contributors to look back on program spending to determine if contributions have been beneficial to the program and should be continued or not.

Schedule and Process

The strategy for developing the 10-Year Finance Plan is detailed below.

Key Meetings, Schedule and Expected Work Products

Below is a synopsis of the key meetings, schedule and expected work products that has begun and is expected to still occur over the next several months. The steps called out below are intended to satisfy two needs: (1) ensure stakeholder and agency representatives are partners in the development of a 10-year plan; and (2) ensure a proposed plan is developed in time to meet Fall, 2004, budgetary deadlines.

Initial funding targets and unmet funding needs –Draft information has been prepared by Program Element and task including: proposed annual funding targets for a 10-year period, identification of available funding and remaining unmet needs, and preliminary finance strategies that describe the type of finance tools likely to support each Element. (Note: These documents are expected to evolve into the eventual 10-Year Finance Plan.)

- ***June BDA Meeting*** -- Presented summary of expected cost estimates, available funding and unmet needs.
- ***July 8th BDPAC Meeting*** -- Presented updated funding targets and available funding, described process and schedule, and reviewed preliminary finance strategies as presented at BDA in June.
- ***August 11th & 12th BDA Meeting*** -- Presented revised funding targets, discussed preliminary finance strategies, reviewed process and schedule, and highlighted issues.
- ***August thru September*** -- Continue to refine the funding targets as part of the development of the Finance Plan.

Finance Plan –Issue Papers have been developed for each Program Element that lays out: likely activities and associated funding targets; current funding available; likely funding gaps, key issues and options for cost-sharing arrangements to cover the unmet funding needs.

- ***August thru September*** – Meet with agencies, stakeholders and public interests to identify funding issues and to the extent possible reach agreement on cost allocations.
- ***September 9th BDPAC Meeting*** -- Present Issue Papers which include revised funding targets, unmet needs, and funding issues for each Program Element. In depth presentation on each Issue Paper. Discuss highlights and key issues. In those cases where there is agency and stakeholder support for a cost allocation approach, the Issue Paper will reflect the agreement.
- ***September*** – Tentative--Public Finance meeting/workshop focused on funding targets and cost allocations in preparation for October BDA meeting.
- ***October 14th BDA Meeting*** -- Present 10-Year Finance Plan. As necessary, discuss remaining gaps/issues.
- ***October thru November*** – As needed, continue discussion on funding targets and cost allocations if not resolved at the October BDA meeting.

- **November** - For any remaining issues not resolved at the Oct BDA meeting, a November BDA meeting will be held. For finance issues that have a 2005-06 state budget effect, final submittal to the Department of Finance will be no later than mid-November in order for the issue to be reflected in the Governor's Proposed Budget for FY 2005-06.

Stakeholder and Agency Involvement

Below is an outline of the proposed approach for ensuring the above work products are informed by extensive stakeholder and agency involvement, insights and information.

Public Workshops

- BDA staff will convene public finance workshops or in depth discussion at BDPAC to ensure there are cross-cutting discussions with interested stakeholders to review progress and consider Program-wide integration issues.
- Open attendance; materials posted in advance on web; email reminders to those who demonstrated interest in this topic over the past year.
- Seek feedback on evolving Finance Plan; not striving for consensus at these meetings.

Ad Hoc Involvement

Support and participate in work groups that are interested in discussing the material in greater detail to ensure stakeholder/agency understanding, refine stakeholder/agency input into BDA deliberations and foster a bottoms-up discussion. It is expected that these work groups can and should take on different formats. For example:

- Stakeholder-driven groups such as water user discussions.
- Briefings and discussions with standing BDPAC Subcommittees.
- BDA-initiated discussions with groups such as environmental water caucus.
- BDA-convened meetings with agency and stakeholders focused on specific program elements and issues.

Legislative Budget and Policy Committees

- Committees have expressed an interest in holding hearings on CALFED financing. If scheduled, the hearings are likely to be held in January.

Summary Table

CALFED Bay-Delta Program 10-Year Funding Targets and Unmet Needs (\$ in millions) September 7, 2004											
Program Element / Years	Funding Targets		Available Funding							Unmet Needs	
	Cost Estimates	Adjusted for Inflation	State		Federal	Water User		Local	Total Avail.	Total Unmet	Avg. Annual
			GF	Bonds	Approps.	SWP	CVPIA RF				
Ecosystem Restoration	\$1,500.0	\$1,701.3	\$9.5	\$140.4	\$3.2	\$43.4	\$335.5	\$0.0	\$532.0	\$1,169.3	
Years 5-9	\$750.0	\$792.4	\$4.7	\$140.4	\$3.2	\$23.6	\$160.5	\$0.0	\$332.4	\$459.9	\$92.0
Years 10-14	\$750.0	\$908.9	\$4.7	\$0.0	\$0.0	\$19.8	\$175.0	\$0.0	\$199.6	\$709.3	\$141.9
Annual	\$150.0										
Environmental Water Account	\$360.7	\$416.1	\$0.0	\$121.2	\$8.0	\$0.0	\$0.0	\$0.0	\$129.2	\$286.9	
Years 5-9	\$194.1	\$208.5		\$91.8	\$8.0				\$99.8	\$108.7	\$21.7
Years 10-14	\$166.6	\$207.6		\$29.4	\$0.0				\$29.4	\$178.2	\$35.6
Annual	\$33.3										
Water Use Efficiency	\$1,916.6	\$2,334.7	\$14.4	\$273.2	\$12.4	\$0.0	\$0.0	\$48.3	\$348.4	\$1,887.9	
Years 5-9	\$958.3	\$1,167.4	\$7.2	\$254.5	\$12.4			\$48.3	\$322.4	\$770.8	\$154.2
Years 10-14	\$958.3	\$1,167.3	\$7.2	\$18.7	\$0.0			\$0.0	\$26.0	\$1,117.1	\$223.4
Annual	\$182.0										
Water Transfers	\$6.0	\$6.0	\$4.6	\$1.4	\$0.0	\$0.0	\$0.0	\$0.0	\$6.0	\$0.0	
Years 5-9	\$3.0	\$3.0	\$2.3	\$0.7					\$3.0	\$0.0	\$0.0
Years 10-14	\$3.0	\$3.0	\$2.3	\$0.7					\$3.0	\$0.0	\$0.0
Annual	\$0.6										
Watershed	\$250.0	\$283.5	\$1.0	\$46.0	\$0.0	\$0.0	\$0.0	\$0.0	\$47.0	\$236.6	
Years 5-9	\$125.0	\$132.1	\$0.5	\$46.0	\$0.0			\$0.0	\$46.5	\$85.6	\$17.1
Years 10-14	\$125.0	\$151.5	\$0.5	\$0.0	\$0.0			\$0.0	\$0.5	\$151.0	\$30.2
Annual	\$25.0										
Drinking Water Quality	\$178.3	\$200.1	\$2.3	\$4.7	\$0.0	\$0.0	\$0.0	\$0.0	\$7.0	\$193.1	
Years 5-9	\$97.7	\$103.4	\$1.2	\$4.7	\$0.0				\$5.9	\$97.6	\$19.5
Years 10-14	\$80.6	\$96.7	\$1.2	\$0.0	\$0.0				\$1.2	\$95.5	\$19.1
Annual	\$21.5										
Levees	\$427.3	\$485.8	\$0.1	\$40.5	\$0.2	\$0.0	\$0.0	\$0.0	\$40.8	\$444.9	
Years 5-9	\$203.8	\$214.3	\$0.1	\$40.5	\$0.2			\$0.0	\$40.8	\$173.6	\$34.7
Years 10-14	\$223.5	\$271.4	\$0.1	\$0.0	\$0.0			\$0.0	\$0.1	\$271.4	\$54.3
Annual	\$42.2										
Storage *	\$908.4	\$982.2	\$2.7	\$141.8	\$2.5	\$0.0	\$0.0	\$263.0	\$410.0	\$572.2	
Years 5-9	\$631.6	\$647.2	\$1.4	\$132.8	\$2.5			\$263.0	\$399.6	\$247.5	\$49.5
Years 10-14	\$276.8	\$335.0	\$1.4	\$9.0	\$0.0			\$0.0	\$10.4	\$324.6	\$64.9
Annual	\$55.3										
Conveyance	\$307.5	\$323.2	\$4.8	\$80.1	\$0.0	\$20.8	\$0.0	\$0.0	\$105.7	\$217.5	
Years 5-9	\$266.0	\$274.9	\$3.1	\$80.1	\$0.0	\$20.8			\$104.0	\$170.9	\$34.2
Years 10-14	\$41.5	\$48.3	\$1.7	\$0.0	\$0.0	\$0.0			\$1.7	\$46.6	\$9.3
Annual	\$30.8										
Science	\$440.0	\$499.0	\$0.0	\$43.4	\$39.6	\$62.0	\$1.5	\$0.5	\$147.0	\$352.1	
Years 5-9	\$220.0	\$232.4		\$39.5	\$19.8	\$31.0	\$0.8	\$0.2	\$91.3	\$141.1	\$28.2
Years 10-14	\$220.0	\$266.6		\$3.9	\$19.8	\$31.0	\$0.8	\$0.2	\$55.7	\$210.9	\$42.2
Annual	\$44.0										
Oversight & Coordination	\$118.9	\$134.9	\$72.1	\$0.0	\$1.5	\$0.0	\$0.0	\$0.0	\$73.6	\$61.3	
Years 5-9	\$59.5	\$62.8	\$36.1		\$1.5				\$37.6	\$25.3	\$5.1
Years 10-14	\$59.5	\$72.1	\$36.0		\$0.0				\$36.0	\$36.1	\$7.2
Annual	\$10.0										
Total 10 years	\$6,413.8	\$7,366.8	\$111.5	\$892.7	\$67.4	\$126.2	\$337.0	\$311.7	\$1,846.6	\$5,421.8	
Annual Total	\$594.7										

* Includes funding for all surface storage projects through permitting. Funding for construction will be determined through future agreements.

Ecosystem Restoration Program Background and Issues

Background

Between 2000 and 2004, funding for the ERP has totaled \$648 million (\$452 million state, \$22 million federal, \$101 million from water users, and \$73 million estimated local grant matching). In addition, contributions were made before the ROD as part of the Delta Accord and Category III funding that totaled \$282 million (\$60 million state, \$190 million federal and \$32 million water users funding).

Issues

1. Funding Target: Based on an extensive review of ERP projects funded to date and future ERP targets and milestones, the Draft Finance Options Report (FOR) identified that \$240 million would be needed annually through 2030 to sustain progress toward ERP restoration targets and ERP/Multi-Species Conservation Strategy milestones, but also presented a \$150 million per year target as a reasonable alternative consistent with the target identified in the CALFED ROD. Water users question the \$150 million target for several reasons: they believe there is insufficient backup for how those funds will be used, performance rather than dollar based targets are more appropriate, and agency spending has not always kept up with the \$150 million made available each year. The state and federal fishery agencies support the \$150 million target, indicating that based on the milestone assessment and the Draft FOR cost projections, \$150 million is still a reasonable funding target.

2. Export Regulatory Commitments: The funding level of \$150 million/year has been part of the program-level regulatory commitments for Delta exports provided in the ROD through Sept 30, 2004. The programmatic commitments for exports are being evaluated as part of the reinitiation of the programmatic consultation for covered species under state and federal laws (CESA, FESA, and NCCPA). The state and federal fishery agencies have indicated that based on available information and the need to extend the agreement past September 30th, 2004, an extension of the original terms will be put in place which will continue the annual \$150 million ERP funding level as a condition for regulatory commitments through Stage 1. However, the Conservation Agreement also includes the ability to review this requirement through a process if funding is not sufficient to meet this target.

Water users have expressed concern about the \$150 million being tied to the export regulatory assurances because they do not believe all \$150 million is linked to Delta water exports. Based on a closer review by water users of how ERP funding is being and will be spent over the next 10 years, water users are expecting to identify those actions that have the greatest water supply reliability benefits for all Bay Delta water users, including the export water users.

Environmental interests are concerned about the water user interest in separating parts of the ERP into water supply benefits. While the ERP is part of the programmatic commitments for

exports it is also part of the programmatic coverage for the entire CALFED Program and is tied to numerous state and federal requirements/laws (CESA, FESA, and NCCPA). Environmental interests are concerned that if water users support only part of the package it could threaten the programmatic coverage provided by the Conservation Agreement.

3. **Near-Term Funding:** The available funding for ERP is \$395 million -- primarily from Props 50 and 13, CVPIA Restoration Fund, SWP funds and Federal appropriations (See ERP table in this section). Unless additional funding is provided, the ERP will have a significant funding shortfall starting next year -- Year 6.

4. **Funding Options:** The ERP provides benefits to the general public through improvements in the ecosystem but also provides benefits to resource users including water users, fishing interests, flood protection and hydropower recipients. The Draft FOR describes these benefits/beneficiaries, the scale of the benefits, and the relative certainty of the benefits accruing (page 223 Draft FOR).

There is no agreement at this point on how to allocate the cost of the ERP. Based on conversations with interested stakeholders and agencies, and a review of program benefits, the Draft FOR included three example cost allocations that ranged from essentially full public funding to an allocation with up to 46% funding from water users. The mid-range option, referred to as the "Proportional Benefits-based Allocation" (page 236 of the FOR) proposes a 27% water user contribution—similar to the allocation in the ROD.

5. **Restoration Fund:** The purpose of the CVPIA Restoration Fund is to mitigate, protect, restore, and enhance fish and wildlife losses resulting from CVP construction, operation, and maintenance. The ROD identified that approximately \$15 million per year of CVPIA RF would be available to fund the ERP. Over the past 4 years, on average, there has been \$20 million per year of CVPIA RF committed towards the ERP. These are funds that have met both CVPIA and ERP goals and objectives. Is it reasonable to assume this level of funding from CVP water users will continue for ERP or should the amount be higher or lower?

6. **Water User benefits and contributions:** If there is a water user contribution to the ERP, then as part of a benefits-based financing approach, a close review will be done to identify which water users benefit from the ERP and what the relative share of benefits are in order to develop a proposed cost allocation reflecting the benefits. The assessment of water supply reliability benefits and allocation of costs could include several variables such as: volume of water diverted, relative economic benefit of the water to agriculture vs. M&I use, variation in geographic distribution of benefits between upstream, in-delta and export water users. What is a reasonable basis to reflect benefits and cost allocation?

- **Water User Review:** Water users are reviewing the milestones and targets included in the ERP and are identifying which activities provide water supply reliability benefits. Based on the funding projected for those activities, water users are considering limiting any contributions to those actions that provide the water supply reliability benefits.

- *Existing Water User Contributions:* In evaluating the allocation approach for water users, the existing mandated contributions as part of CVPIA and SWP 4 pumps agreement need to be considered. For example, using the \$150 million /year target, and considering amount diverted, economic benefits, and geographic scale of benefits, the CVP water user share may be less than the current amount contributed (\$20 million/ for ERP). Therefore, assuming the \$20 million existing Restoration Fund level for ERP is continued, the CVP water users may be contributing more than their reasonable share to the ERP. How should this be addressed? Should the other water users pay less? Can CVP contributions for ERP offset their share of contributions that may be identified in other areas of CALFED such as EWA?
- *Category 3 Water User Contributions:* As part of the Bay-Delta Accord in 1994, a section referred to as Category 3 of the Accord, expressed the need to provide ecosystem funding prior to the completion of the long-term Bay-Delta water/ecosystem management plan. Funding for early ecosystem implementation totaled \$282 million (\$60 million state, \$190 million federal and \$32 million water users funding). As stated in a letter dated (XX) from The Bay-Delta Program to the California Urban Water Association (CUWA) and again stated in the Final EIS/R Implementation Plan (page 5-62) early contributions for ecosystem would be credited against future allocations. The BDA, and several environmental interests and urban water agencies continue to express support for providing a \$32 million credit toward any future allocation assigned to those water agencies that made the early contribution.

7. ***Cost Allocations for Large ERP Projects:*** The ERP is made up of over 600 actions/targets. As with the other CALFED Program Elements, subcomponents of a program element should be pulled apart to better understand benefits and beneficiaries in order to better develop a benefits-based cost allocation. State and federal agencies and BDA believes the majority of the ERP actions provide similar distribution of benefits such that a project by project review and allocation approach is not justified; a different approach may be justified for the very large cost ERP actions. For example large-cost fish screens and fish passage projects such as Battle Creek possibly should be evaluated separately and a cost allocation tailored for those specific projects.

8. ***EWA and ERP funding:*** Because of the close relationship of ERP and EWA in terms of restoration objectives and fund sources; agencies and stakeholders have requested that ERP and EWA finance planning be closely coordinated, and that the funding for EWA and ERP be more easily shifted from one program to another in order to maximize the restoration benefits. While coordination and flexibility is important, the benefits and funding revenue for each program may differ and any flexibility needs to ensure that financial contributions continue to be linked to the benefits being provided.

9. ***Recreational & commercial fishing, flood protection, and hydro beneficiaries:***

Should other potential beneficiaries contribute to funding for the ERP?

- As part of a review of program benefits in the Draft FOR, CBDA staff were able to identify positive benefits (although speculative) to commercial and recreation fishing as a result of the ERP actions. DFG does not support increased recreational fees, in part

because of the current size of fees and the recent increase in fees on recreational fishing in California.

- Based on the review of benefits to flood control recipients from the ERP in the Draft FOR, the benefits appeared small in magnitude and highly uncertain.
- As with flood control recipients, benefits to hydropower recipients appeared small in magnitude and highly uncertain. However, it should be noted that CVP hydropower users currently contribute to the ERP through the Restoration Fund charges. While benefits to hydropower recipients appeared small in the context of the ERP as a whole – if single projects are separated and allocations developed individually as described above, hydropower may be a larger beneficiary.

**Ecosystem Restoration Program
10-Year Funding Targets & Unmet Needs**
(\$ in millions)
August 18, 2004

Program Year	Funding Targets		Available Fund Sources										Total Available	Unmet Needs
	2005 Dollars	Adjusted for Inflation	State			Federal	Water User			Local				
			GF	Prop 204	Prop 13		Prop 50	Approps.	SMP ¹		CVP	CVPIA RF ²		
Years 5-9	\$750.0	\$792.4	\$4.7	\$1.6	\$42.5	\$96.4	\$3.2	\$23.6	\$0.0	\$100.5	\$0.0	\$272.4	\$519.9	
Year 5	\$150.0	\$150.0	\$0.9	\$1.6	\$10.0	\$81.2	\$3.2	\$7.3		\$20.5		\$124.7	\$25.3	
Year 6	\$150.0	\$154.2	\$0.9		\$10.0	\$15.2		\$4.4		\$20.0		\$50.6	\$103.6	
Year 7	\$150.0	\$158.4	\$0.9		\$10.0			\$4.0		\$20.0		\$34.9	\$123.4	
Year 8	\$150.0	\$162.6	\$0.9		\$10.0			\$4.0		\$20.0		\$34.9	\$127.7	
Year 9	\$150.0	\$167.2	\$0.9		\$2.4			\$4.0		\$20.0		\$27.3	\$139.9	
Years 10-14	\$750.0	\$908.9	\$4.7	\$0.0	\$0.0	\$0.0	\$0.0	\$19.8	\$0.0	\$100.0	\$0.0	\$124.6	\$784.3	
Year 10	\$150.0	\$171.9	\$0.9					\$4.0		\$20.0		\$24.9	\$147.0	
Year 11	\$150.0	\$176.7	\$0.9					\$4.0		\$20.0		\$24.9	\$151.8	
Year 12	\$150.0	\$181.6	\$0.9					\$4.0		\$20.0		\$24.9	\$156.7	
Year 13	\$150.0	\$186.7	\$0.9					\$4.0		\$20.0		\$24.9	\$161.8	
Year 14	\$150.0	\$191.9	\$0.9					\$4.0		\$20.0		\$24.9	\$167.0	
Total, Years 5-14	\$1,500.0	\$1,701.3	\$9.5	\$1.6	\$42.5	\$96.4	\$3.2	\$43.4	\$0.0	\$200.5	\$0.0	\$397.0	\$1,304.3	

Notes:
1 SMP funding is Four Pumps
2 CVPIA RF funding projections are based on historical averages of CVPIA RF amounts that counted toward the CALFED Program during the first 5 years of CALFED implementation.

Environmental Water Account Background and Issues

Background

Since 2000, funding for a pilot EWA has been provided with public funds (\$153 million state, \$17 million federal). The ROD states that the pilot program should be reviewed after four years to “assess the success of EWA operations” and to “determine the appropriate size and composition of an EWA, as well as the EWA’s sharing in the benefits from new facilities”. A Science Program review panel has been formed to review EWA operations and results. At the time of the 4-year evaluation of the EWA, the issue of future funding is being revisited. An operational EWA has been required as a prerequisite of the annual program-level regulatory commitments for Delta export area water supply provided in the ROD through Sept 30, 2004. The programmatic commitments for exports are being evaluated as part of the reinitiation of the programmatic consultation for covered species under state and federal laws (CESA, FESA, and NCCPA).

Issues

1. ***EWA Funding Target:*** If the EWA continue for another 10 years, the estimated funding target from DWR for the EWA is \$403 million over 10 years, averaging about \$33 million per year in 2003 dollars. The funding target is based on the magnitude of pumping curtailments identified by the fishery agencies as needed to address fish protection and recovery needs. The quantity of purchased water to support those pumping curtailments has been modeled over the 73-year hydrologic record and the costs for acquiring that water have been estimated. To the extent long-term water acquisitions are made (such as the proposed Yuba acquisition) annual costs for the EWA will be reduced.

Water users are questioning the acquisition targets for several reasons, including thier view of the underlying uncertainty regarding benefits and the need for the science review panel to make its assessment. Water users also question the assumption that costs will rise with the rate of inflation – unit prices to acquire water could remain steady or even decline over time.

In addition, the Conservation Agreement regarding the MSCS, as amended, would require an operational EWA as a condition for regulatory commitments through Stage 1. However, the Conservation Agreement also includes the ability to review this requirement through a process if funding is not sufficient to meet this target.

2. ***Need for EWA Reserve to Address Annual Fluctuations:*** The currently-identified assets and management tools of the EWA involve considerable flexibility to accommodate changes in hydrology and fish behavior. Although the average annual

cost is estimated at \$33.3 million, the estimated annual cost range is between \$24 and \$45 million. This range reflects the range of conditions modeled over the 73-year hydrologic record, and illustrates the inherent uncertainty in asset management to meet fish needs. These fluctuations need to be accommodated as part of the finance plan. Funding targets shown are higher in years 5 and 6 to allow creation of a \$25 million reserve fund. Water users seem to support the idea of a reserve fund, but want to be sure that the money is properly accounted for¹.

3. ***Available Funding and Use of Proposition 50 Chapter 7(d) Funds:*** The primary available funding sources currently identified for the EWA are bond funds from Prop 50 Chapter 7 (d). This funding (\$180 million) is available for water supply reliability projects including but not limited to groundwater projects, water transfers, and acquisition of water for the EWA. The EWA table in this section reflects a previous understanding of the allocation of those funds with a large share allocated to EWA. Based on a \$33 million funding target and the estimated available funding from Prop 50 shown in the table, there would be sufficient funding to cover all program costs in Years 5-8.

In the 2003-04 Budget Act, language was added that directs a portion of the Chap. 7 (d) funds to long-term purchases for EWA (Water Code Section 79555a). The language requires that not less than 50% of the funds made available from Chap. 7 (d) for EWA shall be expended for long-term water purchases. It is not clear how the 50% requirement should be applied: to the entire amount in Chap. 7(d) or to the amount allocated to EWA. Authority staff are researching the intent of the language.

Issues have been raised about whether and how much Prop 50 funds should be directed to EWA. The DWR and DFG along with CBDA are currently reevaluating the distribution of Prop 50 Chapter 7 (d) funding). Water agencies are interested in a portion (at least 50%) of the funding being used for water supply reliability grants to local water agencies. In addition, environmental interests support the Budget Act language and have questioned why the available public funding is proposed to be used in the first 3 years instead of spreading the public funding over more years and bringing in water user funding to make up the difference.

- How much Prop 50 Chap. 7 (d) funding should be directed to the EWA?
- How does Water Code Section 79555 (Statutes of 2003) affect the allocation of the Chap. 7 (d) funding?
- The remaining \$6.3 million of Prop. 13 funds was directed for Tier 3 purchases – could they be used for EWA acquisitions?

¹ As envisioned, a reserve fund would, by design, fluctuate from year to year, but would not be fully expended. At the end of the 10-year plan a significant amount of money could remain in the fund, and would be available, for example, to carry forward into a continuing operation of EWA. Alternatively, if the EWA program were to end, the fund could be used to finance the final year of operations.

4. ***Costs prior to Banks 8,500 and south of Delta water costs:*** South of Delta water costs have been relatively high, being driven by the high demand for water in dry years and the dependence of the export service area on SWP and CVP supplies. EWA is forced to buy water south of the Delta in wetter years because of limited access to Banks capacity. The situation will be relieved somewhat with 8,500 Banks. However, with 6,680 Banks, EWA costs average about \$5 million more than with 8,500 Banks. Therefore the timing of the implementation of 8,500 Banks will have an impact on the EWA's costs. In addition, current limitations in the SWP long-term water supply contracts restrict the ability of SWP contractors to transfer water to EWA. (Those limitations do not apply to CVP contractors.) To date, south-of-Delta water acquisitions have been primarily limited to previously banked groundwater and CVP transfers. The limited market available to EWA has resulted in high costs. Should the SWP water transfer policies be revised to increase the market and reduce south-of-Delta water costs?

5. ***Ability to acquire long-term water purchase agreements:*** DWR believes that economies can be realized by acquiring long-term assets for the EWA, minimizing annual purchases. Funding in years 5 and 6 is shown as higher than the average \$33 million in order to establish a reserve fund. Funding targets could also be front-loaded to provide a fund for long-term acquisitions. Should some of the higher initial spending in years 5 and 6 be directed to support long-term water acquisitions, consistent with the language in Proposition 50, Chapter 7 (d)? Recent discussions for long-term acquisitions support the concept that such transactions will reduce overall costs. The magnitude of the savings depends on the amount of money that can be committed to water purchase contracts in the near term. Currently, Proposition 50 is the only funding source available to the EWA, and it is being applied to annual purchases to maintain the program into 2006. The more funding that can be directed to longer-term purchases, the greater the cost savings. The cost savings for EWA could be 10% or more, depending on many market-related factors. Both water users and environmental interests support the longer-term acquisitions to provide greater certainty and minimize market effects of the EWA water purchases. Water user's stress that money expended in early years for long-term acquisition should be offset by reduced expected annual costs in subsequent years.

6. ***Funding options:*** There is no agreement at this point on how to allocate the cost of the EWA. The agencies generally support a 50-50 cost allocation between public funding and water user funding. The water users are likely to support a lower water user share and environmental groups are likely to support a higher water user cost share. The 50-50 split was based on limited available analysis of benefits and water users would like to re-examine the rationale underlying the split. Water users upstream of the Delta assert that they do not benefit from EWA and should not be asked to contribute to its cost. They further cite language in the ROD that "CALFED agencies have crafted the EWA so that it has no effect on the water rights of other water right holders in the watershed".

7. **Water User contributions:** If there is a water user contribution to the EWA, then as part of a benefits-based financing approach, a close review will be done to identify which water users benefit from the EWA and what the relative share of benefits are to develop a proposed cost allocation reflecting the benefits.

For example, according to DWR, based on the first 3 years of EWA operation, 80% of EWA benefits were provided to the SWP contractors and 20% to CVP contractors. However, in 2004, 47% of EWA benefits were provided to SWP contractors and 53% to CVP contractors. SWP contractors state that EWA operations benefit both projects, regardless of which pumps may be affected by particular actions, so the costs allocated to water users should be shared evenly or in proportion to pumping. CVP contractors state that fewer EWA actions affect CVP deliveries largely because Tier 1 assets that they provide (CVPIA 3406(b)(2) water) are used for Delta actions. All agree that the accounting for (b)(2) vs. EWA vs. other purposes is difficult to sort out. Water users seem to agree on the need for a process to determine an appropriate split of benefits to the exporting projects. This split would take into account all contributions to Delta improvements (including Tier 1 and possibly CVPIA (b)(3) acquisitions) and would be reviewed and updated as needed to reflect actual EWA operation.. Some SWP users also suggested that mitigation payments under the Four Pumps Agreement might be used for EWA contribution.

8. **Program Linkages:** Certain water users are viewing any financial contribution to EWA as mitigation for increased exports as part of the South Delta improvements and increased pumping to 8500 cfs at the SWP pumps. As a result water users are expressing the need to link the operation of 8,500 Banks to water user contributions to the EWA. At this time 8,500 Banks is expected to be operation by 2007. Water users would like any long-term agreement on EWA operations and funding be tied to the implementation of 8,500 cfs pumping. This would imply an interim agreement between now and 2007 (or when 8,500 is implemented), with a subsequent plan for years 8 through 14 of the 10-year plan, conditional on 8,500. Environmental groups do not support further delay in water user financial commitments. They argue that the water supply benefits of EWA already justify a user contribution.

Environmental Water Account
10-Year Funding Targets & Unmet Needs
(\$ in millions)
September 3, 2004

Program Year	Funding Targets		Available Funding			Total Available	Unmet Needs
	2005 Dollars ^{1,3}	Adjusted for Inflation	State		Federal		
			Prop 13	Prop 50 ²	Approps.		
Year 5	\$46.7	\$46.7	\$6.3	\$32.5	\$8.0	\$46.8	\$0.0
Year 6	\$47.4	\$48.3		\$48.3		\$48.3	\$0.0
Year 7	\$33.3	\$35.1		\$34.1		\$34.1	\$1.0
Year 8	\$33.3	\$36.0				\$0.0	\$36.0
Year 9	\$33.3	\$37.0				\$0.0	\$37.0
Year 10	\$33.3	\$38.0				\$0.0	\$38.0
Year 11	\$33.3	\$39.0				\$0.0	\$39.0
Year 12	\$33.3	\$40.1				\$0.0	\$40.1
Year 13	\$33.3	\$41.2				\$0.0	\$41.2
Year 14	\$33.3	\$42.3				\$0.0	\$42.3
Total, Years 5-14	\$360.7	\$403.7	\$6.3	\$114.9	\$8.0	\$129.2	\$274.5

NOTES:

1. All years have \$32 million for asset purchases, \$0.623 million for DWR staff, \$0.3 million for USBR staff, \$0.1 million for DFG staff, \$0.3 for F&WS staff, and no staff money for NOAA Fisheries (NOAA Fisheries is funding their participation in other ways). For Year 5, an additional \$2 million is for the long term EWA EIS/EIR and \$11.4 million for a bankroll fund. For Year 6, \$14.1 million is for the bankroll fund. The bankroll fund is not adjusted for inflation.

2. Proposition 50 expenditures include \$32.5 million already allocated for EWA in 2004/05, plus an additional \$82.4 million from Chapter 7, Section 79550(d) currently budgeted for water supply reliability projects. Bond expenditure is shown - actual timing of bond approval and issuance may differ.

3. Funding for acquisitions is shown as an annual expected average. Long-term acquisitions could increase the funding need in early years and reduce it later years. The reserve fund could potentially be used to finance such long-term acquisitions, with subsequent years used to replenish the reserve fund as needed.

Water Use Efficiency Background and Issues

Background

Between 2000 and 2004, funding for the WUE Program has totaled \$668 million (\$213 million state, \$85 million federal, \$370 million local grant matching). Of this total, water conservation made up \$154 million (\$107 million state, \$6 million federal, \$41 million local) and water recycling totaled \$543 million (\$106 million state, \$79 million federal, \$358 million local). These amounts do not include the significant expenditures for water conservation and recycling activities carried out by public and private organizations that were not participating /cost sharing in the CALFED grants and loans.

Issues

1. **Funding target:** At this time, a low-end WUE funding target of \$182 million per year is included in the WUE table in this section. Different interests (urban water agencies, environmental groups, and irrigation districts) support different funding levels due to varying implementation, cost-effectiveness and level-of-effort concerns. All interests support a water use efficiency program with measurable outcomes, and all have concerns about funding availability. All agree that funding targets for WUE should derive from an objective assessment of the economic potential – both local and statewide – of conservation, recycling, and desalination investments, and that frequent “look-back” evaluations are also needed to assess WUE investment performance and inform WUE funding decisions going forward.

The ROD calls on the WUE Program to undertake a Year Four Comprehensive Evaluation. This evaluation encompasses both a “look-back” at water use efficiency accomplishments over the past three years and a “look-forward” at water use efficiency potential through 2030. The WUE Program is now in the midst of this ROD-stipulated effort. Preliminary “look-forward” projections have been completed.² The elements of the look-forward projections segment into four primary categories:

- Urban water use efficiency
- Agricultural water use efficiency
- Recycling
- Desalination

² These are currently under public review and may be modified following the conclusion of the review period. The WUE program is coordinating with the 10-year Finance Plan staff to ensure that any changes in the projections that have bearing on the plan are promptly communicated.

Agricultural & Urban Conservation Grant Program

While the current program evaluations and model results (described below) are preliminary, they do indicate sufficient investment capacity over the next ten years in both the ag and urban sectors to productively invest between \$68 million and \$147 million per year in conservation projects providing supply reliability, in-stream flow, and water quality benefits to the state. At this time, the funding target is estimated at the low end of \$68 million/year (\$15 million ag and \$53 million urban). Stakeholders and senior consultants are currently reviewing these preliminary results. More refined estimates are expected to be available in late-September.

- What funding target should be included in the 10 year finance plan for ag and urban conservation?

The preliminary projections provide a “first-cut” assessment of locally cost-effective potentials for agricultural and urban conservation investments.³ They also evaluate the WUE program’s ability to invest in agricultural and urban conservation projects capable of producing statewide benefits in excess of state/federal grant program costs and the amount of additional local investment different grant funding levels would leverage.

The look-forward analysis considered funding scenarios representing total funding (state, federal and local) ranging from approximately \$68 million per year (\$15 million/year ag; \$53 million/year urban) to \$147 million per year (\$40 million/year ag; \$107 million/year urban). The analysis evaluated whether there would be sufficient investment capacity to economically absorb the grant funds; the amount of additional local investment the grant funds would leverage (local cost share); and the water savings the modeled conservation investments would yield.

The analysis projects conservation yield ranging from approximately 950 thousand to 1.5 million acre-feet per year by the end of 2014. However, it is important to note that the majority of these projected savings (approximately 570 to 930 thousand acre-feet) are so-called “rerouted flow” in the agricultural sector, which may contribute to in-stream flow or water quality objectives but will not provide water supply benefits. These estimates also do not include savings from locally cost-effective conservation investments made by water suppliers outside of a WUE grant program.

Preliminary results indicate that there would be sufficient investment capacity for ag and urban conservation at the low and high investment levels for the next 10 years. The analysis indicates that there may not be sufficient investment capacity in the urban sector at the high-end of the funding range starting sometime between 2015 and 2020. The ag sector does not appear to face a similar capacity constraint, although the locally cost-effective share can be expected to decline at higher levels of investment (simply because the incremental benefit to local agencies declines as more projects are implemented). At the lower end of funding range, the analysis indicates there is sufficient investment capacity in both sectors through 2030.

³ Similar projections for recycling and desalination are not currently available.

Recycling Program

Based on information from the Recycling Task Force, the Draft Finance Options Report (FOR) estimated between 500,000 – 1,000,000 acre-feet of cost-effective new recycling capacity could be added by 2030. It further assumed that lower cost recycling projects would be implemented during the early stages of the program. Achieving the lower end of the capacity range will require approximately \$96 million/year of capital expenditure (Draft FOR). This expenditure is not inclusive of operation and maintenance costs for new capacity. This level of investment would add approximately 190,000 acre-feet of new recycled water capacity over ten years (Draft FOR).

- Is this a reasonable funding target for recycling?

Desalination

At this time, there is no comprehensive review of the future needs and funding for desalination in California. Consequently the Draft FOR does not include a funding target for desalination. To the extent desalination is in the research and demonstration stage of development, it would be appropriate to propose public funding because of the broad public benefits of research. However, large-scale construction could either be cost shared or fully locally funded.

- If desalination is limited to research and small demonstration projects, is the existing Prop 50 funding amount (\$48 million) sufficient for the 10-year finance plan, or are additional funds justified?

Technical Assistance, Assurances, Science, and Oversight

Within this category are a range of programs with varying purposes and costs. The major cost components include implementation of measurement, urban conservation certification, and agricultural quantifiable objectives programs. Other components include WUE-specific science and program oversight and coordination (Draft FOR). Expected cost over the next ten years to implement technical assistance, assurances, science, and oversight programs is \$18 million/year. A breakdown of this cost by program component is shown in the table at the end of this issue paper.

- Is \$18 million/year a reasonable funding target?

2. **Funding options:** There is currently no agreement at this point on how to allocate the costs of the WUE Program. The benefits and beneficiaries of the WUE program vary between the different WUE components and therefore the allocation should be considered differently in order to follow a benefits-based approach. In the Draft FOR (pages 203-206), there are different allocation examples for the different components of the WUE Program (urban conservation, urban conservation, recycling, and technical assistance, assurances, science, & oversight). The allocation examples are summarized below for discussion.

- Urban & Ag Water Conservation Projects: The existing CALFED water conservation program distributes grant funds following a benefits-based

approach-- analyzing the benefits of each applicant/project to determine the public-local cost share split. Therefore the Draft FOR only included a cost allocation based on the status quo which results in an allocation of approximately 50% state/fed and 50% local for urban conservation, and 60% state/fed and 40% local for agricultural conservation. The look-forward analysis described above estimates future local cost shares based on local cost-effectiveness tests to range from about 45% to 55%. The agricultural look-forward analysis team will be reviewing its assumptions about local cost sharing and responding to other comments received from stakeholders, so its estimates of potential savings are expected to change.

- Recycling Projects: The Draft FOR includes three allocations, ranging from 55% local (based on status quo – Draft FOR pages 203-204) to 100% local. The middle allocation was 20% public/80% local. The possible shift in funding from public to local funds is based on regional recycling studies for the Bay Area and Southern California that indicate that recycling projects capable of adding 500,000 to 1,000,000 acre-feet of new capacity are regionally cost-effective when both water supply and wastewater treatment benefits are considered (pg 198 Draft FOR).
- Technical assistance, WUE assurances, science, program management & oversight: In the Draft FOR, technical assistance, assurances, science, and oversight were treated as public goods and costs for these activities were assigned to the general public. The benefits generated by this category of program activity are broadly distributed across all water users and the general public. For the most part these benefits satisfy the definition for a public good. For example, all water users can utilize gains in knowledge and understanding of performance, cost, and implementation issues for different conservation, recycling, or desalination technologies or implementation strategies. Likewise, urban certification can benefit all water users by ensuring that cost-effective conservation projects are broadly implemented and reducing incentives for water agency free-ridership. Similarly, Quantifiable Objectives contribute to meeting CALFED water supply reliability and environmental objectives that provide broad system benefits to water users and the public alike. In the Draft FOR costs for technical assistance, assurances, science, and oversight were allocated entirely to the state and federal governments.

Water Use Efficiency Program
10-Year Funding Targets & Unmet Needs¹
(\$ in millions)
September 3, 2004

Program Component/Project	Funding Targets			Available Funding							Total Available	
	2002 Dollars		10-year Total (Adjusted for Inflation)	State			Federal ²		Local			
	Annual	10-year Total		GF	ERPA	Prop 13	Prop 50	Approps.		Cost Share ³		
Urban Conservation Projects	\$53.0	\$530.0	\$651.8				\$0.2	\$45.6	\$0.7			\$46.6
Agricultural Conservation Projects	\$15.0	\$150.0	\$184.5				\$22.5	\$45.6	\$0.7			\$68.8
Urban Recycling Projects	\$96.0	\$960.0	\$1,180.5				\$21.7	\$54.8	\$10.0			\$86.5
Technical Assistance/Outreach	\$9.0	\$90.0	\$110.7	\$10.4	\$17.0			\$12.1				\$39.5
WUE Assurances	\$4.0	\$40.0	\$49.2									\$0.0
Wue Science	\$4.0	\$40.1	\$49.3	\$0.7				\$5.5	\$1.0			\$7.1
Program Management & Oversight	\$1.0	\$10.0	\$12.3	\$3.3								\$3.3
Desalination	n/a	\$96.5	\$96.5					\$48.3				\$96.5
Total	\$182.0	\$1,916.6	\$2,334.7	\$14.4	\$17.0	\$44.4	\$211.9	\$12.4	\$48.3	\$348.4		

Notes:

1. Includes funding targets and unmet needs for Years 5-14 of the CALFED Program.

2. Federal amounts from the President's Proposed Budget for FY 2005.

3. Prop 50, Chapter 6 requires that at least 50% of the total project cost for Desalination projects be met by matching funds.

Watershed Program Background and Issues

Background

The Watershed Program includes ongoing technical assistance, science, and administrative functions, but the largest share of program funding is provided for financial assistance for watershed assessments and local projects. During the program's initial four years of activity, funding has averaged about \$27 million per year (ranging from a low of \$14 million to a high of \$42 million). Roughly 75% of the funding has been provided by State funds (bonds and General Funds) and 25% provided by grant matching through local, federal, and water user sources. This amount does not include the costs of watershed protection and restoration activities carried out by other public and private organizations, especially local government entities, independent of the CALFED Bay-Delta Program.

Issues

1. **Funding Targets:** The California Bay-Delta Authority (CBDA) staff supports an annual funding target of at least \$25 million. The general direction received from the Interagency Watershed Action Team (IWAT) consisting of state and federal agencies, and the Watershed subcommittee was to continue with the funding targets from the first seven years established in the ROD and extend these out over the new ten year finance period. This averages out to roughly \$40 million per year, which the Draft Finance Options Report (FOR) uses for the high end of the range of costs. Initially Authority staff proposed \$10 million dollar cost estimate, using the low range of the Draft FOR. The Watershed subcommittee believed that the \$10 million figure was too low, but understood the current fiscal constraints and therefore suggested that a budget constraint objective of \$25 million per year would be an appropriate compromise value to consider, understanding that the \$25 million target may need to be adjusted as costs are reevaluated. Water users have questioned what activities more specifically will be funded in order to better understand the basis for the \$25 million per year target. Provided as an attachment is a breakdown of costs associated with the \$25 million per year target.
 - Is \$25 million a year a reasonable funding target?
2. **Benefit Quantification:** State and Federal agencies and many stakeholders believe that benefits of the watershed program are diverse and large, but the Draft FOR cannot currently quantify benefits at the level of detail sufficient to support a benefit-based allocation. The Watershed subcommittee suggests a review of past grant distributions will help identify future beneficiaries and benefits.
3. **Funding Options:** The Draft FOR includes two allocation examples. One example reflects the allocation in the ROD allocation and the other includes additional contributions from other potential beneficiaries

ROD example allocation: The ROD example allocates 90% of the program cost to the public, and supports a view that watershed benefits are largely public goods. The cost shares are: State 45%, Federal 45%, Local 5%, Other Project-specific Partners 5%.

Water User and Other Project-Specific Partners Emphasis: This example allocates increase the share of funding for non state and federal beneficiaries by imposing a higher share on other project specific partners and on water users throughout the Bay-Delta solution area. Other project-specific partners are any groups within or close to the local watershed who may benefit from specific CALFED watershed projects. The benefits accruing to these beneficiaries may include water supply reliability, water quality, flood control, hydropower, recreation, and environmental non-use benefits. The benefits are project-specific and their mix and magnitude can vary substantially over time and across projects. Generally water users oppose the adoption of a water user fee to support part of the watershed program but have indicated support for a voluntary, project-by-project financing approach assuming that contributions would be based on an assessment of the costs and benefits of individual programs.

- What level of contributions can be expected from project specific beneficiaries?
- What is a reasonable level of state and federal funding ?
- What finance method should be used to provide water user contributions to the program – new fees or cost share contributions on a project by project basis?

4. ***State and federal contributions.*** There are numerous existing State and federal watershed programs each with its own unique objective and mandate. Federal agencies have indicated that the feasibility of earmarking money already in their budgets for existing federal programs to cover part of the CALFED Watershed or other CALFED programs may be problematic due to competing nationwide interests and decreased budgets. The Watershed subcommittee raised the additional concern that money could be diverted away from areas outside the CALFED solution area that is doing watershed work and there would be no gain for California. However, existing federal programs and funds that also accomplish the goals and objectives of the CALFED Watershed program could be counted as the federal share. For example, EPA has funding for a non point source pollution program, some of which meets the goals of the Watershed program. Crediting existing spending by agencies against their cost share would require that the spending clearly address one or more goals of watershed program and that achieving that goal is included in the watershed cost estimate. There must be an overlap of goals and spending.

Some federal agencies have indicated that a more feasible and viable source of federal funding would be to seek out new funding and use a directed line item for the program. Some agencies that have not previously contributed to the watershed program may have overlapping goals and objectives. For example funding from flood management provided by the USACE or the watershed programs run by the

USFS not currently counted towards CALFED could be viable sources of new funding for the program.

The Watershed Subcommittee suggests one potential way to cover a State share and/or proposed Local share could be to “tag” onto another existing fee either in another program or administered by another entity (such as local government or other state agency) that benefits both goals and objectives of each program by raising the fee, or allocating a portion of the fee to the program. For example the Subcommittee suggested the possibility raising the water rights fee administered by the State Water Resources Control Board or allocating a portion of the impermeable surface fee administered by local governments.

- Should a portion of existing State or federal funding be directed or “counted” towards the CALFED watershed program or should new funding be identified?

5. **Local Funding Allocation:** Cost-sharing for local projects can be split into two distinct shares. The first category is cost-sharing contributed by local governments, primarily counties and other local agencies with watershed protection and improvement responsibility. The second category is the broad range of potential public and private entities that would benefit from a particular project. These could include, for example: water supply agencies sharing in projects that reduce sedimentation and other non-point-source discharge into water supplies; or public or private hydropower utilities that can reduce their costs of dealing with sedimentation in reservoirs.

Currently, the State agencies recommend but do not require, a cost-share of approximately 20% for grant funding. State and Federal agencies indicated that a cost-share arrangement where a local match requirement, perhaps with in kind services or cost match, may be appropriate but some assistance provided to local governments and grassroots organization may be necessary to help them meet their share. The Watershed subcommittee recognized that the local government ability to pay may be strained due to budget cuts at the local and state level, particularly with the rural communities.

- What should be the local cost share for the program?

Watershed Program
10-Year Funding Targets & Unmet Needs
(\$ in millions)
August 10, 2004

Program Year	Funding Targets		Available Fund Sources					Total Available	Unmet Needs
	2005 Dollars ¹	Adjusted for Inflation	State			Federal	Local		
			GF	Prop 50 PY approp. ²	Prop 50 ³	Approps.			
Years 5-9	\$125.0	\$132.1	\$0.5	\$7.7	\$38.3	\$0.0	\$0.0	\$46.5	\$85.6
Year 5	\$25.0	\$25.0	\$0.1	\$7.7	\$12.2			\$20.0	\$5.0
Year 6	\$25.0	\$25.7	\$0.1		\$10.2			\$10.3	\$15.4
Year 7	\$25.0	\$26.4	\$0.1		\$10.5			\$10.6	\$15.8
Year 8	\$25.0	\$27.1	\$0.1		\$5.4			\$5.5	\$21.6
Year 9	\$25.0	\$27.9	\$0.1					\$0.1	\$27.8
Years 10-14	\$125.0	\$151.5	\$0.5	\$0.0	\$0.0	\$0.0	\$0.0	\$0.5	\$151.0
Year 10	\$25.0	\$28.6	\$0.1					\$0.1	\$28.5
Year 11	\$25.0	\$29.4	\$0.1					\$0.1	\$29.3
Year 12	\$25.0	\$30.3	\$0.1					\$0.1	\$30.2
Year 13	\$25.0	\$31.1	\$0.1					\$0.1	\$31.0
Year 14	\$25.0	\$32.0	\$0.1					\$0.1	\$31.9
Total, Years 5-14	\$250.0	\$283.5	\$1.0	\$7.7	\$38.3	\$0.0	\$0.0	\$47.0	\$236.6

NOTES:

1. Assumes the midpoint between the low and high levels of funding as defined in the Draft Finance Options Report. Future costs (beginning with Year 6) are adjusted for inflation.

2. Prop 50 Prior Year appropriation includes Prop 50 funding that was appropriated prior to Year 5 but not spent or allocated to projects, and therefore available for future years.

3. \$38.25 million remaining from Prop 50 for Year 5 and beyond. Actual timing of bond approval and issuance may differ.

Attachment
CALFED Watershed Program
Budget Summary and Justification

The Watershed Program is a multifaceted set of activities designed to encourage, support and enhance the ability of local communities to manage watersheds within the Bay Delta program solution area. Improved management will contribute to the achievement of local, regional, and system wide goals, including the overarching goals of the Bay Delta Program and many of the more specific goals, objectives and targets of the component programs that make up the Bay-Delta Program.

Some basic assumptions were used to develop these 10-year funding targets:

- In the early years program effort will remain focused on capacity building, watershed assessment, planning, education and outreach activities.
- In later years effort will shift towards the implementation of specific projects, effectiveness monitoring, adaptive management, and improved science.
- The use of competitive grants as a means to pursue program objectives will decrease over time as the Program gains knowledge of watershed conditions, management capacity increases and as commissioned assessment and planning activities become available to guide management actions and projects that further the goals of the CALFED Bay-Delta Program.
- As competitive grants decrease, funding will increasingly shift toward directed actions. These directed actions will include funding support to assist with the implementation of watershed plans and locally developed watershed programs.
- Periodic performance assessments will guide the rate at which funds are moved from assessment and planning to implementation support.

The CBDA staff proposes a funding target of least \$25 million per year to address the Watershed programs needs. The following is a breakdown of average annual costs and a description of activities associated with a \$25 million per year target.

1. Competitive Grants (\$6.7 mill)

To date, competitive grants have been used as a primary tool to initiate, advance and expand the capabilities of local efforts and organizations to assess current watershed conditions and potential; develop watershed scale plans and undertake specific projects. A concerted effort has been made to provide grants to a broad range of efforts throughout the solution area. A continuing need for these basic development efforts exists within the solution area and this need is best met using a competitive grant program. Over the next ten-years, the program anticipates that substantial capacity to manage watersheds will

emerge from this investment. As management capacity emerges, emphasis on open competitive grants will decrease.

2. Directed Actions (\$11.9 mill)

As emphasis on the use of competitive grants as a program implementation tool decreases, the implementation of “directed actions” will increase. Directed actions will be specific local programs, projects, or actions designed to achieve specific natural resource objectives identified by the Bay Delta Program. It is anticipated that these specific programs and projects will emerge from the development activities pursued during the early years of program implementation, and guided by performance results of the Watershed program. Actions may be targeted by topic and/or geography, and will support the balanced implementation of the CALFED Bay-Delta Program.

3. Technical Assistance (\$4.4 mill)

Technical assistance- the availability of specific expertise to assist local communities to assess, plan, manage, monitor and evaluate watershed management efforts is a vital component of the Watershed Program. A modest level of assistance, primarily through State agencies, has been made available by the program to date. During the next ten-years, the program will target funding to expand and enhance the level of technical assistance available from state and federal agencies, or other sources such as Universities or private sources. The types of assistance available will be determined by periodic needs analysis.

4. Partnership Seminars and Local Watershed Coordinators (\$1.7 mill)

These two tools have been used effectively to expand the level of expertise and knowledge available to promote, support and conduct local watershed management activities. The program will continue to conduct these important activities throughout the next ten-year period. Funding emphasis on Watershed Coordinators declines over this time as local capacity (and funding support) emerges and implementation of management activities at the local level increase.

5. Program Performance Evaluation (\$100,000)

Program performance will be evaluated in detail every three years. Evaluation will include detailed assessment of program outputs and outcomes as described in the Watershed Program performance plan. These periodic evaluations will be used to inform the program on progress, and to guide the direction and emphasis of future program actions.

6. Science Support (\$200,000)

The program is committed to the advancement of science to better inform and evaluate watershed management efforts supported by the program. The Program will establish a

science advisory panel in Year 5 and use the panel to guide investigations into ecological functions economic descriptions and modeling of those functions, and to guide an analysis of the ecological results of management on the function and values of the watershed in the Bay Delta system.

7. Program Administration (\$1.3 mill)

Funding Targets for the Watershed Program

Expenditure Distribution Based on \$25 million annual funding (in millions)

Program Component	Average Annual	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10	Year 11	Year 12	Year 13	Year 14	10-Year Total
Competitive Grants	\$6.7	\$10.0	\$10.0	\$10.0	\$8.0	\$7.8	\$5.0	\$5.0	\$5.0	\$3.0	\$3.0	\$66.8
Directed Actions	\$11.9	\$7.8	\$7.8	\$8.2	\$10.5	\$11.2	\$13.5	\$14.0	\$14.0	\$16.0	\$16.0	\$119.0
Technical Assistance	\$4.4	\$4.0	\$4.0	\$4.0	\$4.0	\$4.0	\$4.2	\$4.5	\$4.5	\$5.5	\$5.0	\$43.7
Partnership Seminars	\$0.3	\$0.3	\$0.3	\$0.3	\$0.3	\$0.3	\$0.3	\$0.3	\$0.3	\$0.3	\$0.3	\$3.0
Local Coordinator Support	\$1.4	\$2.7	\$2.7	\$2.0	\$2.0	\$1.5	\$1.5	\$1.0	\$1.0	\$0.0	\$0.0	\$14.4
Program Performance Evaluation	\$0.1	\$0.0	\$0.0	\$0.3	\$0.0	\$0.0	\$0.3	\$0.0	\$0.0	\$0.0	\$0.5	\$1.1
Science Support	\$0.2	\$0.2	\$0.2	\$0.2	\$0.2	\$0.2	\$0.2	\$0.2	\$0.2	\$0.2	\$0.2	\$2.0
Program Administration	\$1.3	1.25	1.25	1.25	1.25	1.25	1.25	1.25	1.25	1.25	1.25	12.5
Total	\$26.3	\$26.3	\$26.3	\$26.3	\$26.3	\$26.3	\$26.3	\$26.3	\$26.3	\$26.3	\$26.3	\$262.5

Expenditure Distribution Based on \$40 million annual funding (in millions)

Program Component	Average Annual	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10	Year 11	Year 12	Year 13	Year 14	10-Year Total
Competitive Grants	\$15.3	\$25.0	\$25.0	\$23.0	\$23.0	\$14.0	\$9.0	\$9.0	\$9.0	\$8.0	\$8.0	\$153.0
Directed Actions	\$16.2	\$6.0	\$6.0	\$8.2	\$8.5	\$18.0	\$23.0	\$23.0	\$23.0	\$23.0	\$23.4	\$162.1
Technical Assistance	\$4.5	\$4.0	\$4.0	\$4.0	\$4.0	\$4.0	\$4.2	\$4.7	\$4.7	\$5.7	\$5.7	\$45.0
Partnership Seminars	\$0.3	\$0.3	\$0.3	\$0.3	\$0.3	\$0.3	\$0.3	\$0.3	\$0.3	\$0.3	\$0.3	\$3.0
Local Coordinator Support	\$1.4	\$2.5	\$2.5	\$2.0	\$2.0	\$1.5	\$1.0	\$0.8	\$0.8	\$0.8	\$0.0	\$13.9
Program Performance Evaluation	\$0.1	\$0.0	\$0.0	\$0.3	\$0.0	\$0.0	\$0.3	\$0.0	\$0.0	\$0.0	\$0.5	\$1.1
Science Support	\$0.2	\$0.2	\$0.2	\$0.2	\$0.2	\$0.2	\$0.2	\$0.2	\$0.2	\$0.2	\$0.2	\$2.0
Program Administration	\$2.0	\$2.0	\$2.0	\$2.0	\$2.0	\$2.0	\$2.0	\$2.0	\$2.0	\$2.0	\$2.0	\$20.0
Total	\$40.0	\$40.0	\$40.0	\$40.0	\$40.0	\$40.0	\$40.0	\$40.0	\$40.0	\$40.0	\$40.1	\$400.1

This scenario is based on the following assumptions:

1. Competitive grants will decrease over time as the Program gains knowledge of watershed conditions
2. Directed actions will increase over time as a picture of local parts of the Bay-Delta system conditions emerge and coalesce
3. Funds will be targeted for capacity building, assessment, planning, education and outreach in the early years
4. Funds will shift to plan implementation projects, effectiveness monitoring, adaptive management and improved science in later years
5. Periodic performance assessments will guide the rate at which funds are moved from assessment and planning to implementation support
6. Does not include adjustments for inflation

Drinking Water Quality Background and Issues

Background

During the program's initial four years of activity, funding has averaged about \$23 million per year (ranging from a low of \$10 million to a high of \$40 million). However, funding has been mostly limited to bond funds for specific activities, leaving large parts of the program with little or no funding. For example, approximately 53% of the funding for the DWQP was for non-point source control projects managed by the SWRCB, and approximately 21% (\$20 million) was for San Joaquin Valley/Southern California Water Exchange. Roughly 91% of the funding has been provided by State funds (bonds and General Funds), with the remainder provided by grant matching through local, federal, and water user sources. This amount does not include the costs of drinking water quality activities carried out by other public and private organizations, independent of the CALFED Bay-Delta Program.

The Drinking Water Quality Program (DWQP) is constructed around the concept of providing an "equivalent level of public health protection" to the ROD numeric targets for disinfection by-product precursors in the Delta. This concept recognizes that there exist opportunities to improve water quality between source and tap, and has resulted in the need to develop regional water quality management plans (regional plans) to both identify and prioritize those opportunities. These regional plans, which are the highest short-term priority for the program, will shape the program and its long-term funding needs. This 10-Year Finance Plan is therefore more accurate for the short-term, and will require revisiting as regional plans develop.

As noted in several of the finance meetings and BDPAC subcommittee meetings, there are activities and projects in other program elements (specifically ERP and Conveyance) that have significant water quality benefits. It has been suggested that it may result in a more effective water quality program if these projects were managed as part of the DWQP – and as a result the DWQP would be focused on all water quality actions, and not just drinking water quality.

The DWQP is considering construction of other projects but at this point it is premature to develop cost allocations until more information on costs and benefits is available. For these Potential Capital Projects, a future timeframe and check in point, and a process for developing cost allocations when it is timely, will be included in the 10 year finance plan. These potential capital projects include: construction of the North Bay Aqueduct Alternative Intake, the Old River/Rock Slough Canal Encasement Phase II, relocation of the CCWD Old River Intake (if Franks Tract is unsuccessful), and Treatment Technology Implementation.

Further information on the development of program costs is attached following a discussion of the issues.

Issues

1. **Funding target:** The estimated funding target for the DWQP is approximately \$178 million over 10 years (not adjusted for inflation), averaging about \$17.8 million per year for 5 program categories:
 - Source improvement (\$108 million)
 - Treatment (\$34 million)
 - Science, monitoring, & assessment (\$15 million)
 - Regional ELPH planning (\$14 million)
 - Program management & oversight (\$7 million)

Is this a reasonable estimate of DWQP costs for each program category? The BDPAC Drinking Water Subcommittee (DWS) suggests these numbers may be adequate for the short-term (2-3 years), but will need to be revised to reflect the outcomes of the Regional Plans and could be substantially different than the numbers presented here. The DWS also suggested that the cost estimates should include the funding levels needed to implement the water quality actions described in the Delta Improvements Package Implementation Plan.

2. **Funding options:** There is no agreement at this point on how to allocate the costs of the DWQP. The agencies generally support some mix of public and water user funding. The DWS suggests that water user funding should come through the local match to public funding. Should federal funding pick up the same cost share as state funding? The DWS suggests that there may be a federal connection for funding through the Clean Water Act, but expressed concerns that federal funding could delay program implementation.
3. **Regional Water Quality Management Plans:** The DWS has made regional plans a high priority for the DWQP. The DWS suggests that regional plans will increase the capacity of regions to be better partners with the Delta, and because they are the development of plans with broad-based benefits, they should be publicly funded and contain a local cost-match on a sliding scale.
4. **Source Improvement:** The DWS suggests that the appropriate local share is the cost match which reflects the local benefits (on a sliding scale rather than a set percentage), as these publicly-funded projects provide broader regional and/or state-wide benefits. What are the public and private benefits associated with a source improvement program and how should the costs be allocated? Should a review of the program be built in during the 10-year period to identify if a shift to a loan program is appropriate? The DWS also suggests that the DWQP source improvement funding/actions be coordinated/linked with the CALFED Watershed Program.
5. **Treatment:** The current funding target for Treatment pilot projects and research is \$34 million over 10 years. Treatment demonstration projects to date have been

publicly funded with a 17-33% local cost share. Should pilot scale projects emphasizing new technologies be funded entirely as grants with public funds, or should a cost-share requirement be continued?

6. ***Water User contributions:*** Water users at the DWS have suggested that the water user share for the DWQP should come from cost shares associated with grant/loan funding, rather than new water user fees. However, some in the environmental community are still interested in pursuing the idea of fees to support the DWQP. Should water user contributions be in the form of fees, or cost sharing arrangements on a project-by-project basis? Are there broad water user benefits that result from any DWQ projects such that the only method of providing contributions is from a fee?
7. ***Other Potential Beneficiaries/Polluter -pays:*** Should other beneficiaries be identified and analyzed to contribute funding for the DWQP? For example, point and non-point dischargers may benefit from the actions of the DWQP that help them meet regulatory standards, and future standards may be avoided. Should dischargers help pay for the DWQP?
8. ***Available Funding:*** There are currently a number of federal and state programs which provide grant and loan funding for source improvement and treatment to assist local utilities in meeting existing state and federal drinking water regulations. Local utilities also implement rate-funded capital improvement programs to anticipate and meet drinking water regulations, and non-profit organizations invest in treatment technology research. The DWQP was not intended to supplement the funding of these programs, and therefore does not generally include accounting of these types of funding. However, when there are cases where the funding may assist in meeting the DWQP goals, it should be included. For example:
 - ***Proposition 50 Funding:*** Prop 50 includes \$585 million for water quality in chapters 4, 5, & 6. While this funding is primarily to supplement existing DHS and SWRCB programs, it is expected that a portion of this funding will meet the needs of the CALFED DWQP, although none of this funding is specifically ear-marked for the CALFED DWQP. In addition, funding from chapter 8 could benefit the water quality program, and potentially help fund regional ELPH plans.
 - ***Federal Funding*** – Each year DHS receives about \$100 million from the Environmental Protection Agency (EPA) for the Safe Drinking Water Quality Program—and funds are deposited into the State Revolving Fund. This is a statewide program that primarily funds loans to pay for projects such as treatment upgrades in areas with health implications for drinking water related to diseases. However, the need for these kinds of projects far exceeds the available funding, and it is unlikely that the DWQP would receive funding based on the DHS criteria for distributing these funds.

9. ***Relationship between Conveyance and DWQ projects:*** There are a number of conveyance projects which have potential (but still undetermined) benefits to water quality. How should they be addressed by the DWQP 10-year finance plan? (For example: Franks Tract, San Luis Low Point, and Old River/Rock Slough.) The DWS suggests moving projects which are currently understood to have primarily a water quality benefit into the DWQP, while having check-in points to verify that the projects have remained water quality improvement projects. There is general consensus among interested stakeholders and conveyance program agency representatives to move Franks Tract and Old River/Rock Slough to the Drinking Water Quality Program.

Drinking Water Quality Program 10-Year Funding Targets & Unmet Needs (\$ in millions) September 2, 2004									
Program Component/Project	Funding Targets		Available Funding				Total Available	Unmet Needs	
	2005 Dollars	Adjusted for Inflation	State			Federal ³ Approps.			
			GF	Prop 13	Prop 50				
Regional Water Quality (ELPH) Planning	\$13.6	\$14.2							
Source Improvement	\$107.6	\$123.2							
Treatment	\$34.4	\$38.0	\$2.3	\$4.7	\$0.0	\$0.0	\$7.0	\$193.1	
Science, Monitoring & Assessment	\$15.7	\$17.7							
Program Management & Oversight	\$7.0	\$7.0							
Total	\$178.3	\$200.1	\$2.3	\$4.7	\$0.0	\$0.0	\$7.0	\$193.1	

Attachment
CALFED DWQP
Budget Summary and Justification

1. Regional Water Quality (ELPH) Planning (\$13.6 mill)

The DWQP anticipates using Regional Water Quality Management Plans as a tool to determine what actions are best implemented at state, regional, and local levels. In 2004, the DWQP released an RFP to pilot test the concept of regional water quality management plans, and will use the three funded studies to develop guidelines for future regional plans. It is envisioned that regional plans would become a requirement for projects applying for public funding. Once this pilot phase is completed, the DWQP will have a better idea of the cost of planning and the utility of regional plans in achieving its goals. The DWS estimates that each plan will cost \$2 million and has requested that this effort be accelerated, so that regional plans can influence implementation of the program, therefore this plan includes funding of five regional plans in years 6 and 7.

The Bay Area Regional Water Quality /Water Supply Reliability Project was the first regional water quality project funded by the DWQP. It is close to completing its work and will most likely transition to a larger Bay Area effort regarding water management. No future funding is assumed in the 10-year finance plan for implementation of activities identified through this project.

2. Source Improvement – “Directed Actions” (\$2 mill):

“Directed Actions” refer to specific known or described projects or activities, from either the Delta Improvements Package Water Quality Actions or the Record of Decision.

a. San Joaquin River Salinity Management Plan

This action is described in the Delta Improvements Package, and includes a number of activities which have the potential to either contribute to, or be leveraged to contribute to, the goals of the Drinking Water Quality Program.

These activities are:

- i) Drainage Strategy
- ii) Salt Load Management and Reduction
- iii) Operational Improvements/San Joaquin River Recirculation
- iv) Real-time water quality monitoring

Because the degree to which these activities might benefit the DWQP is unknown, the ten-year finance plan does not identify costs associated with these activities. Instead, this ten-year finance plan includes a grant program for source improvement which could supplement these activities to promote drinking water benefits.

- b. State Water Project Watershed Actions
This action is described in the Record of Decision, and includes water quality improvements to the California Aqueduct through both structural changes and nonpoint source pollution control activities. The ten-year finance plan includes \$2 million to conduct a study to determine the existing water quality problems and identify potential structural and non-structural solutions. Additional funding may be appropriate pending the outcome of the study.
- c. Southern California – San Joaquin Water Quality Exchanges
This action is described in the Record of Decision. It was funded with \$20 million from Proposition 13 through 2009. Additional funding may be appropriate pending the outcome of this initial phase.

3. Source Improvement – “Grants” (\$105.6 mill):

The intent of the DWQP is to identify opportunities to improve drinking water quality through currently existing or developing programs. These programs are generally on a regional scale, such as the San Joaquin River Water Quality Management Program or the Water Coalitions operating in compliance with the Central Valley Conditional Agricultural Waiver, and are generally not focused on drinking water quality. The DWQP will work with such programs to identify the opportunities to fund or cost-share in projects of high benefit to drinking water quality. The initial estimate for the ten-year finance plan is \$10 million/year, because these programs are in the early stages of development and the scope of interaction is unknown. This estimate may change when more information is known about the programs and when the DWQP Strategic Plan is finalized.

At this point, the DWQP intends to focus on the following areas and/or programs:

- a. Sacramento Watershed
- b. San Joaquin River Water Quality Management Program (and TMDL implementation)
- c. Irrigated Lands Conditional Waiver
- d. Actions identified by the Central Valley Drinking Water Policy
- e. Areas identified through Science, Monitoring, and Assessment

4. Source Improvement – Conveyance :

These are projects which traditionally have been associated with the Conveyance Program, but currently are considered to have the most potential to benefit drinking water quality. The budget estimates would come from the Conveyance Program, if these projects move to this section of the finance plan.

For example, the Rock Slough/Old River Drainage Management Project is not included because it is currently still included under the Conveyance Program. However, there is general consensus to move this project to the DWQP, and future drafts will reflect this change.

5. Treatment (\$34.4 mill):

The DWQP and its implementing agencies have funded a number of treatment technology demonstration projects, many of which have concluded or are in the process of concluding. The 10-year finance plan proposes a rolling grant program in the area of treatment technology demonstration, focusing on projects which have a high degree of transferability (i.e. the resulting information can be used by a large number of utilities) and are focused on contaminants of the most concern to the program. The 10-year finance plan also includes periodic convening of a science panel to assess the completed projects and advise on the future direction of DWQP as it relates to treatment technology. This plan does not include funding of full-scale implementation of treatment technology, which is left to the existing state and federal programs. It averages out to approximately \$3.4 million/year.

Regional treatment technology demonstration could occur in the Sacramento Region, the Southern California Region, the San Joaquin Region, and the Bay-Delta Region. The budget does include \$2.71 million in years 5 and 6 to complete the current Bay-Area Treatment Technology study. Contaminant or source-specific treatment technology demonstration could occur for groundwater sources, or for emerging contaminants such as perchlorate and arsenic. Demonstration Projects are estimated at \$6 million over 4 years.

6. Science, Monitoring and Assessment (\$15.7 mill):

The DWQP needs to include science, monitoring and assessment elements over the next ten years. The Central Valley Drinking Water Policy is doing some work in assessing the status of drinking water quality monitoring in the Delta and its tributaries. The 10-year finance plan anticipates building off of this work, establishing a coordinator and a forum for the various monitoring programs to share information and using this forum to determine how to best fill identified monitoring gaps. Building off of this monitoring, the plan anticipates assessing data through directed funding of experts, supplementing monitoring to fill in the gaps through funding of additional monitoring within existing programs, and development/tracking of performance measurements for the program.

The 10-year finance plan also supports the DWQP share of the Water Management Science Board, which will be created this year, and the scientific foundation of the program, including outreach through workshops, the periodic use of science panels, and close coordination with the Science Program and the Independent Science Board. The DWS has specifically requested that this section include an assessment of the “ELPH endpoint” to be used to determine the need for additional treatment demonstration studies and to assist in development and implementation of regional plans.

7. Program Management & Oversight (\$7 mill):

The keys to a successful DWQP are coordination and communication. Management and oversight of the DWQP requires close coordination with its implementing agencies, other CBDA Programs, stakeholders and project managers. It also requires the completion of a strategic plan, to focus and prioritize its efforts, and the development of performance measures, to ensure it progresses towards its goal. Cost estimates in this category are generally for labor to complete the above-mentioned tasks, in both the CBDA and the implementing agencies. The 10-year finance plan estimates \$700,000 per year for program management and oversight activities.

Levees

Background and Issues

Background

Between 2000 and 2004, funding for the Levees Program has totaled \$83.4 million (\$68 million state, \$0.7 million federal, \$1.2 million from State Water Contractors, and \$13.5 million from locals), for an average of about \$21 million annually. This funding was for levee maintenance, levee improvements, habitat improvements, and studies. In addition, significant contributions were made before the ROD through DWR's Delta Levees subventions and special projects programs, which have been in place since 1972. The Levees program has recently relied primarily on state bond funds. Existing legislation for the subventions and special projects programs will sunset on July 1, 2006. However, the administration is developing legislation to continue the Delta Levees Program.

Issues

1. **Program Organization:** The CALFED Levees Program has previously been organized and described in the ROD with two primary components: Base level protection (leading to PL 84-99 level of protection) and Special improvement projects. The relationship to DWR's existing Program: Delta Levee Subventions and Special Projects, has been confusing. In order to propose financing options for the Levees program, the following organization is proposed.
 - a. *Levee Maintenance* – The objective of this component is to provide funding for levee maintenance only, with the priority for funding being on local flood control benefits. The maintenance program would continue to rely on the existing method of distributing funding; a locally-driven subventions program.
 - b. *Levee Improvements* – The objective of this component is to provide funding for levee improvements over an existing level of protection. Funding would be based on priority areas that will provide multiple benefits, such as flood protection, water quality, ecosystem restoration, water supply reliability, and transportation benefits. Assuming existing state policy (existing legislation), this funding would provide for net habitat improvement in conjunction with levee maintenance as well as levee improvements. Funding allocations may vary by project depending on the benefits. For example, projects with federal USACE participation may have up to a 65% federal cost share, but other projects may still be chosen without a federal cost share, based on multiple benefits to the State and water users.
 - c. *All Other Components* – This component includes the strategic plan, risk assessment, subsidence control plan, emergency response, beneficial reuse of dredge material, program management, oversight, and coordination.

Another potential component to the Levees Program is the Suisun Marsh Levees, which requires further study before accurate cost estimates and beneficiaries can be identified. This project will not be evaluated as part of the 10-year Finance Plan, but instead will be left for future discussions and cost allocations.

2. ***Future Information Affecting Finance***

- *Program Sunset & Pending Legislation:* Existing legislation for the subventions and special projects programs will sunset on July 1, 2006. The administration is developing legislation to continue the Delta Levees Program. As part of the legislative process, changes could be made to this program that would affect financing.
- *Strategic Plan & Risk Study:* DWR is currently working on a Risk Study that will be a primary influence in the development of a comprehensive Delta Levees Strategic Plan. This plan and study could contain information that will help guide future funding decisions for the Levees program, including the ability to prioritize projects that would receive funding. Water users consider this strategic plan to be highly important. CVP and SWP contractors have indicated that they may be willing to help pay for the development of a strategic plan, but that they would not be willing to pay for any levee improvements until a strategic plan is in place. The Risk Study is currently scheduled for completion by the end of 2005, but preliminary information may be available in November 2004.
- *Federal Authorization:* Proposed Federal authorization could provide as much as \$90 million for the Levees Program. Should authorization legislation pass, the associated appropriations/implementation language would be important in determining how the funding could be used for the Levees Program.
- *Check-in Point:* As part of the 10-year Finance Plan for the Levees Program, there needs to be a check-in point built into the process in 1-2 years, after the strategic plan and legislative process is complete, and federal authorization may have passed. This would allow changes to be made to the Levees 10-Year Finance Plan based on new information from the risk study and strategic plan, as well as incorporate any changes from new state legislation or federal authorization.

3. ***Funding Targets:*** The estimated funding target for the Levees Program is approximately \$44.7 million per year (not adjusted for inflation) -- see table below. Local Delta interests have expressed concern that the annual target of \$11 million for levee maintenance is too low. Local Delta representatives, State and Federal agency representatives and water users, all agree that a target of \$1.7 million per year for all other components is too low. A subset of BDPAC Levees & Habitat Subcommittee

members, water users, and state agency representatives will be working together to revise these estimates and develop a timeline for the strategic plan by the end of September, and will report back to the Levees & Habitat Subcommittee meeting on October 1.

Levees Program 10-Year Funding Targets & Unmet Needs ¹ (\$ in millions) September 3, 2004							
Program Year	Funding Targets		Available Funding			Total Available	Unmet Needs
	Ongoing Annual	10-Year ²	State		Federal		
			GF	Prop 50	Approps.		
Levee Maintenance	\$11.0	\$125.1					
Levee Improvements	\$32.0	\$342.0	\$0.1	\$40.5	\$0.2	\$40.8	\$444.9
All Other Components (Studies/research, emergency response, oversight & coordination)	\$1.7	\$18.6					
Total	\$44.7	\$485.8	\$0.1	\$40.5	\$0.2	\$40.8	\$444.9
NOTES:							
1. Includes funding targets and unmet needs for Years 5-14 of the CALFED Program.							
2. 10-year funding targets are greater than ten times the annual targets because cost estimates have been adjusted for inflation.							

4. **PL 84-99 ROD Target:** The ROD included a goal of raising all levees in the Delta to the PL 84-99 standard. Questions have been raised regarding the cost-effectiveness of this ROD target. This target is one of the key targets that will be reevaluated as part of the Strategic Plan using information from the Risk Study. Some of the questions that arise include--Is there additional information available to suggest that not all levees in the Delta need to be raised to the PL 84-99 standard to provide the broad multiple benefits? Is the cost of providing PL 84-99 so high that another priority system should be considered? In addition, would it in certain cases be more cost-effective to include a willing seller buy-out program for damages from flooded islands rather than a program that rebuilds the levees to P.L. 84-99, particularly given the seismic risk and subsidence issues in the Delta?
5. **Participation by the USACE:** There is a concern about USACE level of participation in Delta levee improvements because a federal cost-benefit analysis may not justify the USACE's participation. Also, the USACE typically does not fund projects unless they do the work, and State and local interests perceive the costs to be higher and the process to be slower when the construction is done by the USACE. Are there some projects where another federal agency should be sought to participate?
6. **Benefits-Based Allocation:** Currently there is minimal data to support a benefits-based allocation. However, the Draft Finance Options Report (FOR) (page 273) estimates based on existing studies and data that the value of flood damage reduction

is approximately \$10 million/year, based on data collected from the Delta Projection Commission, DWR, and USACE regarding historical damages from Delta flooding. The Draft FOR also estimates that water supply and water quality benefits could potentially be up to \$10 million/year (page 274). Habitat improvements are also a benefit of the levees program. When DWR completes their risk study and strategic plan, additional information is expected and these assumed values will need to be updated.

7. *Levee Maintenance:*

- Traditionally there is no federal contribution for levee maintenance. There is general consensus among state, federal, and local interests that the maintenance program should remain locally driven (projects selected based on local interest/applications), and the federal government /USACE should not have a financial role.
- Local landowners clearly benefit from a locally driven maintenance program, but some small landowners may not have the ability to pay for levee maintenance that may be beneficial to the state. Traditionally the state-local cost share for maintenance is 75%/25%, but historically locals have paid a higher share, closer to 50%. What cost share should locals pay for maintenance?
- While Delta export water users benefit from levee improvements on certain islands by increased protection of water supply and water quality, the levee maintenance program component is locally-driven and focused on local flood control benefits and, in most cases, may not justify an export water user contribution. However, some Delta interests still feel that water user contributions are appropriate, and could provide a much needed stable funding source. Should export water users contribute financially to the levee maintenance program?

8. *Levee Improvements:*

- The federal/USACE share for flood control project improvements is traditionally 65%. Depending on the funding target, a 65% federal share may exceed the \$90 million available in proposed Federal authorization. What is a reasonable federal share for flood control improvements?
- Under current flood control cost share formulas, local agencies are required to provide the lands, easements rights-of-way, and often the ongoing cost of O&M. Some local Reclamation Districts are currently not required to cost share for levee improvements through DWR's special projects program if they have no documented ability to pay. Should a local contribution be required? Should a cost allocation require local contributions if the projects are not locally driven and are primarily focused on water supply reliability for the exporters, even if local flood protection is provided? Should a local cost allocation continue to be based upon the Reclamation District's ability to pay, or should the land owner's ability to pay also be considered?
- Export Water users have expressed concern that any water user contribution be directed to activities/projects that provide maximum benefit to them. While water user revenue would provide a reliable source of funding for a maintenance program that lacks an ongoing stable funding source, a levee improvements

program that funds projects focused on water supply/quality benefits may be a more likely fit for water user contributions that are linked to benefits.

9. **Water User contributions:** The primary water users that benefit from the levee program are in-Delta and export water users (SWP and CVP contractors). If water users contribute to the levee program, should new state administered fees be developed or should contributions be collected through increased surcharges to CVP and SWP contractors? Should the split between CVP and SWP be determined based on the volume of water diverted? Water users have expressed that they would not be willing to pay for levee improvements until a strategic plan is in place.
10. **Boater Fees:** Local Delta interests and DWR believe that the current data and studies indicate that boat wakes cause some levee erosion, although there is not support for this from the Dept. of Boating and Waterways or the recreational boating community but boaters disagree. Should boaters help pay for certain components of the levee program? What is a fair allocation to boaters? If a contribution is made should it be generated from a new Delta boating fee or from appropriations from the Harbors & Watercraft revolving fund?
11. **Infrastructure Beneficiaries:** Are there other beneficiaries of the Levees program, such as the railroad, or other infrastructure owners such as PG&E, that should help pay for the Levees program?
12. **Public benefits for the Levee Program:** Section 12981 of the Water Code that established the levee program reflects the statewide interest in preserving the Delta in its present form, including the protection of its assets such as agriculture, recreation, fisheries, and wildlife habitat. In addition, existing legislation requires that there is a net habitat improvement from the levees maintenance and improvements programs. There is concern by some that improvement of Delta levees could lead to increased urban development, thereby reducing a primary public purpose for the levee program. Should public funding levels differ depending on whether maintenance or improvements are done to protect agricultural or urban resources?
13. **Emergency Response:** The original plan from the ROD was to include a large initial investment (\$10 million) to build a reserve, with additional annual contributions of \$1 million. Should this idea be reflected in the 10-year finance plan? Should emergency response be funded by more than just public funding?

Storage Background and Issues

Background

Since 2000, CALFED surface storage planning has been funded with public monies (State \$48 million and Federal \$22 million). The CALFED groundwater program has been funded with \$207 in public monies from State sources. In addition, there has been a large local contribution for groundwater storage and conjunctive use of approximately \$700 million as grant matching funds tied to the State funding.

Surface Storage Issues

1. ***Surface Storage Construction:*** It is premature at this time to develop cost allocations for construction of the 5 surface storage projects under investigation. Construction costs cannot be allocated until feasibility information is available that will allow federal, State and local water managers to identify specific project formulations and operational criteria. This information is necessary to assess the specific benefits each project might provide and serve as a basis for cost allocation. As a result, for the current finance plan under development, surface storage construction will be identified as “Potential Capital Projects”, and a future timeframe and check in point, and a process for developing cost allocations when it is timely, will need to be included. While there is no expectation that all 5 projects will be built, the current estimate of construction costs for all 5 projects that may occur in the 10 year timeframe is \$5.8 billion.
2. ***Planning--Funding Targets, Available Funding and Unmet Funding Needs:*** The remaining cost to complete all 5 surface storage planning studies is approximately \$60 million. Available funding (from Prop 50, General Fund and Federal appropriations) is approximately \$37 million leaving an unmet need of \$23 million.
3. ***Planning—Prioritize Projects to Complete Planning:***

Prior to identifying how to cover the unmet funding needs there is general agreement among the stakeholders and agencies that additional review of the 5 projects should occur to determine relative priority for planning funds. To do this, several activities are underway. Additional information (described below) to assist in prioritizing planning funds is available starting in early 2005, and the remainder of the information is available in late 2005. At what point (early or late 2005) will stakeholders and agencies be willing to prioritize the projects in order to determine how to allocate available funds and determine if additional funding is needed to complete planning studies?

 - ***Local participants identified:*** For each project, DWR and Reclamation are in the process of working with local areas and water users to identify if there are interested participants for each project. This will help to determine strong

stakeholder support to help assess project viability. This effort should be completed by spring 2005.

- *Common Assumptions:* The development of the Common Assumptions information for water management activities will continue to improve the comparability of information regarding the costs and benefits of the five storage projects. As this information is refined, it should be taken into consideration when determining which projects should precede. This effort should generate information by early 2005.
- *Pre-Feasibility Completed.* The technical and economic feasibility of each project will be evaluated in the pre-feasibility studies currently underway. For all projects except In-delta Storage, pre-feasibility is not complete. If funding is provided, DWR and Reclamation hope to complete pre-feasibility (the equivalent to Plan Formulation) for the other 4 projects by the end of 2005 so all projects can be evaluated with similar level of detail before proceeding with any of the projects. To line the projects up with equivalent levels of information, funding for In-delta should be held up to allow the other projects to catch-up.

4. ***Funding Options for Planning Costs***

- Seek increased public funding which will result in significant risk of delay in completing the studies.
- Seek water user or local participant funding which may provide funding sooner and accelerate completion of the studies.

5. ***Reimbursement back for Pre-feasibility planning costs:*** For surface storage planning, in early CALFED documents (Phase II Report), and in the Implementation Plan, Final EIS/R for the CALFED Bay-Delta Program (page 5-17), and in subsequent State Budget Bill language – it has been stated that state public funds for planning would be repaid by project beneficiaries if a project proceeds to construction. There is some disagreement from water users on whether there is agreement on this policy or not.

Current Reclamation policy/practice is to use federal taxpayer funding for early pre-feasibility studies but require a cost share for more detailed feasibility and planning studies. For the SWP, planning costs specifically associated with expansion or improvements to the SWP are generally funded by SWP funds.

Groundwater Issues

6. ***Funding Target:*** The ROD objective for groundwater storage is to develop 0.5 to 1.0 million acre feet of new groundwater storage. Based on the existing projects already approved and funded by Prop 13, it is expected that those projects will exceed the lower limit of 500TAF of new operable storage and may yield about 300TAF of water supply annually. To provide an additional 500 TAF to meet the original ROD target, an additional \$900 million or more is needed; roughly the same amount provide to the first 500 TAF. The annual funding target is approximately \$55 million. Is it reasonable to continue to support the original acre foot ROD objective for

groundwater and if so is \$55 million/year or \$921 million over 10 years a reasonable funding target?

7. **Available Funding:** To date Prop 13 bonds funds have been the primary public funding source for the groundwater program. Prop 50 does not have a dedicated funding for groundwater storage, but there are several sections of Prop 50 where groundwater storage is an eligible funding source. The two primary sections are Chap. 7(d) water supply reliability, and Chap 8 Integrated Regional Water Management. A small amount of Chap. 7 funding has already been directed to the groundwater program, and an additional \$30 million is proposed by DWR for this purpose. Water users have expressed concern that at least 50% of the Chap. 7(d) funds be used for water supply reliability grants. DWR and BDA are reevaluating the Chap. 7(d) funds to propose a reasonable allocation of among the different eligible activities. Very little Chap. 8 funding has been committed for the groundwater program at this time. After project applications are received and reviewed, high priority projects will be selected. Groundwater projects are eligible projects but compete among all water management projects for the funding. Should a portion of Chap. 7(d) or Chap. 8 funds be directed specifically to groundwater projects?

8. **Funding options:** Groundwater storage can provide multiple water management benefits as well as ecosystem and other benefits. At the time of the ROD, there was local resistance to state/federal involvement in local areas for groundwater management and storage. Since 2000, DWR and the Reclamation have effectively built local relationships and funded groundwater projects that are locally managed. In the Draft Finance Options Report, two allocation examples were provided:
 - Continue the status quo allocation between state/federal and local cost share (for project construction 25% state, 75% local)
 - Shift the cost of construction to the local agencies; provide state /federal funding for only the feasibility grants, pilot projects and monitoring costs.

There are several factors that should be considered in determining the public share of funding for groundwater storage over the next ten years. Significant progress has been made towards meeting the original CALFED ROD objectives. Given this progress, are additional improvements in groundwater projects still a high priority for water management public funding? If groundwater projects are reviewed and considered to be locally-cost-effective; public funding may not be justified. However, there may be other reasons to consider public funding for the groundwater construction program. Under what circumstances is public (state/federal) funding justified for the groundwater construction program?

- Many groundwater projects, while perhaps marginally cost-effective on localized basis, offer significant long-term benefits to the broader groundwater basin they are operated in. Is public funding needed to encourage and invest in basin-wide groundwater management?
- Public funds for research and pilot projects can generally be justified because research can provide public benefits that are broader than just to the local area.

In what regions of California is the knowledge and technology related to groundwater management still in an early research or pilot stage that justifies public assistance?

- Groundwater projects are viewed by some environmental interests as more desirable than surface storage projects because the projects cause fewer environmental impacts. In addition groundwater projects are viewed by some as producing broader public benefits such as developing local supplies which in turn can reduce pressure on the Delta; for these reasons some stakeholders support public funding.
- The State funding provided to date has leveraged large amount of local funding. Is this seed money needed to continue to leverage the local investment?
- If state/federal funding is still critical and a high priority for construction funding, is it more appropriate to provide loan funding rather than grant funding at this time?

9. ***Performance Review.*** As with the other program elements it is important to include a detailed performance review and assessment of benefits in the next few years for the groundwater program. For example the funding target is based on a Stage 1 target of 1 MAF. A performance review should review the program objectives for the future and determine if additional funding is needed to meet a new target. At what point should there be a detailed review of targets, performance, and assessment of benefits for the ground water program?

Storage Program										
10-Year Funding Targets & Unmet Needs ¹										
(\$ in millions)										
August 30, 2004										
Program Component/Project	Funding Targets		Available Fund Sources					Total Available	Unmet Needs	
	Ongoing Annual ²	10-Year ³	GF	State	Federal ⁴	Local				
			Prop 13	Prop 50	Approps.	Grant Match				
Groundwater Storage	\$55.0	\$921.4	\$79.2	\$31.2		\$263.0	\$373.4	\$548.0		
Technical Assistance/Feasibility Study Grants	\$5.0	\$63.4	\$1.9	\$31.2			\$33.1	\$30.3		
Implementation Grants & Loans	\$50.0	\$858.0	\$77.3			\$263.0	\$340.3	\$517.7		
Surface Storage Planning		\$55.5		\$28.8	\$2.5		\$31.3	\$24.2		
North-of-the-Delta Offstream Storage		\$10.8								
Shasta Lake Enlargement		\$10.4								
In-Delta Storage Investigations		\$5.5		\$28.8	\$2.5		\$31.3	\$24.2		
Los Vaqueros Reservoir Expansion		\$15.6								
Upper San Joaquin Storage Investigations		\$13.2								
Oversight & Coordination/Common Assumptions	\$0.3	\$5.3	\$2.7	\$2.6			\$5.3	\$0.0		
Total		\$982.2	\$2.7	\$31.4			\$34.1	\$24.2		

Notes:

1. Includes funding targets and unmet needs for Years 5-14 of the CALFED Program.
2. Annual costs for groundwater storage are very high in Year 5 due to Prop 13 & local cost share for projects already selected in previous years. The annual target of \$55 million begins in Year 6.
3. Includes funding for all surface storage projects through permitting. Funding for construction will be determined through future agreements.
4. The President's Proposed Budget for FY 2005 includes \$0.5 million for NODOS, \$0.5 million for Shasta, \$0.5 million for LV, \$0.5 million for Upper SJ, and \$0.5 million for CVP Yield Feasibility Investigations.
5. Includes \$2.7 million (\$271k per year) for oversight & coordination and \$2.6 million for common assumptions.

Conveyance Background and Issues

Background

Between 2000 and 2004, funding for the Conveyance Program has totaled approximately \$125 million, broken down as follows:

- \$59 million state – General Fund (\$7.5 million), Prop 13 (\$51 million), and Prop 50 (\$0.5 million),
- \$13 million federal -- water & related resources appropriations,
- \$46 million State Water Project contractors, and
- \$7 million Central Valley Project contractors (through CVPIA restoration funds).

The conveyance program includes planning and construction for a number of projects (see table on last page of this issue paper). This issue paper and the 10-year finance plan are focused on construction of a few projects, and planning for others. In addition, the conveyance program is considering construction of other projects but at this point it is premature to develop cost allocations until more information on costs and benefits is available. For these Potential Capital Projects, a future timeframe and check in point, and a process for developing cost allocations when it is timely, will be included in the 10 year finance plan. These potential capital projects include: Clifton Court Fish Screens, Tracy Fish Test Facility, Through Delta Facility, N. Delta Flood Control & Ecosystem Restoration Improvement Program, San Luis Reservoir LPIP, and Lower SJ Flood/Ecosystem Improvements.

Issues

1. **Available Public Funds:** Both Propositions 13 and 50 allocate funds for the CALFED conveyance program although the activities authorized do not include all conveyance activities but focus on South Delta improvements. A total of approximately \$250 million was allocated for these activities. In addition, to the extent that funding directed to one activity is not need those funds can be redirected to the other activities in that Chapter/section of the bond. Based on current priorities and constraints of the bond language, stakeholders and agencies will be meeting in September to discuss how to best allocate the remaining bond dollars which will be reflected in the Finance Plan.
2. **Permanent Operable Barriers/8,500 cfs:** The preferred alternative of the South Delta Improvements Program (SDIP) includes four permanent operable barriers and increasing the pumping limit at the SWP Banks pumping plant to 8,500 cfs. According to DWR, water supply improvements for increasing SWP export pumping to 8,500 cfs will increase CVP water supplies by 100 TAF and SWP supplies by 90 TAF on average, however, CVP water contractors do not agree with this statement, and believe they have already paid for the 100 TAF through separate trade-offs with SWP. Since 2000, funding for planning has been almost entirely from State Water

Contractors (\$27 million). The remaining cost to complete the permanent operable barriers is \$97 million, which includes planning and construction costs for the four permanent operable barriers and 8,500. Based on current funding proposal, funding is available from Prop 13 (\$56 million) and State Water Contractors (\$8 million), leaving \$33 million of the total is still unmet.

There is general consensus among stakeholders and agency representatives to first use bond funds that are specified for this project (Prop 13), and then use bond funds that have the flexibility and are appropriate to be spent on this type of project (Prop 50). If such an approach were taken, there would be sufficient funding from the State to fully fund the remaining costs of the permanent operable barriers. Given the high priority of this project and the available bond funds, should state bond funds pay for the completion of the permanent barriers?

Three of the four barriers are included as a requirement in the CVPIA although federal funding (taxpayer and CVP contractor) for this project has been minimal. Any federal taxpayer share for this project is likely to not be available until Year 7, given the existing federal budget process. If state funding is pays for a larger share than required under CVPIA, the USBR should apply a credit to the state for other state obligations under CVPIA.

3. **Franks Tract:** Although still in the early feasibility stage, the primary benefits expected from Franks Track are improved export water quality for SWP & CVP M&I water users. However, the benefits of the project will depend on the operational agreements. Other significant benefits that may result form this project include ecosystem and water supply benefits. There is general consensus among water users the DWQ subcommittee, and agencies to move this project to the DWQ program element, with continued management by DWR.

Current estimates to complete Franks Tract are \$92 million. Funding is available from Prop 13 for fish facility improvements in the Delta (\$1.8 million in Year 5 for technical viability studies), and State Water Contractors have agreed to contribute \$2.5 million in Year 5, but the remainder (~\$88 million) is unmet. How should the remaining unmet needs be funded?

Given the uncertainty over the future operation of this project and project benefits, there is general consensus among CVP and SWP water users and agency representatives that technical feasibility should be completed before cost allocations are proposed. In addition, the Drinking Water Quality Subcommittee has suggested a phased approach, funding a smaller amount of work to see what the benefits are and then evaluating the project to determine the costs and benefits of future phases are justified. There is general consensus among CVP and SWP water users and agency representatives that this phasing approach would be a good idea. If such an approach were taken:

- Should the first phase be limited to completions of planning (\$15.2 million total, \$10.9 million remaining unmet), or should implementation of some

work with the greatest benefit on the west side of Franks Tract be included in the first phase?

- How should the first phase be funded? Should water users or the public (fed/state), or some combination, pay? There is general consensus among SWP and CVP contractors that M&I contractors should contribute funding for this project. In addition, to the extent ecosystem and habitat improvements are benefits of Franks Tract, there is general consensus that this should be accounted for in funding allocations.

4. ***Interim South Delta Actions:*** Current estimates for Interim South Delta Actions (including dredging and operation of the 4 temporary barriers) are \$24.7 million over 4 years, which assumes that permanent barriers would be constructed by the end of 2007. The benefits of the temporary barriers are generally the same as the permanent barriers. Reclamation and DWR developed a cost share strategy in 1992 based on the authority that CVPIA gives the federal government for the permanent barriers, which allocates the costs of the Grantline barrier 100% to the SWP, and the other three barriers are split 25% SWP / 75% CVP. However, it was originally assumed that the temporary barriers were necessary for getting design information for the permanent barriers, thus they were a cost of the permanent barriers. The extended period of operation of the temporary barriers may present an uncertainty to this rationale. To date, the CVP has not contributed significant funding for the temporary barriers, while the SWP has essentially fully funded them. However, because CVP contributions are appropriated through the federal budget process, there could be delays in the ability to receive CVP funding for the project.

There is general consensus among SWP and CVP contractors that the interim South Delta actions should continue to be fully funded by SWP and CVP contractors, subject to mutually agreeable cost sharing or crediting arrangements between them.

5. ***Delta Mendota Canal/California Aqueduct Intertie:*** The conveyance capacity of the Delta Mendota Canal (DMC) currently limits the authorized capacity of the Tracy Pumping Plant to less than its full capacity of 4,600 cfs. By creating an intertie between the DMC and the California Aqueduct, about 400 cfs could be moved from the DMC to the California Aqueduct, which would allow Tracy pumping at full capacity. Current estimates to complete the intertie are \$26.7 million –no funding is available. The Draft FOR suggests that the benefits are to CVP water users, given the increase in pumping for CVP water contractors. However, CVP contractors feel that there will be some benefits to the SWP as well, though they acknowledge not as great as the benefits would be to the CVP. CVP water contractors have said that some federal money has been allocated for this project (approximately \$1 million per year), and that they hope another \$2 million will be appropriated. CVP contractors have agreed to pay the balance of the costs for this project, to the extent federal appropriations do not cover the costs.

Another \$3 million associated with this project to study the feasibility of increasing capacity through enlargement could be added to the costs if federal authorization passes.

6. ***Old River & Rock Slough Water Quality Improvement Projects:*** There are no unmet needs for this set of projects that would improve water quality for diversion to the Contra Costa Water District – sufficient funding is available from Prop 13. Some water users have suggested that the funding for this project should be counted under the Drinking Water Quality Program element. No one has disagreed with this proposal, so this set of projects will continue to be managed by DWR, but they will be moved to the DWQ Program in future funding charts.

6. ***Planning Studies:*** There are numerous planning studies underway for the Conveyance Program, many of which have unmet funding needs. For many of these projects under study, the project benefits are expected to be provided to the CVP or SWP contractors primarily. For those studies where the allocation of benefits is known—it is appropriate to allocate the planning costs to those beneficiaries. Otherwise the costs may be best borne by state and federal taxpayer funding for planning until beneficiaries are more clearly identified. If unmet needs for planning are sought from state/federal funds there is a higher likelihood of significant delays. However, if funding from water users and local participants is provided, funding is more likely to be available sooner which could accelerate completion of studies.
 - a) ***South Delta Fish Protection Measures*** – This includes planning associated with Clifton Court Fish Screens, primarily for the South Delta Hydrodynamic Investigations and an analysis of the short-circuit alternative. Benefits are expected to primarily accrue to SWP and CVP contractors, although contractors have argued that the hydrodynamic investigations will improve base knowledge of how the system functions, and has broad public benefits. Current estimates to complete the studies are \$8.6 million. \$2.9 million is available from Prop 13 for fish facility improvements in the Delta, and \$1.5 million is available from State Water Contractors, leaving an unmet need of \$4.2 million. How should the unmet needs be funded? Should the costs be allocated to SWP and CVP contractors based on the volume of water diverted on average from the Delta?
 - There is general consensus among SWP and CVP contractors that this is a high priority study. Reclamation has a strong interest in the hydrodynamic investigations, but federal funding in the short term is questionable. One possible source of funding that has been suggested might be Prop 50 Science funding.

 - b) ***Tracy Fish Test Facility*** – This study involves research regarding fish protection measures that can benefit both the CVP and SWP. Current estimates to complete planning are \$3.4 million, with \$0.8 million available from the State, leaving an unmet balance of \$2.6 million. There is general consensus among SWP and CVP contractors that this is a low priority study.

- If this a priority for the federal government--should the unmet needs be funded by federal taxpayer funds?
- ~\$20 million from Prop 13 was provided to Reclamation by DWR for construction of the Tracy Fish Test Facility, based on a cost sharing arrangement of a 25% State cost share, based on CVPIA (3406(b)(4)). Since then, the scope of this project has changed, and the cost estimates have dropped significantly. Should the portion of Prop 13 that exceeds the 25% State cost share (~\$15 million) for the current total cost be shifted to other fish facility improvement projects in the Delta?

c) ***Lower San Joaquin River Flood Control & Ecosystem Improvements*** – This project could improve flood management and ecosystem restoration in the Lower San Joaquin River. The specific beneficiaries are not known at this time, but beneficiaries are expected to include the public from ecosystem improvements and local landowners from flood control. Export contractors are not expected to benefit significantly. Current estimates to complete planning are \$13 million, assuming planning would begin in Year 7. No funding is available.

- This project is a low priority to export contractors. However, CVP/SWP contractors have questioned whether this project should be moved to either the Ecosystem Restoration Program or the Levees Program where interest and support may be greater.
- Should planning be delayed or stopped based funded with public dollars until more information is known about this project and the potential benefits associated with it are more clearly defined?

d) ***Delta Cross Channel Re-Operation*** – This study involves investigations of re-operating the Cross-Channel gates and studying the feasibility of modifying some slough entrances to improve water quality in the Delta without negatively impacting fish. Funding to date has been primarily from Prop 13 (~\$4 million for fish facility improvements in the Delta) and SWP (~\$1 million). \$1.8 million is needed in Year 5, with \$1.1 available from Prop 13 and SWP, leaving a minor remaining unmet need in the current year of \$0.7 million.

- CVP and SWP contractors both expressed that this was a high priority project.
- If federal authorization passes, language would give Reclamation statutory authority for this project, which in term would allow CVP contractors an ability to pay for this through the contributed funds act. CVP contractors have expressed a willingness to pay for this project if authorization is approved. Should additional Prop 13 funds or SWP funds pick up the minor unmet needs to finish this project, or should the decision be delayed until the authorization bill passes?

e) ***Through Delta Facility*** -- \$19.3 million are the remaining planning costs for the Through Delta Facility, which would investigate the feasibility for a diversion from the Sacramento River near Hood, in case the goals for continuous water quality improvements are not met by other means. \$8.2 million is available from the State (primarily Prop 13 for fish facility improvements in the Delta), and \$0.7 million is available in Year 5 from State Water Contractors, leaving a remaining unmet need of \$10.4 million.

Current research and evaluations of alternatives are underway, and recommendations are expected by the end of 2005. There is general consensus among CVP and SWP contractors that funding through the end of 2005 is a high priority, to get to a decision on how to proceed with this project. A need for funding beyond that is viewed as less certain until more information is gathered from the existing research.

f) ***Clifton Court Forebay/Tracy P.P. Intertie*** – This study would look at the potential operational benefits to both the CVP and SWP from an intertie between the Clifton Court Forebay and the Tracy pumping plant. Current estimates are \$2.1 million, with no available funding. Export Water users have suggested that the scope of this project needs further definition, but CVP and SWP exporters generally agree that this appears to be something they should fund.

g) ***San Luis Reservoir Low Point Improvement Program*** – The Santa Clara Valley Water District (SCVWD) is studying a range of alternatives (supported by state bond funds) to solve the water quality and water supply problem that develops for CVP contractors south of the Delta when storage in San Luis Reservoir drops to about 300,000 ac-ft. The benefits of the San Luis Reservoir LPIP vary depending on which alternative is chosen. Current estimates to complete planning for San Luis Reservoir LPIP are \$17.7 million. Although funding is not currently budgeted – there is general agreement that this will be a CVP and federal taxpayer supported project.

- CVP contractors view this as a high priority project. SWP contractors do not disagree, but don't view this as their responsibility. CVP contractors indicated they will be a primary financial contributor to this project.
- Prop 13 already provided \$14.8 million for planning. Reclamation is currently working on an appraisal report to determine if there is feasibility and a federal interest in this project. If a federal role is found, up to 50% of the feasibility planning costs could be sought in federal funds. However, funding would not be available until FY 2007 at the earliest.
- The SCVWD has previously indicated to DWR that they would contribute \$436k for planning costs associated with this project.

7. ***Oversight, Coordination, and Science*** – \$5.7 million is needed over 10 years, and \$3.7 million is available, leaving a minor remaining balance of \$1.9 million unmet.

- Should 100% public funding be used to fund the unmet needs for oversight, coordination, and science activities, similar to other CALFED program elements?
- Should some of the unmet needs be funded by the federal government, or should funding for these activities continue to be funded with State funding?
- State Water Contractors have contributed small amounts in the past for this function in the Conveyance Program (~\$150k from 2000-2004). Should a minor amount be allocated from SWP funds, based on the status quo?

Conveyance Program

10-Year Funding Targets & Unmet Needs ¹

(\$ in millions)

September 3, 2004

Project	10-Year Funding Targets		Available Funding						Total Available	Unmet Needs	
	2005 Dollars	Adjusted for Inflation	State			Federal		CVP			SWP
			GF	Prop 13	Prop 50	Approps.	Water User				
Permanent Operable Barriers/8500 cfs	\$93.6	\$97.2		\$56.0					\$8.0	\$64.0	\$33.2
Franks Tract Improvements	\$84.0	\$92.2		\$1.8					\$2.5	\$4.3	\$87.9
Delta Mendota Canal/California Aqueduct Intertie	\$26.7	\$26.7								\$0.0	\$26.7
Interim South Delta Actions	\$24.0	\$24.7							\$7.5	\$7.5	\$17.2
Old River & Rock Slough Water Quality Improvement Projects	\$10.4	\$10.4		\$10.4						\$10.4	\$0.0
Planning Studies											
South Delta Fish Protection Measures	\$8.5	\$8.6		\$2.9					\$1.5	\$4.4	\$4.2
Tracy Fish Test Facility	\$3.4	\$3.4	\$0.1	\$0.5	\$0.2					\$0.8	\$2.6
Lower San Joaquin River Flood Control & Ecosystem Improvements	\$11.6	\$13.0								\$0.0	\$13.0
Delta Cross-Channel Re-Operation	\$1.8	\$1.8		\$0.6					\$0.5	\$1.1	\$0.7
Through Delta Facility	\$18.7	\$19.3	\$0.5	\$7.7					\$0.7	\$8.9	\$10.4
N. Delta Flood Control & Ecosystem Restoration Improvement Program	\$0.5	\$0.5	\$0.5							\$0.5	\$0.0
Clifton Court Forebay/Tracy P.P. Intertie	\$2.0	\$2.1								\$0.0	\$2.1
San Luis Reservoir LPIP	\$17.4	\$17.7								\$0.0	\$17.7
Oversight, Coordination, & Science	\$5.0	\$5.7	\$3.6						\$0.1	\$3.7	\$2.0
Total	\$307.5	\$323.2	\$4.8	\$79.9	\$0.2	\$0.0	\$0.0	\$0.0	\$20.8	\$105.6	\$217.6

Notes:

¹. Includes funding targets and unmet needs for Years 5-14 of the CALFED Program.

Science Program Background and Issues

Background

The CALFED Science Program focuses on issues that cross CALFED program boundaries, funds high quality science to address those issues, provides independent assessments of the state of knowledge with respect to key issues, supports science policy for practices across CALFED, and encourages ongoing communication of scientific knowledge to the CALFED community. The Science Program also builds on the foundation of long-term investment in mandated monitoring programs established prior to the ROD, including the Interagency Ecological Program. The IEP is considered part of the CALFED Science Program because of its focus on Delta fisheries monitoring, although the Science Program coordinates with all the other existing monitoring as well.

Except for the IEP funding, the State's General Fund and Proposition 50 have funded the CALFED Science Program during the first four years. These two state sources have contributed about 90% of the program's budget, with the remaining 10% coming from the federal government. During the Science Program's initial four years of activity, funding has averaged about \$10 million per year (ranging from a low of \$3 million to a high of \$21 million). The IEP has received \$13 million to \$16 million annually during the first four years of the CALFED Program. Based on information from DWR and Reclamation, IEP costs have been allocated as follows: SWP water users 44%, Federal agencies 40%, State, recreational users, and grant matching funds 12%, and CVP water users 4%. (CVP contractors indicate they have a higher share than shown—CBDA is working with Reclamation and CVP contractors to correct any errors)

Issues

1. Funding Targets: The California Bay-Delta Authority (CBDA) staff is projecting a funding target of approximately \$30 million per year for CBDA-led science actions. IEP agencies (DFG, DWR, Reclamation etc) are projecting approximately \$14 million per year for IEP activities. (See tables and attachment for more detailed funding information and program description). There is strong support for the Science Program among all stakeholders. However, water users have asked for additional program description to back-up and explain the funding targets and the relationship between IEP and the CBDA-led science activities (See attachment following this Issue Paper). Additionally, water users indicate they want to see a periodic review to gauge the program's effectiveness – and its value to different beneficiaries – before making long-term funding commitments. Finally, water users would like to resolve the cost allocation for the Science Program before agreeing to a funding target.

2. IEP Priorities and Funding: A key financing issue for the Science Program is to what extent individual monitoring programs, such as IEP, should carry out scientific research, or how much should be done at the Program-wide level. IEP is currently funding data collection and monitoring required by the State Water Resources Control Board (SWRCB) as part of water rights/quality permits. In addition, IEP has funded research and studies related to Delta fisheries. Generally, stakeholders did not see a compelling rationale for shifting all IEP research and special studies under the CBDA science umbrella. They did, however, see a need to establish a nexus and more open process for setting priorities across the two science efforts. Water users also expressed strong interest in convening joint open discussions regarding the priorities of the IEP to help focus funding. Generally, water users see a more direct connection to beneficiaries with IEP because many of the IEP projects are related to water operation. Is the BDPAC comfortable keeping the IEP and CALFED research and studies efforts distinct?

3. Funding Allocations: The Science Program supports programs that deliver benefits to all program element beneficiaries. In the Draft Finance Options Report (FOR), two allocation examples are used.

- The first example allocation is essentially full public funding for the CBDA science activities, as has been the funding since 2000. The funding for IEP costs would also continue the status quo approach where resource users provide funding under existing water diversion permit requirements and interagency agreements. Under this example, state and federal taxpayers would split evenly about 71% of the total program costs, and Bay-Delta resource users would fund the remaining 29%.
- The second allocation example in the Draft FOR allocates the science costs in proportion to the benefits that accrue across the entire Bay-Delta Program, as represented by the revenue sources. Compared to the status quo, the proportional benefits-based allocation shifts more cost for Science Program activities onto some Bay-Delta resource users. Overall, costs allocated to Bay-Delta resource users as a group would range from 49% - 53%.

Discussions with water users suggested a preference for keeping IEP's present funding formula intact and distinct from CALFED Science; this view was driven primarily by water users' perception that IEP activities provide a direct benefit. Water users did not express a strong preference for a particular funding allocation for the CALFED Science Program, though some suggested that public funding may be the most appropriate mechanism since they do not expect each program element to receive the same benefit from science.

- a. Should the Science Program be supported from all CALFED funding sources in proportion to the revenue received? Should the assessment on the revenue

sources be the same percentage—or should it vary to reflect any variation in science needs between program elements?

- b. Should the IEP funding allocation remain a separate formula or should financing for IEP and CBDA activities be consistent? For the portion of IEP that is meeting regulatory monitoring requirements, is it necessary to for the financing allocation to remain the same? Generally water users agree that the current status quo funding allocation is appropriate to meet IEP needs.
- c. If IEP stays separate and follows existing funding formulas, that would represent increased costs. Are the funding entities willing to support an increased target based on that formula?
- d. If the current funding formula has significant federal dollars, why isn't CVP currently paying and should they?

Science Program 10-Year Funding Targets & Unmet Needs (\$ in millions) September 1, 2004															
Program Year	Funding Targets			Available Fund Sources									Total Available	Unmet Needs	
	Annual Target	2005 Dollars	10-Year Total Adjusted for Inflation	State				Federal	Water User			Local			
				Prop 13	Prop 50 approp.	Prop 50	Dedicated Stamp Fund	Approps.	SWP	CVP	CVPIA RF				
CALFED Science Program	\$30.0	\$300.0	\$340.3	\$2.0	\$12.5	\$20.5	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$35.1	\$305.2
Interagency Ecological Program (IEP)	\$14.0	\$140.0	\$158.8	\$0.0	\$0.0	\$0.6	\$7.7	\$39.6	\$62.0	\$0.0	\$1.5	\$0.5	\$111.9	\$46.9	
Total	44	\$440.2	\$499.3	\$2.0	\$12.5	\$21.1	\$7.7	\$39.6	\$62.0	\$0.0	\$1.5	\$0.5	\$147.0	\$352.1	

Attachment
CALFED Science Program
Budget Summary and Justification

This budget summary includes information on the CBDA science activities and the Interagency Ecological Program (IEP) activities.

CBDA Science Activities

The CBDA Science activities have three broad goals:

- Identify important scientific issues that cross CALFED program boundaries.
- Invest in high-quality science to address critical information needs of the CALFED program
- Disseminate new scientific information to the broad CALFED community and educate the citizens of California in these issues.

The CBDA science program proposes approximately \$25.3 million to address critical scientific information needs of CALFED, and \$4.8 million to carry out independent reviews, support the Independent Science Board, develop and provide program guidance, and fully staff inter- program coordination, communication, and management functions of the Science Program. (See table)

1. Identifying Important Scientific Issues (Error! Not a valid link.)

The goal of this aspect of the program is to identify issues that are and that will be of substantial concern regionally, over the long-term, and that affect CALFED's goals of water and ecosystem sustainability. We will have several mechanisms to do this:

- a. **Independent Science Board (\$1.5 mill)**—the ISB is one main player in this. They will identify problems, do some preliminary exploration on those problems, and bring them to the forefront by presenting them to the ISB, CBDA, and the broader community. The ISB will also directly advise CBDA on high priority technical issues, and serve as the peer review body for performance measures developed within CALFED.
- b. **Workshops (\$1.73 mill)**—workshops are excellent venues for identifying issues and getting a broad view of what the important questions are and how to go about solving those. Topics for workshops will be identified in three ways: by the ISB (covered in 1a above); by Science Program staff, and; by the broader scientific-stakeholder-agency community. A senior-level person (Ph.D. in science or closely related field) will manage the workshop program. This budget is designed to support 6 single-issue workshops and 2 major program reviews per year. Currently, several workshops related to SWRCB triennial review issues, water operations & biology, delta smelt, and salmonids are being planned.

- c. Staff identification of issues (\$350,000)**—there is a role for rotating fulltime senior staff in the Science Program to identify problems and helping address CBDA questions/needs and building research agendas with other program elements. This will lead to review papers based on CALFED data and addressing important issues. This would involve bringing in co-authors from outside the program (from agencies, academia, stakeholders, etc.). This may follow a workshop, an ISB directive or be generated by staff in the Science Program or within other programs in CALFED. These positions will be directly assist the Lead Scientist but have broad authority to work with anyone to identify problems, obtain data, identify co-authors, and initiate and finalize writing and publication of reports/articles. Another aspect of this position will be to help the Lead Scientist incorporate the latest research questions into the Science Program science agenda and future requests for proposals.

2. Investing in Critical Unknowns (\$23.2 mill)

The goal of this aspect of the program is to fund the best science possible and support new studies which address important CALFED cross-cutting issues through a competitive grants process. Some of those issues will be identified in #1 above and incorporated into requests for proposals, the science agenda and website documents. But, the scientific community will drive this as well through the proposals they submit to the Science Program, much in the way that the National Science Foundation, NASA and other federal granting agencies solicits and funds science. Internally we will develop programs and needs for research and then release a call for proposals to identify important problems within those areas. There are several aspects of the funding process that will require a dedicated staff:

- Developing and processing yearly requests for proposals;
- Establishing a continuous funding base to support innovative science;
- Developing a contracting procedure using national approaches, and;
- Maintaining transparency in process.

a. Grants Program (\$20 mill)

The goals of the grants program are to identify priority issue areas where CALFED needs new information, communicate these management information needs to the research community, and to select high-quality studies in support of those needs through a transparent and competitive process. Staffing costs required to manage an annual grant making process and the awarded contracts would be \$1,975,000. Grants totaling \$18,455,000 to advance scientific understanding in the following priority topic areas would be awarded each year:

- Water operations and biology;
- Interactions between CALFED actions and natural processes in the Bay-Delta watershed;

- Performance assessment support through studies of natural processes throughout the watershed
- Improving the predictive capacity of models currently used in support of decision making
- Defining likely future scenarios and the relationship to CALFED actions, including land use, population, and climate changes

Example Projects. Because we want to emphasize high quality scientific activities and use a competitive process to select proposals, we can not predict exactly what study topics will be funded in any given year. The following is a set of examples to serve as a discussion point for how much can be accomplished at what level of funding (Delta Cross Channel Multidisciplinary studies \$4.8 million, 2.5 years; Selenium Fate and Transport Delta study (Franks Tract hydrodynamic results) \$2.6 million, 3 years; Delta smelt otolith analyses of samples from existing monitoring \$1 million/ year; Prepare 50,000 salmon scale samples for archiving and later analysis, \$450,000, 2 years; Delta smelt modeling, \$600,000, 2 years; Delta shallow water habitat use analyses, \$450,000, 2 years; Field reconnaissance study of indicators of contaminant exposure in juvenile salmon, \$160,000, 1 year; Pilot study designing performance assessment monitoring for tidal wetland restoration \$3.7 million)

b. Post Doctoral Scholars and Graduate Fellowships Program (\$3.19 mill)

The purposes of the specific program for postdoctoral researchers are to sustain investment in data analyses above pre-CALFED levels, introduce new graduates to CALFED management issues and information needs and thus develop a pool of highly qualified candidates for scientific positions within CALFED agencies, and support collaboration between agency scientists and research institutions. The program is currently being administered by UC San Diego/ Sea Grant for the Science Program.

3. Disseminating Scientific Information and Communication of Issues (\$3.3 mill)

Disseminating the up-to-date and high-quality information about important issues is crucial to everything CALFED does. We need to transfer a broad array of information to a vast array of people about what we do, why it is important and what we can expect in the future. Californians and California water supply systems, ecosystems and landscapes will undergo tremendous pressure and change in the future. Citizens of California need to understand the complexity of these problems and be part of the solution. A major obligation of the Science Program is to educate the community at several levels. Water users indicate that this is a priority funding area due to the disconnect communicating science activities to policy makers and the public.

- a. Science to the CALFED community (\$895,000)**— It is critical to get information into the agencies that need to use it, as well as the broader CALFED stakeholder community. The function of this program component is to clearly describe to members of the CALFED community the results of scientific investments and the potential ramifications of new information to resource management. Multiple tools for communicating and disseminating information will be used, including the “Science in Action” inserts, publications like the “Management Cues,” and ongoing posting of all Science Program products on the web. This is critical to our mission and will require a dedicated senior staff position.
- b. Science to Science Communication (\$848,000)**—the Science Conference is a great example of how to get information to the scientific community. Another in-house outlet is the online journal. The Science Program needs resources to continue and strengthen these outlets to foster understanding of what we are doing in CALFED and how it can be used to help solve problems. We will expand this effort to get broader recognition for CALFED work by additional efforts to publish papers in a wider array of peer-reviewed journals and review articles in national journals showing what CALFED does and why it is important to the broad water issues in California and other states.
- c. Program Coordination with CALFED Agencies (\$720,000)**—the science program will need to further develop its efforts within CBDA to respond to important information requests, develop program plans and coordinate agendas with other programs. Although much of this work will be done by the Deputy Director for Science in consultation with the Lead Scientist, the program needs additional resources and staff to better respond to this important need within CBDA. This will include guiding peer review and performance measures across CBDA programs, and developing programs for special workshops to research important “emergency” or “rapid-response” issues.
- d. Monitoring Design & Review Team (\$1.08 mill)**—The Science Program plays a central role in supporting existing and new science-based monitoring efforts across CALFED. This team will perform four functions: provide guidance and expert advice to agency staff involved in designing performance-based monitoring (both in-house expertise and science advisors in disciplines specific to monitoring needs); identify and capitalize on opportunities for leveraging support from non-CALFED sources, such as the NSF GLOBE program, to enhance citizen and other monitoring efforts; conduct internal assessments of large-scale monitoring efforts as to the effectiveness of these efforts in providing information to answer CALFED management questions; and coordinate with senior agency managers running monitoring efforts under CALFED and ensure that regular reviews of ongoing efforts are carried out.

CBDA Science Program Budget For Finance Plan (\$ in millions)

Program Components	Proposed Annual Budget	Available Funding						Years 8+ \$0	% of proposed
		Year 5 \$	% of proposed	Year 6 \$	% of proposed	Year 7 \$	% of proposed		
Identifying Important Scientific Issues	\$3.58	\$2.22	62%	2.22	62%	\$0.70	20%	\$0	0%
Independent Science Board	\$1.50	\$1.00	67%	1.00	67%	\$0.50	33%	\$0	0%
Workshops & Review	\$1.73	\$1.00	58%	1.00	58%	\$0.20	12%		0%
Staff Identification of Issues	\$0.35	\$0.22	63%	0.22	63%	\$0.00	0%	\$0	0%
Investing in Critical Unknowns	\$23.18	\$20.40	88%	2.92	13%	\$0.00	0%	\$0	0%
Grant Programs	\$19.99	\$18.00	90%	0.52	3%	\$0.00	0%	\$0	0%
Post Doc	\$3.19	\$2.40	75%	2.40	75%	\$0.00	0%	\$0	0%
Disseminating Scientific Information and Communication of Issues	\$4.15	\$1.66	40%	1.60	38%	\$0.95	23%	\$0	0%
Science to Science Managers Communications	\$0.90	\$0.55	61%	0.30	34%	\$0.30	34%	\$0	0%
Science to Science Communication	\$0.85	\$0.35	41%	0.60	70%	\$0.30	35%		
Program Coordination with CALFED Agencies	\$0.72	\$0.70	97%	0.70	97%	\$0.35	49%	\$0	0%
Monitoring Design & Evaluation Team	\$1.08	\$0.06	6%	0.00	0%	\$0.00	0%	\$0	0%
Consortia	\$0.61	\$0.35	NA	0.35	NA		NA	\$0	0%
Total	\$30.91	\$24.28	79%	\$6.74	22%	\$1.65	5%	\$0	0%

Interagency Ecological Program

1. Mandated monitoring (\$4.76 mill): This component consists of the data collection aspects of the monitoring carried out as required by State Water Resource Control Board water permit (D-1641) and NOAA Fisheries and US Fish and Wildlife biological opinions for Central Valley Project and State Water Project operations. Data from these monitoring efforts comprise most of the long term datasets available for the estuary; the oldest dating back to 1959. This data has been used extensively by resource agencies and academia to study the San Francisco Estuary. These monitoring efforts provide data and information on status and trends of estuarine physical, chemical and biological properties, including abundance indices for listed fish species. These monitoring programs are instrumental in early detection of newly introduced species into the estuary and are used by the California Department of Fish and Game to evaluate proposed and existing regulation.

2. Non-mandated monitoring (\$4.05 mill): This component consists of the data collection activities associated with monitoring that is not mandated, but none the less important to define trends and supply data needed to understand estuarine mechanistic processes. Examples of this work include continuous tide and flow monitoring in the delta, adult sturgeon and striped bass population, and the delta shoreline fishes survey.

3. Research/special study (\$1.80 mill): The studies in this category are designed to provide mechanistic understanding of physical, chemical and ecological processes. These studies last from one to four years to address a specific question or hypothesis typically and are carried out by a combination of agency and academic researchers. As work is completed, new studies are implemented. This category includes some of the data collection work carried out by post-doctorate researchers. Specifically these studies are used to develop and evaluate new methods and technologies, develop and apply hydrodynamic and biological models, and where possible support work that complements grants and research funded by other sources.

4. Program review (\$3.07 mill): This category comprises the time staff spends reviewing the study elements for scientific soundness, effectiveness, usefulness, and potential areas of improvement. These programmatic and management reviews are done periodically among the monitoring studies to ensure the data and information gathered is appropriate and relevant to present needs.

5. Analysis/reporting (\$2.66 mill): This category contains the time spent compiling and analyzing the monitoring and special studies data into meaningful information and preparing reports or otherwise making the information available through peer-reviewed articles, technical reports, internet web pages and newsletter articles. These analyses and publications serve to disseminate the information to scientific community and to present it to management and policy makers in a concise manner. The work done by post-doctoral researchers falls mostly into this category.

6. Staff expertise (\$500,000): This category accounts staff time spent participating, presenting and testifying at workshops, conferences, OCAP and EWA meetings, project work teams and water rights hearings. Active participation in these forums is not only required by agency responsibilities in some cases, but also ensures information is disseminated accurately and widely.

7. Other reviews (\$860,000): This category is the time spent on reviewing and commenting on study proposals, newsletter articles, technical reports and chapters, journal submittals and written materials. These reviews give assurance that data is analyzed correctly and information is accurately reported. Reviews of study proposals are necessary to ensure funding and resources are given to studies that will likely provide needed information and leads to meeting the IEP's goals and objectives.

8. Data management (\$2.61 mill): This category accounts for all aspects of data management and the computer infrastructure needed to support it. All data entry, QA/QC, programming, internet web page development and support, system development and maintenance and general computer support is captured in this category.

9. Other administrative and management costs (\$1.82 mill): This category includes program support staff for developing budgets, preparing contracts and other management time not accounted for in existing categories.

10. Equipment (\$550,000): This item estimates the costs to replace equipment valued over \$20,000. The majority of these costs are research vessels, but included are vehicles and major pieces of hydrodynamic monitoring equipment. The cost have been totaled for 10 years and divided evenly across the years although actual timing of the expenditures will vary.

11. IEP "Plus" – Performance Evaluation and Monitoring Program (\$5-10 mill): The Multi-Species Conservation Strategy (provides NCCP Coverage for CALFED program actions), The Record of Decision, the draft Memorandum of Understanding regarding the CALFED Bay Delta Program Activities in the Delta, the Ecosystem Restoration Program, and other CALFED program elements all require information derived from a Comprehensive Long Term Monitoring Program. The IEP is proposing to facilitate development of a detailed long-term comprehensive ecological (including water quality) monitoring program built upon past work and existing foundational monitoring programs to fulfill monitoring and assessment mandates for CALFED's Water Quality, Ecosystem Restoration and Watershed Management Coordination programs. The Delta Improvements Package Implementation Plan (page 8-9) directed IEP to work with other agencies to design and implement a Performance Evaluation and Monitoring Program. This program will evaluate the water quality and biological resource effects of the SWP, CVP, and the Delta activities described in this MOU. This program will include, at a minimum, performance measures, conceptual models, adaptive management strategies, data handling and storage protocols, expected products and outcomes, regular reporting, and an independent review of existing monitoring programs.

Interagency Ecological Program Funding Targets

(\$ in millions)

Program Components	Average Annual Target	Year 5 ^a	Year 6	Year 7 ^b	Year 8	Year 9	Year 10	Year 11	Year 12	Year 13	Year 14	10 Year Total
Mandated monitoring	\$3.35	\$3.35	\$3.52	\$3.69	\$3.88	\$4.07	\$4.28	\$4.49	\$4.72	\$4.95	\$5.20	\$42.15
Non-mandated monitoring ¹	\$2.85	\$2.85	\$2.99	\$3.14	\$3.30	\$3.46	\$3.63	\$3.82	\$4.01	\$4.21	\$4.42	\$35.82
Research/special studies ²	\$1.27	\$1.27	\$1.33	\$1.39	\$1.46	\$1.54	\$1.61	\$1.70	\$1.78	\$1.87	\$1.96	\$15.91
Program review	\$0.22	\$0.22	\$0.23	\$0.24	\$0.25	\$0.26	\$0.28	\$0.29	\$0.30	\$0.32	\$0.34	\$2.72
Analysis/reporting	\$1.87	\$1.87	\$1.96	\$2.06	\$2.16	\$2.27	\$2.39	\$2.51	\$2.63	\$2.76	\$2.90	\$23.52
Staff expertise	\$0.35	\$0.35	\$0.37	\$0.39	\$0.41	\$0.43	\$0.45	\$0.47	\$0.50	\$0.52	\$0.55	\$4.43
Other review	\$0.60	\$0.60	\$0.63	\$0.67	\$0.70	\$0.73	\$0.77	\$0.81	\$0.85	\$0.89	\$0.94	\$7.60
Data management	\$1.84	\$1.84	\$1.93	\$2.03	\$2.13	\$2.24	\$2.35	\$2.46	\$2.59	\$2.72	\$2.85	\$23.13
Other administrative and management cost	\$1.28	\$1.28	\$1.35	\$1.41	\$1.48	\$1.56	\$1.64	\$1.72	\$1.80	\$1.89	\$1.99	\$16.12
Equipment replacement	\$0.39	\$0.39	\$0.41	\$0.43	\$0.45	\$0.47	\$0.50	\$0.52	\$0.55	\$0.58	\$0.61	\$4.91
Total	\$14.02	\$14.02	\$14.72	\$15.45	\$16.23	\$17.04	\$17.89	\$18.78	\$19.72	\$20.71	\$21.74	\$176.30

IEP Plus (Performance Evaluation and Monitoring Program)³

Notes:

A five percent inflation factor has been included for outgoing years to account for cost of living increases.

^a This budget is based on the 2004 program with updated program costs.

^b If the pilot work on larval delta smelt is successful and the delta smelt working group decides to implement a full larval fish monitoring program, then the annual costs for mandated monitoring will increase by \$236,000.

¹ One study requests an additional \$145,000 to fund a database manager. It has not been included in the proposed 2005 budget.

² Special studies have 1-4 year duration. The amount presented for 2005 is the average annual cost for current special studies.

³ IEP Plus needs have not been increased to account for cost of living increases.

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