3.0 NEAR TERM (STAGE 1A) ACTIONS

Implementation of actions begins in Phase III. This period will include site-specific environmental review and permitting as necessary. The first stage of Program implementation is critical to its long-term success because it will serve as an indication of the CALFED agencies and stakeholder community capacity to act on a cost-effective, practical, and equitable set of actions which advance the Program objectives.

The preliminary actions have been grouped into 7 bundles either to provide a balanced suite of actions for specific regions within the CALFED problem and solution areas, or to provide programmatic balance between actions which are not necessarily associated with any specific geographic area. The bundles highlight certain critical ongoing programs which will require implementation decisions in the near future, but do not include the many other ongoing monitoring and improvement programs in the Bay-Delta region.

Lower San Joaquin River and South Delta Region Bundle

This bundle is designed to address water management and fisheries concerns in the south Delta and lower San Joaquin River region, for local water uses as well as State and federal exporters. Specific issues to be addressed include fisheries, water quality, water supply reliability, recreation, flood control, and wildlife habitat. The preliminary actions are designed to advance feasibility and environmental evaluations and to implement corrective actions in the south Delta region as well as in upstream watersheds which affect the quality and quantity of flows in the San Joaquin River.

Lower Sacramento River, North Delta Bundle

This bundle is designed to develop a balanced solution to concerns surrounding fishery and water quality impacts of diversions from the Sacramento River into the central Delta, to address regional flood concerns, and to substantially enhance riparian and wetlands habitat corridors in the region.

Yolo Bypass, Suisun Marsh, and West Delta Bundle

This bundle is designed to address water quality, fisheries protection, and habitat enhancement actions for the west Delta region, including Suisun Marsh, the west Delta islands, and the Yolo Bypass. Because of the concern over toxicity effects of mercury originating in the Cache Creek basin, this bundle includes substantial research to identify those sources and potential remediation tools.

Delta-Wide ERP/Levees Bundle

This bundle is designed to achieve a reasonable balance between implementation of ecosystem improvement actions and levee system improvement actions. In addition this bundle includes actions to improve fisheries, water quality, and habitat throughout the Delta, including protection and enhancement of Delta in-channel islands.

Sacramento River, San Joaquin River and Tributaries Bundle

This bundle includes ecosystem restoration primarily fisheries habitat, hatchery management, and floodplain and meander belt restoration along key river reaches.

Integrated Water Management Bundle

This bundle includes actions which can lead to improvements in water supply reliability and flexibility through improvements in water use efficiency, water transfers, water storage and conveyance facilities (groundwater and surface water), water quality, and water associated habitats. The proposed actions include the Program problem area and solution areas, including state and federal project service areas and upper watersheds. It includes key actions that comprise the Integrated Storage Investigation and implementation of the Environmental Water Account.

Governance Bundle

This bundle addresses certain organizational issues to assure that orderly implementation of Program actions can occur as the level of activity increases substantially. These issues include the potential formation of a CALFED management entity, an ERP implementation entity, comprehensive monitoring, and actions to assure that water quality and water use efficiency measures can be fully implemented. While creation of new entities may be proposed, no agency will transfer any existing regulatory authority to these new entities.

The Stage 1a actions are identified in Table 3.1.

Table 3.1. Draft Early Implementation Actions

Bundle Action #	Action Description	Detail/Assumptions	Primary Effects	CALFED Program	Secondary CALFED Program	FY 2000 Cost (millions)	FY 2001 Cost (millions)	Implementing Entity	Implementing Authority Required?
	Lower San Joaquin River and South Delta Region Bundle								
2	Ecosystem Restoration Program: South Delta Region	Identify and advance specific regional ERP goals, coordinated with other facilities and operational changes, such as flood protection, barriers, and export operations.	Improve fisheries and wildlife habitat	ERP	Levees	$2.0	$3.0		
2.1	Agricultural Diversions Screening Program	Consolidate and screen local ag diversions based on an appropriate priority and initiate a screen maintenance program, per Water Quality Control Plan, May 1995. A component of #31	Reduce fisheries entrainment impacts	ERP		see 31	see 31		
3	Water Quality Actions	Strategy to resolve regional water quality problems; initiate highest priority actions.		WQ		-	-		
3.1	Stockton Dissolved Oxygen Solution Alternatives	Evaluate and implement appropriate actions to improve San Joaquin River dissolved oxygen conditions.	Improve WQ in San Joaquin River in vicinity of Stockton	WQ	ERP	$1.0	$1.0		
3.21	Veale Tract Drainage Discharge Relocation Feasibility Study and Environmental Documentation	Possible cost share with Contra Costa Water District.	Improve drinking water	WQ		$1.0	$4.0		
3.22	Feasibility Study: Management, Relocation and/or Treatment of RD 800 Drain Discharge	Coordination with CCWD and other affected entities	Improve drinking water	WQ		$1.0	$6.0		
3.3	Implement On-Farm drainage management measures	Salinity and Selenium management.	Reduce transport of salinity and selenium contaminants to San Joaquin River	WQ	ERP	$0.5	$0.5		
3.4	Implement regional irrigation efficiency improvement programs to reduce saline drainage		Reduce volume of saline drainage	WQ	ERP	$0.5	$0.5		
3.5	Evaluate/Implement as Appropriate Release of saline agricultural drainage water during high flow periods	Implement regional and on-farm drainage retention facilities and manage discharges.	Improve late season WQ in lower San Joaquin River, potential drinking water quality impact	WQ: not yet listed		$0.1	$0.1		
3.6	Study: Non-seawater sources of bromide (Br^-) in San Joaquin drainage.	Determine if non-seawater sources of Br in San Joaquin Drainage are significant and impact water quality	Improve drinking water source quality: ID most important sources; develop abatement strategies	WQ	ERP	$0.5	$0.5		
3.7	Seek to provide water for San Joaquin River flows to meet WQ, VAMP, ESA, and other flow objectives through water purchases/transfers from willing sellers.	Component of Environmental Water Account. See #93, #94	Increased instream flows during significant periods	WT	ERP	see 94	see 94		
3.8	Study: Evaluate Recirculation Benefits and Impacts	If feasible, acquire from willing sellers water to recirculate to meet WQ and VAMP objectives.	Potential to improve water quality and meet VAMP flow requirements in lower San Joaquin River	S/C	ERP, WQ	$0.1	$0.1	DWR,USBR	
3.9	Implement spring flow management action, such as the Proposed Vernalis Adaptive Management Plan (VAMP)	Manage San Joaquin River flows, Delta exports, conduct fishery studies, evaluate benefits and minimize impacts. Establish San Joaquin River Water Quality Protection Reserve Fund to address impacts. Report on how VAMP funds will be used to improve water management practices.	Improve salmon survival, cu/gw management u/s, improve understanding of fish vs flow	external	ERP	$4.0	$4.0	USBR, DWR, and SJRGA	

Table 3.1 cont.

Bundle Action #	Action Description	Detail/Assumptions	Primary Effects	CALFED Program	Secondary CALFED Program	FY 2000 Cost (millions)	FY 2001 Cost (millions)	Implementing Entity	Implementing Authority Required?
4	Plan, Design & Construct CVP test Tracy Fish Facility, 500 cfs screen, plus Sorting, Holding, Transport, and Release	New fish screens for TPP full export capacity to be completed by end of Stage 1	Improve fish survival	S/C	ERP	$6.5	$30.0	USBR	
5	Plan, Design, & Construct new SWP Clifton Court Forebay Intake, including fish screens and salvage facilities, average daily capacity 10,300 cfs: New Screened Intake with Gates and LH Pumps		Improve fish survival, water supply flex. and reliability, drinking water quality stages, circulation, and	S/C	ERP	$2.0	$4.0	DWR,USBR	
6	Feasibility and Environmental study of SWP/CVP interties between export facilities and canals	Based on results of this investigation, either construct intertie and add 4600 cfs screened export capacity to CCFB or build new screen and salvage facilities at Tracy Pumping Plant. Also evaluate intertie between Delta Mendota Canal and Cal. Aqueduct between Delta pumping plants and		S/C	ERP	$1.0	$2.0		
6.1	Implement Joint Point of Diversion	Allow SWP and CVP to shift allowable exports between pumping plants to minimize environmental impacts and improve operational flexibility and water supply reliability.		external	S/C	-	-	SWRCB	
7	SWP 10,300 cfs Permits, with appropriate regulatory constraints	Interim increase to 8500 cfs export capacity may be sought if benefits justify	Increased operational flexibility for water supply and environmental benefits.			-	-		
8	Plan, Design, and Construct Permanent Operable Barriers at Head of Old River, Middle River, and Old River at Tracy.	Phase out temporary barriers as soon as feasible (permanent barriers, dredging, and ag intakes extensions completed. Retain options for future construction of permanent operable Grant Line Canal barrier if other actions fail to address local water supply availability needs. Costs shown are for design.	Improve fish passage (HOR), and local water supply availability and quality (MR, ORT)			$0.5	$2.0		
8.1	Barrier Operations	Establish Barrier Operation Coordination Team, operate for fisheries, water quality, and water supply availability goals.				-	-		
8.2	Barrier Monitoring	Monitor barrier effects on fish, stages, circulation, and wager quality to support real time ops and planning process.				$0.5	$0.5		
9	Channel Dredging of Selected Channel Segments	Dredge to limit scour velocities, for water supply availability, for navigation, and flood control. Costs shown are for design.				$0.2	$1.0		
10	Agricultural Diversions Extension and Screening	Extend ag intakes where necessary, with operable barriers in place, to meet local water supply availability needs. Costs shown are for design and agreements.				$0.2	$1.0		
11	Flood Conveyance improvements in lower San Joaquin River System, including Paradise Cut, San Joaquin River, Old River, and Middle River, per FEET Report, 1997	Channel dredging, limited levee setbacks, and flood plain restoration in conjunction with ERP actions	Improve levee integrity, channel conveyance, flood plain storage, fisheries and wildlife habitat	S/C	ERP	$1.0	$1.0	Corps, DWR	
	Subtotal					$22.6	$61.2		

Table 3.1 cont.

Bundle Action #	Action Description	Detail/Assumptions	Primary Effects	CALFED Program	Secondary CALFED Program	FY 2000 Cost (millions)	FY 2001 Cost (millions)	Implementing Entity	Implementing Authority Required?
	Lower Sacramento River, North Delta Bundle								
13	Restore Tidal Marsh and Riparian Habitats along Georgiana Slough	The assumption is that improved habitat will decrease the diversion effect on fisheries.	Improve fisheries and wildlife habitat	ERP		$1.5	$1.0		
14	Study North Delta ecosystem and flood control improvements including the Lower Mokelumne River		Flood control and habitat creation w/ levee berms	S/C	ERP	$1.0	$2.0	DWR	
15	Acquire and Convert Land for Shallow Water, Wetland, and Riparian Habitat	This action will contribute to establishment of a Mokelumne River Corridor.	Flood control and habitat creation w/ breached levees	ERP: Mokelumne Corridor		$3.0	$3.0	DWR, DFG, and others	
16	Study Feasibility of Delta Cross Channel Reop.and 2-4000 cfs Hood Diversion		Balance water quality and fisheries benefits, potential for improved drinking water quality	S/C	ERP, WQ	$1.0	$1.0	DWR	
	Subtotal					**$6.5**	**$7.0**		

Table 3.1 cont.

Bundle Action #	Action Description	Detail/Assumptions	Primary Effects	CALFED Program	Secondary CALFED Program	FY 2000 Cost (millions)	FY 2001 Cost (millions)	Implementing Entity	Implementing Authority Required?
	Yolo Bypass, Suisun Marsh, and West Delta Bundle								
18	Implement Suisun Marsh Diversion Screening Program	It is assumed that fish screens in this area will aid in the recovery of threatened or endangered fish species.	Reduce fisheries entrainment impacts	ERP		$0.25	$1.0		
19	Suisun Marsh and Van Sickle Island	Evaluate and restore tidal wetlands.		ERP		$6.0	$3.0		
20	Provide Needs and Opportunities Analysis for Improving Ecosystem Restoration and Flood Bypass Habitat for the Yolo Bypass area	This is a portion of a general effort for flood bypass areas, including Colusa Basin, Butte Basin, Sutter Bypass, Yolo Bypass, Chowchilla Bypass, Eastside, Fresno Slough, and James Bypass. See action 42	Improve diverse habitat, fish passage, and WQ	ERP		$1.0	$6.0	CALFED: Multi-Agency	
21	Cache Creek Mercury Source Control Study		Develop ways to reduce Hg transport to waterways	WQ/ERP		$3.0	$2.0		
22	Clear Lake upper watershed mercury remediation actions			WQ/ERP		$1.0	$1.0		
23	Frank's Tract Habitat Restoration	Further evaluate and restore portions of Frank's Tract to provide for channel islands and tidal wetland habitat using clean dredge materials and natural sediment accretion. Combine the habitat restoration with a program to control or eradicate nuisance aquatic plants.	Create shallow water habitat, riparian	ERP		$1.5	$1.5	DWR, Corps	
24	Dredged Materials Reuse	Pilot Studies and Implementation, as materials and appropriate opportunities become available.	Materials for habitat, levees	ERP	Levees	$0.5	$0.5	DWR, Corps	
25	Barker Slough Watershed Restoration		Improve WQ, sediment, and habitat (Watershed severely impacts North Bay Aqueduct water quality.	WQ	ERP	$0.8	$0.8		
	Subtotal					**$14.05**	**$15.80**		

Table 3.1 cont.

Bundle Action #	Action Description	Detail/Assumptions	Primary Effects	CALFED Program	Secondary CALFED Program	FY 2000 Cost (millions)	FY 2001 Cost (millions)	Implementing Entity	Implementing Authority Required?
	Delta-Wide ERP/Levees Bundle								
27	Levees Subventions		Levee System Integrity	Levees		$10.0	$11.0	DWR, Corps	Congressional authorization may be required for Corps participation with Non-Project Levees
28	Levees Special Projects		Levee System Integrity	Levees		$11.0	$11.0	DWR	
29	Emergency Response Program		Levee System Integrity	Levees		$11.0	$3.0	DWR	
30	Identify Risks to Delta Levees and Develop a Risk Management Strategy		Levee System Integrity	Levees	WQ, ERP, Conveyance	$1.0	$1.0	CALFED	
31	Evaluate the Need to Screen Small Diversions in the Delta and implement	Consolidate and screen local ag diversions based on an appropriate priority and initiate a screen maintenance program, per Water Quality Control Plan, May 1995	Reduce fisheries entrainment impacts	ERP		$1.0	$1.5	DFG, DWR	
32	Nonnative Invasive Species (NIS) (Note: Expand to actions in SF Bay and Suisun Marsh, to reduce further invasions and eradication of *Lepidium*)	Demonstration projects. This action is part of an ecosystem-wide effort to control non-native invasive species with early emphasis on the Delta and the Bay.		ERP		$2.0	$3.0	USFWS	
33	Total Organic Carbon Evaluation	General Evaluation and Pilot Study: Total Organic Carbon Reduction, DWR to do engineering and technical oversight.	Improve in-Delta drinking water source quality:	WQ/ERP		$4.5	$2.0		
34	ERP Levee Relocations, Berms, Veg. Management	Cost included with In-Channel Island Restoration	Delta Shallow Water, tidal wetlands, and riparian habitat	ERP		$1.0	$1.0	DWR,DFG	
35	In-Channel Islands Restoration		Tidal wetlands, riparian habitat, special status species	ERP		$1.0	$1.0	DWR,DFG	
36	Assessment of sources and magnitudes of loadings of constituents of concern for drinking water	Includes TOC, nutrients, salinity, pathogens, and Br on Delta wide basis		WQ		$0.5	$1.0		
37	Determine Key Acquisition Areas for Conservation of Special Status Plant Species in the Delta, Suisun Marsh, and S.F. Bay			ERP		$0.5	$1.0		
38	Studies to Determine Propagation Techniques and Restoration Protocols of Rare Plants in the Delta, Suisun Marsh, and S.F. Bay			ERP		$0.5	-		
	Subtotal					**$44.0**	**$36.5**		

Table 3.1 cont.

Bundle Action #	Action Description	Detail/Assumptions	Primary Effects	CALFED Program	Secondary CALFED Program	FY 2000 Cost (millions)	FY 2001 Cost (millions)	Implementing Entity	Implementing Authority Required?
	Sacramento River, San Joaquin River and Tributaries Bundle								
40	Sacramento River Meander Corridor Studies and Implementation	Continue studies and demonstration projects which address potential changes in hydrology and geomorphology, local economic impacts, and other issues associated with ongoing riparian restoration work.		ERP		$8.0	$8.0	DWR	
41	American River Corridor Management Plan	Develop a corridor management plan		ERP		$0.25	-		
42	Develop Tuolumne River and Other High-Priority Sediment Management Plans	Develop a sediment management plan that includes evaluating coarse and fine sediment transport and the need to augment gravel supplies, and is consistent with efforts to restore the Tuolumne River corridor. First year funding for contract to cover study period.		ERP		$5.0	-		
43	Tuolumne River Restoration Implementation Actions	The Tuolumne River has been indentified as a large scale demonstration stream in the ERP		ERP		see 42	-		
44	Fish Management	Develop Biological and Genetic Management Plans to Address Restoration and Recolonization of Streams in the Central Valley by Chinook Salmon and Steelhead		ERP		$2.0	$1.0		
45	Hatchery Operations	Develop an integrated hatchery management strategy that reduces the potential conflict with wild fish, maintains a viable harvest strategy, and optimizes progress toward the goal of self-sustaining populations of wild, native fish.		ERP		$0.50	$0.5		
45.5	Marking and Tagging Program	Develop and implement a comprehensive Implementation Plan for a statistically designed marking and tagging program for Chinook Salmon produced at Central Valley facilities consistent with existing programs throughout the West		ERP		$1.25	$1.25		
46	Upgrade Weir at Battle Creek Coleman Fish Hatchery	Repair and Modify Weir		ERP		$1.5	-		
47	Butte Creek Restoration			ERP		$5.0	$5.0	DWR	
48	Deer Creek Restoration			ERP		$0.5	$5.0	DWR	

Table 3.1 cont.

Bundle Action #	Action Description	Detail/Assumptions	Primary Effects	CALFED Program	Secondary CALFED Program	FY 2000 Cost (millions)	FY 2001 Cost (millions)	Implementing Entity	Implementing Authority Required?
49	Comprehensive Flood Control Study	Major evaluation of Sacramento River and San Joaquin River systems, coordinated with ERP flood plain restoration opportunities.		External	Coord. Levees, S/C			Corps, DWR	
50	Sacramento River Mercury Source ID and Control/Remediation Study			WQ		$0.3	$0.8		
51	Sacramento River Levees Restoration			S/C		$2.0	$2.0	Corps, DWR	
52	San Joaquin River & Tribs Study, possible Implementation, and Acquisition	Implementation of components of Comprehensive Flood Control Study		ERP		$10.0	$5.0	DWR, Corps	
	Subtotal					**$36.3**	**$28.6**		

Bundle Action #	Action Description	Detail/Assumptions	Table 3.1 cont. Primary Effects	CALFED Program	Secondary CALFED Program	FY 2000 Cost (millions)	FY 2001 Cost (millions)	Implementing Entity	Implementing Authority Required?
	Integrated Water Management Bundle								
53.1	Initiate Ecosystem Science Program	Program to support the adaptive management element of the ERP. This will include science workshops, targeted research, assessment of relevant data and incorporation into the management process		ERP		$15.0	$15.0		
53.15	Monitoring, Assessment, and Research	Develop a process to design and implement the monitoring programs for the CALFED actions so that the data from the monitoring programs are interlinked.		CMARP		$6.3	$10.3		
53.2	Supplement existing monitoring programs	Implement additional system or landscape level monitoring programs to provide for measurement of progress and evaluation of performance of the ERP		ERP		$7.0	$7.0		
54	Environmental Education Programs	Programs designed to develop a broader understanding of natural resource conservation issues at the individual and community level	Increase public awareness	ERP	WQ	$2.0	$2.0		
55	Develop a Long-Term Plan for In-Stream Flows	Develop Ecologically-based Hydrologic Models and Water Management Strategies and apply to formulate in-stream flow augmentation plans.	Improve fisheries and wildlife habitat	ERP		$0.5	$1.0		
56	Develop Ecologically-based Hydrologic Models and Water Management Strategies			ERP		see 55	see 55		
57	Provide Needs and Opportunities Analysis for Improving Ecosystem Restoration and Flood Bypass Habitats	Areas include but are not limited to: Colusa Basin, Butte Basin, Sutter Bypass, Yolo Bypass, Chowchilla Bypass, Eastside, Fresno Slough, and James Bypass.	Improve diverse habitat, fish passage, and WQ	ERP		$1.0	$1.0	CALFED: Multi-Agency	
58	Diazinon and chlorpyrifos Assessment	Assess the fate and transport of diazinon and chlorpyrifos; begin implementation to reduce water quality impacts, using BMP's.		WQ	ERP	$0.4	$0.0		
59	Diazinon and chlorpyrifos Education	Develop an educational program that provides information on ways to reduce water quality impacts. Possible test market areas include Sacramento and Stockton. 1997/1998 Eco funding provided to develop BMPs. 2000-develop BMPs		WQ		$1.6	$0.8		
59.1	Integrated Storage Investigations								
59.2	Overall Storage Strategy		Improve Storage/CU utility	S/C		$1.0	$1.0	CALFED	
60	Groundwater/CU Feasibility Studies with local sponsors		Improve Storage/CU utility	S/C		$2.0	$5.0	Local Cooperating Entities and CALFED	
61	Groundwater/CU Programs: (Develop and Impl. GW Monitoring and Modeling Programs)		Improve Storage/CU utility	S/C		$1.0	$2.0	Local Cooperating Entities and CALFED	
62	On-Stream Storage Enlargement Studies (Friant Dam Enlargement Recon Study)		Improve Flood Control and Storage/CU utility	S/C		$0.2	$0.2	Proposed Joint study: USBR , Corps, and Rec Board	
63	North of Delta Off-Stream Storage Investigation (Sites and Alternatives Feasibility Study)		Improve Storage/CU utility	S/C		$10.0	$10.0	DWR	
64	On-Stream Storage Enlargement (Shasta 6.5 ft Raise Feasibility Study)		Improve Storage/CU utility	S/C		$3.0	$1.5	USBR	

Table 3.1 cont.

Bundle Action #	Action Description	Detail/Assumptions	Primary Effects	CALFED Program	Secondary CALFED Program	FY 2000 Cost (millions)	FY 2001 Cost (millions)	Implementing Entity	Implementing Authority Required?
65	In-Delta and Adjacent to Delta Storage: Feasibility Study		Improve Storage/CU utility	S/C		$1.5	$2.0	DWR	
66	Power Facilities Reoperations Evaluation		Improve Storage/CU utility	S/C	ERP,WM	$0.5	$0.5	DWR, FERC, PUC, SWRCB, w/local water entities and stakeholders	
68	Fish Migration Barrier Removal Evaluations			ERP	S/C	$0.5	$0.5		
69	Financial Incentive Program	Local assistance (loans & grants) for cost effective water conservation/recycling actions, Low interest loans	reduce Demand	WUE					
70		Urban		WUE		$5.0	$12.0	CALFED, Multi-agency	
71		Ag		WUE		$24.0	$50.0	CALFED, Multi-agency	
72		Managed Wetlands		WUE		$1.5	$3.0	CALFED, Multi-agency	
73		Recycling		WUE		$14.0	$28.0	CALFED, Multi-agency	
74	Technical Assistance	Recoverable loss studies, on-farm conservation studies, funded through member agencies (USBR, DWR)	reduce Demand	WUE					
75		Urban		WUE		$0.8	$1.0	CALFED, Multi-agency	
76		Ag		WUE		$3.0	$3.5	CALFED, Multi-agency	
77		Refuges or Managed Wetlands		WUE		$0.2	$0.5	CALFED, Multi-agency	
78		Recycling		WUE		$0.8	$1.0	CALFED, Multi-agency	
79	Directed Studies			WUE					
80		Research ET		WUE		$0.2	$0.25	DWR, UC	
81		Pilot Measurement Program		WUE		$0.5	$0.65	CALFED, Multi-agency	
82	Establish the California Water Transfer Information Clearinghouse	Features of Clearinghouse in 2000/01; develop website to disseminate transfer information and approval process requirements. No user fees. Possibly house in new division of SWRCB.	Imp. Market efficiency	WT		$0.5	$0.5	CALFED	
83.1	Streamline the Water Transfer Approval Process	Working with SWRCB, DWR, USBR to create a more standard application process. Would be available through the Clearinghouse, among other things. Several year effort. Initial effort is to clarify existing process thru SWRCB guidebook.	Assure disclosure of proposed actions	WT		$0.09	$0.00	USBR, DWR, SWRCB	
83.2	Require Impact Analysis Disclosure for Water Transfers	Working with SWRCB, DWR, USBR to require transfer applicants to disclose socio-economic, groundwater, and cumulative impact assesments with approval applications. Several year effort. Requires agencies to adopt/modify existing requirements		WT		$0.02	$0.02	USBR, DWR, SWRCB	

Table 3.1 cont.

Bundle Action #	Action Description	Detail/Assumptions	Primary Effects	CALFED Program	Secondary CALFED Program	FY 2000 Cost (millions)	FY 2001 Cost (millions)	Implementing Entity	Implementing Authority Required?
84	Expedite the SWRCB Approval Process for Some Water Transfers	SWRCB preparing guidebook on existing approval process. Help ID additional opportunities to expedite.	Imp. Market efficiency	WT		$0.50	$0.50	USBR, DWR, SWRCB	
85	Develop Transferable Water Definitions for Various Types of Transfers	Develop definitions of transferable water for types of transfers that are of issue as identified in guidebook. Have to have agencies and stakeholders	Imp. Market efficiency	WT		$0.04	$0.04	USBR, DWR, SWRCB	
86	Clarify Carriage Water Requirements for Cross-Delta Water Transfers	Evaluate applicability of carriage water concept to transfers and develop consensus method to calculate it.	Imp. Market efficiency	WT		$0.09	$0.04	CALFED, Multi-agency	
87	Refine Refill Criteria for Reservoir Storage Based Water Transfers	Establish more consistent application of refill criteria. Facilitate discussion between SWRCB, DWR, and USBR.	Imp. Market efficiency	WT		$0.03	$0.00	DWR, USBR	
88	Improve Provisions for In-stream Water Transfers	Develop accounting/tracking measures for 1707 transfers	Facilitate ERP Impl.	WT		$0.08	$0.08	CALFED, Multi-agency	
89	Forecast and Disclose Conveyance Capacity in State and Federal Project Facilities	May be increased work effort at DWR and USBR	Imp. Market efficiency	WT		$0.50	$0.50	DWR, USBR	
90	Evaluate policies for transferring water in existing project facilities.	Work with stakeholders and DWR/USBR to make some capacity available for transfers.	Imp. Market efficiency	WT		$0.02	$0.02	DWR, USBR	
91	Evaluate the Need for Additional Water Rights Legislation	CALFED is preparing a recommendation. No additional funding expected.		WT		-	-	CALFED	
92	Local assistance for Groundwater Management Plans	Incentive program for ground water management. Coordinate with conjunctive use program/incentives. Incentive dollars would not be through the Water Transfer program.	Increase use of groundwater as a water management tool.	WT	S/C	-	-	CALFED	
93	Establish Pilot Environmental Water Account	Funding is for establishment and administration of EWA	Improve Delta env. Protection and water supply reliability	ERP	S/C	$1.0	$1.0	CALFED	
94	Environmental Water Purchases	Includes EWA funding	Enhance fisheries habitat	ERP	S/C	$56.0	$60.0	CALFED	
95.11	Fund and implement watershed planning activities within watersheds of the greater Bay Delta ecosystem	Assist local watershed groups and government agencies to develop watershed plans through grants, directed actions training and technical support.	Manage land use, vegetation, and stream zones to reduce sediment, reduce stream flashiness, improve base flow, Reduce fire danger, reduce pathogens, and TDS	WM	ERP	$8.0	$8.0	CALFED	
95.12	Fund and implement watershed conservation, maintenance and restoration actitivites within watersheds of the greater Bay Delta ecosystem.	Assist local watershed groups and government agencies to develop and implement programs, projects and other community based watershed improvement actitivites through grants, directed actions training and technical support.	Manage land use, vegetation, and stream zones to reduce sediment, reduce stream flashiness, improve base flow, Reduce fire danger, reduce pathogens, and TDS	WM	ERP, WQ	$12.0	$12.0	CALFED	
95.21	Provide funding to help build the capacity of locally led watershed groups that collorobate with local landowners.	Provide, or support capacity building programs to enhance sustainability of locally led watershed programs. Programs could include training in facilitation techniques, consnsus building, conflict mgt., fund raising and other similar skills, in addition to start up support for staff costs, administration, and other operating	Significantly increased capacity for local communities to undertake watershed managemtn activities.	WM		$4.0	$4.0	CALFED	

Table 3.1 cont.

Bundle Action #	Action Description	Detail/Assumptions	Primary Effects	CALFED Program	Secondary CALFED Program	FY 2000 Cost (millions)	FY 2001 Cost (millions)	Implementing Entity	Implementing Authority Required?
95.22	Provide funding and assistance to locally led watershed efforts to help build and administer watershed education programs.	Fund the development of local education programs through communities, schools, and universities, non-governmental organizations, local agencies and watershed stewardship	Increased awareness and understandingwithin communities of the importance of ahealth functional watershed	WM	ERP	$1.0	$1.0	CALFED	
95.3	Establish, fund and maintain assistance to local watershed groups, and landowners for project concept, design, and implementation	Ensure adequate levels of technical assistance and scientific support to locally led watershed management programs.	Sound scientifically based watershed plans, and projects.	WM	ERP,	$3.0	$3.0	CALFED	
95.41	Assist CALFED's monitoring program to develop appropriate watershed management performance measures and monitoring protocols	Ensure that adaptive management can be applied at multiple scales (including site, project, and program) and across land ownerships by developing a suite of protocols to help track a wide range of watershed responses to change.	The program will have releiable data and information with to adaptively management the program, and program actitivities.	WM	ERP	$0.5	$0.5	CALFED	
95.42	Begin development of baseline information needed to conduct scientifically sound watershed planning and management within watersheds of the greater Bay Delta ecosystem.	Support watershed assessment efforts in the tributary basins of the greater Bay Delta watershed consistent with CALFED's monitoring program and local watershed program needs.	Expanded information base available for watershed planning, implementaion and monitoring activities.	WM	ERP,WQ	$1.5	$1.5	CALFED	
95.43	Improve the use and usefulness of existing watershed resource information centers	Support the expansion of an active network of watershed data and information to assist watershed programs to conduct effective watershed management, conservation and restoration activities	Expanded capability of watershed managers to collect, store, retrieve and exchange data and information.	WM	ERP	$1.0	$1.0	CALFED	
95.5	Provide oversight for the program through the CALFED oversight entity	Insure adequate funding to conduct administrative, management, and oversight for the watershed program, within the framework of the overall CALFED oversight entity.		WM		$0.5	$0.5	CALFED	
96	Field Surveys for all special status species in and around all potential surface storage and groundwater sites			S/C		$1.0	$1.0		
96.5	Feasibility evaluation of water exchanges between San Joaquin River/Tulare lake watersheds and urban water users to improve drinking water quality			WQ	WT	-	-		
	Subtotal					**$194.9**	**$254.9**		

Table 3.1 cont.

Bundle Action #	Action Description	Detail/Assumptions	Primary Effects	CALFED Program	Secondary CALFED Program	FY 2000 Cost (millions)	FY 2001 Cost (millions)	Implementing Entity	Implementing Authority Required?
97	***Governance Bundle***								
98	CALFED Entity			Gov		-	-		Existing Structure or Leg. Required.
99	Determine/Establish governing structure for CALFED Program Elements, including ERP, WQ, Levees, WM, S/C, CMARP,WUE, WT			Gov		-	-		Existing Structure or Leg. Required.
100	Water Quality Actions Immunity: Federal Leg.	Develop appropriate balance of risk to cleanup entities and environmental due process responsibilities	Allow WQ actions to proceed w/o unacceptable liability risk	Gov	WQ	-	-	CALFED	New Federal Legislation
101	Identify Urban Water Certification Entity (UWCP)			Gov	WUE	-	-	CALFED	
102	Implement Ag Water Use Certification			Gov	WUE	-	-	DWR	
106	Maintain and enhance Program administration	The restoration component of the overall CALFED Program has increased substantially requiring the infusion of additional staff and related costs which is greatly above the existing project administration level.		ERP		$4.5	$4.5		
	Subtotal					**$4.5**	**$4.5**		
	Grand Total					**$322.8**	**$408.5**		