2279

D-060732

| | | Table 3.1. Draft Early Implementation Actions | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Bundle Action # | Action Description | Detail/Assumptions | Primary Effects | CALFED Program | Secondary CALFED Programs | FY 2000 Cost (millions) | FY 2001 Cost (millions) | Implementing Entity | Implementing Authority Required? |
| | **CMARP** | | | | | | | | |
| 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 | | |
| | Subtotal | | | | | $6.3 | $10.3 | | |

D-060732

| 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? |
|---|---|---|---|---|---|---|---|---|---|
| | **ERP** | | | | | | | | |
| 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 | | |
| 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 | | |
| 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 | |
| 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 | |
| 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 | |
| 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 | |

D-060733

D-060733

| 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? |
|---|---|---|---|---|---|---|---|---|---|
| 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 | - | | |
| 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 | |
| 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 | |

D-060734

D-060734

| 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? |
|---|---|---|---|---|---|---|---|---|---|
| 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 | | |
| 53.2 | 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 | |
| 68 | Fish Migration Barrier Removal Evaluations | | | ERP | S/C | $0.5 | $0.5 | | |
| 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 | |
| 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 | | |
| 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 | |
| | Subtotal | | | | | $143.3 | $144.3 | | |

D-060735

D-060735

| 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? |
|---|---|---|---|---|---|---|---|---|---|
| | **Governance** | | | | | | | | |
| 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 | |
| | Subtotal | | | | | - | - | | |



D-060736

| 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? |
|---|---|---|---|---|---|---|---|---|---|
| | **Levees** | | | | | | | | |
| 27 | Levees Subventions | | Levee System Integrity | Levees | | $10.0 | $11.0 | DWR, Corps | Congressional authortzation 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 | |
| | Subtotal | | | | | $33.0 | $26.0 | | |

D-060737

D-060737

| 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? |
|---|---|---|---|---|---|---|---|---|---|
| | **Conveyance** | | | | | | | | |
| 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 | |
| 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 | | |
| 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 | |
| 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 | |
| 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 | |
| 51 | Sacramento River Levees Restoration | | | S/C | | $2.0 | $2.0 | Corps, DWR | |
| 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. | S/C | | - | - | | |
| 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) | S/C | | $0.5 | $2.0 | | |
| 8.1 | Barrier Operations | Establish Barrier Operation Coordination Team, operate for fisheries, water quality, and water supply availability goals. | | S/C | | - | - | | |
| 8.2 | Barrier Monitoring | Monitor barrier effects on fish, stages, circulation, and wager quality to support real time ops and planning process. | | S/C | | $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. | | S/C | | $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 | | S/C | | $0.2 | $1.0 | | |
| | Subtotal | | | | | $15.1 | $44.1 | | |

D-060738

D-060738

| 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? |
|---|---|---|---|---|---|---|---|---|---|
| | **Storage** | | | | | | | | |
| 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 Racon 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 | |
| 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 | |
| 96 | Field Surveys for all special status species in and around all potential surface storage and groundwater sites | | | S/C | | $1.0 | $1.0 | | |
| | Subtotal | | | | | $20.2 | $23.2 | | |



D-060739

| 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? |
|---|---|---|---|---|---|---|---|---|---|
| | **Watershed Management** | | | | | | | | |
| 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 acttivites 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 expenses. | Significantly increased capacity for local communities to undertake watershed managemin activities. | WM | | $4.0 | $4.0 | CALFED | |
| 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 scientically 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 reielable data and information with to adaptively management the program, and program activities. | WM | ERP | $0.5 | $0.5 | CALFED | |
| 95.42 | Begin development of baseline information needed to conduct scientically 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 | |
| | Subtotal | | | | | $31.5 | $31.5 | | |

D-060740

D-060740

| 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? |
|---|---|---|---|---|---|---|---|---|---|
| | **Water Quality** | | | | | | | | |
| 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 | | |
| 3.6 | 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 | | |
| 25 | Barker Slough Watershed Restoration | | Improve WQ, sediment, and habitat (Watershed severely impacts North Bay Aqueduct water quality. | WQ | ERP | $0.8 | $0.8 | | |
| 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 | | |
| 50 | Sacramento River Mercury Source ID and Control/Remediation Study | | | WQ | | $0.3 | $0.8 | | |
| 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 | | |
| 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 | - | - | | |
| 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 | | |
| 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 | | |
| 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 | | |
| | Subtotal | | | | | $16.7 | $21.0 | | |

D-060741

D-060741

| 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? |
|---|---|---|---|---|---|---|---|---|---|
| | **Water Transfers** | | | | | | | | |
| 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 | | |
| 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 assessments with approval applications. Several year effort. Requires agencies to adopt/modify existing requirements | | WT | | $0.02 | $0.02 | USBR, DWR, SWRCB | |
| 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 work | 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 | |
| | Subtotal | | | | | $1.9 | $1.7 | | |

D-060742

D-060742

| 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? |
|---|---|---|---|---|---|---|---|---|---|
| | **Water Use Efficiency** | | | | | | | | |
| 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 | $0.85 | CALFED, Multi-agency | |
| | Subtotal | | | | | $50.0 | $99.9 | | |



D-060743

| Bundle Action # | Action Description | Detail/Assumptions | Primary Effects | CALFED Program | Secondary CALFED Programs | FY 2000 Cost (millions) | FY 2001 Cost (millions) | Implementing Entity | Implementing Authority Required? |
|---|---|---|---|---|---|---|---|---|---|
| 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 | |
| 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 | |
| 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 | |
| | Grand Total | | | | | #REF! | #REF! | | |
| | | | | | | | | | |
| | | | | | | | | | |



D-060744