

Feb 22, 1999

| 1  | Action Description  | Detail/Assumptions  | Primary Effects   | CALFED Program     | Secondary CALFED Program | Implementing Entity                    | Implementing Authority Required |
|----|---|---|---|--------------------|--------------------------|--|---------------------------------|
| 2  | <b>Lower San Joaquin River Region Bundle</b>  |   |   |                    |                          |  |                                 |
| 3  | CVP Tracy Fish Facility, First Stage Module, 2500 cfs screen, plus Sorting, Holding, Transport, and Release   |   | Improve fish survival   | S/C                |                          | USBR                                   |                                 |
| 4  | SWP Export Capacity to 10,300 cfs: New Screened Intake with Gates and LH Pumps, Ag Barriers or Functional Equivalent, Channel Enlargement as Req'd. Potential Selected Channel Improvements, Signage, and Access for Recreation |   | Improve fish survival, water supply flex. And reliability, stages, circulation, and water quality       | S/C                |                          | DWR,USBR                               |                                 |
| 5  | VAMP Agreement in Effect and Funded: Flows, Exports, and Studies, and Monitoring  | 4-5m  | Improve salmon survival, cu/gw management u/s, Improve understanding of fish vs flow                    | External           |                          |  |                                 |
| 6  | Veale Tract Drainage Discharge Relocation Feasibility Study and Environmental Documentation   | Environmental impact documentation required; Possible cost share with Contra Costa Water District. Funding in 2000 for studies and documentation. | Improve drinking water  | WQ                 |                          |  |                                 |
| 7  | Evaluate/Implement Release of TDS Buildup during Pulse Flow Period  |   | Improve late season WQ in lower San Joaquin River   | WQ: not yet listed |                          | Local Water Distr. W/ grant assistance |                                 |
| 8  | Feasibility Study: Evaluate Recirculation Benefits and Impacts  |   | Potential to improve water quality and meet VAMP flow requirements in lower San Joaquin River           | S/C                |                          | DWR,USBR                               |                                 |
| 9  | Study: Investigate Dissolved Oxygen Causes and Solutions for Lower San Joaquin River  |   | Improve WQ in San Joaquin River in vicinity of Stockton   | WQ                 |                          | Multi-Agency: RWQCB lead               |                                 |
| 10 | Pilot Studies, Selenium: Integrated On-Farm Management  | On farm selenium control management practices. Funds may increase in later years if program is successful   | Evaluate techniques for reducing Se drainage  | WQ                 |                          | Grasslands Water District              |                                 |
| 11 | Study: Non-seawater sources of bromine (Br) in San Joaquin drainage.  |   | Improve in-Delta drinking water source quality: ID most important sources; develop abatement strategies | WQ                 |                          | RWQCB,CVR                              |                                 |
| 12 |   |   |   |                    |                          |  |                                 |

Feb 22, 1999

| 1  | Action Description   | Detail/Assumptions | Primary Effects                                       | CALFED Program          | Secondary CALFED Program | Implementing Entity | Implementing Authority Required |
|----|--|--------------------|---|-------------------------|--------------------------|---------------------|---------------------------------|
| 13 | <b>Lower Sacramento River, North Delta Bundle</b>  |                    |   |                         |                          |                     |                                 |
| 14 |  |                    |   |                         |                          |                     |                                 |
| 15 | Restore Tidal Marsh and Riparian Habitats along Georgiana Slough   |                    |   | ERP                     |                          |                     |                                 |
| 16 | Feasibility Study: Lower Mokelumne River channels dredging and limited levee setbacks, Modify/raise levees in selected reaches |                    | Flood control and habitat creation w/ levee berms     | S/C                     |                          | DWR                 |                                 |
| 17 | Acquire and Convert Land for Shallow Water, Wetland, and Riparian Habitat  |                    | Flood control and habitat creation w/ breached levees | ERP: Mokelumne Corridor |                          | DWR, DFG            |                                 |
| 18 | Study Feasibility of Delta Cross Channel Reop. and 2-4K cfs Hood Diversion   |                    | Balance water quality and fisheries benefits          | S/C                     |                          | DWR                 |                                 |
| 19 |  |                    |   |                         |                          |                     |                                 |

E-037060

E-037060

Feb 22, 1999

| 1  | Action Description   | Detail/Assumptions  | Primary Effects                                  | CALFED Program | Secondary CALFED Program | Implementing Entity                 | Implementing Authority Required |
|----|--|---|--|----------------|--------------------------|-------------------------------------|---------------------------------|
| 20 | <b><i>Yolo Bypass, West Delta Bundle</i></b>   |   |  |                |                          |                                     |                                 |
| 21 | Determine the potential biological importance of Suisun Marsh fish screens   |   |  | ERP            |                          |                                     |                                 |
| 22 | Suisun Marsh and Van Sickle Island   | Restore Tidal Wetlands; Funding for property acquisition, restoration planning, and a levee component.  |  | ERP            |                          |                                     |                                 |
| 23 | 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, Chowcilla Canal Bypass, Eastside, Fresno Slough, and James Bypass. See action 42 | Improve diverse habitat, fish passage, and WQ    | ERP            |                          | CALFED: Multi-Agency                |                                 |
| 24 | Cache Creek Mercury Source Control Study   |   | Develop ways to reduce Hg transport to waterways | WQ             |                          | RWQCB,CVR                           |                                 |
| 25 | Clear Lake upper watershed mercury remediation actions   |   |  | WQ             |                          |                                     |                                 |
| 26 | Frank's Tract Habitat Restoration  | Restore Frank's Tract to tidal marsh using clean dredge materials and natural sediment accretion in conjunction with the eradication and control of nuisance, introduced aquatic plants.                        | Create shallow water habitat, riparian           | ERP            |                          | DWR, Corps                          |                                 |
| 27 | Dredged Materials Reuse  |   | Materials for habitat, levees                    | Levees         |                          | DWR, Corps                          |                                 |
| 28 | Barker Slough Watershed Restoration  |   | Improve WQ, sediment, and ?habitat               | WQ             |                          | Local: County and Special Districts |                                 |

Feb 22, 1999

| 1  | Action Description  | Detail/Assumptions   | Primary Effects  | CALFED Program | Secondary CALFED Program | Implementing Entity | Implementing Authority Required |
|----|---|--|--|----------------|--------------------------|---------------------|---------------------------------|
| 29 | <b>Delta Wide ERP/Levees Bundle</b>                       |  |  |                |                          |                     |                                 |
| 30 | Levees Subventions  |  | Levee System Integrity   | Levees         |                          | DWR, Corps          |                                 |
| 31 | Levees Special Projects                                   |  | Levee System Integrity   | Levees         |                          |                     |                                 |
| 32 | Emergency Response Program                                |  | Levee System Integrity   | Levees         |                          |                     |                                 |
| 33 | Evaluate the Need to Screen Small Diversions in the Delta |  |  | ERP            |                          |                     |                                 |
| 34 | Nonnative Invasive Species (NIS)                          | demonstration projects   |  |                |                          |                     |                                 |
| 35 | Total Organic Carbon Evaluation                           | General Evaluation and Pilot Study: Total Organic Carbon Reduction, DWR to do engineering and technical oversight. (\$.5 m), Monitoring Studles - relocation of drains (\$4 m) | Improve in-Delta drinking water source quality: Note Rick suggested Twitchell; consider south Delta since it is most wq impacted | WQ             |                          | DWR, Local RD       |                                 |
| 36 | ERP Levee Relocations, Berms, Veg. Management             | Cost included with In-Channel Island Restoration   | Delta Shallow Water, tidal wetlands, and riparian habitat  | ERP            |                          | DWR,DFG             |                                 |
| 37 | In-Channel Islands Restoration                            |  | Tidal wetlands, riparian habitat, special status species: Check with Daniel; not on short list                                   | ERP            |                          | DWR,DFG             |                                 |

Feb 22, 1999

| 1  | Action Description   | Detail/Assumptions  | Primary Effects                               | CALFED Program | Secondary CALFED Program | Implementing Entity                  | Implementing Authority Required |
|----|--|---|---|----------------|--------------------------|--------------------------------------|---------------------------------|
| 38 | <b>Integrated Water Management Bundle</b>  |   |   |                |                          |                                      |                                 |
| 39 | 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            |                          |                                      |                                 |
| 40 | Develop a Long-Term Plan for In-Stream Flows   |   |   |                |                          |                                      |                                 |
| 41 | Develop Ecologically-based Hydrologic Models and Water Management Strategies                           |   |   | ERP            |                          |                                      |                                 |
| 42 | 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, Chowcilla Canal Bypass, Eastside, Fresno Slough, and James Bypass.   | Improve diverse habitat, fish passage, and WQ | ERP            |                          | CALFED: Multi-Agency                 |                                 |
| 43 | Diazonon and chlorpyrifos programs   | 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 \$4, implement educational program \$1.6m |   | WQ             |                          |                                      |                                 |
| 44 | Groundwater/CU Feasibility Study: Madera Ranch or other  |   | Improve Storage/CU utility                    | S/C            |                          |                                      |                                 |
| 45 | Groundwater/CU Feasibility Study: Stockton East or other   | .5-2m   | Improve water supply, water quality           | S/C            |                          |                                      |                                 |
| 46 | Groundwater/CU: Develop and Impl. GW Monitoring and Modeling Progr., Butte Co. or other                |   | Improve Storage/CU utility                    | S/C            |                          |                                      |                                 |
| 47 | Friant Dam Enlargement Recon Study   |   | Improve Storage/CU utility                    | S/C            |                          | Proposed Joint study: USBR and Corps |                                 |
| 48 | Sites and Alternatives Feasibility Study   |   | Improve Storage/CU utility                    | S/C            |                          | DWR                                  |                                 |
| 49 | Shasta 6 ft Raise Feasibility Study  |   | Improve Storage/CU utility                    | S/C            |                          | USBR                                 |                                 |
| 50 | In-Delta Storage: Feasibility Study (DW and Alternatives)  |   | Improve Storage/CU utility                    | S/C            |                          | DWR                                  |                                 |
| 51 | Power Facilities Reop. For Water Supply Study  |   | Improve Storage/CU utility                    | S/C            |                          | DWR                                  |                                 |
| 52 | Overall Storage Strategy   |   | Improve Storage/CU utility                    | S/C            |                          |                                      |                                 |

Action costs include 3% admin overhead and 25% monitoring

E-037063

E-037063

Feb 22, 1999

| 1  | Action Description  | Detail/Assumptions  | Primary Effects                       | CALFED Program | Secondary CALFED Program | Implementing Entity | Implementing Authority Required |
|----|---|---|---------------------------------------|----------------|--------------------------|---------------------|---------------------------------|
| 53 | Fish Migration Barrier Removal Prioritization and Evaluations     |   |                                       | S/C            | ERP                      |                     |                                 |
| 54 | Financial Incentive Program                                       | Local assistance (loans & grants) for cost effective water conservation/recycling actions<br>Low interest loans   | reduce Demand                         | WUE            |                          |                     |                                 |
| 55 |   | Urban   |                                       | WUE            |                          |                     |                                 |
| 56 |   | Ag  |                                       | WUE            |                          |                     |                                 |
| 57 |   | Managed Wetlands  |                                       | WUE            |                          |                     |                                 |
| 58 |   | Recycling   |                                       | WUE            |                          |                     |                                 |
| 59 | Technical Assistance  | Recoverable loss studies, on-farm conservation studies, funded through member agencies (USBR, DWR)  | reduce Demand                         | WUE            |                          |                     |                                 |
| 60 |   | Urban   |                                       | WUE            |                          |                     |                                 |
| 61 |   | Ag  |                                       | WUE            |                          |                     |                                 |
| 62 |   | Refuse  |                                       | WUE            |                          |                     |                                 |
| 63 |   | Recycling   |                                       | WUE            |                          |                     |                                 |
| 64 | Directed Studies  |   |                                       | WUE            |                          |                     |                                 |
| 65 |   | Research ET   |                                       | WUE            |                          |                     |                                 |
| 66 |   | Pilot Measurement Program   |                                       | WUE            |                          |                     |                                 |
| 67 | Establish water transfer clearinghouse                            | Features of Clearinghouse in 2000/01; 3 or 4 person staff, develop website to disseminate transfer information and approval process requirements. No user fees. Possibly house in new division of SWRCB.                                | Imp. Market efficiency                | WT             |                          |                     |                                 |
| 68 | Streamline approval process/<br>Standardize application checklist | 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             |                          |                     |                                 |
| 69 | Expedite approval process   | SWRCB preparing guidebook on existing approval process. Help ID additional opportunities to expedite.   | Imp. Market efficiency                | WT             |                          |                     |                                 |
| 70 | Develop Definitions of Transferable Water                         | Develop definitions of transferable water for types of transfers that are of issue as identified in guidebook. Have to have agencies and stakeholders work closely.   | Imp. Market efficiency                | WT             |                          | CALFED              |                                 |

Feb 22, 1999

| 1  | Action Description  | Detail/Assumptions  | Primary Effects  | CALFED Program | Secondary CALFED Program | Implementing Entity | Implementing Authority Required |
|----|---|---|--|----------------|--------------------------|---------------------|---------------------------------|
| 71 | Carriage water  | Coordinate with EWA to understand impacts on carriage water. Refine DWR/USBR policies after that. Work effort is dependent on outcome of EWA so defer until FY2001. | Imp. Market efficiency   | WT             |                          |                     |                                 |
| 72 | Refill criteria   | Coordinate with SWRCB water rights hearing that involve negotiations on refill criteria.  | Imp. Market efficiency   | WT             |                          |                     |                                 |
| 73 | Advance Provision for In-stream WT  |   | Facilitate ERP Impl.   | WT             |                          | CALFED              |                                 |
| 74 | Forecast conveyance capacity  | May be increased work effort at DWR and USBR  | Imp. Market efficiency   | WT             |                          |                     |                                 |
| 75 | Capacity Access   | Work with stakeholders and DWR/USBR to make some capacity available for transfers.  | Imp. Market efficiency   | WT             |                          |                     |                                 |
| 76 | Evaluate Need for Water Rights Leg.   | Mary Scoonover is preparing a CALFED recommendation. No additional funding expected.  |  | WT             |                          | CALFED              |                                 |
| 77 | Funding in ground water/conjunctive use   | Incentive program for ground water management. Coordinate with conjunctive use program/incentives. Incentive dollars would not be through this program.             |  | WT             |                          |                     |                                 |
| 78 | Establish Pilot Environmental Water Account   |   | Improve Delta env. Protection and water supply reliability                       | S/C            | ERP                      | CALFED              |                                 |
| 79 | Environmental Water Purchases   |   | Enhance fisheries habitat  | ERP            |                          | CALFED              |                                 |
| 80 | Fund and implement watershed restoration, maintenance, conservation, and monitoring activities. | Assist local watershed groups and government agencies to address common issues on a community basis through grants, directed actions, and technical support.        | Manage Sediment, Reduce Stream Flashiness, Improve Base Flow, Reduce Fire Danger | WM             |                          | CALFED              |                                 |

Feb 22, 1999

| 1  | Action Description  | Detail/Assumptions  | Primary Effects | CALFED Program | Secondary CALFED Program | Implementing Entity | Implementing Authority Required |
|----|---|---|-----------------|----------------|--------------------------|---------------------|---------------------------------|
| 81 | <b>Sacramento River, San Joaquin River, and Tribs Bundle</b>                      |   |                 |                |                          |                     |                                 |
| 82 | 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            |                          |                     |                                 |
| 83 | American River Corridor Management Plan   | Develop a corridor management plan  |                 | ERP            |                          |                     |                                 |
| 84 | Tuolumne River Sediment Management Plan   | 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         |                 | ERP            |                          |                     |                                 |
| 85 | 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            |                          |                     |                                 |
| 86 | Hatchery Operations   | Develop a comprehensive Implementation Plan for a statistically designed marketing and tagging program for Chinook Salmon produced at Central Valley facilities consistent with existing programs throughout the West |                 | ERP            |                          |                     |                                 |
| 87 | Upgrade Weir at Battle Creek Coleman Fish Hatchery                                | Repair and Modify Weir  |                 | ERP            |                          |                     |                                 |
| 88 | Battle Creek Restoration  |   |                 | ERP            |                          |                     |                                 |
| 89 | Deer Creek Restoration  |   |                 | ERP            |                          |                     |                                 |
| 90 | Comprehensive Flood Control Study   |   |                 | External       | Coord. Levees, S/C       | Corps, DWR          |                                 |
| 91 | Sacramento River Levees Restoration   |   |                 | S/C            |                          | Corps, DWR          |                                 |
| 92 | San Joaquin River Meander Corridor & Tribs Study, Implementation, and Acquisition |   |                 | ERP            |                          |                     |                                 |

Action costs include 3% admin overhead and 25% monitoring

E-037066

E-037066

Feb 22, 1999

| 1  | Action Description                               | Detail/Assumptions | Primary Effects   | CALFED Program | Secondary CALFED Program | Implementing Entity | Implementing Authority Required      |
|----|--|--------------------|---|----------------|--------------------------|---------------------|--------------------------------------|
| 93 | <b>Governance Bundle</b>                         |                    |   |                |                          |                     |                                      |
| 94 | CALFED Entity                                    |                    |   | Gov            |                          |                     | Existing Structure or Leg. Required. |
| 95 | ERP Entity                                       |                    |   | Gov            | ERP                      |                     | New State Legislation                |
| 96 | CMARP  |                    |   | Gov            |                          |                     |                                      |
| 97 | Water Quality Actions Immunity: Federal Leg.     |                    | Allow WQ actions to proceed w/o unacceptable liability risk | Gov            | WQ                       | CALFED              | New Federal Legislation              |
| 98 | Identify Urban Water Certification Entity (UWCP) |                    |   | Gov            | WUE                      |                     |                                      |
| 99 |  |                    |   |                |                          |                     |                                      |