



Program Elements

The information below is to assist you to determine the potential of your proposal to further the objectives of additional CALFED Program Elements beyond the Watershed Program. For more information and detail about each of the Elements, visit the CALFED web site at (www.calwater.ca.gov). You may also write to CALFED or any of the Elements listed below to request more information. The mailing address for CALFED is 650 Capitol Mall, 5th Floor, Sacramento, CA 95814.

We do not expect every project to address every Program Element.

A focused and clearly made connection in your project between the Watershed Program priorities and one or more other Program Elements is likely to be more persuasive than a more general sweeping attempt to connect all the Elements in one project.

I. Water Management Program Summary

Objectives and priorities for the next 3–5 years

The Water Management Program is intended to maximize the use of available water supplies through conservation, water recycling, transfers and water quality improvements. It also plans to increase the flexibility of water systems at the state, federal and local level through improvements in conveyance, storage and water project operations. Additional efforts will help to develop groundwater and surface water storage projects to boost flexibility and provide additional supplies for agriculture, urban and environmental use.

Water Management overall objectives:

- Maximize the use of existing available water supplies through conservation, water recycling, transfers and water quality improvements.
- Increase the flexibility of water systems at the state, federal and local level through improvements in conveyance, storage and water project operations.
- Develop groundwater and surface water storage projects to boost flexibility and provide additional supplies for agriculture, urban and environmental use.

A. Water Use Efficiency Element

The Water Use Efficiency Program provides financial and technical support to enable local entities to conserve water in the urban and agricultural sectors and to recycle urban wastewater. These activities have the potential to increase useable water supplies, increase in-stream flows, and improve water quality.

Water Use Efficiency Element objectives are to:

- Reduce water demand through conservation of presently used supplies

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- Improve water quality by altering volume, concentration, timing and location of irrigation and wastewater return flows
- Improve ecosystem health by increasing in-stream flows where necessary to achieve targeted benefits

Water Use Efficiency Element priorities are to:

- Credibly estimate past and expected performance (costs and benefits) of water conservation and recycling activities in California.
- Develop volumetric (e.g. acre-feet of water conserved) targets for agricultural and urban conservation and recycling, divided into contributions toward water supply (“real water conservation”), in-stream flows, and improved water quality.
- Make progress to achieve the Agriculture Water Use Efficiency quantifiable objectives for the 21 designated regions.

Specific geographic areas of near term focus include:

- Twenty-one regions designated in Appendix A of the Program Plan available at the following website:

(<http://calwater.ca.gov/Archives/WaterUseEfficiency/WaterUseEfficiencyQuantifiableObjectives.shtml>)

B. Drinking Water Quality Element

Safe drinking water is important to all Californians - and to the state and federal agencies that comprise the CALFED Bay-Delta Program. One of the objectives of the CALFED program is to ensure continuous improvement in the water quality of the Bay-Delta for all beneficial uses. Protection and improvement of the Delta as a source of municipal water supply is addressed by the CALFED Water Quality Program (WQP). Water quality improvement to protect environmental uses is generally included in the Ecosystem Restoration Program.

The goal of the WQP is to advance efforts to provide safe, reliable, and affordable drinking water to the millions of Californians who rely on waters from the Delta watershed through cost-effective continuous improvement to source water quality, water management, and treatment.

Drinking Water priorities for watershed projects are to:

- Advance understanding of how watersheds connect to both local and statewide drinking water supplies. Projects that advance efforts to develop and implement regional drinking water quality management plans are particularly important. Watershed groups are encouraged to work with both local water utilities and with the CALFED program to develop plans that identify the status of existing water quality and the water quality goals within the region, identify connections to other regions, and develop strategies for water quality improvement or maintenance. These plans can be incorporated into integrated regional water management plans or built upon existing resource management plans.
- Support efforts to understand how source improvement actions interact with water management actions, and improved treatment to improve drinking water quality at the tap.
- Educate stakeholders and the public on the connections between watersheds and drinking water supplies.
- Reduce stormwater runoff through projects that protect or restore natural hydrology.

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- Reduce pollutant loadings from sources that may contribute drinking water pollutants of concern including animal grazing, animal feeding operations, irrigated agriculture, managed wetlands, and urban areas. (Reduce loadings of pollutants that have the greatest impact on drinking water supplies. (*Pollutants identified as being of most drinking water quality concern in the Delta are organic carbon, bromide, salinity, nutrients, turbidity, taste and odor producing compounds, and pathogens. Other pollutants such as arsenic, perchlorate, and herbicides are of local or regional concern.*)

Specific geographic areas of near term focus include:

- Delta islands
- Delta tributaries below the major dams
- San Joaquin Valley
- Sacramento Valley
- Watersheds that directly affect State or federal water project canals or reservoirs.

Proximity to drinking water intakes or groundwater recharge areas for drinking water wells is an important consideration.

C. Conveyance Element

Conveyance Element objectives are to:

- Modify the existing conveyance system for water supply, water quality, flood protection and ecosystem benefits
- Improve pumping operations of the State Water Project to increase reliability and enhance fish protection

Near term priorities are:

- Construct permanent operable barriers and increase the maximum SWP export capacity to 8,500 cubic feet per second (South Delta Improvements Program)
- Construct the Delta Mendota Canal/California Aqueduct Intertie
- Complete the Delta Cross Channel and the Through Delta Facility studies
- Complete the studies on South Delta Hydrodynamics, Water Quality, and Fish
- Complete the studies on Delta Smelt and Fish Facilities
- Continue south Delta fish facilities improvements
- Implement north Delta Flood Control and Ecosystem Improvements
- Implement lower San Joaquin River Flood Protections Improvements

D. Storage Element

Storage Element objectives are to:

- Provide financial and technical assistance to implement 1/2 million to 1 million acre-feet of new, locally managed groundwater storage
- Pursue specific opportunities for new off-stream storage sites and expansion of existing on-stream storage sites as identified in the Record of Decision

Storage Element priorities include:

- Groundwater conjunctive management projects that will contribute to an accumulated capacity of 500 Thousand Acre Feet to 1 Million Acre Feet.

- Increase water supply reliability statewide through planned, coordinated local management and use of groundwater and surface water resources.
- Develop a basic understanding of individual groundwater basins and their relationship to watersheds.
- Identify basin management strategies and objectives.
- Plan and conduct groundwater studies.
- Design and construct conjunctive use projects.

E. Water Transfers Element

Water Transfers Element objectives are to:

- Develop a more effective water transfer market
- Respect water rights, and protect environmental and economic conditions
- Streamline the approval process of state and federal agencies for water transfers

Water Transfers Element priorities are to:

- Increase the availability of existing facilities for water transfers
- Lower transaction costs through permit streamlining
- Increase the availability of market information to stakeholder and permitting agencies

F. Environmental Water Account Element

Environmental Water Account Element objectives are to:

- Provide protection to the at-risk fish species in the Bay-Delta estuary through environmentally beneficial changes in SWP/CVP operations at no uncompensated water cost to the project's water users
- Better protection for fish and habitats at critical times by providing water in a flexible manner other than solely through strict requirements.
- Increase water supply reliability by allowing projects to meet environmental and water supply needs at the same time.

Environmental Water Account Element priorities are to:

- Continue to provide protection to the fish of the Bay-Delta through changes in SWP/CVP operations
- Continue short term water purchases, but shift to making multi-year agreements as the core part of the acquisition strategy
- Assess SWP/CVP demand buy-down to manage EWA debt.
- Evaluate the potential for land retirement and drainage mitigation for EWA Assets
- Explore coordination of New Bullards Bar and Oroville Reservoir operations
- Investigate groundwater banking capacity for EWA assets
- Complete the Long Term EWA EIS/EIR
- Provide an average of 374 thousand acre feet (TAF) of water for fish habitat actions (250-490 TAF, depending on year type).
- Acquire fixed assets of 210 TAF in critical, 230 TAF in dry, and 250 TAF in other year types, measured in south-of- Delta equivalents (water used to compensate for Delta pumping curtailments must be returned to the projects south of Delta). That water may be purchased and/or stored upstream of the Delta. In such cases, additional water is usually

required to offset conveyance and Delta losses. (The phrase “south of Delta equivalents” indicates the net volume required after accounting for such losses).

- Acquire south-of-Delta water storage capability and/or its functional equivalent to bridge high demand periods for the EWA. Functional equivalents may include additional purchases, agreements with the projects to carry debt, or other comparable arrangements.
- Use multi-year wet/dry year exchanges and wet year uneven exchanges to augment assets and manage EWA assets.

II. Ecosystem Restoration Program Summary

Objectives and priorities for the next 3–5 years

The goals of the Ecosystem Restoration Program are to improve and increase aquatic and terrestrial habitats and improve ecological functions in the Bay-Delta system to support sustainable populations of diverse and valuable plant and animal species. Since its inception the ERP has facilitated funding for a variety of projects contributing to ecosystem restoration within its geographic scope. The ERP contributes to achieving the goals of the Multi-Species Conservation Strategy by helping with the recovery of listed species found in the Bay-Delta. ERP investments have contributed to sustaining regulatory commitments for all Bay-Delta Program elements.

Ecosystem Restoration overall objectives:

- Achieve recovery of at-risk native species dependent on the Delta and Suisun Bay as the first step toward establishing large, self-sustaining populations of these species; support similar recovery of at-risk native species in San Francisco Bay and the watershed above the estuary; and minimize the need for future endangered species listings by reversing downward population trends of native species that are not listed.
- Rehabilitate natural processes in the Bay-Delta estuary and its watershed to fully support, with minimal ongoing human intervention, natural aquatic and associated terrestrial biotic communities and habitats, in ways that favor native members of those communities.
- Maintain and/or enhance populations of selected species for sustainable commercial and recreational harvest, consistent with the other ERP strategic goals.
- Protect and/or restore functional habitat types in the Bay-Delta estuary and its watershed for ecological and public values such as supporting species and biotic communities, ecological processes, recreation, scientific research, and aesthetics.
- Prevent the establishment of additional nonnative invasive species and reduce the negative ecological and economic impacts of established nonnative species in the Bay-Delta estuary and its watershed.
- Improve and/or maintain water and sediment quality conditions that fully support healthy and diverse aquatic ecosystems in the Bay-Delta estuary and watershed; and eliminate, to the extent possible, toxic impacts to aquatic organisms, wildlife, and people.

Near term priorities

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- Recover 19 at-risk native species and contribute to the recovery of 25 additional species (see Table ERP-1, below)
- Rehabilitate natural processes related to hydrology, stream channels, sediment, floodplains and ecosystem water quality
- Maintain and enhance fish populations critical to commercial, sport and recreational fisheries
- Protect and restore functional habitats, including aquatic, upland and riparian, to allow species to thrive
- Reduce the negative impacts of invasive species and prevent additional introductions that compete with and destroy native species
- Improve and maintain water and sediment quality to better support ecosystem health and allow species to flourish

**Table ERP-1:
At-risk native species of interest to the Ecosystem Restoration Program**

<i>Contribute to the recovery of these species:</i>	
San Joaquin Valley woodrat	<i>Neotoma fuscipes riparia</i>
Salt marsh harvest mouse	<i>Reithrodontomys raviventris</i>
Riparian brush rabbit	<i>sylvilagus bachmani riparius</i>
California clapper rail	<i>Rallus langirostris obsoletus</i>
Least Bell's vireo	<i>Vireo bellii pusillus</i>
Giant garter snake	<i>Thamnophis gigas</i>
Delta green ground beetle and critical habitat	<i>Elaphrus viridis</i>
Crampton's tuctoria	<i>Tuctoria mucronata</i>
Bank swallow	<i>Riparia riparia</i>
California black rail	<i>Laterallus jamaicensis coturniculus</i>
Greater sandhill crane	<i>Grus canadensis tabida</i>
Little willow flycatcher	<i>Empidonax traillii brewsteri</i>
Swainson's hawk	<i>Buteo swainsoni</i>
Western yellow-billed cuckoo	<i>Coccyzus americanus occidentalis</i>
Delta coyote-thistle	<i>Eryngium racemosum</i>
San Pablo California vole	<i>Microtus californicus sanpabloensis</i>
California yellow warbler	<i>Dendroica petechia brewsteri</i>
Salt marsh common yellowthroat	<i>Geothlypis trichas sinuosa</i>
Sacramento perch	<i>Archoplites interruptus</i>
Alkali milk vetch	<i>Astragalus tener var. tener</i>
Bristly sedge	<i>Carex comosa</i>
Point Reyes bird's-beak	<i>Cordylanthus maritimus ssp. Palustris</i>
Northern California black walnut native stands	<i>Juglans californical var. hindsii</i>
Delta tule pea	<i>Lathyrus jepsonii var. jepsonii</i>
Delta mudwort	<i>Limosella subulata</i>
<i>Recover these species:</i>	
Central Valley steelhead ESU and critical habitat	<i>Oncorhynchus mykiss</i> (cv)
Central Valley spring-run chinook salmon ESU	<i>Oncorhynchus tshawytscha</i> (sr)

and critical habitat	
Delta smelt and critical habitat	<i>Hypomesus traspacificus</i>
Sacramento splittail	<i>Pogonichthys macrolepidotus</i>
Sacramento River winter-run chinook salmon ESU and critical habitat	<i>Oncorhynchus tshawytscha</i> (wr)
Lange’s metalmark	<i>Apodemia mormo langei</i>
Valley elderberry longhorn beetle and critical habitat	<i>Desmocerus californicus dimorphus</i>
Suisun thistle	<i>Cirsium hydrophilum</i> var. <i>hydrophilum</i>
Soft bird’s beak	<i>Cordylanthus mollis</i> ssp. <i>mollis</i>
Contra Costa wallflower and critical habitat	<i>Erysimum capitatum</i> ssp. <i>angustatum</i>
Antioch Dunes evening-primrose and critical habitat	<i>Oenothera deltoides</i> ssp. <i>howellii</i>
Mason’s lilaeopsis	<i>Lilaeopsis masonii</i>
Central Valley fall/late fall-run chinook salmon ESU	<i>Oncorhynchus tshawytscha</i> (fr)
Suisun ornate shrew	<i>Sorex ornatus sinuosus</i>
San Pablo song sparrow	<i>Melospiza melodia samuelis</i>
Suisun song sparrow	<i>Melospiz melodia maxillaris</i>
Green sturgeon	<i>Acipenser medirostris</i>
Longfin smelt	<i>Spirinchus thaleichthys</i>
Suisun Marsh aster	<i>Aster lentus</i>

Specific geographic areas of near term focus include:

- Sacramento River and;
 - Battle Creek
 - Butte Creek
 - Clear Creek
 - Deer Creek
 - Yolo Bypass
- San Joaquin River and;
 - Cosumnes River
 - Tuolumne River
 - Merced River
- North Delta
- Suisun Marsh and Bay
- San Pablo Bay, including the Napa and Petaluma rivers and local creeks

III. Levee System Integrity Element Summary

Short term objectives and priorities for the next 3–5 years

The goal of the Levee System Integrity Program is to reduce risk to land use and associated economic activities, water supply, infrastructure, and ecosystem from catastrophic breaching of

Delta levees. The program is committed to achieving long-term protection of life and property, water quality for in-Delta and export uses, agriculture, recreation, and the environment. This program is implemented by the Department of Water Resources, the Department of Fish and Game, and the United States Army Corps of Engineers, in cooperation with more than 60 levee maintaining agencies.

Levee System Integrity Element overall objectives:

- Improve levees to a higher standard for greater flood protection
- Improve emergency response capabilities
- Ensure levee maintenance and habitat needs are met
- Improve coordination of permit processes
- Develop adequate and reliable funding for levee maintenance

Near term priorities

- **Provide Base Level Protection** – Base level protection includes actions to understand and reduce the risk of catastrophic levee failure. These actions provide funding to help levee maintaining agencies preserve existing levees, and reconstruct all Delta levees to the PL84-99 Delta specific standard.
- **Special Improvement Projects** – Special Improvement Project actions are those that will enhance flood protection beyond base level protection for certain islands protecting public benefits such as water quality, life and personal property, agricultural production, cultural resources, recreation, the ecosystem and local and statewide infrastructure. There is no action proposed under this portion of the program until accomplishing base level protection on the critical islands.
- **Levee Subsidence Control Plan** – These are actions to develop best management practices to minimize the risk to levee integrity from land subsidence.
- **Emergency Management and Response** – Emergency Management and Response actions are targeted to enhance the existing emergency management response capability of local, State, and Federal agencies to rapidly respond to levee emergencies.

Specific geographic areas of near term focus include:

- San Joaquin-Sacramento River Delta region