

# California Bay-Delta Program

## Watershed Program Multi-Year Program Plan (Years 6 – 9)

(State FYs 2005-06 to 2008-09; Federal FYs 2006 to 2009)

### Implementing Agencies:

Resources Agency

State Water Resources Control Board

Department of Water Resources

Department of Fish and Game

US Dept of Agriculture- Natural Resources Conservation Service

United States Environmental Protection Agency

United States Fish and Wildlife Service

March 2005

CALIFORNIA



BAY-DELTA  
AUTHORITY

# Goals, Objectives, Targets and Performance Measures

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## Goals and Objectives:

The purpose of the Watershed Program is to aid in achieving the overarching goals of the California Bay-Delta Program, by working with local communities at the watershed level.

The CALFED Record of Decision (ROD) identified two commitments to be met by the program.

- Establish a grant program to solicit, evaluate and fund local projects that contribute towards achieving California Bay-Delta Program goals.
- Develop Watershed program performance measures and monitoring protocols consistent with the Science Program.

In addition to these two major commitments, the program has and will continue to carry out a range of program activities designed to achieve the following broad goals and objectives as stated in the Watershed Program Plan.

- Provide assistance, both technical and financial, for watershed activities that help achieve the mission and objectives of the California Bay-Delta Program as a whole.
- Promote collaboration and integration among existing and future watershed programs at all levels.
  - Help develop, adopt, and apply watershed monitoring and assessment protocols at the watershed level.
  - Integrate the watershed program with other California Bay-Delta Program efforts.
  - Better define and determine the relationships between watershed processes and the goals and objectives of the California Bay-Delta Program.
  - Facilitate, and improve coordination, collaboration, and assistance among government agencies, other organizations, and local watershed groups.
  - Support focused education and outreach efforts.
  - Implement a strategy that will ensure support and long-term sustainability of local watershed management efforts.

Working through the BDPAC Watershed sub committee and Interagency Watershed Advisory Team (IWAT) a set of implementation priorities for the next two to three years has been identified. (See attachment one)

**Implementation Priorities (Years 6-9):** Priorities will be pursued to the degree that they contribute to the goals of the CALFED Bay-Delta Program and the Watershed Program objectives.

- Broaden participation in watershed partnerships to improve community capacity to manage watersheds and achieve desired conditions.
- Encourage more communities to become involved in watershed management and assist with achieving goals of the Bay-Delta Program.
- Advance the application of science among watershed partnerships through education, and improved tools and information.
- Foster and support strategies to ensure long-term sustainability of watershed activities.
- Maintain and enhance the communication network among the watershed stakeholders to ensure continued information exchange and collaboration.
- Integrate Watershed Program implementation with the other CALFED program elements to ensure that the benefits of local stewardship are more fully realized and each program's effectiveness is enhanced.
- Align activities of agencies, the CALFED Watershed Program and other entities to achieve mutual objectives and to enhance the ability of the implementing and cooperating agencies to manage the Watershed Program.

## **Targets:**

The ROD includes a limited set of targets for the Watershed Program. These targets included funding levels for "Stage 1", and the development of more specific performance measures to gauge program accomplishments. In turn the program worked with our agency partners and stakeholder community to develop a specific set of "Initial Program Priorities" that have guided the conduct of 3 grant cycles and other actions carried out by the program. The program agreed to pursue these initial priorities for the first three years of program implementation.

The program established a process and time table to evaluate what the program has done to address these initial priorities, and the performance of program actions in meeting objectives related to these priorities. The outcome of this process is a refined or modified set of program priorities and a specific set of performance targets to gauge progress in addressing those priorities.

Work continues to evolve in an effort to develop targets related to program performance. (See performance measures section for additional detail.

## **Performance Measures:**

The program, with limited assistance from the Science Program, has identified a potential set of Performance Measures using a broad program performance matrix display ( see appendix). Performance measures translate program goals and objectives into measurable benchmarks of success. Performance measures range from relatively simple metrics to complex cross program assessments. As such, current work on performance measures include counting available metrics while laying the technical and scientific groundwork to perform more complex assessments later.

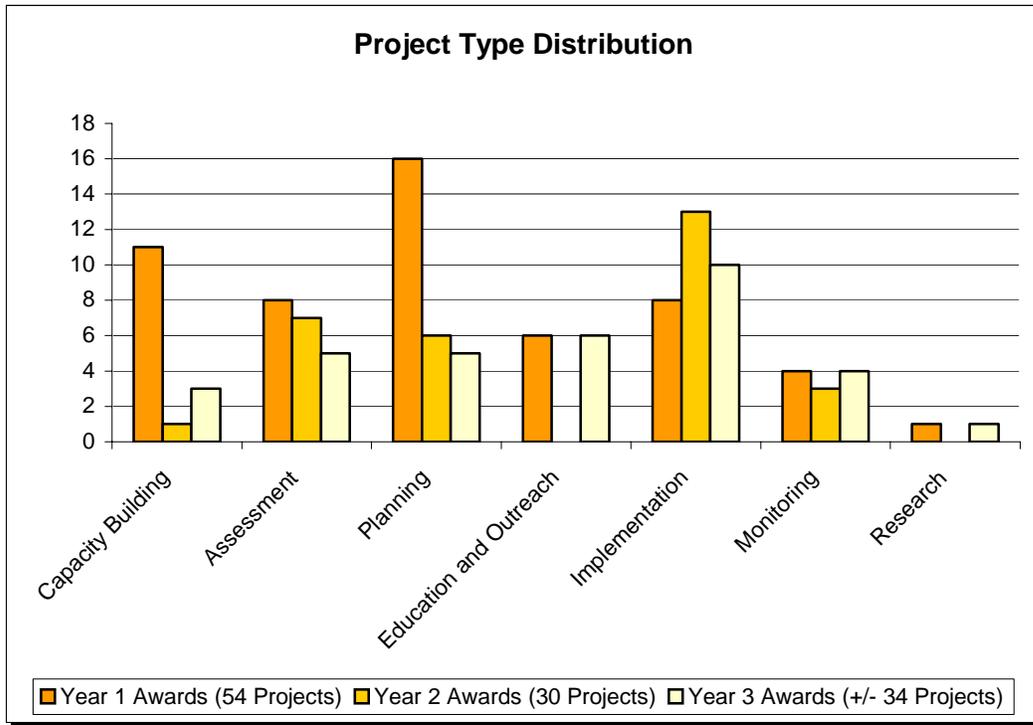
The Watershed Program has continuously working to identify performance measures for the program. The Science Program has articulated three levels of Performance Measures. These will be refined as they are tailored for the unique needs of each program. An initial evaluation of Program performance was conducted during year 4 of implementation (see appendix). The examples cited below come from that initial program performance evaluation.

For the Watershed Program, examples of performance measures include:

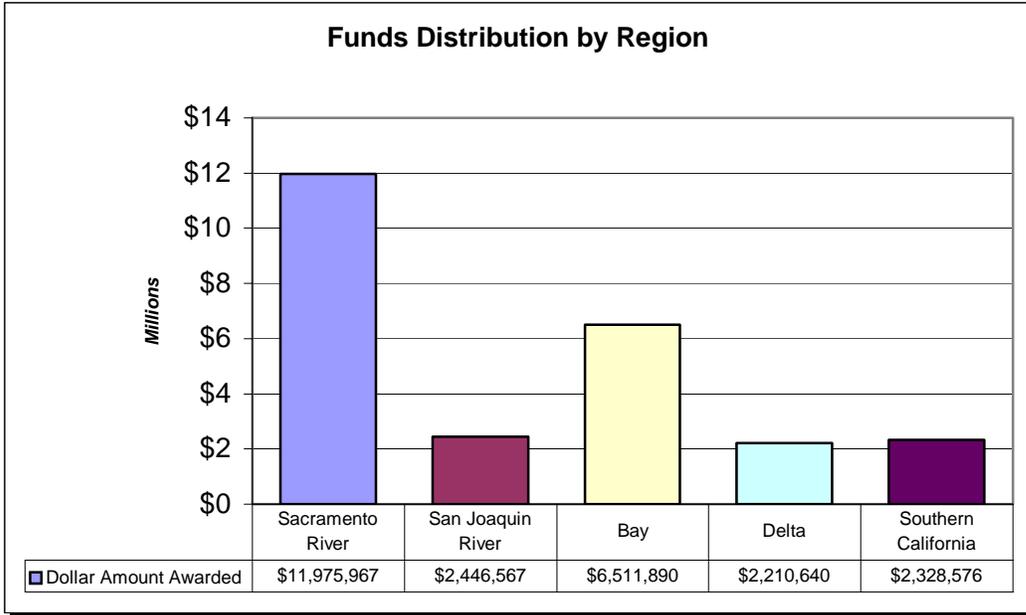
- **Level 1:** Simple administrative measures. Site-specific indicators that track direct responses of specific projects or groups of projects such as:
  1. number of dollars spent- (total, by project type, regional distribution, multi objective projects)
  2. number of grant projects funded
  3. number of grant projects completed
  4. the direct products or deliverables from each completed project.

**Examples:**

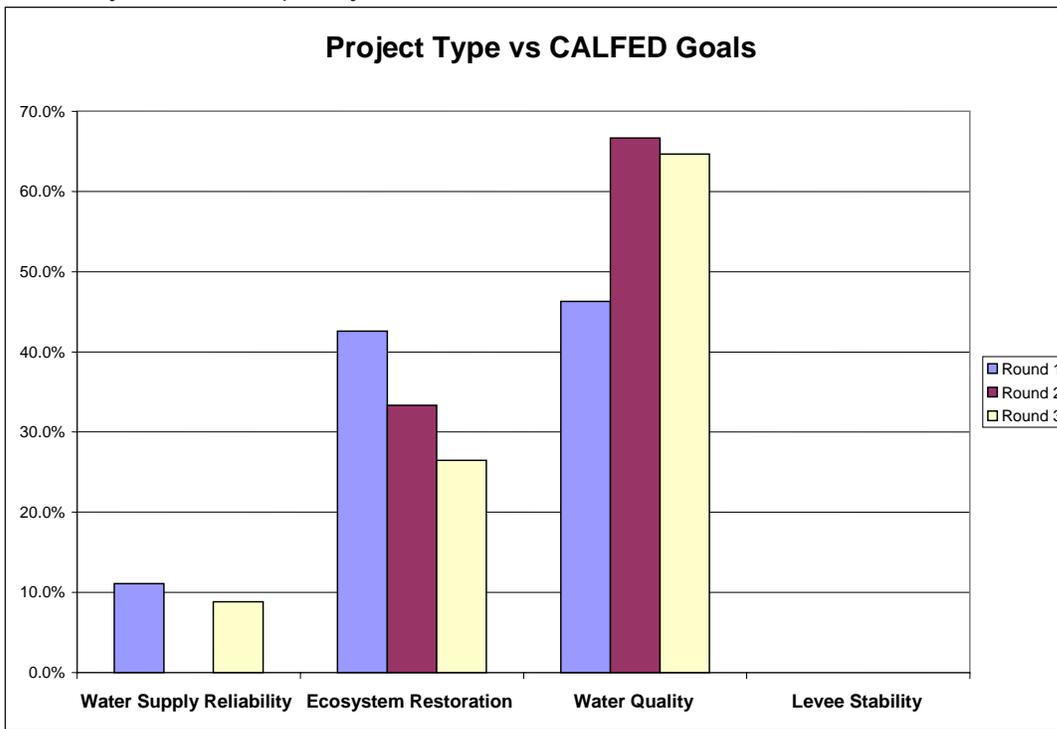
Grant fund distribution by project type



Fund distribution to grant projects by region



Grant Projects with multiple objectives



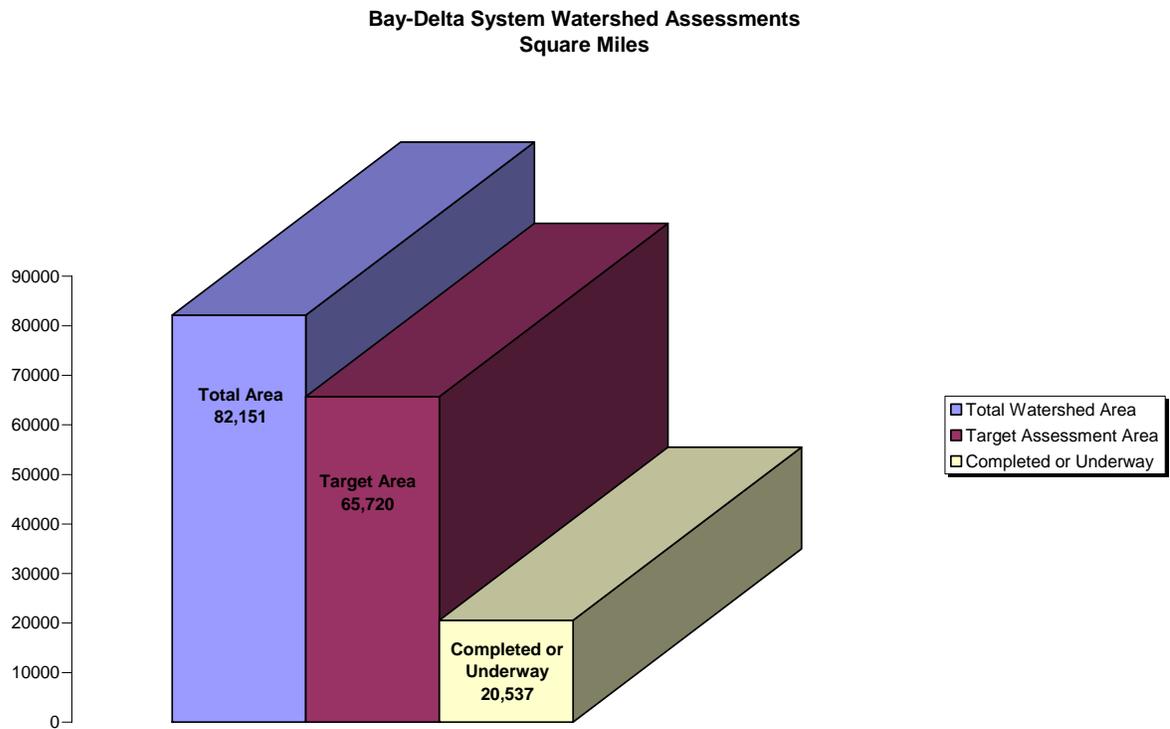
- **Level 2:** Quantifiable accomplishments directly related to program actions. Indicators that track the responses of groups of projects on a local or regional level.

From the performance matrix, the program has selected a set of 'initial indicators of program performance'. The program will focus attention on these initial measures to establish baseline values associated with the appropriate indicator and the necessary metrics needed to calculate program performance associated with these indicators. The initial Level 2 indicators of program performance that will be the focus of staff and agency attention in Year 6 are:

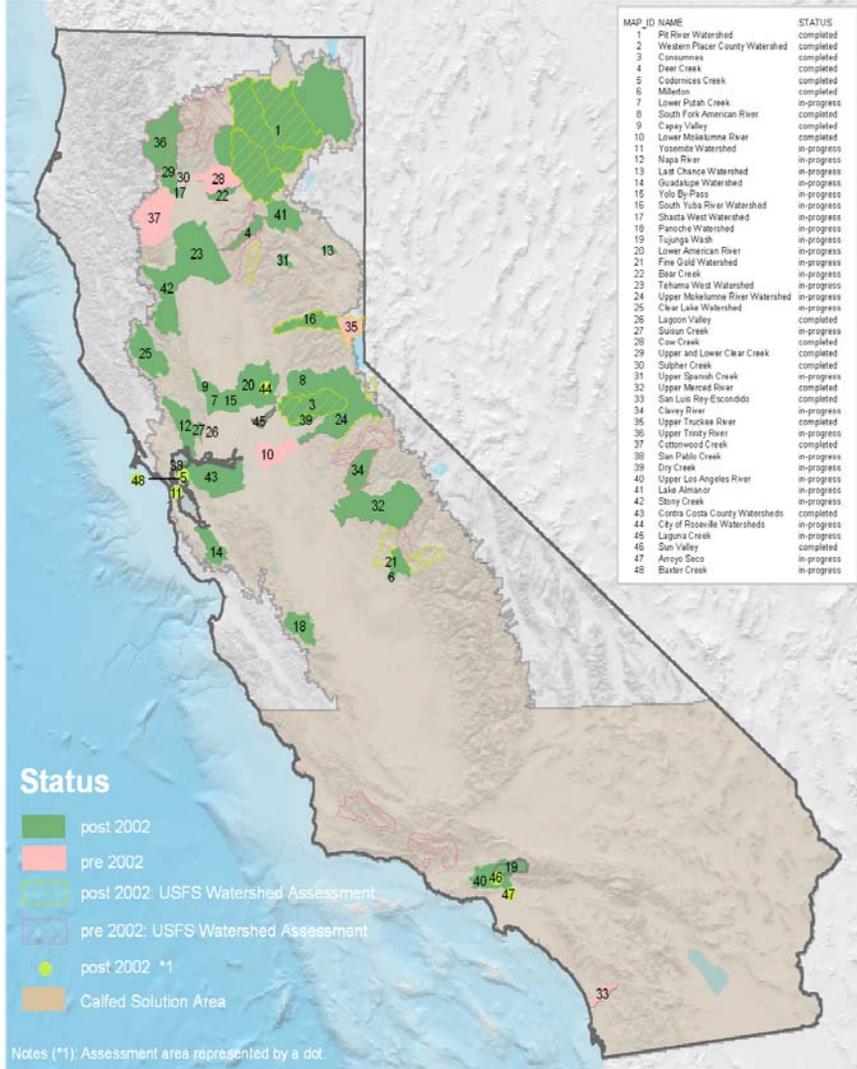
1. Improved technical assistance delivery to local watershed efforts
2. Continuity of local watershed management initiatives
3. Extent of watershed assessments completed in the Bay Delta system

**Example:**

Extent of known Watershed Assessments within the Bay Delta system and program progress



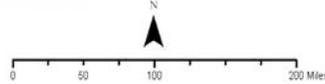
# Watershed Assessment Status DRAFT



**Status**

- post 2002
- pre 2002
- post 2002: USFS Watershed Assessment
- pre 2002: USFS Watershed Assessment
- post 2002 \*1
- Calfed Solution Area

Notes (\*1): Assessment area represented by a dot.



- **Level 3: System-wide indicators.** Indicators that track broad, often complex, responses of groups of projects (such as water supply reliability or ecosystem health).

A number of regional or statewide efforts are underway or proposed, (Sacramento River Watershed Program; proposals to ERP and the Science Program, California Watershed Action Plan, March 2005) each with a common interest to develop or identify system wide measures and indicators of ecosystem/watershed health. At the present time, the Watershed Program anticipates that the majority of work needed to develop the programmatic set of level 3 indicators for the CALFED Watershed program will emerge from one or more of these external efforts.

# Accomplishments

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**Provide assistance, both technical and financial, for watershed activities that help achieve the mission and objectives of the California Bay-Delta Program as a whole.**

**Financial Assistance-** The Water Boards are funding 227 projects (\$29 million) to assess the health of watersheds and develop plans to protect and restore them. 118 projects (\$40 million) are being implemented to reduce the loads of pollutants impacting California water resources and 69 projects (\$32 million) are restoring impacted waterways and wetlands. Many projects (157 / \$14 million) include activities to prevent pollution and educate people to reduce the generation of non point source pollution.

Of these projects, 12 projects (\$10.6 million) from 02-03 and 13 projects (\$11.0 million) from 03-04 funded with Prop 13 funds are specifically for implementation of the Cal FED Watershed Program. An additional 19 projects (\$12.3 million) were awarded grants to support implementation of the CALFED Watershed Program from Prop 50 (Chapter 7(f)).

The 03-04 Watershed Program grant cycle occurred as part of a consolidated grant proposal process administered by the SWRCB. Within this consolidated process proposals were considered for California Bay-Delta Program Watershed and Drinking Water Programs; the State Water Resources Control Board's (SWRCB) Non-Point Source, Coastal Non-Point Source, and Watershed Protection programs; and the federal EPA 319H program. Approximately \$32 Million dollars of Prop 13 (\$12M) and Prop 50 (\$20M) for the Watershed Program were offered through this consolidated process.

**Financial Assistance-**Nearly all 54 projects receiving awards from the Watershed Program's 2000-2001 annual grant cycle will be completed by June 2005. From these grants there were 14 projects that included development of watershed assessments. These ranged from the 3,123 square miles of the Pit River Watershed in Modoc, Lassen and Shasta Counties in the Sacramento Valley Region, to the 4.4 square miles of the Sun Valley Watershed in Los Angeles County. In all, watershed assessments were completed covering approximately 10,000 square miles in a number of the hydrologic regions of the CALFED solution area.

Development of watershed management plans was another important activity supported in the initial PSP. There were approximately 22 projects in which development of a watershed management plan was the primary activity. Watershed management plans were developed in watershed throughout the CALFED solution area. In all, watershed management plans were completed covering approximately 15,600 square miles in various watersheds in each of the CALFED regions.

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**Financial Assistance -**

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**Financial Assistance -**

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**Technical Assistance-** Made funding available, beginning in 2003-2004 to the Department of Conservation (DOC) to allow DOC to continue providing its Watershed Coordinator Grants Program. DOC conducted a proposal solicitation for new Coordinators, with grant recommendations going to the Authority in April 2004. With concurrence from the Authority, the DOC made awards for 47 new Coordinators positions located throughout the solution area. DOC reports the following progress related to these new awards:

\$6,288,037 of other grant and project funds brought into the program by the Coordinators. 9 River or creek clean up events have been conducted, 2 watershed assessments or plans completed, 19 restoration projects completed (barrier removal, riparian enhancements) 2 projects involving the removal of non-native invasive species, 8 projects involving either the creation or coordination of citizen water quality monitoring activities and another 8 workshops or training events related to water quality monitoring.

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**Technical Assistance-** In the past year, CDF began the systematic capture of Timber Harvesting Plans (THPs) in GIS for the northern portion of the CALFED Solution Area. CDF has spatially captured at least ten-years of THP history for most of the rest of the state. CDF develops these spatial databases, updates them over time, and makes them available to any party. THP history is an important input for watershed assessment.

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**Technical Assistance-** Over the past year The Dept of Forestry's FRAP (Fire and Resource Assessment Program) has provided technical assistance to a number of groups conducting watershed assessments funded through the Watershed Program. These watershed groups include the Millerton Watershed Association, the Butte Creek Watershed Council, and the American River Watershed Council. Support was provided both in the use of GIS data layers that are developed and maintained by FRAP and on resources assessment issues. Evaluating sources of sediment and interpreting GIS layers for vegetation and fuels were common areas where support was provided.

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**Technical Assistance-** Working with the University of California, Davis, and an agency and stakeholder steering committee, CDF have completed the California Watershed Assessment Guide and the first eight of nine chapters of Volume I of the California Watershed Assessment Manual. These documents are available on the Web at <http://cwam.ucdavis.edu>. When Chapter Nine is finished in the near future, copies of Volume I will be produced and disseminated on CDs and limited copies in printed form. Work is under way on Volume II, which will provide details on more technical watershed assessment approaches.

**Technical Assistance-** In the past year, CDF and its cooperator, the USDA Forest Service, completed the baseline vegetation data collection for 8-million-acres of upland watershed lands in the CALFED solution area ([http://www.frap.cdf.ca.gov/projects/land\\_cover/index.html](http://www.frap.cdf.ca.gov/projects/land_cover/index.html)). This work establishes a baseline vegetation database in the Bay Area, South Sierra and Central Coast project areas (see accompanying map). This work is conducted in accordance with the CDF/USFS "Coordinated Schedule for Imagery Acquisition, Change Detection, Map Updating and Inventory Re-measurement". The resulting data facilitates cooperative, ecologically based planning and decision making and provides for more effective watershed management and fire protection. Accurate monitoring of vegetation from the scale of the river basin to more localized areas is critical for assessing water quality and quantity issues in the CALFED area.

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**Promote collaboration and integration among existing and future watershed programs at all levels.**

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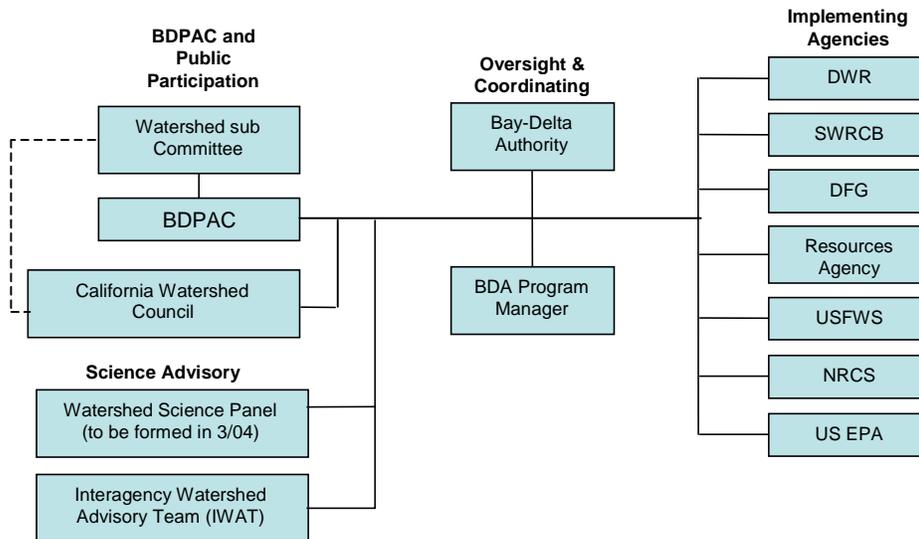
The Bay-Delta Public Advisory Committee (BDPAC) Watershed subcommittee continues to meet to promote outreach with potential partners and others interested in the California Bay-Delta Program.

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DWR and the US Environmental Protection Agency (EPA) have reconvened the Interagency Watershed Advisory Team (IWAT), with a primary purpose to assist the Watershed Program to develop and update program plans and increase the involvement of science into the program. IWAT has been responsible for developing the current Multi-year and program plan.

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# Program Structure



Agency	Roles and Responsibilities
California Bay-Delta Authority	Program oversight and coordination.
Department of Water Resources	Implementing agency; Co-chair IWAT.
U.S. Environmental Protection Agency	Implementing agency; Co-chair IWAT.
State Water Resources Control Board	Implementing agency.
California Department of Fish and Game	Implementing agency.
Resources Agency	Implementing agency.
U.S. Fish and Wildlife Service	Implementing agency.
Natural Resources Conservation Service	Implementing agency.

# Major Activities

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**Provide assistance, both technical and financial, for watershed activities that help achieve the mission and objectives of the California Bay-Delta Program as a whole.**

**Financial Assistance** – The ROD commits the Watershed Program to carry out an annual grants program through Stage 1. This annual program is carried out in a coordinated fashion with other watershed and non-point source program grant activities. The remaining Authorized funding from Chapter 7 of Proposition 50 (Prop 50) programmed for competitive grants is approximately \$26.7 million. \$19 million dollars of this total was budgeted to DWR in 04-05. The remaining \$7.7 million is carryover funding from an 03-04 appropriation to the SWRCB. Approximately \$9 million of this total is programmed for commitment in 04-05. The remaining amount (\$17.7 M) will be made available for future grant cycles planned for 05-06 and 06-07.

**Grant Program/Annual RFP** – Activities supported through the annual grant program primarily address local watershed communities. The grant program will strive to provide consistent funding from year to year and to avoid dramatically different funding levels in consecutive years. Based on anticipated available funds the program plans to make approximately \$9 million available per year over a three year period which began in Year 5 (04-05) This funding will be for agreements that would allow 3 years to expend the funds. These funds will come from unexpended Prop 50, Chapter 7 funds (\$19m in DWR allocation for FY 04/05 and \$7.7m in unexpended SWRCB allocation from FY 03-04 )

- Develop specific criteria to direct a significant portion of funds towards watershed assessment, planning and monitoring, while leveraging other funds for implementation, consistent with the following:
  - Building community capacity to improve watershed conditions, particularly among communities where the Watershed Program and other CALFED Elements, have identified the need for such capacity (e.g., San Joaquin River watershed).
  - Broadening participation in their watershed community partnerships (e.g., local partnerships expand to include land management and land use planning agencies),
  - Encouraging watershed assessment, planning, monitoring, and performance measurement activities.
  - Supporting partnerships that link science-based assessment and monitoring with management and restoration in an adaptive management cycle.
  - Supporting watershed partnerships that have a strong link to achieving multiple objectives, particularly other CALFED program objectives, such as those related to the ecosystem, drinking water and water supply reliability objectives.
  - Encouraging watershed partnerships to address long-term organizational and financial sustainability beyond support from grants.
- Expand and build upon the solicitation and selection process, based on assessments of previous grant programs (e.g., CWC), to ensure a high level of “transparency” that provides for appropriate public input.
  - Consider, and implement, if appropriate, (2) regionalized review/selection.
  - Establish effective fiscal management mechanisms to ensure ease, efficiency, accountability and effectiveness.
- Provide support for developing grant applications to grant program applicants.
- Coordinate with other funding sources to ensure user-friendly processes.
- Annually forecast the funding level anticipated for the next five years for watershed work.

**Year 6-** The program plans to continue with an annual grant cycle by carrying out a fifth round of grants during year 6. The Program is considering a “focused” grant program, with emphasis on the development of watershed assessments, plans and monitoring activities closely tied to Watershed and other Bay Delta program objectives. The Program anticipates making approximately 8 million dollars available for competitive grants during this year. At the present time the SWRCB has been identified as the implementing agency responsible for administering the next grant cycle for the Bay Delta Watershed Program.

**Schedule:** Years 6 through 9

**Directed or Agency managed actions** – The program is working through the Interagency Watershed Advisory Team (IWAT) to design and gain approval of a process to identify, develop and authorize directed actions. When this process is in place a number of potential directed actions may be considered.

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**Year 6- :**

- Continue and enhance the Watershed Subcommittee meetings and activities.
- Continue support for local watershed coordinators through the Department of Conservation grant program.
- Establish watershed assistance teams to provide necessary technical assistance.
  - Develop a plan to solicit proposals to provide a wide range of necessary enhanced assistance, including needs identified below
- Consider and discuss potential additional directed actions including, but not limited to:
  - Providing guidelines or a primer for watershed assessment.
  - Conducting a social science performance measures workshop.
- Identifying and supporting key education and outreach activities.
  - Address theme of "from the ridge tops to the ocean."
  - Identifying and supporting key watershed science activities (e.g., DWR/USGS gauging stations, watershed data sets, etc.).

**Schedule:** Years 6-9

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**Technical Assistance** – DWR , (SWRCB and select regional boards??) and CDF will continue providing a base level of technical assistance to support program implementation activities.

**Year 6-** The existing expenditure plan for Prop 50 identifies continued funding for DWR and CDF to support at least some of the technical assistance needs of the program. In addition, the program will work to better connect available technical assistance within the solution area to the needs for this assistance at the local level. The purpose of this effort will be to:

- Enhance the level of technical assistance as it pertains to:
  - Assessment, planning & monitoring (e.g., hydrologic and water quality data collection).
  - Regulatory compliance (e.g., CEQA/NEPA and permits)
  - Program/project/grant management.
  - Data development and management.
  - Facilitation and partnership building.
  - Organizational development.
  - Long-term organizational sustainability of watershed activities.
    - Share successful local funding examples.
    - Provide guidance/materials.
    - Consider training/workshops.
    - Environmental justice and community impacts.
    - Improved mapping with watersheds and environmental justice community concerns.
  - Consider providing an orientation for every funded project and ongoing support, as well as proposal preparation assistance.

Provide assistance as identified above through:

- Establishing a watershed assistance team (see directed action above).
  - Facilitate access for local communities to various agencies' experts.
- More effectively and efficiently using the Internet to disseminate information.
- Providing an orientation for every funded project, and on-going support.
- Establish a Watershed Program science advisory panel.
- Encourage a higher level of coordination between all levels of educational institutions and local watershed activities.
- Establish a mentor program for local watershed management entities to learn from each other and seek additional mechanisms to promote "watershed to watershed" learning.

**Schedule:** Years 6-9

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**Technical Assistance** – Department of Conservation (DOC) will continue implementation of the "Watershed Coordinators Grant program" within the California Bay-Delta Program solution area.

Year 6- DOC has all contracts in place. These contracts are supporting the selected Coordinators for a three year term which began in year 5.

**Schedule:** FY 03-4 through FY 06-7

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**Science and Monitoring** – The program will undertake actions designed to increase the level of science and scientific involvement in the program. Planned actions include: appointing a Watershed Program Science Advisory committee; sponsoring workshops to discuss appropriate metrics for social science indicators;.

**Year 6-** Significant progress on this activity was planned for Year 5, however delays have occurred. The Program has renewed its intent

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to have a Program Science Advisory Panel in place by the end of Year 5..

**Schedule:** Nominees to the Science Advisory Panel will be brought to the State and Federal Agencies for consultation by July 2005

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**Promote collaboration and integration among existing and future watershed programs at all levels.**

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**Education and Outreach** – The program will continue to sponsor and conduct “Watershed Partnership Seminars”. Effort will be made to-

- Provide better notice and more frequent notice of scheduled seminars.
- Consider, and implement if appropriate, a session for managers and decision makers.

Year 6- Two seminars are planned during Year 6, the first will take place no sooner than October of 2005, with the second later in the Spring of 2006.

**Schedule:** Two times per year through year 9

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**Public Involvement and Stakeholder Consultation** – Public involvement in program implementation activities will take place through the BDPAC watershed subcommittee, BDPAC, and the new California Watershed Council. The Bay-Delta Authority and implementing agencies will continue to provide staff support and assistance to the BDPAC and its watershed subcommittee.

**Schedule:** Through remainder of Stage 1

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**Environmental Justice** – The Watershed Program will provide direct support to help implement the environmental justice subcommittee program plan. The Watershed Program and implementing agencies have also established criteria to help ensure the achievement of environmental justice objectives.

**Schedule:** Through remainder of Stage 1

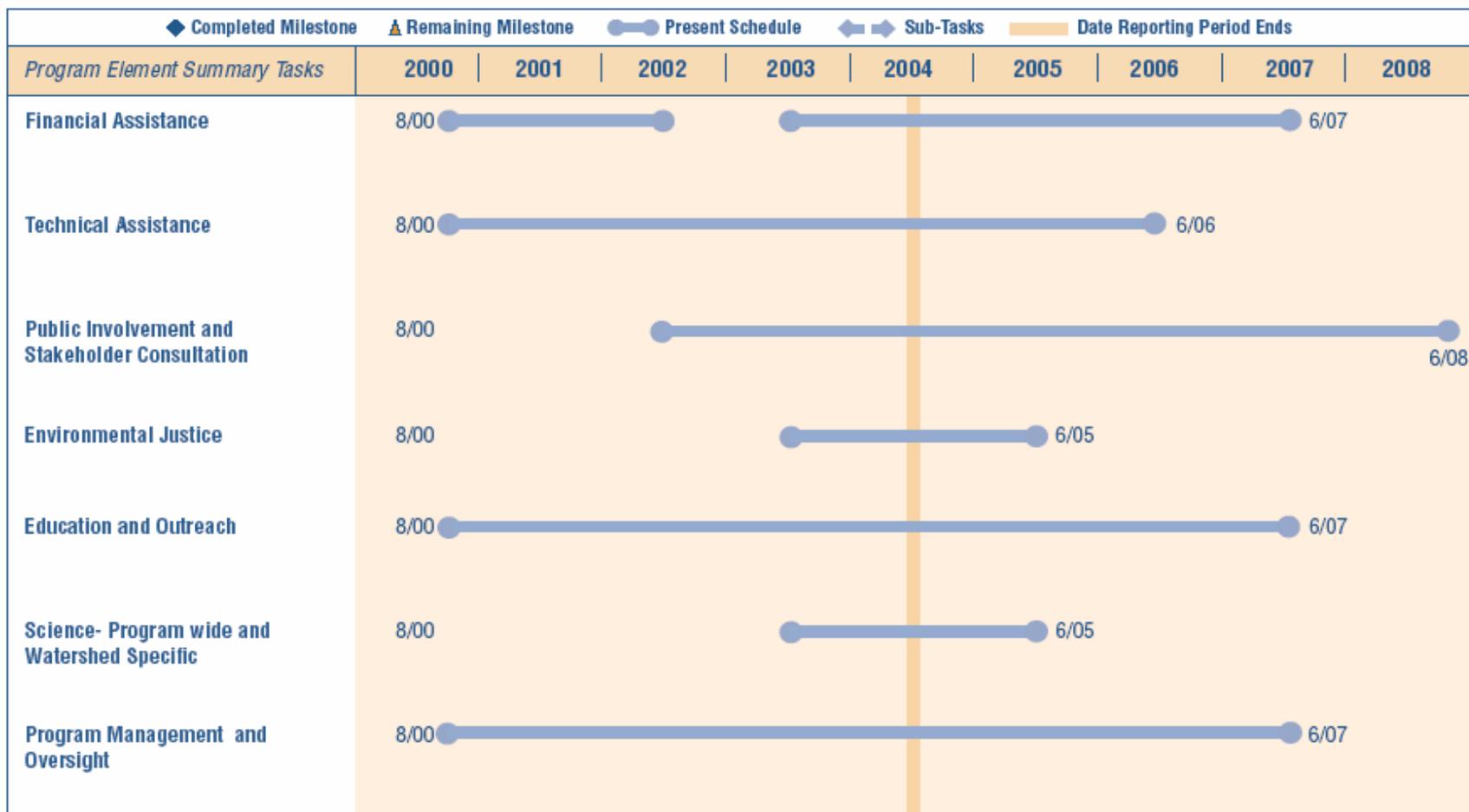
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**Integration of Cooperating Agencies** – The Watershed Program involves cooperating agencies through the Interagency Watershed Advisory Team (IWAT). Several cooperating agencies, including the CDF, Central Valley Regional Water Quality Control Board (RWQCB), Dept of Parks and Recreation, the US Forest Service and the Bureau of Indian Affairs (BIA), are involved through the IWAT.

**Schedule:** Years 6 through 9

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# Schedule



# Integrating Science, Environmental Justice and Tribal Relations

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## Science:

### Independent Science Panel

Past program efforts to establish an independent Science advisory function for the Watershed Program have been unsuccessful. With the formation of the Water Management Science Panel, a new strategy to enhance science involvement in the Watershed program has emerged. The Water Management Science Board has proposed the formation of a watershed committee within their existing Board structure. The committee will be a subset of existing WM board members, supplemented as needed with others disciplines. The plan calls for this committee to be formed and functioning by the beginning of year 6

The Watershed Program plans to engage this committee to:

- Assist in formulating a set of key issues, questions, and processes relating to watershed management.
- Assess the contribution of watershed management to the goals and objectives of the Bay-Delta Program which will contribute toward the Science Programs development of Level 3 Performance Measures.
- Develop a co-adaptive conceptual model for the Watershed Program to be used as the framework for future adaptive decision making by the implementing agencies and partners involved with management activities.

Watershed Program Science Table

Major program activities, Years 6-9	Studies and research	Analysis of existing data	Science Communication	Monitoring	Peer review	Use of Science Boards and technical experts	Cross-program coordination (note which program)	Estimated funding for science portion of this activity
Financial Assistance for Watershed Activities (Grant Program/Annual RFP)	X	X		X				+/- \$1M
Technical Assistance to local communities				X				
Technical Assistance - "Watershed Coordinators Grant program"								
Science and Monitoring [This might better be broken out here into sub-tasks?]	X					X		+/- 200K
Education and Outreach								
Public Involvement and Stakeholder Consultation								
Environmental Justice								
Integration with Cooperating Agencies								

**Descriptions:**

For each activity in the table above, please describe briefly how it fits the definition of the column heading.

**Financial Assistance for Watershed Activities (Grant Program/Annual RFP):**

**Technical Assistance to local communities:**

**Technical Assistance - "Watershed Coordinators Grant program":**

**Science and Monitoring:**

**Education and Outreach:**

**Public Involvement and Stakeholder Consultation:**

## Environmental Justice:

### Integration of Cooperating Agencies:

## Environmental Justice:

The Watershed program continues to work closely with the CALFED's Environmental Justice (EJ) Subcommittee in carrying out actions from the BDPAC-approved EJ workplan. Foremost among these actions include, improved mapping of communities and watersheds with EJ concerns. The California Dept of Forestry and fire Protection (CDF) has been assisting the Bay-Delta Authority Environmental Justice Program in developing an approach to analyzing demographic data on a watershed basis. The improved maps containing this demographic data will provide better guidance to CALFED programs and implementing agencies by identifying community concerns and impacts from CALFED program actions. Recent work products from Watershed funding grantees have demonstrated a high level of awareness on this issue.

The Watershed program will continue to support improvements and refinements in the PSP process. Criteria reflecting EJ concepts and principles must be part of what all grant applicants consider in watershed planning to help assure that the multiple benefits of program actions are distributed equitably within communities in the watersheds. In the past, this has helped to assure that watershed grant funding is distributed in underserved, underrepresented and environmentally overburdened communities. This has allowed community-based organizations with little formal experience to refine and improve their abilities to serve their watersheds more effectively. While this work needs to continue, there should be a greater emphasis on outreach and training regarding the PSP process so that funding can be distributed even more widely. It is also important to make certain that EJ interests are represented on PSP review panels as well. Because of the Watershed program's solid experience and relationships with a wide range of different watershed communities, they should take the lead in providing more technical assistance to grant proposal applicants – as well as follow-up with unsuccessful applicants to encourage their continued interest in the program and in the value of watershed restoration activities.

The Environmental Justice subcommittee further encourages the Watershed program to recognize and identify actions to support the continued use of local volunteers in watershed and other restoration work. Much of the work done in restoration activities requires dedicated and dependable volunteers. The volunteerism often allows youth, community members and those with limited time and experience to still play a meaningful role in their communities' efforts. This concept embraces environmental justice principles of inclusion and participation at the local level. It is important to maintain processes that open CALFED activities, programs and projects to as many interested stakeholders as possible.

## Tribal Relations:

The following items submitted by the CALFED tribal Coordinator are suggested to help foster more meaningful tribal input and participation on issues or concerns of the tribes. These items will be evaluated by the Program to determine their potential value in meeting program commitments to Tribes and furthering the implementation objectives of the program.

- Tribal MOU'S/Programmatic Agreements (PA's)  
The entirety of CALFED's ROD is based on PA's, which can be used in addition to MOU's/MOA's during initial consultation and final decision-making.
- Grant opportunities/educational outreach  
Notify tribal governments of grant opportunities that promote watershed restoration on tribal and adjacent lands.
- Role of the Bureau of Indian Affairs (BIA)  
Although the BIA is not a member CALFED agency, it is the lead federal agency for the protection of Indian Trust Assets (ITA's). The BIA reviews Environmental Compliance documents of CALFED water projects impacting ITA's.
- Tribal Water Programs (Clean Water Act 106, 319H, etc.)  
The majority of California Tribes have developed USEPA Tribal Environmental Programs that have extensive water protection and water quality programs that should be taken into consideration during watershed restoration planning and implementation.
- Tribal Rep's on BDPAC decision-makers available  
The tribes have been involved with CALFED for a number of years. There are currently two tribal BDPAC members. The input of these members serving on the BDPAC should be made available to all tribes with the assistance of the CBDA's Tribal Coordinator.
- Stewardship  
Tribes are very aware of stewardship concepts and have formed partnerships with many local agencies and environmental groups to promote such concepts and on-the-ground watershed restoration projects.
- Tribal Water Quality Standards  
Some tribes have USEPA approved Water Quality Standards (WQS's) and many are in the process. The exchange and sharing of such documents are necessary when it comes to upstream and downstream impacts and/or cumulative impacts that affect the tribes.

# Cross-Program Relationships

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**Ecosystem Restoration (ERP)** – Collaborate to provide watershed program support to local communities in watersheds of key interest to the ERP. The programs are also working on cross program analysis, including contributions made toward achievement of shared water quality objectives, and total investments made in promoting community based watershed management within the Bay Delta solution area. In addition, The Watershed Program will contribute directly toward implementation of working landscape objectives by carrying out agreed to actions within the Bay-Delta Authority Program Plan.

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**Water Use Efficiency (WUE)** – Collaborate to provide watershed program support to local communities in watersheds of key interest to the WUE.

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**Drinking Water Program** – Close coordination through grant solicitation process. Watershed Program is interested in helping to develop partnerships and providing capacity building support for community based efforts in “source” area watersheds important to the Drinking Water Quality Program.

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## Funding- Draft- preliminary

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<b>Watershed</b> (\$ in millions)	Yr 6	Yr 7	Yr 8	Yr 9	Total
State	\$12.0	\$0.1	\$0.1	\$0.1	\$12.3
Federal					\$0.0
Local	\$1.9				\$1.9
Water User					\$0.0
<b>Available Funding Total</b>	<b>\$13.9</b>	<b>\$0.1</b>	<b>\$0.1</b>	<b>\$0.1</b>	<b>\$14.2</b>
<b>Finance Plan Targets</b>	<b>\$43.7</b>	<b>\$41.1</b>	<b>\$42.0</b>	<b>\$41.7</b>	<b>\$168.5</b>
<b>Unmet Needs</b>	<b>\$29.8</b>	<b>\$41.0</b>	<b>\$41.9</b>	<b>\$41.6</b>	<b>\$154.3</b>

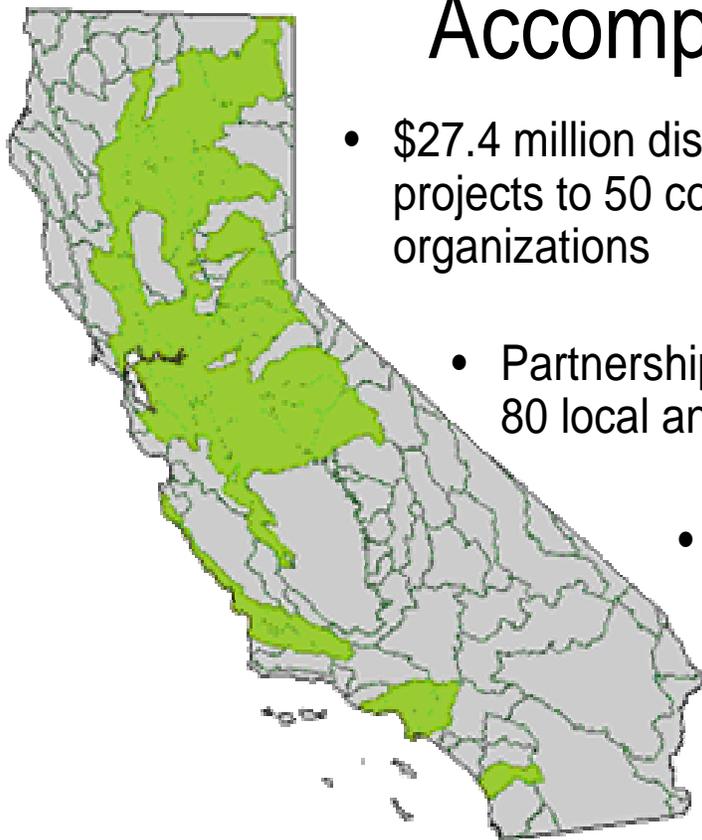
# Funding by Task Draft- Preliminary

<b>Watershed</b> (\$ in millions)	Yr 6	Yr 7	Yr 8	Yr 9	Total
Watershed Projects and Local Activities	\$8.8				\$8.8
Financial Assistance to Local Programs					
Information Development and Management					
Education and Outreach to Local Communities					
Other Program Components	\$5.0	\$0.1	\$0.1	\$0.1	\$5.3
Technical Assistance to Local Programs					
Program Management and Oversight					
Science					
<b>Available Funding Total</b>	<b>\$13.8</b>	<b>\$0.1</b>	<b>\$0.1</b>	<b>\$0.1</b>	<b>\$14.1</b>
<b>Finance Plan Targets</b>	<b>\$43.7</b>	<b>\$41.1</b>	<b>\$42.0</b>	<b>\$41.7</b>	<b>\$168.5</b>
<b>Unmet Needs</b>	<b>\$29.9</b>	<b>\$41.0</b>	<b>\$41.9</b>	<b>\$41.6</b>	<b>\$154.4</b>

# Geographical Distribution of Activities (Not updated as part of Draft)

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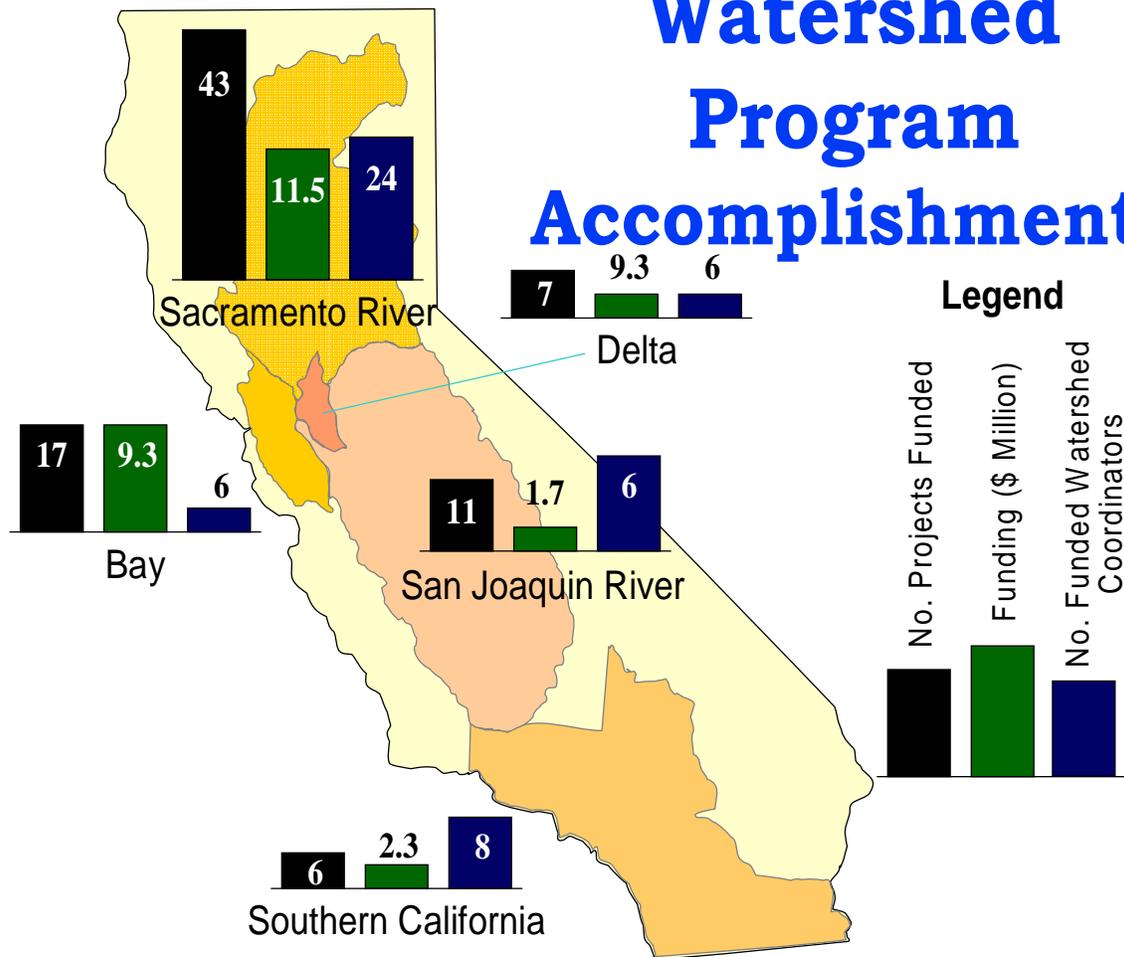
## Watershed Program Accomplishments



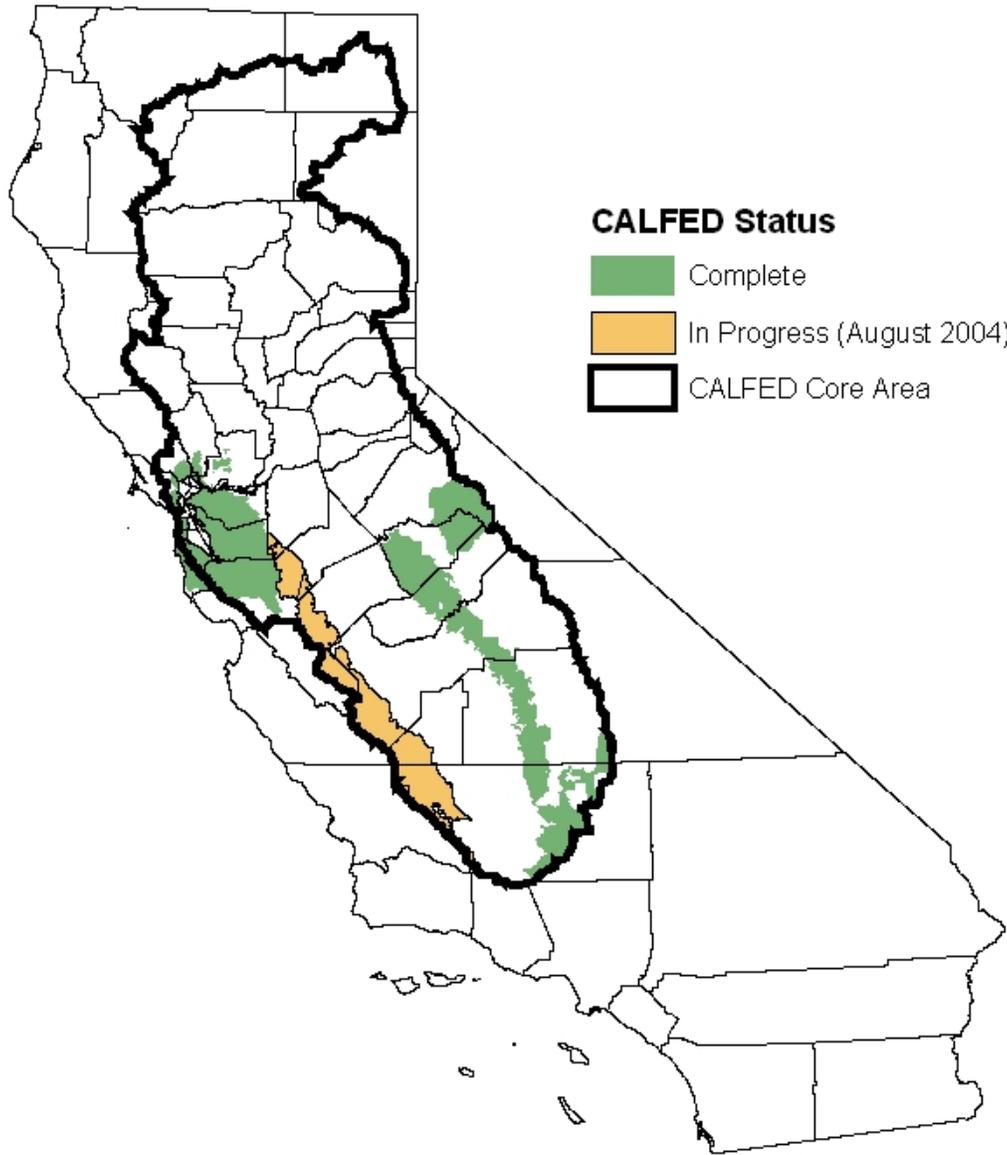
 Funded Grants

- \$27.4 million distributed through 84 grant projects to 50 community-based organizations
- Partnership Seminars have trained 80 local and agency personnel
- Support for 26 Watershed Coordinators through 2002, with 49 new positions beginning in 03-04
- 9 million acres of vegetation mapped

# Watershed Program Accomplishments



# California Land Cover Mapping and Monitoring A Cooperative Program



**DRAFT**

# California Bay-Delta Program

## Watershed Program Performance Measurement

**Implementing Agencies:**

*Resources Agency*

*State Water Resources Control Board*

*Department of Water Resources*

*Department of Fish and Game*

*US Dept of Agriculture- Natural Resources Conservation Service*

*United States Environmental Protection Agency*

*United States Fish and Wildlife Service*

June 2004



## CALIFORNIA BAY-DELTA WATERSHED PROGRAM IMPLEMENTATION PERFORMANCE MEASUREMENTS

### ***A description of the background, purpose and methods of performance based management of the Watershed Program***

#### **Introduction**

*Watershed management is the cognitive integration of human activities to achieve a desired condition, or set of conditions, within a drainage basin. It consists of projects, programs, policies, and processes implemented with recognition of dynamic relationships among the natural, cultural and economic resources affecting the watershed. The Watershed Program seeks to support communities to establish those conditions that most effectively further the mission and goals of the CALFED Bay-Delta Program. The optimum condition is one in which local watershed community goals and CALFED goals coincide, and activities planned and implemented contribute to the achievement of both.*

*This goal-oriented approach to watershed management recognizes that removing those attributes that are not wanted will not necessarily leave those attributes that are wanted. For instance, removing all pollutants from a water body will not necessarily result in a healthy fishery. Rather, it requires defining a desired condition, establishing a perspective and activities developed from that perspective, and monitoring the effectiveness of those activities relative to movement toward the desired condition. Watersheds, and the human communities that affect and are affected by watershed conditions, will change over time. Thus, management must be able to change as well, in order to maintain progress toward attaining or maintaining those desired conditions. Tracking changes, and adapting policies and activities to accommodate them, is adaptive management. Adaptive management requires real time knowledge of the effects of management decisions. The inclusion of information feedback loops is thus a necessary part of effective watershed management.*

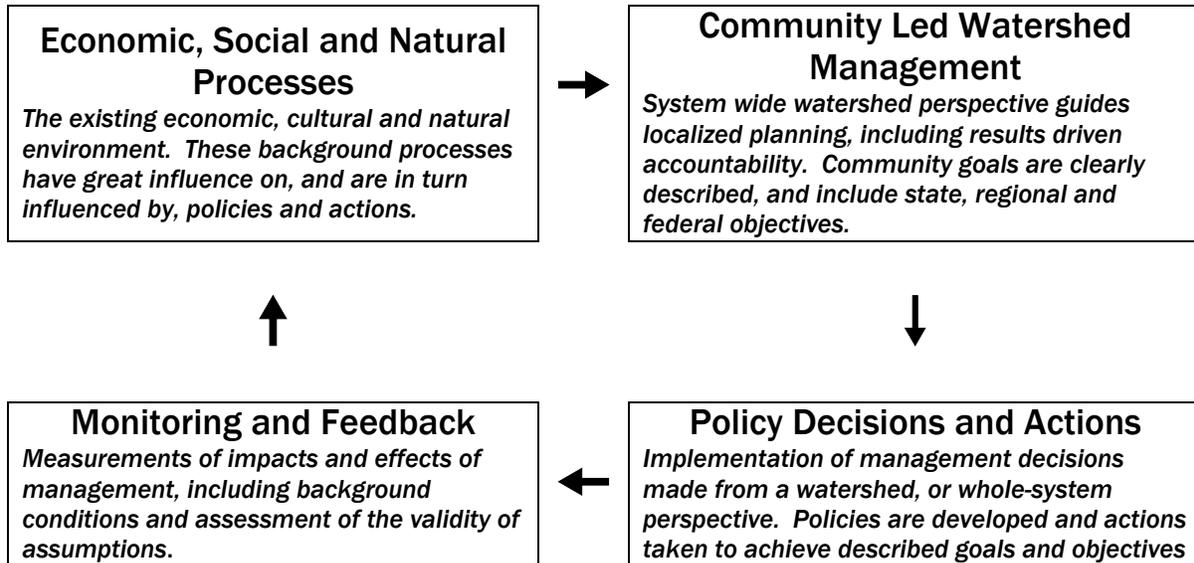
#### **An Adaptive Management Framework**

*Effective feedback must be in terms of the actual measured outcome of activities and policies. Traditionally, management has relied on quantification of outputs of a system, often at the expense of knowledge of the effectiveness of those outputs relative to their purpose. The CALFED Program is committed to the use and promotion of adaptive management of the Bay-Delta system. The management model described in Figure 1 includes measurement of effectiveness and informed reflection to keep management on track toward goal achievement.*

*“We need to measure, not count. Quantification has been the rage . . . these past fifty years. Accountants have proliferated as fast as lawyers. Yet we do not have the measurements we need.”  
*Peter Drucker; Managing in a Time of Great Change, 1995.**

**Figure 1: Management Model**

This model represents the process used and supported by Plan implementation. Learning and information based management (adaptive management) is a keystone characteristic of the Program. Promoting and supporting adaptive management takes place at all scales, from local project implementation through overall CALFED Bay-Delta Program implementation.



The Program seeks to support management processes that involve strong feedback loops to assess the effects of policy decisions and actions. Data collected will not focus on physical outcomes alone, but also process and intermediate outcomes. Owing to the difficulty of establishing causal relationships in a complex system, the Program will use a weight of evidence (see attachment 2) approach to analyzing collected information.

This document describes how the CALFED Watershed Program intends to implement its Program Plan through performance based adaptive management. It reflects on the purposes and need for performance based management, the theory that supports it, and the actual methods used by the Program to express its role in implementing the overall CALFED Program.

The Watershed Program was established to further the mission and goals of the CALFED Bay-Delta Program to restore ecological health and improve water management by working in partnership with communities at the watershed level.

“In recent years, with growing frequency and increasing success, governments at every level have come to rely on partnerships as an effective way to plan programs and provide services” (*A Government to Trust and Respect* - National Academy of Public Administration, 1999).

The Program uses a comprehensive, integrated, basin-wide approach that emphasizes and supports local participation and government cooperation at multiple levels.

**Program Goals**

The goals of the Watershed Program Plan were published in the Program Plan in July 2000. They are supported by specific objectives that help define progress toward the goals.

The goals are to:

- Provide financial and technical assistance for watershed management activities that help achieve the mission and objectives of CALFED, and
- Promote collaboration and integration among existing and future local watershed management programs.

The Program also committed to, and followed through with development of, a set of Principles (see attachment 3) to not only guide Plan implementation, but also to transcend the Program to wider applicability. The Principles are followed in Plan implementation and provide the basis for selection of projects and development of partnerships to assist with implementation. Performance measurement must provide accountability for the level to which the Program utilizes the Principles, in addition to how well it promotes actual change in community capacity for watershed management.

The major function of the Watershed Program is to facilitate the development of locally appropriate, community based strategies to maintain and improve Bay-Delta watershed conditions. The Program emphasizes the importance of locally based environmental protection and enhancement in attaining the objectives of the CALFED Bay-Delta Program. The intent is to work with and help build existing local capacity for effective watershed management. Community capacity consists of the resources, networks, organization (including local governance), attitudes, leadership and skills that allow communities to manage and sustain healthy functioning watersheds. Increased local management capacity supports the other elements of the greater CALFED Program to implement those element's projects and programs.

### **Program Performance**

The Watershed Program Plan was developed with extensive stakeholder advice and participation, and stresses the importance of partnerships in all its planned activities. Agencies, interest groups, trade groups, watershed groups, individual private and public landowners, local governments and non-government organizations worked together to produce the Plan. Through the Bay-Delta Public Advisory Committee's (BDPAC) Watershed Subcommittee (Subcommittee), the Program consistently maintains the same high level of participation in Program implementation and assessment. The performance indicators described below were selected after nearly two years of public input, to ensure that the Program performance indicators are relevant to those most involved with the implementation and/or results of implementation of the CALFED Program. Their purpose is to inform the Program of progress toward its stated goals.

Tracking progress toward achieving these goals presents challenges. Whereas it is relatively easy to track outputs such as the number of dollars spent, or number of local coordinators funded, tracking the actual results of having done so is not so easy. The Program has used a range of national and international references and examples to refine performance indicators and measurements that have a high probability to produce useful results in assessing Program performance. From a much larger set of potential indicators and measurements, a smaller group has been selected that addresses three main aspects of

implementation: administrative performance, direct impacts of actions, and accumulated long term effects of implementation.

### **Performance Indicators**

*In its summary of the Government Performance and Results Act of 1993, the U. S. General Accounting Office notes a series of practices for federal agencies to include in performance based management. A summary of the major elements includes:*

- *Involve stakeholders*
- *Assess the (internal and external) environment*
- *Align activities, core processes, and resources*
- *Produce a set of performance measures*
- *Collect sufficient data*
- *Identify performance gaps*
- *Use performance information to support decisions*

*The primary key to the process is selection of appropriate performance measures and indicators. Measures chosen must have clear relevance to Program goals. Indicators must be specific, measurable, affordable, and realistic (“do-able”).*

*Reliable performance measures provide appropriate benchmarks to track the effects of policies and activities, and to track trends over time. A good indicator reflects the essence of the performance measure, is clear and understandable, can be statistically measured at regular intervals, and is easy to communicate in concept as well as relevance.*

Successful performance measurement and management involves, typically, a series of related actions including: specifying the goals and objectives of the Watershed Program; identifying suitable progress indicators; measuring those key aspects of the structure, processes and characteristics of Program implementation; analyzing the data collected to distinguish between controllable and uncontrollable variations; publishing the comparisons and benchmarks; and, as appropriate, implementing management action to raise performance levels towards the chosen benchmarks.

This document presents a preliminary set of measurements to help determine the effectiveness of implementation of the CBDA Watershed Program Plan element of the California Bay-Delta Program. The Watershed Program Plan (Plan) outlines an approach to help attain the primary objectives of the Bay-Delta Program. Performance measurement will track how well that approach is implemented, and how well it is working to achieve the desired results.

The Program has impacts in three related areas, each of which requires some means of tracking performance. They exist within a hierarchy of scale and complexity. To be effective, the Program must make positive progress across all levels, with strong integration of the results in one area with the results in the other two.

- The first area is within the CALFED Bay-Delta Program as a whole. The Program strives to thoroughly integrate with all elements of CALFED on a watershed scale. This area is largely one of tracking administrative performance, and of tracking

levels of collaboration among elements. These measurements are technically challenging to make, although the direct causal relationship with Program activities to results is stronger than the tertiary effects on watershed condition described below.

- The second area is the support for increasing management capacity in local and regional watershed communities. Performance is related to the cohesiveness and breadth of management perspectives and resources, and to the effective execution of management itself. This is the area where Program capacity building activities are dominant. Measurements in this arena will be an important link to assess potential causal relationships between the first and third areas of measurement.

- The third area is in affecting measurable change in the physical, biological and chemical characteristics of the Bay-Delta watershed system. Information gathering to assess the impacts of Plan implementation will be done largely by others who are able to use the increased management capacity from Program activities to effect changes. The time scale for this level of assessment is extended, with quantification of performance not likely for ten years or more. While these measurements will be technically more available, the direct causal relationship to Program activities will be more difficult, owing to the many diverse factors involved, and to the variety of active change agents. In many cases, correlations and associations may be described, with causal relationships assumed, but not directly proved.

Basic elements of performance measurement are described in multiple programs nationally and internationally. The following elements used by the Program are common to all major performance measurement approaches reviewed by the Program, including that of the US General Accounting Office (*Executive Guide: Effectively Implementing the Government Performance and Results Act*).

**Figure 2: Elements of Performance Measurement**

**I: Define the mission and desired outcomes**

**Practices-**

1. *Involve stakeholders*
2. *Describe the internal and external environment*
3. *Align priorities, processes, and activities*

**II: Measure performance to gauge progress.**

**Practices-**

1. *Produce measures at each organizational level that:*
  - o *Demonstrate results, and*

- *Are limited to the vital few*
- 2. *Collect data*

**III: Use the assembled data to learn, adapt and manage**

## **Practices-**

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1. *Analyze and report information*
2. *Identify performance gaps and imbalances*
3. *Build capacity where needed*
4. *Integrate management actions*

### **I: Define the mission and desired outcomes.**

The Program mission is to provide substantive support to implement the CALFED Bay-Delta Program. That mission was established through the development of the Watershed Program (originally the Watershed Strategy) as one element of the overall CALFED Bay-Delta Program. The desired outcomes were subsequently determined in the development of the Program Plan, published in July 2000. The desired outcome for the Program is improved management of the Bay-Delta watershed relative to the purposes of CALFED. Management, unlike projects that result from management decisions, has no end point, but does have qualitative attributes that can be tracked.

## **Involve stakeholders**

Through its extensive public and inter-governmental interactions, the Watershed Program has defined the goals, objectives and desired outcomes in its Plan. It functions as a strategic plan for Program implementation. It is further defined by the construction of annual and mid-range (4-5 years) plans during the course of full implementation. Agency stakeholders participate through the Interagency Watershed Advisory Team (IWAT). Non-agency participation is through the public stakeholder oriented BDPAC Subcommittee. Typically, the IWAT members also participate actively in planning with the Subcommittee.

The Program functions under basic principles that are deeply rooted in substantive and substantial stakeholder participation in all phases of Plan implementation, assessment and adjustment.

## **Describe the internal and external environment**

The Program continually assesses conditions in the internal Program situation and the extended external environment of CALFED. That is done through multiple avenues, including interaction with CALFED Program Managers, IWAT, Subcommittee meetings, and through other needs assessment such as specific analysis of applications for grant funding. State and federal budget changes, funding source changes, changes in law or procedure, and changes in annual implementing agencies are examples of external shifts

to which implementation must adjust in order to continue progress toward desired outcomes.

## Align priorities, processes, and activities

The annual and mid-term priorities for Plan implementation are regularly aligned to best pursue desired outcomes given changes in both internal and external realities, and after review of progress to date. This requires extensive interaction with stakeholders and a willingness to be creative. It also requires a commitment to change when change is necessary to maintain maximum beneficial combination of Program resources and assets.

Changes in Program alignments are done through consensus among IWAT, Subcommittee participants, and the overall CALFED Program. That consensus is informed in part by the results of performance measurement, response from involved partners, and from analysis of outputs from various Program activities.

### **II: Measure performance to gauge progress.**

Measuring performance success is crucial to guiding Program progress. It is also perhaps the most difficult of the steps involved in performance-based management. Selecting a few vital indicators among a very large number of potential measures requires a great deal of forethought and, eventually, experience. A complex program mission as that of the Watershed Program has multiple layers of scale and complexity. Each level has different important markers, and each has a different scale of time and complexity of measurement. Yet, to be effective, the end set of indicators must be small enough to be reasonably tracked, and complete enough to produce reliable, actionable information. Each level of organizational scale (from local project to overall CALFED scale) may use different measures or goals from those of the Program, in order to produce useful scale-appropriate returns of data. The challenge for the Program is to isolate those few critical indicators that will produce an overall picture of aggregate progress toward the Plan's stated desired outcomes.

## Produce measures at each organizational level that demonstrate results and are limited to a vital few

The Program itself has minimal organizational levels. The environment in which it is embedded, and upon which it hopes to have impact, however, consists of multiple complex layers. The challenge for the Program is to find those vital indicators that will tell the Program how well it is achieving its mission and goals, as well as how effectively it executes various activities. The Program has three major levels of organizational reference: local watershed communities, regional communities as outlined in the five major CALFED regions, and CALFED as a whole. The Program is structured to enhance the management capabilities and results locally to promote regional impacts, the aggregate of which will result in positive contributions to the achievement of CALFED goals and objectives. Early Program emphasis is on the first level – the enhancement of the capacity of local watershed communities to effectively manage watershed resources.

The second is fostering communication and partnerships regionally that will contribute to region-wide improvements in condition, and the third is extending the growth of management expertise into improvement in Bay-Delta system-wide conditions. Each is measured on a different time scale, and with a different set of performance indicators.

In addition to the overall, higher level indicators listed below, the Program will also track various outputs from individual Program activities, such as the grant program, local coordinator support program, and its educational efforts. Those measurements will also include some outcome related results.

## Collect data

Each scale also has variation in the parties and entities most likely to be gathering the data necessary to gauge progress. Each level of information gathering is necessary to track progress at the appropriate level. From among the multiple sources of information, the Program must find the few indicators that will track both short and long term results of implementation. In some cases, multiple local data can be collected and aggregated. In others, the local data may need to be interpreted and presented differently to give useful information at the next scale of organization. This synthesis tends to be a longer-term issue, and will gather more definition with time and experience.

Many of the data needs for effective Plan implementation will be gathered by entities in partnership with the Program. Those include other CBDA Program elements, grant funded partners, implementing agencies, and others involved with local watershed management in the greater Bay-Delta system. The Program will gather some data directly, some through funded projects and programs, and some by special arrangement with other specific programs and through directed actions by the Program. The indicators outlined below trend heavily toward human activities, policies, programs and practices that can have a large impact on watershed condition and productivity. This type of data predominates in Program performance measurements.

### III: Use the assembled data to learn, adapt and manage

Watersheds are complex systems, with a limited range of predictability. Management must thus be quickly adaptable to change, and flexible enough to promulgate change when necessary. That is only possible when sufficient information is readily available to notice change or the need for change, to identify it, and to determine how best to deal with it. This requires innovative thinking, and recognition of the inherent complexity. It also requires openness and transparency to enable a diversity of perspectives to bear on the analysis and reporting of the effectiveness of performance.

“ . . . the distinction between innovation and optimization looms large. Optimization in complex adaptive systems is rarely possible, and it is often not even meaningful. What would be the optimal organization for an animal inhabiting a tropical forest? Significant innovation requires discovering a combination that is intermediate between obvious cut-and-try and the infeasible optimum.” (John Holland, *Emergence – from chaos to order*, 1998)

Program performance assessment and adaptation decisions are guided in part by the following assumptions:

- The state of natural resources and natural

resource systems at any given time is the emergent result of cumulative management decisions (frequently made independently of one another) at many scales in the context of natural variation in climate and other natural phenomena. Some of those decisions are directly related to natural resources, such as habitat restoration, stream alterations, or resource extraction. Other activities are not directly related, but can affect the state of the physical environment. Zoning decisions, economic expansion or contraction, changes in general recreational preferences, and transportation infrastructure design are examples of the latter.

- Virtually all sub-watersheds in the Bay-Delta watershed are dominated by human activity. The effects are generated principally on the basis of individual management decisions on both privately and publicly held lands. Historically, land management decisions have been made based on nearby characteristics and limited information regarding possible ecological consequences, and frequently are to deal with past events and/or short term results.
- Increased information and improved accessibility to additional accurate information will promote decision making at all levels that is more likely to result in long-term sustainability of watershed resources. The resulting sustained resource health will significantly further the achievement of Bay-Delta Authority objectives.
- For effective watershed management to achieve those objectives, knowledge of emergent conditions resulting from interactions of watershed components and processes is equally important as knowledge of discreet components and processes.
- Information generated through monitoring should be directly useful, and easily available to local decision makers (public or private) for use in routine management. Data should also be gathered and presented in such a way as to make it available for direct use in decision making by as wide a range of data users as possible.

## Analyze and report information

Analysis of Program performance consists of active interaction with Program implementing agencies, and other stakeholders. When sufficient information accumulates to guide adjustment decisions, the Program develops a summary report for review. The report is circulated for review and comment among the major Program partners at the Subcommittee, the IWAT, the CBDA Board and the Science Program. The Program implementation partners use the recommendations resulting from open discussions of the summary results to develop adjustments in the annual work plan for the Program. Adjustments may also be made in any appropriate long range plans for implementation. Any changes will maintain consistency with the commitments made in the Record of Decision and supporting documents. As necessary, new performance measures, or adjustments to existing measures, will be developed coincident with any changes in priority and planned actions.

This performance based assessment will allow the Program to respond positively to changes in condition in the many variables involved in watershed functions. The ongoing

assessment process will help keep the Program focused on the desired outcomes of Program implementation and on the major objectives of the overall Bay-Delta Program. Qualitative assessment of Program effectiveness will involve a range of experts from both agencies and non-government interests. The Program anticipates that long term results will help confirm or adjust many of the necessary underlying assumptions.

## Identify performance gaps and imbalances

Program status reports, and the comments and recommendations from its review, are used to examine and define those areas of interest in which the Program is making progress, as well as those on which it needs to provide more emphasis. The report recommendations developed help keep the Program moving forward in a balanced manner, in terms of geography, topic, and the other CALFED elements. Gaps and imbalances in Plan implementation will be outlined and included in both annual and long-range implementation work plans.

## Build capacity where needed

As the Program refines its implementation based on status and performance reports, it will need to adjust those areas in which it provides support. That will from time to time require specific expertise in the areas identified as needing attention. The Program will first look to the other elements of CALFED and its implementing agencies for the needed expertise and/or resources. It will seek assistance from other areas, including contracts as necessary with non-government organizations, for those left unfilled by arrangement with the other CALFED elements. Decisions regarding needed expertise acquisition will be made through the IWAT, with active participation by the Subcommittee.

## Integrate management actions

Management action adjustments resulting from the performance assessments will be tempered with lower level performance and output data gathered during the course of implementation. Specific parts of the Program, including the educational initiatives and grant programs, will generate data giving specific information regarding implementation effectiveness of those aspects of Plan implementation. That information will be put into the context of overall Program evaluation, and will result in changes to the specific individual parts of Plan implementation as necessary. Those changes will help align each action with the overall direction of Program adjustments, such that the education, financial support, and technical service functions of the Program will be mutually supportive. Information collected on these more specific aspects of the Program will track the progress each aspect makes relative to the objectives stated in the Program Plan.

*The following Performance Measurements are intended as a beginning source of information to assess Program effectiveness. The data collected regarding Performance Measurement will provide the Program with invaluable feedback regarding effectiveness of Plan implementation.*

<b>Program Goal</b>	<b>Desired Outcome</b>	<b>Performance Measure</b>	<b>Indicator</b>	<b>Baseline</b>	<b>Target</b>
Promote collaboration and integration among existing and future local watershed programs	Improved collaboration between public and private parties	Tributary watershed management partnerships with continuous activity.	Diversity of involvement and continuity of local watershed initiatives, by tributary watershed	Known efforts as of August 2000 with at least 3 years continuous activity	Active, diverse participation in community based watershed management for 11 tributaries to the Bay-Delta.
	Maximized benefits to the CALFED Bay-Delta Program	Extent of Watershed Program supported activities that address multiple CALFED Program objectives	Percent of supported projects that help achieve objectives of three or more CALFED elements	Status as of August 2000	Greater than 80% of supported projects further the objectives of three or more CALFED elements
Provide assistance for local watershed management	Improved local watershed planning and management	Effective support for local watershed planning and management	Percent area of the Bay-Delta watershed with completed assessments	Status as of August 2000	Current watershed assessment for at least 80% of the Bay-Delta watershed
	Sustained local watershed management	Active participation in watershed management by local government and land use decision makers	Level of local government involvement in ongoing watershed initiatives, by tributary watershed	Status as of August 2000	Active involvement of cities and counties in watershed management of 11 tributary watersheds.
	Improved watershed ecosystem maintenance and enhancement	Positive changes in characteristics of tributary hydrographs	Hydrograph changes relative to selected reference watersheds	Hydrographs as of August 2000	Maximum reasonable correspondence between tributary hydrographs and reference hydrographs

### **Data Sources**

Measurements and data collection for the performance measures outlined above will come from four significant sources.

- Direct measurements undertaken by the Program
- Measurements taken by supported projects, such as grant recipients
- Data collected directly and indirectly by other elements of the CALFED Bay-Delta Program
- Data collected by local, state and federal agencies.

The Program and implementing agencies will undertake the gathering and sorting of the various data sets directly, and/or through contracting with other government or non-government entities for assistance. The Program will work closely with other CBDA Program elements to ensure that data sharing is available, appropriate, and useable.

Additional data about the physical condition of the watershed will be collected from local monitoring efforts, state and federal programs, other Bay-Delta Authority elements, and projects supported with funding from the Watershed Program. In conjunction with the other Programs, and with the support of the Science Program, the Program will assist with long term assessment of status and trends in the greater Bay-Delta system.

### **Data Use**

The information collected will be consolidated to form the foundation for an independent Program Performance Audit from an outside entity to be selected through a competitive bid process. The data, in conjunction with the results of periodic audits, will be used to guide performance management of the Program (adaptive management). The Program recognizes the difficulty of tracking progress in watershed management. Complex causal processes, multiple physical and social variables, interactive effects and feedback loops, and non-linear responses all complicate direct assessment of Program impact on the Bay-Delta system. The Program will use a “weight of evidence” approach to assess correspondence of actions *vis a vis* system responses where it is not possible or reasonable to measure direct causation. In some cases, a relative impact may be estimated where direct impacts may be accompanied or assisted by actions taken by others.

The Program will also use the information to assess relative value received from the expenditure of Program resources, in order to help discern areas of future priority attention. The Program will develop a narrative assessment of the level of effort (financial and non-financial) expended; what was accomplished through the expenditure (both outputs and outcomes), and; the relation of effort to outcome. Additional information in periodic performance assessment will outline the elements of Plan implementation that are substantially within the Program (such as project grants, directed actions, and Program staff activities), and elements that are peripheral to, or entirely outside of, the Program’s influence (such as weather, state and federal policy shifts, and economic conditions). Estimates of the role of outside influences on Program performance will be included to help describe additional context for the performance assessment.

## **Attachments**

**1: Getting There: Building capacity through assessment and planning to create a basis for adaptive management**

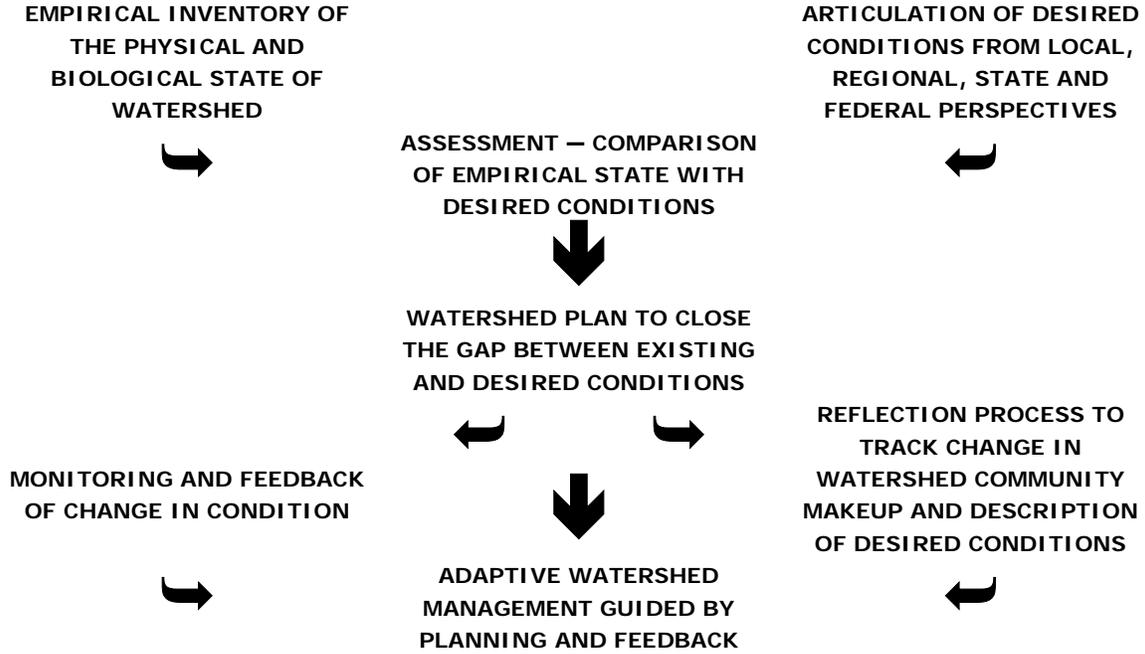
**2: Discussion of “weight of evidence” approach**

**3: CALFED Watershed Program Principles of Participation**

**4: Reference Bibliography**

Attachment 1

Getting There: Building capacity through assessment and planning to create a basis for adaptive management.



This chart illustrates the relationships among goals, policies, actions, and results-based accountability for actions taken to achieve watershed goals.

Information flow and use is of great importance in effective systems management. Real time data, widely shared and used, helps create management and management adjustments that are more harmonious than management based on discreet, independent data sources of variable currency. The combination of results-based science data and decision-based management actions provides support for timely, accurate and productive progress toward desired conditions within a watershed community. Extensive interaction between science and management provides support to both, and generates continual improvement in the outcomes of management, policies, processes and actions.

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## Attachment 2

### Weight of Evidence

*“This is a kind of holistic thinking, or organismic thinking, in which everything is related to everything else and in which what we have is not like a chain of links, or like a chain of cause and effects, but rather resembles a spider web or geodesic dome in which every part is related to every other part. The best way to see everything is to consider the whole darn thing one big unit.” Abraham Maslow*

In a system with a large number of variables, with each varying according to its own stimulus, a determination of cause and effect relationships is often difficult, if not impossible. A watershed and its community is such a system. Decisions are frequently necessary without completely certain data to support them, or with data certain from different sources that conflict with one another. The “weight of evidence” approach is a technique to help improve the likelihood of the making the most prudent decision, given the data available. It is frequently used in law and in medicine, but also has applicability in watershed management.

**Issue:** Results of scientific studies and/or expert opinion are difficult to interpret with certitude. What criteria can be used to evaluate the veracity of scientific conclusions and expert opinion?

**Background:** Evaluating causal criteria that link a stimulus with a specific result is surprisingly complex. This often involves integrating data from many studies that differ in terms of experimental conditions and in the endpoints that are examined. Many scientific issues are also fraught with conflicting findings, making it difficult to determine what the truth may be. What is needed is a set of criteria that can be used to evaluate the opinions and data relative to a given management decision.

**Tendencies:** When attempting to determine the level of impact of Program activities on actual outcomes in the watershed, changes in the watershed over time should be considered. Did the changes occur since the action(s) was taken? Has the change accelerated subsequent to the action(s) compared to before?

Are there alternate explanations for any perceived change? Because watershed systems react to different stimuli at varying rates in time, a look at other possible direct causal agents is useful. Did the change begin prior to Program activities?

**Consistency:** If Program actions are indeed playing a causal role in changes in the watershed and its community, then it is expected that results from activities operating in relative independence from each other would show similar effects. If similar management decisions made following a Program action do not show other major sources of stimulus, it would be an indication that there may not be other major factors at play beyond the Program action, and thus the evidence either in favor of or against a positive Program influence has “weight.”

**Plausibility:** The issue of plausibility is addressed by examining multiple potential areas of stimulus that have a likelihood of stimulating actions similar to those taken. This examination should be placed into the context of local goals and local mechanisms of decision making.

**Reversibility:** An assessment (through interviews, observation, or actual trial) of whether the activity or policy would continue if Program stimulus was withdrawn will yield additional evidence of causation.

**Cumulative strength of evidence:** The areas of investigation listed above provide a framework to enable a diverse group of reviewers to make a judgment regarding the overall strength of evidence that there is a relationship between Program actions and measured or observed changes in watershed management of the Bay-Delta system. It may also highlight areas of investigation in which the Program can invest to raise the level of confidence in the determinations of effectiveness made using this technique.

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## Attachment 3

### Principles of participation

The Watershed Program Principles represent an underlying framework for Plan implementation. They state that the Watershed Program seeks partnership projects that:

- ✓ Are community based and
  - Promote community and landowner involvement,
  - Have demonstrable community support
  - Contribute to ongoing watershed management,
  - Foster the development and maintenance of local watershed efforts,
  - Reach out to and encourage participation of local leadership, Reach out to and encourage participation of individuals with diverse interests, and
  - Foster collaboration among multiple interests.
- ✓ Collaborate and are consistent with the CALFED Bay-Delta Program implementation, and that
  - Are consistent with the goals and objectives of CALFED,
  - Promote information exchange with CALFED, and
  - Promote local community involvement in CALFED implementation
- ✓ Address multiple watershed issues, and
  - Address multiple ecosystem issues,
  - Are consistent with related resources protection activities and applicable regulations,
  - Contribute to beneficial environmental results,
  - Improve ecosystem values and watersheds that directly or indirectly affect the Bay-Delta system, and
  - Are consistent with general principles of good watershed management.
- ✓ Are coordinated with and supported at multiple levels to
  - Enhance coordination between CALFED, government agencies, and local community groups.
- ✓ Provide for ongoing implementation and
  - Identify performance measures to achieve goals and objectives,
  - “Leverage” other funding sources and institutional mechanisms, and
  - Possess the flexibility to allow for adaptive management.
- ✓ Include monitoring protocols that
  - Measure success and are consistent with CALFED monitoring protocols as they are developed,
  - Support coordination of local and regional monitoring efforts, and
  - Promote citizen monitoring programs where appropriate.
- ✓ Increase learning and awareness through
  - Promoting conservation education in local watershed, schools, or to the general public,
  - Enhance local skills in watershed management,
  - Promote technology and information transfer between local watershed efforts, and
  - Deliver technical assistance and information to local watershed efforts.

## Attachment 4

### Reference Bibliography

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**Appendix 2**

# CALFED Bay-Delta Program Watershed Program Status Review (Years 1 – 4)

**Implementing Agencies:**

Resources Agency

State Water Resources Control Board

Department of Water Resources

Department of Fish and Game

US Dept of Agriculture- Natural Resources Conservation Service

United States Environmental Protection Agency

United States Fish and Wildlife Service

United States Environmental Protection Agency

United States Fish and Wildlife Service

June 2004



## Program Goals and CALFED Record of Decision Commitments

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*“The Watershed Program will use a comprehensive, integrated, basin-wide approach with a goal to improve conditions in the Bay-Delta system. This Watershed Program will emphasize local participation and provide financial and technical assistance for local watershed stewardship, and promote coordination and collaboration among watershed efforts.” CALFED Record of Decision; August 28, 2000*

The Program assumes that community based and locally led watershed management is essential to attaining the goals outlined for the CBDA. Local participation in managing the use and maintenance of the natural resources in the Bay-Delta system is a highly effective means to ensure its permanent health and sustained productivity. The Program considers the Bay-Delta system as all those areas that contribute to or receive water from, the San Francisco Bay and Sacramento-San Joaquin Delta, and that have an effect on the reliability and quality of water-related resources.

The goals described in the Program Plan are to:

- o Provide assistance – both financial and technical – for watershed activities that help achieve the mission and objectives of the CBDA.
- o Promote collaboration and integration among existing and future local watershed programs.

## Record of Decision Commitments

The ROD describes two specific commitments from the Program:

- Establish a grant program to solicit, evaluate and fund local projects that contribute towards achieving California Bay-Delta Program goals
- Develop Watershed Program performance measures and monitoring protocols consistent with the Science Program.

## I: ESTABLISH A GRANT PROGRAM

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The Grant Program established has 3 major elements:

*Project proposal solicitation*

*Watershed coordinator support*

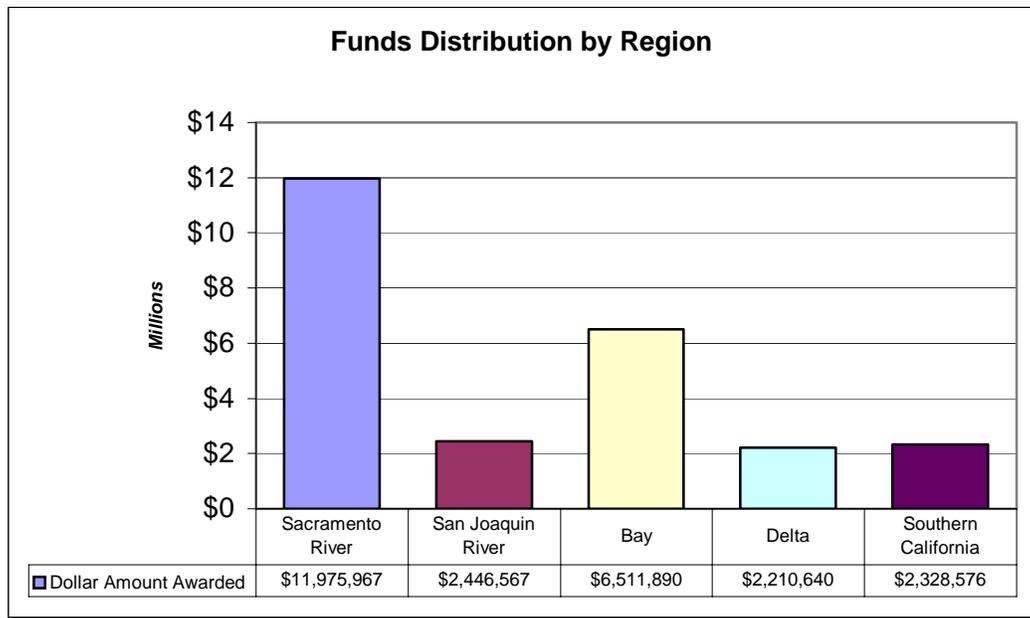
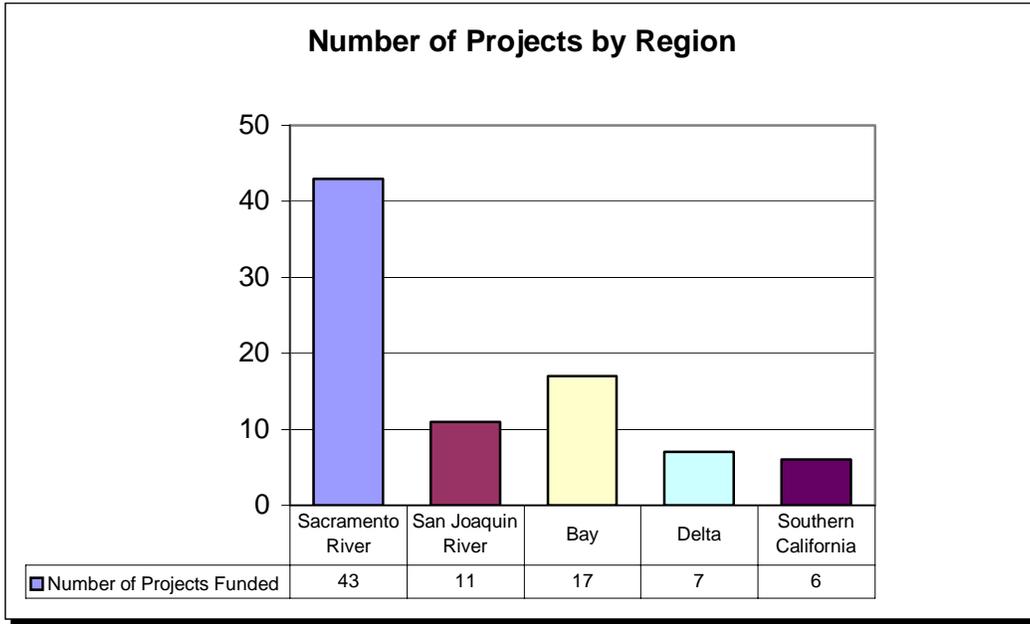
*Watershed Partnerships Seminar scholarships*

Other activities include grants to the California Department of Forestry and Fire Protection for vegetation mapping, and budget support to four other agencies to fund technical assistance staff to the Program.

# Grant Program Implementation Findings

## Proposal Solicitation Element

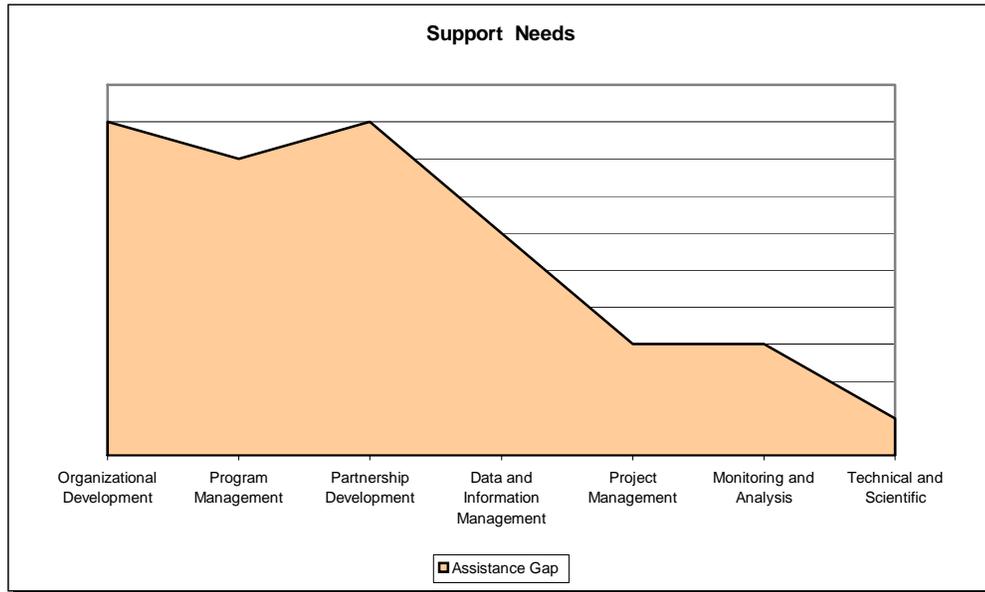
1. Project awards have been distributed throughout the Bay-Delta system, as noted in the ROD, and in the distributive criteria developed through the Bay-Delta Public Advisory Committee (BDPAC) Watershed Subcommittee (Subcommittee).



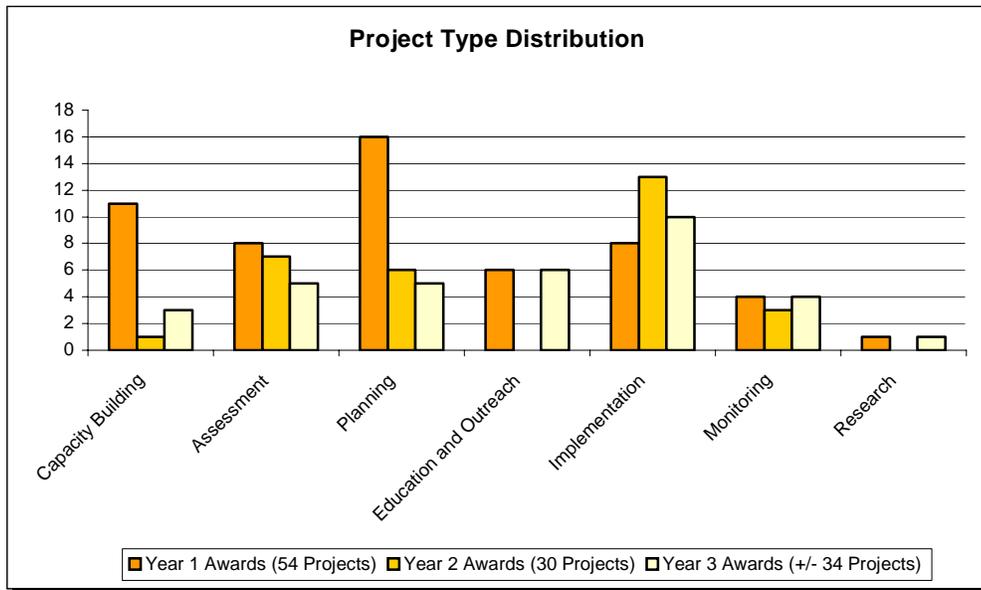
2. Connections with other CBDA Program Elements are increasing
  - Joint applications and proposal reviews have been done with WUE; DWQP; ERP
3. The first year review and selection process was transparent and effective
  - Application and review criteria were closely connected to Program Plan
  - There was a wide diversity of reviewers
  - The regional focus of technical review panels was beneficial

## WATERSHED PROGRAM STATUS REPORT

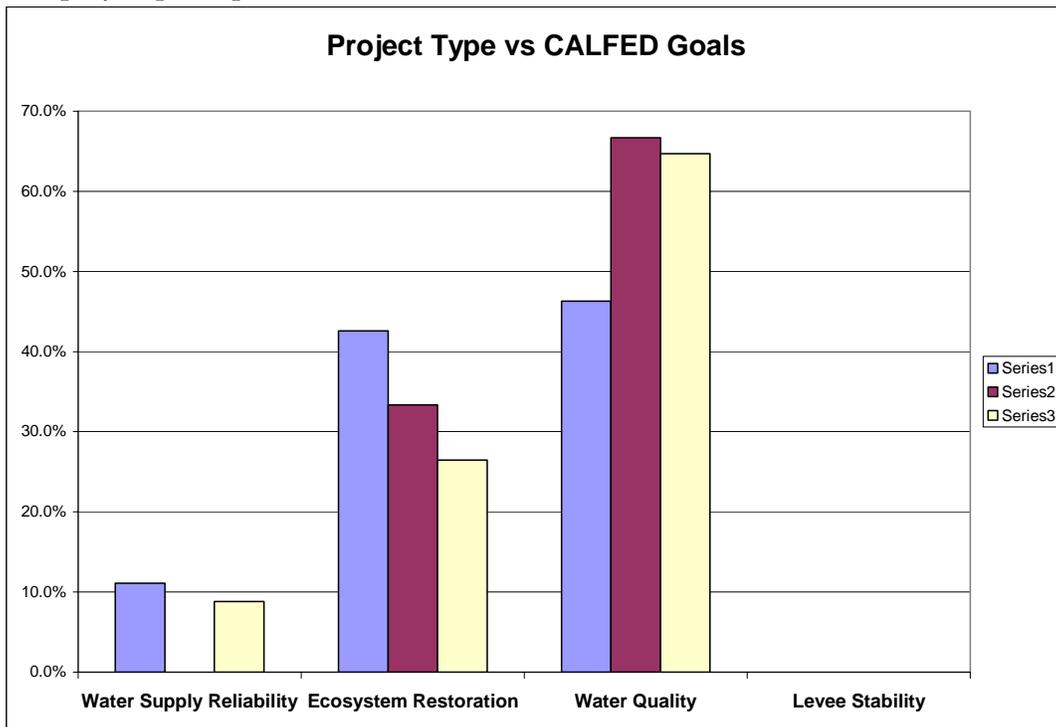
- Multiple stages of review for recommendations to the agency responsible for funding decisions enhanced the final recommendations
4. The second process retained much of the first year benefit, but was less effective, owing to fund source restrictions, and contracting agency characteristics
  5. The first year projects are returning valuable results
    - Many projects have made presentations to the monthly Subcommittee meetings
    - The Program developed a catalog of first year funded projects
    - Effective project products such as the Contra Costa Atlas, Capay Valley Vision plan, Placer County principles development, and the San Joaquin River Parkway Trust survey demonstrate values in project implementation
  6. Distribution among project types is not in balance
    - The fund source shift greatly reduced topical and entity type eligibility, and had a negative impact on priority pursuits



***The above graph represents the gap between stated needs of watershed management practitioners and the ability of state agencies to deliver those needs. It does not quantify the level of requested need, but the relative difference between what is requested and what is available. Information is from interviews, grant application responses, and surveys with county and special district officials, watershed groups, industry groups, and agricultural interests.***



- Changes in the proposal solicitation package development strongly biased project submittals toward implementing non point source water quality compliance related projects
- Change in contracting agency had negative impact on priorities, scheduling, and partnerships, and diminished direct contact between the Program and the awarded project principals



7. Available technical assistance for proposal development is insufficient
  - The intended full component of 16 technical assistance positions was not realized (only 5 positions filled)
  - There are increasing requests for Watershed Program orientations from throughout the Bay-Delta system

## Grant Program Implementation Findings

### Watershed Partnerships Seminar Element

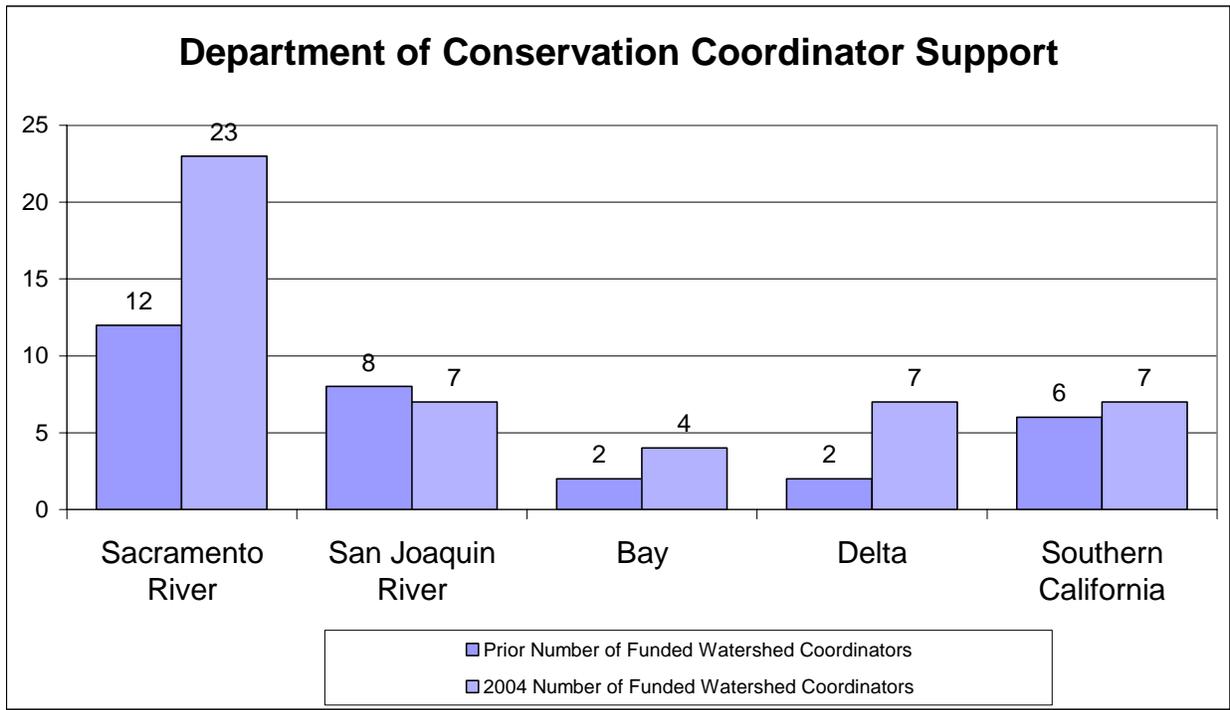
- A total of 184 nominations were received for two classes
  - Full scholarship grants were awarded to 78 of the nominees
  - The classes were the two highest rated Watershed Partnerships Seminars since 1996
1. The Seminar has been a useful aid in building local capacity to effectively manage watersheds affecting the Bay-Delta system
  2. Seminar alumni have had a noticeable impact in their local communities
  3. Irregular scheduling has diminished the ability for potential applicants to attend

## Grant Program Implementation Findings

### Watershed Coordinator Element

The DOC began to successfully support local watershed coordinators through their grant program to Resource Conservation Districts (RCD) in 2000. They funded 30 RCD coordinators for a total of \$2,000,000. The Program supplied the funding for the second round of coordinator grants to RCD's. The most recent round of coordinator grants were open to non-RCD applicants, as well. It was also funded with support from the Program.

1. Coordinators in place through project funding and/or Program funds implemented through the Department of Conservation (DOC) have generated value in local watersheds
2. The project with DOC has been an effective partnership
  - Over 50 coordinators have helped further local organization of watershed management programs
  - Contracts and contract management through DOC have been reasonable, timely and responsive, averaging 90 days or less for completion
  - Coordinator support has promoted increased local partnerships with the Program



2. The project has not yet fully developed connections between the coordinator activities and the goals and objectives of the Program.

- Not all coordinator positions have been aware of the CBDA Watershed Program connection
- Program performance indicators are not always well aligned with DOC performance indicators, and vice versa.
- Connections between the coordinators and the Program have improved in the second round of Program financial support

3. Work plans developed for the coordinators have not consistently related results to the implementation of the Program Plan

## RECOMMENDATIONS

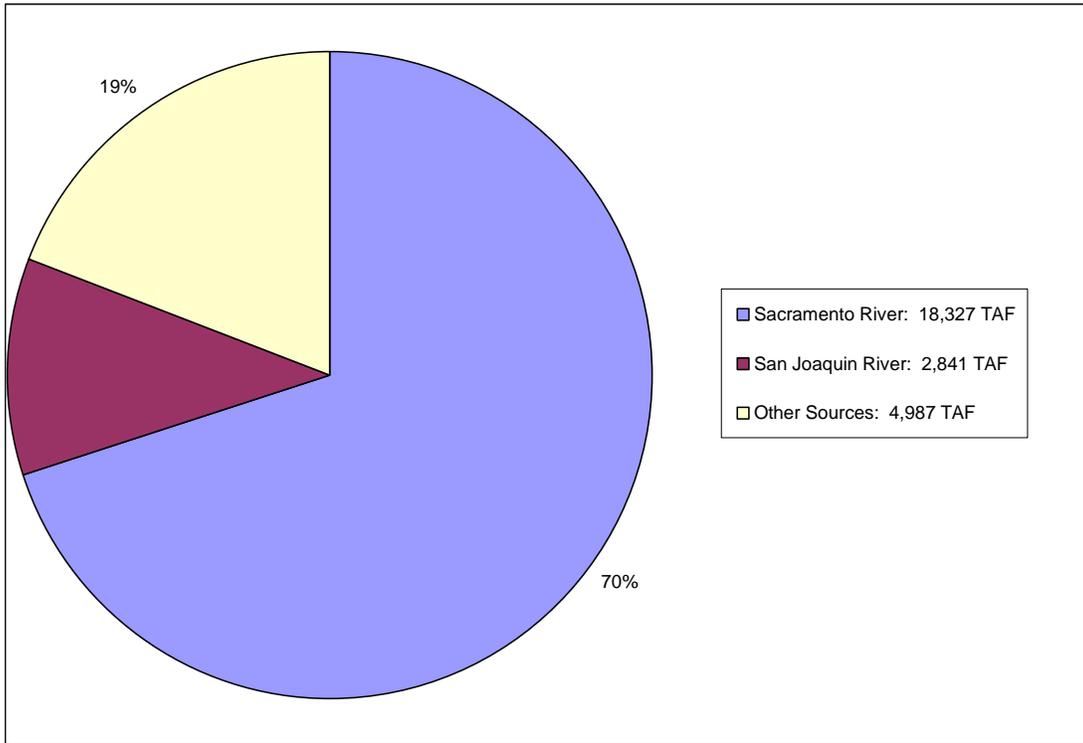
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### Grant Program Proposal Solicitation Recommendations

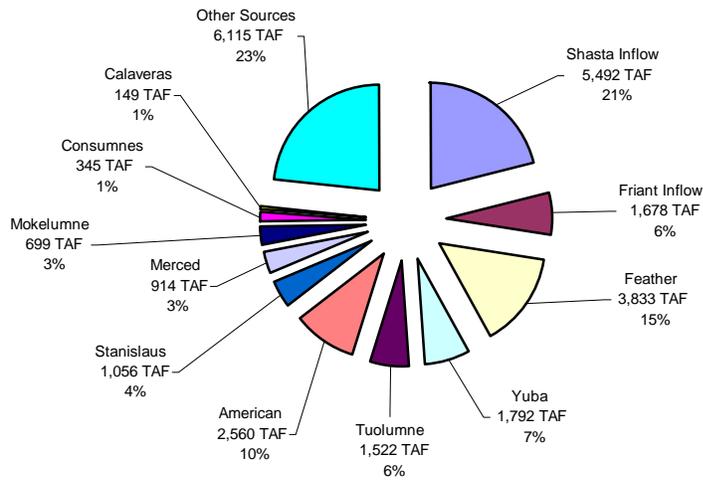
#### Proposal Solicitation Element

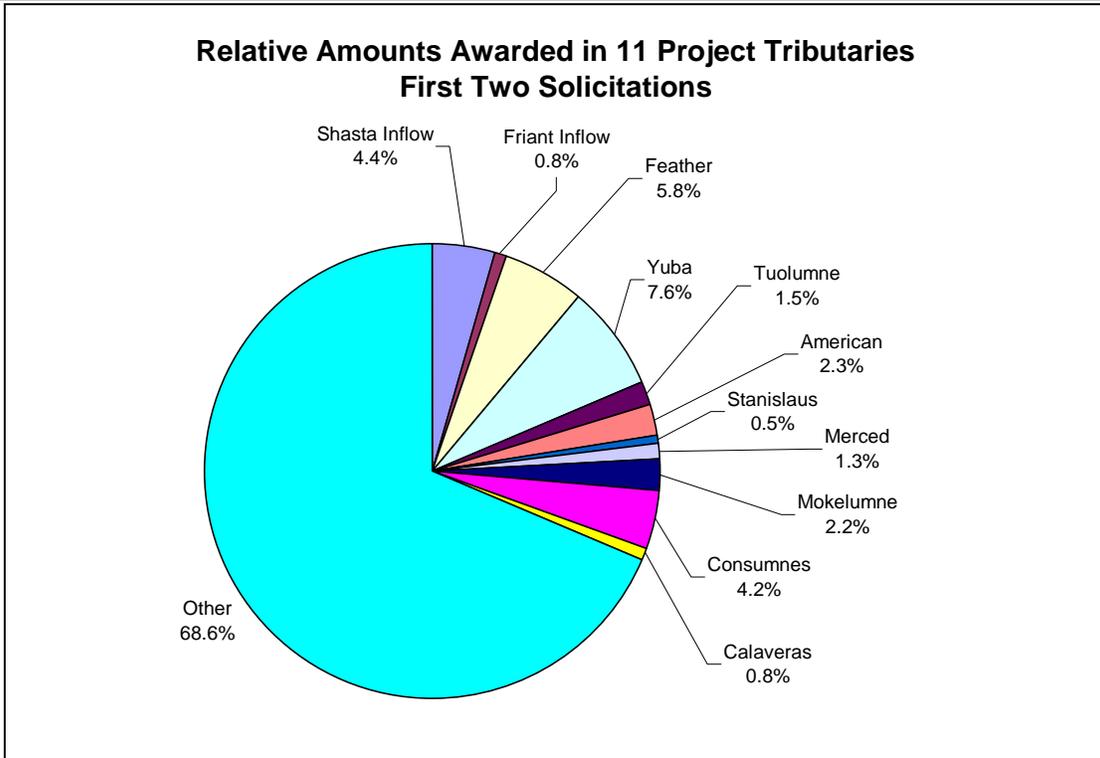
1. Emulate and enhance the grant proposal solicitation, evaluation and selection process begun in the first round, as adjusted by feedback comments
  - Revise proposal solicitation questions to reflect adjusted Program priorities and focus
  - Provide additional Program outreach and informational workshops
  - Provide additional orientation for reviewers
  - Consider providing compensation for expert science reviews
2. Fund sources, contracting, and contract management processes should be better aligned with Program objectives and priorities
  - Fund source for grants should come from the general fund, Proposition 50 (Chapter 7), or other sources that allow high compatibility with Program goals, objectives, and priorities
  - Proposal evaluation and selection should be done by a Program-specific and Program-knowledgeable group of reviewers committed to the Program approach.
  - Contracting time from award to beginning work should be reduced to less than six months for a typical project
  - Contract management should include an active role for Program staff and implementing agency Bay-Delta Program representatives
3. The Program desires to make progress evenly in all areas over the implementation period. To do so will require adjustments from time to time in priorities for different topics and areas of investment. Adjustments should provide infill for topics and areas of under-investment, and maintenance support for topics and areas that have received relative high levels of support in the first four years. In that context, the Program Solicitations in the short term should emphasize specific areas and topics that best correlate with multiple CBDA Program Element goals, objectives and priorities that presently seem under-represented. Some potential areas of emphasis under consideration by IWAT and the Subcommittee:
  - Topics and watersheds that help to maintain balanced implementation of the Program as represented by the three distributive criteria developed through the Subcommittee
  - Topics and areas that will contribute substantially to multiple Bay-Delta Program Element implementation priorities
  - Projects that generate high levels of scientific information in support of Program performance indicators
  - Projects that well illustrate the relationship between local watershed management and the overall CALFED mission and goals
  - Watersheds without completed assessments
  - Watersheds without completed watershed plans
  - Watersheds that provide significant flows to the Delta

WATERSHED PROGRAM STATUS REPORT



**Average Annual Water Flow to Bay-Delta System  
From Eleven Project Tributaries**





Program Grant expenditures Year 1 & 2 Projects in Eleven Tributaries  
 Y1=\$17.9 million for 54 projects  
 Y2=\$7.8 million for 29 projects  
 Total=\$25.7 million for 83 projects

## Grant Program Implementation Recommendations

### Watershed Partnerships Seminar element

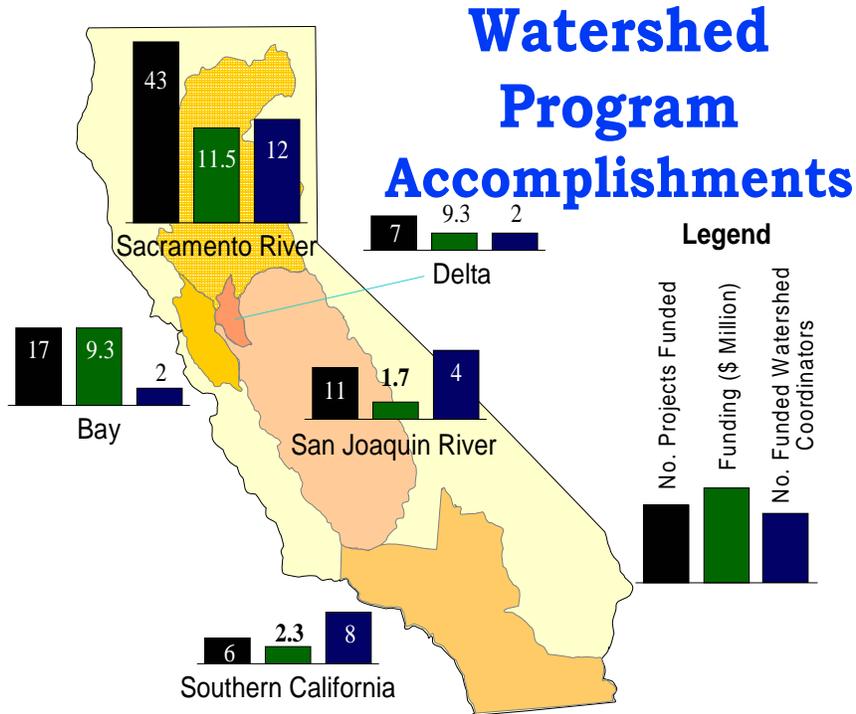
1. Provide regular, long term schedule for Seminars
2. Link outreach and scholarships to Program priorities on an annual basis
3. Provide an active network to connect graduates, including an annual or bi-annual workshop
4. Work with other Bay-Delta Program elements to include critical partners in the Seminar
5. Seek middle and upper management level participants

## Grant Program Implementation Recommendations

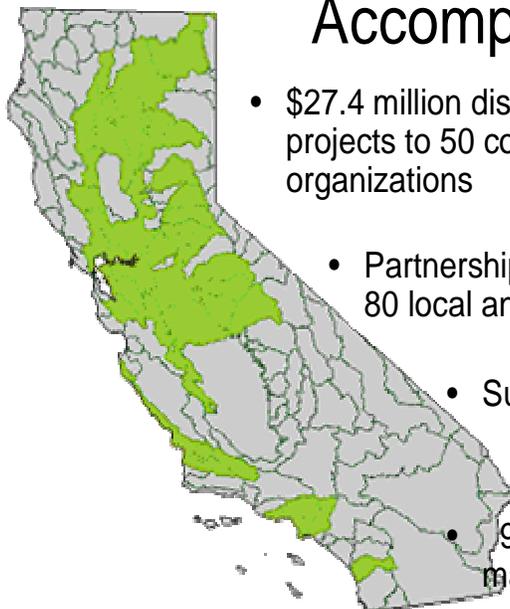
### Watershed Coordinator Element

1. Continue to support coordinator activities in high priority areas
2. Assess the effectiveness of continuation of the DOC program, and develop joint success measurements that benefit the Program, DOC, and the local programs
3. Improve the awareness of, and relationships with, the Program by coordinators through expanding the existing partnership with DOC
4. Improve the partnerships through joint application criteria development

- Strengthen connections to the CBDA Program
- Improve the relevance of application and performance criteria to Program implementation success



## Watershed Program Accomplishments



- \$27.4 million distributed through 84 grant projects to 50 community-based organizations
- Partnership Seminars have trained 80 local and agency personnel
- Support for 26 Watershed Coordinators
- 9 million acres of vegetation mapped

## II: DEVELOP PERFORMANCE INDICATORS AND MEASUREMENTS

### Program Performance Measurement

The Program has completed the design of a suite of performance indicators and metrics. They will provide guidance for information gathering to assess Program performance relative to the goals and objectives of the Program, and progress in meeting the purpose and commitments made in the Record of Decision. The information will be used to:

- Guide performance based program management
- Track progress toward achieving Plan goals and objectives accurately and consistently using directly measured impacts, estimated impacts, and assumed impacts
- Assess direct Program influence on actions and results
- Assess indirect Program influence on actions and results
- Define actions/results influence on the Program
- Demonstrate accountability

Overall Program performance measurements:

<b>Program Goal</b>	<b>Desired Outcome</b>	<b>Performance Measure</b>	<b>Indicator</b>	<b>Baseline</b>	<b>Target</b>
Promote collaboration and integration among existing and future local watershed programs	Improved collaboration between public and private parties	Tributary watershed management partnerships with continuous activity.	Diversity of involvement and continuity of local watershed initiatives, by tributary watershed	Known efforts as of August 2000 with at least 3 years continuous activity	Active, diverse participation in community based watershed management for 11 tributaries to the Bay-Delta.
	Maximized benefits to the CALFED Bay-Delta Program	Extent of Watershed Program supported activities that address multiple CALFED Program objectives	Percent of supported projects that help achieve objectives of three or more CALFED elements	Status as of August 2000	Greater than 80% of supported projects further the objectives of three or more CALFED elements
Provide assistance for local watershed management	Improved local watershed planning and management	Effective support for local watershed planning and management	Percent area of the Bay-Delta watershed with completed assessments	Status as of August 2000	Current watershed assessment for at least 80% of the Bay-Delta watershed

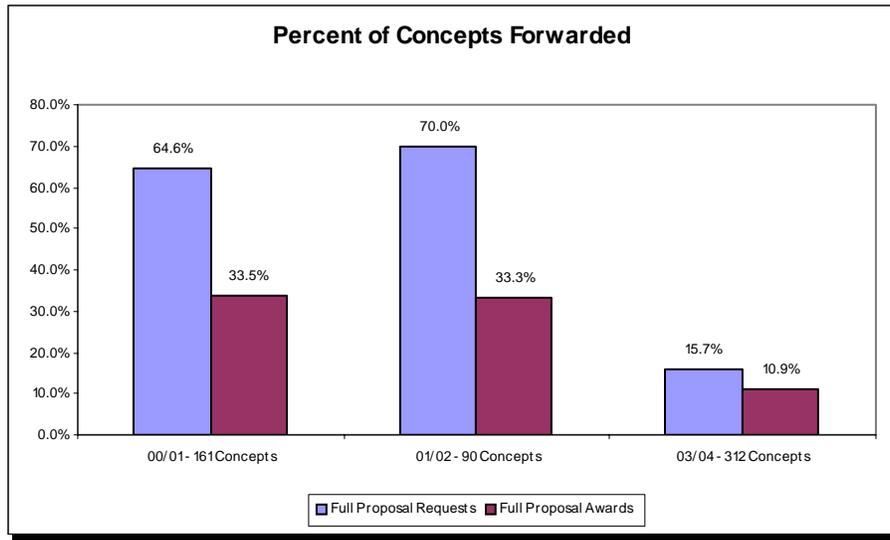
WATERSHED PROGRAM STATUS REPORT

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Sustained local watershed management	Active participation in watershed management by local government and land use decision makers	Level of local government involvement in ongoing watershed initiatives, by tributary watershed	Status as of August 2000	Active involvement of cities and counties in watershed management of 11 tributary watersheds.
Improved watershed ecosystem maintenance and enhancement	Positive changes in characteristics of tributary hydrographs	Hydrograph changes relative to selected reference watersheds	Hydrographs as of August 2000	Maximum reasonable correspondence between tributary hydrographs and reference hydrographs

## WATERSHED PROGRAM STATUS REPORT

In addition to the overall measures, the Program has developed intermediate and process specific indicators for shorter-term analysis.

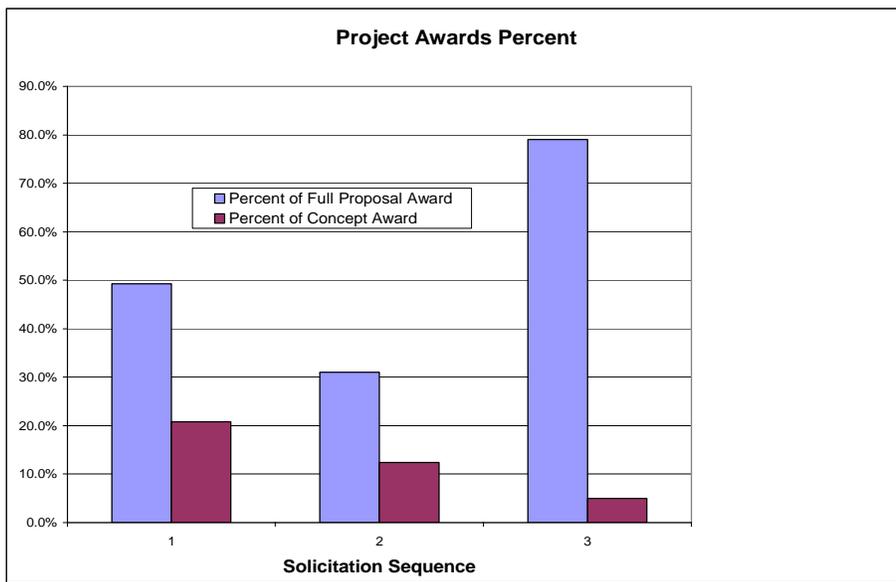


**Example Indicator:** Quality of watershed management projects proposed to the Watershed Program

**Metric:** Percent of Concept Proposals requested to complete full applications

**Baseline:** First year PSP results

**Target:** Virtually all concept proposals of adequate quality to be requested for full development



**Example Indicator:** Sufficient funding to meet the needs of local watershed management

**Metric:** Percent of requests for funding (from full proposals) met annually

**Baseline:** First year PSP results

**Target:** Virtually all full proposals funded

External influences on the Program from shifts in fund source and contracting agencies resulted in unexpected changes. Data from the third series of proposals are not easily correlated with the performance metric, owing to the differences in implementation methods. The Program may not be able to effectively use the information from the third round in quantifying performance as intended.

## Summary

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The Watershed Program has progressed steadily during the first three and a half years of implementation. It has developed a base of data and experience that will guide the reassessment of priorities and goals for the next several years. Program implementation activities will be targeted to those areas necessary to achieve adequate balance within the Program, and across the other Elements of the Bay-Delta Program as a whole.

## Grant Program

The original short-term intent of the Program grant process was three fold, as reflected in the published early implementation priorities. The priorities stated for early grants were to provide funds to support local capacity building, to develop watershed assessments and watershed management plans, and to fund implementation activities for plans already completed. In establishing the broad early solicitations, the Program assumed that:

1. By generating general solicitations for proposals during the first few years, the Program could augment its needs analysis by further analyzing the type and extent of requests for assistance from local watershed management initiatives;
2. Promoting improvements in the capacity of local communities to effectively manage their watershed resources was an important early task for the Program; and
3. Implementation activities should be funded when in concert with a locally developed management plan that clearly demonstrates the Principles of Participation.

The first solicitation proved those assumptions to be accurate. Proposals received in the concept stage were widely varied. The flexibility of using general funds allowed the Program to select a wide range of proposals to be developed into full proposals. The full proposals received, and those eventually funded, exhibited a range of project and applicant types, watershed characteristics, and regional location and scale.

Subsequent solicitations were less effective in serving the early priorities. Changes in funding source to the heavily restrictive Proposition 13 funds, and changes in the solicitation, review and selection process contributed to a relatively less effective result in the second two solicitations.

Watershed coordinator support has been successful in developing new local partnerships, and enhancing existing ones. Greater effort to provide a higher level of orientation relative to CALFED Program goals will improve effectiveness even more.

Watershed Partnerships Seminar scholarships have generated increased local leadership by graduates of the Seminar. The program has been well received, and demand is high. The Program is working to establish a regular and predictable schedule for additional Seminars.

## Program Performance Measurement

With wide participation by implementing agencies, local partners and the Science Program, the Program developed a complete set of performance indicators and metrics. For the next few years, it will focus on a reduced selection from among those indicators. It will work closely

with the Science Program to define baselines and targets, and means to gather data necessary to assess progress. Results of tracking the performance indicators will provide information necessary to make periodic adjustments in Program activities.

## Adaptive Management

The Program will use this early status report to adjust the priorities and objectives for the next phase of implementation. The Program will actively consult with the Subcommittee, IWAT, local stakeholders and the Authority to define changes necessary to continue improvement in Program performance. By the end of the fourth year of implementation, necessary adjustments will be articulated, and a plan to implement them completed. Management adaptations will be published as an update to the Watershed Program Plan.