

California Bay-Delta Program Conveyance Program Multi-Year Program Plan (Years 6-9)

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

Implementing Agencies:

California State Department of Water Resources

United States Bureau of Reclamation

The May Revision of the Governor's FY 2006 budget identifies three key activities for the CALFED Program that are to be accomplished by November 1, 2005. They are: an independent program and fiscal review; a re-focusing of the efforts of the California Bay-Delta Authority and the other CALFED state agencies; and the development of an action plan for long-term financing.

The outcome of these three activities likely will have considerable impact on how the CALFED Bay-Delta Program is implemented and financed in succeeding years. Therefore, although this Program Plan describes activities that are anticipated to occur during the next four years, the Authority is being asked to approve it based only on those activities scheduled to occur during FY 2006.

October 2005



Goals, Objectives, Targets and Performance Measures

Goals and Objectives:

The goal of the Conveyance Program is to identify and implement water conveyance modifications in the Delta that will:

- Improve water supply reliability for in-Delta and export users
- Support continuous improvement in drinking water quality
- Complement Delta ecosystem

CALFED's basic strategy for the Conveyance Program is to develop a through-Delta conveyance alternative based on the existing configuration of the Delta with some modifications. Some construction of improvements in the south and north would occur within the first stage to improve conditions for ecosystem and water management reliability. Other parts of the first stage consist of studies and evaluations of major conveyance features to allow for these conveyance projects to be ready for permitting and construction in later stages should the projects be necessary to meet Program objectives.

The Conveyance Program is intended to provide changes to Delta channels and project operations which will improve the movement of water through the Delta and to the Central Valley Project and State Water Project export facilities. A through-Delta conveyance alternative based on existing Delta configuration with some modifications would be developed and its effectiveness evaluated. Then additional conveyance improvements or other water management actions would be implemented, as necessary to meet CALFED goals and objectives. The Program also proposes changes involving the intertie of SWP/CVP facilities, water quality improvements to local water facilities, flood control and ecosystem improvements, continuing the temporary barriers until Permanent Operable Gates are constructed and operational, and resolving water quality concerns at San Luis Reservoir during low reservoir-level conditions.

The CALFED Record of Decision (ROD) identified three commitments to be met. For each ROD commitment, key objectives have been identified for the Conveyance Program:

- **South Delta Actions** – to increase State Water Project (SWP) and Central Valley Project (CVP) export capability, improve the Delta ecosystem through fish-protective measures, and ensure that local in-Delta agricultural water needs are met.
 - Increase SWP pumping from the current limit of 6680 cubic feet per second (cfs) from March 15 to December 15 to 8500 cubic feet per second (cfs); modify existing pumping criteria from December 15 to March 15, to allow greater use of SWP export capacity; and dredge and install permanent operable gates to ensure water of adequate quantity and quality to agricultural diverters within the south Delta.
 - Increase SWP pumping to the maximum capability of 10,300 cfs.

- Increase fish protection by improving fish screening at CVP and SWP export facilities.
- Design and construct floodway improvements on the lower San Joaquin River to provide conveyance, flood control and ecosystem benefits.
- Reduce agricultural drainage from Veale and Byron Tracts in the Delta. (The reporting on this action has been moved to the Water Quality Program, because it better fits the goals and objectives of that Program.)
- **North Delta Actions** – to improve flood protection and conveyance facilities, water quality, Delta fisheries, and avoid water supply disruptions, to increase the water supply reliability for the SWP and CVP and to enhance the Delta ecosystem.
 - Evaluate and implement improved operational procedures for the Delta Cross Channel (DCC) to address fishery and water quality concerns.
 - Simultaneously evaluate a screened through-Delta facility on the Sacramento River of up to 4000 cfs.
 - Design and construct floodway improvements in the North Delta to provide well-integrated flood control and ecosystem improvements, and improve water supply reliability, water quality, levee stability and recreation opportunities to the extent possible.
- **Delta Mendota Canal/California Aqueduct (DMC/CA) Intertie Actions** – to consider the need for two specific DMC/CA intertie projects which physically connect the SWP and CVP facilities.
 - One connection would occur between the CVP Delta Mendota Canal and SWP California Aqueduct west of the City of Tracy.
 - One connection would be an intertie between the CVP intake facility and the SWP's Clifton Court Forebay with a corresponding increase in the capacity of the Forebay's screened intake.
- **Complementary Actions** – objectives that were not analyzed in the final Programmatic EIS/EIR.
 - The Temporary Barriers Project will seasonally install up to three rock flow control structures and one rock fish control structure in south Delta channels at various times through 2007, or until permanent flow control structures are constructed under the South Delta Improvements Program (SDIP).
 - Take additional actions to protect navigation and protect local diverters in the South Delta who are not adequately protected by temporary barriers as part of the Temporary Barriers Project.
 - Evaluate a bypass to the San Felipe Unit at the San Luis Reservoir to increase the operational flexibility of storage in San Luis Reservoir and ensure a high quality, reliable water supply for San Felipe Division contractors. (The reporting on this action has been moved to the Storage Program, because it better fits the goals and objectives of that Program.)
 - Facilitate water quality exchanges and similar programs to make high quality Sierra Nevada water in the eastern San Joaquin Valley available to urban Southern California interests. (The reporting on this action has been moved to the Water Quality Program, because it better fits the goals and objectives of that Program.)

- Implement a Sacramento and San Joaquin Comprehensive Study to improve the flood control efforts from the Sacramento and San Joaquin Rivers out to the San Francisco Bay.

Many of the actions under the Conveyance Program are major actions in CALFED's Delta Improvements Package. The purpose of the Delta Improvements Package is to clarify the roles, responsibilities, and commitments of the state and federal agencies in the implementation of programs, projects, evaluations, and other undertakings focused on the Delta region that advance the CALFED Bay-Delta Program goals in the areas of water supply reliability, water quality, ecosystem restoration, Delta levee integrity, and science.

The state and federal agencies are coordinating their assumptions and schedules to move forward with a set of activities focused on the Delta that are consistent with the CALFED Program's principle of balanced implementation. Coordination of these key activities will help the state and federal agencies implement the CALFED Record of Decision (ROD) in a balanced manner and avoid the conflict and gridlock that the CALFED Program was created to address. Many of the actions are also described in the CALFED Bay-Delta Program Multi-Year Program Plans. As part of the annual process to review and update the Multi-Year Program Plans and through the development of the California Bay-Delta Authority's 10-year Finance Plan, the status of actions and linkages in the Delta Improvements Package Implementation Plan will also be evaluated and updated.

A major action which is not in the CALFED ROD for the Conveyance Program, but is in the CALFED's Delta Improvements Package is the State Water Project / Central Valley Project Integration Plan. The state and federal agencies intend for this proposed action and related commitments to improve water supply reliability from the Delta while protecting water quality and fishery resources.

State Water Project/Central Valley Project Integration Plan

Under the State Water Project/Central Valley Project Integration Plan, DWR and USBR will continue to coordinate SWP/CVP operations, and propose to: (1) convey up to 50,000 acre feet per year of Level 2 CVP refuge water at the SWP Banks pumping plant; (2) use up to 37,500 acre feet per year of CVP water to reduce SWP in basin obligation for Bay-Delta water quality and flow requirements; and (3) enable earlier, higher water allocations to CVP water users by developing and implementing a plan (which may consist of source-shifting strategies) to maintain the minimum storage in the State share of San Luis Reservoir. DWR and USBR are also proposing to increase the amounts of 50,000 acre feet and 37,500 acre feet to up to 100,000 acre feet per year and up to 75,000 acre feet per year, respectively, when full implementation of the SWP Banks pumping plant increase to 8,500 cfs permitted capability is achieved, or earlier if agreed to by DWR and USBR. In order to facilitate SWP/CVP integration, DWR and USBR will develop and obtain SWRCB approvals of any needed water level, water quality, and fisheries response plans set forth in the SWRCB Water Right Decision 1641. These proposals were evaluated through the Operations Criteria and Plan (OCAP) early consultation process, and will also go through applicable project-specific environmental and regulatory review processes before implementation.

Targets

In the Record of Decision for the CALFED Program, there are specific dates for achieving various milestones for most of the Conveyance project actions. The following table shows the ROD dates and the dates that these milestones are currently expected to be met. Additional important target dates of significance are also shown.

Several of the Conveyance actions are part of the Delta Improvements Package (DIP) which reflects a balance of several program elements currently being developed by CBDA. Since the Delta Improvements Package is still under development, the dates shown below may change.

Conveyance Action	ROD Target Date	Expected Date	Comments	
8500 cfs / Permanent Operable Gates (DIP) <ul style="list-style-type: none"> ➤ Complete South Delta Improvements (SDIP) EIR/EIS ➤ Secure permits to construct permanent operable gates, dredge, and modify local agricultural diversions ➤ Obtain funding and authority for gate at Head of Old River ➤ Obtain funding and authority for gates in Middle River, Old River and Grantline Canal ➤ Complete dredging/diversion improvements ➤ Secure permit for increasing SWP export limit to 8500 cfs ➤ Complete construction of permanent operable gates ➤ Fully operate under 8500 cfs 	 12/02 7/03 12/06 12/07 	 4/06 5/06 5/06 2007-2008 4/09 4/09 4/09	Delays due to the complexity of the project, development of export operation alternatives, implementation of a 2-stage decision-making process (Stage 1: Decision on Physical Component; Stage 2: Decision on Operational Component) to incorporate information on the recent pelagic fish decline in the Delta.	
Clifton Court Fish Screens/10,300 cfs <ul style="list-style-type: none"> ➤ Obtain funding , authority and begin operation of initial fish screens 	7/06	on-hold		CBDA is reevaluating this project and the Tracy fish Test Facility.
Tracy Fish Test Facility <ul style="list-style-type: none"> ➤ Obtain funding, authority and begin operation of initial fish screens 	7/06	on-hold		CBDA is reevaluating this project.
Lower San Joaquin River Flood Improvements <ul style="list-style-type: none"> ➤ Complete environmental studies ➤ Begin construction 	Early 03 7/06	Uncertain Uncertain		Delays due to insufficient funding and staffing support and delay in the Comprehensive Study report. Local issues have complicated progress.

<p>Delta Cross Channel Reoperation (DIP)</p> <ul style="list-style-type: none"> ➤ Complete studies; make recommendations ➤ Implement reoperation recommendations 	<p>12/03</p>	<p>7/08</p> <p>10/08</p>	<p>Delays due to the numerous contracts needed and the contracted studies requiring more time to execute and conduct.</p>
<p>Through Delta Facility (DIP)</p> <ul style="list-style-type: none"> ➤ Complete water quality & fish studies, and prefeasibility study; make recommendations ➤ If supported, seek funding and initiate feasibility and EIR/EIS ➤ Obtain funding and authority to construct 	<p>12/03</p> <p>12/07</p>	<p>11/08</p> <p>2/09</p> <p>3/11</p>	<p>Delays due to the numerous contracts needed and the contracted studies requiring more time to execute and conduct.</p>
<p>North Delta Flood Control & Ecosystem Restoration Improvement Program</p> <ul style="list-style-type: none"> ➤ Complete environmental studies ➤ Obtain funding and authority to construct 	<p>Early 03</p> <p>7/05</p>	<p>Early 06</p> <p>9/06</p>	<p>Delay due to the delays in executing contracts, budget cuts, difficulties in obtaining a Federal lead agency, and obtaining consensus on ecosystem alternatives.</p>
<p>Delta Mendota Canal / California Aqueduct Intertie (DIP)</p> <ul style="list-style-type: none"> ➤ Complete environmental studies ➤ Obtain construction funding, initiate construction ➤ Complete construction, begin operations 	<p>7/04</p> <p>12/04</p>	<p>4/05</p> <p>10/05</p> <p>06</p>	<p>Delay due to the delays in obtaining study funding.</p>
<p>Expanded Delta Mendota Canal / California Aqueduct Intertie (DIP)</p> <ul style="list-style-type: none"> ➤ Obtain Federal study authorization for 900 cfs intertie capacity 		<p>06</p>	<p>Federal authorization received in CALFED Bay-Delta Act</p>
<p>Clifton Court Forebay/Tracy Pumping Plant Intertie</p>	<p>None</p>	<p>None</p>	
<p>Temporary Barriers</p> <ul style="list-style-type: none"> ➤ Construct and operate 	<p>Annually until Perm. Barriers</p>	<p>Annually until Perm. Barriers</p>	
<p>Additional actions under the Delta Improvements Package</p> <ul style="list-style-type: none"> ➤ Study on South Delta Hydrodynamics, Water Quality and Fish <ul style="list-style-type: none"> • Conduct pilot investigations • Conduct scientific study • Complete report 		<p>12/05</p> <p>1/06 – 12/07</p> <p>No later than 08</p>	<p>This study is being managed under the Conveyance's Clifton Court Fish Screens/10,300 cfs project. USBR is the principal investigator.</p> <p>This study is being managed under the Conveyance's</p>

<ul style="list-style-type: none"> ➤ Study on Delta Smelt and Fish Facilities <ul style="list-style-type: none"> • Evaluate existing CHTR process • Make recommendations on improvements to exist'g CHTR process • Evaluate release operations • Make recommendations on release improvements ➤ South Delta Fish Facility Improvements <ul style="list-style-type: none"> • Maintain and improve existing fish facilities • Conduct alternative facilities configurations and op studies • Make recommendations on new fish facility alternatives 		<p>4/04 - 6/07</p> <p>7/08</p> <p>7/05</p> <p>12/07</p> <p>Ongoing</p> <p>7/06 – 6/07</p> <p>7/07</p>	<p>Tracy Fish Test Facility Project. The principal investigator is DFG with assistance of DWR and USBR. CHTR refers to the collection, handling, transportation and release of fish which occurs at the SWP and CVP fish salvaging facilities in the south Delta.</p> <p>This study is being managed by DWR under the Clifton Court Fish Screens/10,300 cfs project. 7/05 - Due to funds not being available in Year 6, schedule has been delayed at least one year</p>
<p>SWP/CVP Integration Plan</p> <ul style="list-style-type: none"> ➤ Complete SWP/CVP Operations Criteria & Plan BO and early consultation ➤ Complete Response Plans required by D-1641 for Joint Point of Diversion ➤ Complete NEPA/CEQA ESA and public review of intermediate SWP/CVP operations ➤ Implement intermediate SWP/CVP operation action 		<p>Fall 04</p> <p>August 04</p> <p>During SDIP Stage 2</p> <p>Prior to implementing SDIP Operational Component</p>	<p>Completed</p> <p>Completed</p>

DIP – Delta Improvements Package

Any significant changes in the Conveyance Program schedules will be discussed with the managers of other potentially affected CALFED program elements, Agency Coordination Team, Water Supply Subcommittee and the California Bay-Delta Authority as soon as reasonably possible. Any concerns and/or issues that arise as a result of these changes which cannot be resolved will be brought before higher levels of authority for guidance and resolution.

Performance Measures

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 includes counting the simple metrics and laying the technical and scientific groundwork that will allow us to perform more complex assessments later.

The Science Program and the Conveyance Program have been continuously working to design performance measures for the program. The Science Program has articulated the following three levels of Performance Measures. These will be refined as they are tailored for the unique needs of each program. For Conveyance, 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 number of dollars spent and the number of projects funded).
- **Level 2: Quantifiable accomplishments directly related to program actions.** Indicators that track the responses of groups of projects on a local or regional level (such as acre feet of conserved or storage water, miles improved levees, changes in water quality conditions, or fish counts).
- **Level 3: System-wide indicators.** Indicators that track broad, often complex, responses of groups of projects (such as water supply reliability or ecosystem health).

Because Level 3 measures gauge the combined effects of several Program Elements, the Conveyance Program will contribute to the Science Program's ongoing work in this area. The Conveyance Program is making progress on Level 1 and 2 measures. Potential performance measures are discussed or listed in the following text.

- **Potential Administrative Performance Measures (Level 1)**
 - Monitor project funding and progress (percent expenditures, percent complete)
 - Cost-sharing of project costs (percent cost-sharing met)
- **Potential Planning Performance Measures (Level 2)**
 - Acre-feet per year and cost per acre-foot (water supply projects)

Several of the Conveyance actions are expected to increase water supply reliability of Federal, State and/or local water entities. Computer modeling studies are generally performed to evaluate the incremental water supply improvements of various project alternatives over the potential life of the project. The water supply improvement of the project is measured in acre-feet and the cost of the project is measured in dollars per acre-foot.

Water supply studies have been conducted on the South Delta Improvement Program (8500 cfs - Permanent Operable Gates) and Mendota Canal/ California Aqueduct Intertie. The estimated water supply improvements of these studies are shown in a figure at the end of the section. These results are preliminary and may be subject to change. It should be noted that the modeling results of each project may not be cumulative and additional studies will need to be

performed to determine whether these water supply improvements are additive. The figure also shows tentative dates when the water supply improvements would be realized, however, these dates may change due to Delta Improvement Package Action Plan discussions on the scheduling of some of these projects and their progress throughout the planning and implementation phases. In general, these water supply studies compared the water supply improvements over an existing base case and set common operating criteria for all project alternatives to meet. These results will be subject to future peer review.

- Salinity, organic carbon, chloride, and bromide levels (water quality projects)

Projects such as the Delta Cross Channel Reoperation and Through Delta Facility Projects are being developed to improve water quality for in-Delta and export operations. Salinity, organic carbon, chlorides, and bromides are good indicators of the quality of Delta water, especially as a source of drinking water. Data is being collected and computer modeling studies are being conducted to evaluate various project alternatives. If these projects are implemented, a post-project monitoring evaluation and the modeling assessments will be developed and conducted.

- Cost per fish saved (fish facility projects)
- Cost per acre of habitat restored or developed
- **Potential Operational Performance Measures (Level 2)**
 - Fish take at SWP and CVP fish salvaging facility (i.e. fish counts)
 - Fish population estimates (counts and trends of fish populations)
 - Average export pumping level (cfs/time period) for SWP, CVP, EWA or other water types
 - Pumping curtailments (cfs/time period)
 - Water quality levels (same as above)
- **Potential Program Goal-Oriented Performance Measures (Level 3)**
 - Improve water supply reliability (i.e. long -term water deliveries)
 - Improve water quality (i.e. salinity, bromide, TOC, etc.)
 - Improve flood protection (i.e. reduction in flood repairs)

The following is a description of the performance measure activities associated with each of the Conveyance Program key objectives.

South Delta Actions – to increase State Water Project (SWP) and Central Valley Project (CVP) export capability, improve the Delta ecosystem through fish-protective measures, and ensure that local in-Delta agricultural water needs are met.

8,500 cfs and Permanent Operable Gates (South Delta Improvements Program, Delta Improvements Package) –

An Administrative Draft ASIP was completed in June 2004. Interagency meetings to review, discuss, and revise the content are ongoing. Specific performance measures are being developed by the interagency group for incorporation into the SDIP ASIP. DEIS/R planned to be released August 05.

Clifton Court Fish Screens and 10,300 cfs – This project is being reevaluated and is currently on-hold.

Tracy Fish Test Facility – This project is being reevaluated and is currently on-hold.

Lower San Joaquin Flood Improvements – The scope of this project has yet to be defined and has been delayed due to insufficient funds.

North Delta Actions – to improve flood protection and conveyance facilities, water quality, Delta fisheries, and avoid water supply disruptions, to increase the water supply reliability for the SWP and CVP and to enhance the Delta ecosystem.

Delta Cross Channel Re-Operation (Delta Improvements Package) – This project is still in the early planning stage.

Through-Delta Facility (Delta Improvements Package) – This project is still in early planning stage.

North Delta Flood Control and Ecosystem Restoration Improvements Program – Staff has acknowledged the need for performance measures with stakeholder groups; however, lack of staff and budget resources has hampered significant progress on developing performance measures. Staff is seeking help from the Ecological Coordination Team, Agency representatives who partner to guide restoration project planning, and CBDA ERP staff.

SWP/CVP Intertie Actions – to consider the need for two specific SWP/CVP intertie projects which physically connect the SWP and CVP facilities.

Delta Mendota Canal/California Aqueduct Intertie (Delta Improvements Package) – No comments. Performance measures should be defined prior to operation of the intertie.

Clifton Court Forebay / Tracy Pumping Plant Intertie – Work on this project has not yet commenced.

Complementary Actions – objectives that were not analyzed in the final Programmatic EIS/EIR.

Temporary Barriers Project – Under the terms of the existing permits for this project, a monitoring program was developed and is implemented each year. A report is written and submitted to the regulatory agencies early the following year. Included in the monitoring are fishery studies, water quality monitoring, hydrodynamics, sensitive birds and reptile monitoring, and water level data. Refinements to improve the monitoring plan are considered in discussions with the fish and wildlife agencies to implement in the next year's program. The monitoring program is designed to collect the impacts of the temporary barriers to analyze and use for the development and design of the permanent barriers proposed under the South Delta Improvement Plan.

Accomplishments

Many of the proposed Conveyance actions are continuing the planning phase of their development. Draft Environmental documents for the 8500 cfs operations/Permanent Operable Gates are nearing completion and public release. Construction of the Delta Mendota Canal/California Aqueduct Intertie should begin within the year. Studies of the Delta Cross Channel Reoperation and Through-Delta Facility to determine their feasibility are underway. The Temporary Barriers Project continues to be installed in the south Delta on an annual basis until the Permanent Operable Gates are installed and operational. Several of the Conveyance Program actions are components of the Delta Improvements Package (DIP) which reflects a balance of several program elements being developed by CBDA. These actions include 8500 cfs Operations, Permanent Operable Gates, Delta Mendota Canal/California Aqueduct Intertie, Delta Cross Channel Reoperation, and the Through-Delta Facility study.

South Delta Actions – to increase State Water Project (SWP) and Central Valley Project (CVP) export capability, improve the Delta ecosystem through fish protective measures, and ensure that local in-Delta agricultural water needs are met.

8,500 cfs and Permanent Operable Gates (South Delta Improvements Program, Delta Improvements Package):

In the past year, a revised administrative draft document was developed while considering current environmental conditions in the Delta. A draft EIR/EIS is expected out in the summer 2005 with a public review to follow.

Clifton Court Fish Screens and 10,300 cfs:

All planning activities except for fish facility and hydrodynamic studies were placed on-hold pending the recommendations by the South Delta Fish Facilities Forum. The Forum has reviewed pertinent fish facility information and has developed its recommendations for consideration by the California Bay-Delta Authority with the intent of providing guidance and developing priorities in the development of the Clifton Court Forebay and Tracy Fish Test Facility projects. An evaluation report on the debris studies is being completed. A multi-year hydrodynamic study to better understand the movement of water, fish and water quality in the south Delta was initiated at the end of the year. A pilot study will be conducted by DWR, USBR, and USGS during the first year.

Tracy Fish Test Facility:

Activities continue at the existing Tracy Fish Collection Facility with the focus towards onsite and laboratory research to improve operations of the facility. In an effort to better understand the affect of Delta smelt in SWP and CVP fish salvaging facilities and evaluate potential improvements in salvaging techniques, study proposals for the evaluation of fish collection, handling, transportation and release (CHTR) are under various stages of implementation. Laboratory evaluations have been conducted on a TFTF fish sorting and holding tank physical model, whole facility evaluation, predator tracking, recessed holding tank stress tests, improved debris management, and fish movement using sonar. A new building and expansion of UCD's aquaculture facility at the SWP's Skinner Fish Collection Facility was completed to conduct fish collection, handling, transportation and release studies using Delta smelt.

Lower San Joaquin Flood Improvements:

Opportunities for the development of conceptual flood improvements as identified in the internal draft Comprehensive Study Lower San Joaquin River Assessment Information Report (October 2001) were discussed with various organizations in the project area including the San Joaquin River Task Force. Local flood control agencies have proposed a flood control improvement project for consideration.

North Delta Actions – to improve flood protection and conveyance facilities, water quality, Delta fisheries, and avoid water supply disruptions, to increase the water supply reliability for the SWP and CVP and to enhance the Delta ecosystem.

Delta Cross Channel Re-Operation (Delta Improvements Package):

In the past year, a Delta Cross Channel Pilot Study was conducted to test new technologies for measuring river velocity structures and the movement of juvenile salmon. Analysis and documentation of past studies (2000-2003) is being conducted. Preparation for a regional integrated fisheries and water quality study will commence after completion of the reports on past studies.

Through-Delta Facility (Delta Improvements Package):

Studies were initiated on the swimming and passage performance of adult sturgeon at U. C. Davis and fish passage at the Sacramento Deep Water Ship Channel. These studies are continuing and are expected to be completed in June 2005.

A board weir structure was constructed in the Yolo Bypass toe drain to evaluate fish passage alternatives. This study is being discontinued for lack of potential value to the design of a TDF fish passage facility.

A prefeasibility study on the technical viability of alternatives for a TDF was initiated. Progress on this study has been slow due to a lack of staff and contracting problems.

North Delta Flood Control and Ecosystem Restoration Improvements Program:

Progressed significantly in preparing environmental document including alternatives refinement, conceptual design preparation, and impact analysis. Continued work with Agency staff and academic science panel to provide science advice for alternatives development and project planning. Progressed in sediment dynamics studies including sampling and draft report. The North Delta Agency Team continues ASIP preparation and is addressing other project permit requirements.

SWP/CVP Intertie Actions – to consider the need for two specific SWP/CVP intertie projects which physically connect the SWP and CVP facilities.

Delta Mendota Canal/California Aqueduct Intertie (Delta Improvements Package):

Completed CALSIM II and DSM modeling studies. Initiated final design of a 450/900 cfs alternative and supporting environmental documentation. DWR also provided conceptual and preliminary design support, including land management and right of way, intertie configuration preferences and operation integration. Public review of the draft EA/IS was completed in December 2004.

Clifton Court Forebay/Tracy Pumping Plant Intertie:

Work on this project is not expected to begin until year 7.

Complementary Actions – objectives that were not analyzed in the final Programmatic EIS/EIR.

Temporary Barriers Project:

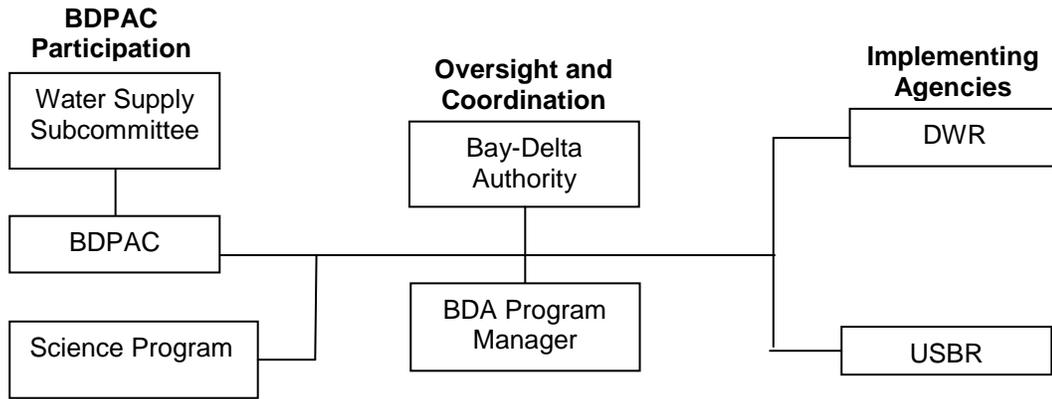
This past year three portable pumps were installed on Union Island to mitigate the effects of the barriers upstream of these diversions. Portable pumps were also installed to assist agricultural diversions into Tom Paine Slough. Obtained USACE permit to conduct limited dredging and modify agricultural diversion on Union Island along Old River. Nine diversions were included in the project that began in August 2004 and was completed in October 2004. A hyacinth removal project began in Tom Paine Slough in early December 2004 and completed January 2005. Removal of the aquatic plants that have infested the slough should help improve irrigation water conveyance and reduce reliance on portable pumps in 2005 and beyond.

Oversight, Coordination, and Science:

The California Bay-Delta Program provided general oversight to assist in meeting the goals and objectives of the Conveyance Program, ensure integration with other programs, and provide Science support, where necessary. DWR managed the overall Conveyance Program.

Program Structure

A conceptual organizational chart of how the Conveyance Program is managed is provided below.



Agency	Roles and Responsibilities
California Bay-Delta Authority	<ul style="list-style-type: none"> • Oversight and coordination
Department of Water Resources	<ul style="list-style-type: none"> • State lead agency • Manages 8500 cfs/Permanent Operable Gates, Clifton Court Fish Screens/10,300 cfs, North Delta Flood Control and Ecosystem Restoration Improvements Program, Through-Delta Facility, Lower San Joaquin River Flood Control Improvements(co-lead), Clifton Court Forebay/Tracy Pumping Plant Intertie and Temporary Barriers Projects • Oversees the Old River and Rock Slough Water Quality Projects under the Contra Costa Water District • Coordinate activities with USBR • Provides Conveyance Program oversight • Participate in meetings/hearings
U.S. Bureau of Reclamation	<ul style="list-style-type: none"> • Federal lead agency • Manages the Delta Cross Channel Reoperation, Tracy Fish Test Facility, and Delta Mendota Canal/California Aqueduct Intertie Projects • Manages the South Delta Hydrodynamic Study • Coordinate activities with DWR • Participate in meetings/hearings

U.S. Army Corps of Engineers	<ul style="list-style-type: none"> • Federal permitting agency • Co-Manages Lower San Joaquin River Flood Control Improvement and potentially North Delta Flood Control and Ecosystem Restoration Project with DWR • Conduct field studies • Review/comment on work products • Participate in meetings/hearings
Department of Fish and Game	<ul style="list-style-type: none"> • Fisheries • Manages the fish collection, transportation and release study • Permitting agency • Review/comment on work products • Conduct field studies • Participate in meetings/hearings
U.S. EPA	<ul style="list-style-type: none"> • Water quality • Review/comment on work products • Participate in meetings/hearings
U.S. Fish and Wildlife Service	<ul style="list-style-type: none"> • Fisheries • Permitting agency • Conduct field studies • Review/comment on work products • Participate in meetings/hearings
National Oceanic and Atmospheric Administration	<ul style="list-style-type: none"> • Fisheries • Permitting agency • Review/comment on work products • Participate in meetings/hearings
U.S. Geological Survey	<ul style="list-style-type: none"> • Hydrodynamics and Modeling • Conducts field studies • Review/comment on work products • Participate in meetings/hearings

Major Activities

Within the next four years, the planning phase of several major Conveyance Program actions are expected to be completed and the construction/operation phase begun. Several other Conveyance actions are still being evaluated to determine their feasibility. Due to the high cost estimates, the Tracy Fish Test Facility and the Clifton Court Fish Screen projects are being reevaluated to determine if there are more cost-effective alternatives to achieving similar benefits. The State General Fund reductions during the past two years and the State Bond Fund reductions this year will delay the progress of some Conveyance Program actions in Year 6. These fund reductions will affect the activities related to the Clifton Court Fish Screen, Tracy Fish Test Facility, Lower San Joaquin Flood Improvement Project, and the North Delta Flood Control and Ecosystem Restoration Improvement Project. Federal cost-sharing funds for several Conveyance Program actions were expected but have not yet been secured.

Delta Improvements Package. The Delta Improvement Package (DIP) represents a balanced approach to achieving key goals of water supply reliability, ecosystem restoration, water quality improvement, and levee system integrity in accordance with the CALFED Record of Decision. The DIP proposes to take a series of actions over the next few years which carry out or are closely related to key ROD commitments. Implementation of the South Delta Improvements Program (SDIP), and Delta Mendota Canal/California Aqueduct are included in the DIP. The DIP also includes the evaluation of the Delta Cross Channel Reoperation and Through-Delta Facility, as well as several south Delta studies. The Conveyance Program Multi-Year Plan is intended to be consistent with the Delta Improvement Package.

South Delta Actions – to increase State Water Project (SWP) and Central Valley Project (CVP) export capability, improve the Delta ecosystem through fish-protective measures, and ensure that local in-Delta agricultural water needs are met.

8,500 cfs and Permanent Operable Gates (South Delta Improvements Program, Delta Improvements Package) – DWR is the lead agency for this project. The USBR is the federal lead agency under NEPA. The SDIP is designed to address the water level and quality needs for south Delta farmers, protect salmon migrating down the San Joaquin River, and improve the State Water Project delivery capability by raising the allowable diversion limit into Clifton Court Forebay (CCF) from 6680 cfs to 8500 cfs. The SDIP consists of two major components: a physical/structural component and an operational component. The physical/structural component includes the construction and operation of permanent operable gates at up to four locations in south Delta channels to protect salmon and meet the water level and quality needs for local irrigation diversions, channel dredging to improve water conveyance, and modification of 24 local agricultural diversions. The operational component considers raising the permitted diversion limit into CCF to 8,500 cfs.

The decision-making process for the preferred project will be done in two stages. The staged decision is to respond to the uncertainties regarding the causes of the pelagic organism decline and allows time to incorporate new information on the reasons for the decline of Delta pelagic fishes. Stage 1 will focus on the preferred physical/structural component and will begin upon the release of the public Draft EIS/EIR (October 2005). Stage 2 will focus on the operational component and begins after the Final

EIS/EIR is completed. After certifying and filing the Final EIS/EIR for the SDIP, DWR and Reclamation will each adopt the project and issue a decision during each of the two stages of the SDIP decision-making process. For the decision on the physical/structural component (Stage 1), DWR will assume the existing operational rules including the permitted limit for SWP diversions at CCF. DWR will issue a Notice of Determination (NOD) and Reclamation will issue a Record of Decision (ROD) for the decision regarding the actions and mitigation needed to implement any physical/structural component adopted during the Stage 1 decision-making process.

The decision-making process for Stage 2 will begin after the Stage 1 decision is made. Assuming a physical/structural component is selected in Stage 1, Stage 2 will include the selection of the preferred operational component, based upon the operational scenarios presented in the Draft EIS/EIR and incorporating public input, and additional information collected on the condition of pelagic organisms in the Delta. During this stage, and prior to the selection of the preferred operational component, the public will be provided the opportunity to comment on the preferred operational component. DWR and Reclamation will issue the necessary supplemental document for CEQA and NEPA compliance explaining the preferred operational component, the rationale for its selection, and any additional environmental effects. This document will be made available for public review for at least 45 days prior to finalizing the decision on the operational component. A second NOD from DWR and an ROD from Reclamation regarding the selection of the preferred operational component will complete the environmental compliance requirements for Stage 2 of the SDIP.

Funding: State Water Project funds supported the planning work and Proposition 13 and 50 are expected to fund construction activities.

Schedule: Complete Final SDIP EIS/EIR by April 2006; dredging/diversion improvements during 2007-2008; construct Permanent Operable Gates by April 2009; and fully operate under 8,500 cfs by April 2009.

Clifton Court Fish Screens and 10,300 cfs – DWR is the lead agency for this project. All major project activities in the development of new fish screening at the State Water Project's water intake facilities at Clifton Court Forebay are on hold pending recommendations of the South Delta Fish Facilities Forum. One of the proposed recommendations of the Forum is to conduct a more thorough analysis and evaluation of cost-effective alternatives such as a Clifton Court Forebay "short-circuit" intake. DWR will conduct this analysis once a decision is made to move ahead with this recommendation and the resources are available to perform the work.

Under this project, DWR is supporting the efforts of a hydrodynamics study in the south Delta. DWR, USBR, and USGS are investigating critical gaps in the understanding of fish movements, distribution, and entrainment in the south Delta due to various CVP and SWP operational regimes. These studies will help evaluate the near and far-field effects of south Delta exports and barrier operations on fish so that potential benefits of the EWA, VAMP, or SDIP operational options can be maximized. In addition, this effort will be used to support future planning activities. Pilot investigations began in May 2004 and subsequent investigations are expected to continue through 2007. Study results and recommendations are expected to be available by 2008.

DWR will complete a report which evaluates alternative trash rack designs to improve debris collection in SWP and CVP fish salvaging operations in 2005.

Funding: Proposition 13 funds are being used to support those efforts to develop new or improve existing fish facilities to better protect fish in the Delta and State Water Project funds are being used to support all other work efforts under this project.

Schedule: The Clifton Court Fish Screen project is temporarily on-hold pending decisions of the South Delta Fish Facility Forum and, subsequently the CBDA. However, the hydrodynamic study of the south Delta is expected to continue.

Tracy Fish Test Facility – USBR is the lead agency for this project. All major project activities on the development of the Tracy Fish Test Facility are on hold pending the recommendations of the South Delta Fish Facilities Forum; however, research activities are still occurring in USBR's hydraulics lab in Denver and onsite at the Tracy Fish Collection Facility to improve screening/salvage of fish at the TFCF in the south Delta.

Under this project, DWR is continuing support of a fish Collection, Handling, Transportation and Release Study being conducted by the Department of Fish and Game with the assistance of DWR and USBR. This study will evaluate the survival of fish through the fish salvaging process and determine methods to improve existing fish salvaging facilities at the SWP and CVP export facilities. The fish Collection, Handling, Transportation and Release study proposals are expected to get underway in Year 5 and be completed in Year 8.

Funding: Federal funds has supported the Tracy Fish Facility Improvement Program research efforts, however, funding for the construction of fish facility improvements has yet to be determined. Proposition 13 funds are being used to support the CHTR Study efforts to develop new or improve existing fish facilities to better protect fish in the Delta

Schedule: On-hold; schedule of the Tracy Fish Test Facility yet to be determined

Lower San Joaquin Flood Improvements – The US Army Corps of Engineers and DWR are co-lead agencies for this project. As a result of the complexities involved in implementation of this project, project priorities and objectives continue to be reevaluated with the USACE in coordination with local flood control interests. It is expected that the development of this project will occur in parts or phases. DWR has not been appropriated any funds for Year 5 and will continue to pursue financial support for this project. The Corps of Engineers, with limited funding, will evaluate a proposal by local interests to develop a flood control project.

Funding: Funding source yet to be determined.

Schedule: Uncertain since there is no State funding and limited Federal funding.

North Delta Actions – to improve flood protection and conveyance facilities, water quality, Delta fisheries, and avoid water supply disruptions, to increase the water supply reliability for the SWP and CVP and to enhance the Delta ecosystem.

Delta Cross Channel Re-Operation (Delta Improvements Package) – USBR is the lead agency for this project. The DCC/TDF Technical Team will evaluate the results of three years of studies and will initiate a full-scale integrated fisheries and water quality study in Fall 2006. Recommendations for DCC re-operation strategy are not expected until November 2008. The DCC re-operation will be evaluated on hydrodynamics, water quality, juvenile releases in the vicinity of the DCC and TDF, and adult striped bass and sturgeon.

Funding: State Water Project funds and Proposition 13 (Conveyance, Fish Facilities) funds

Schedule: Complete technical analysis and make recommendations November 2005; implement reoperation recommendations by January 2006.

Through-Delta Facility (Delta Improvements Package) – DWR is the lead agency for this project. The DCC/TDF Technical Team will refine concepts and feasibility of TDF options, determine TDF benefits and impacts on water quality and fisheries, and determine the effects of TDF on other California Bay-Delta Program actions. An independent science panel will review all of the technical information of the three years of field and research studies developed for the project and provide its advice and recommendations on the technical viability and water quality and fishery benefits and impacts of a TDF. The DCC/TDF will integrate and analyze the information and provide its recommendations to the California Bay-Delta Authority (CBDA). If CBDA determines that the TDF is needed, environmental documentation would be prepared, and preliminary design and environmental permitting for a proposed project would occur.

Funding: State Water Project Funds and Proposition 13 (Conveyance, Fish Facilities) Funds

Schedule: Complete technical analysis and make recommendations November 2005; if supported, seek funding and initiate EIR/EIS by January 2006.

North Delta Flood Control and Ecosystem Restoration Improvements Program – DWR is the state lead agency for this project. Science panel meetings were completed in early 2005 and project alternatives were refined per science panel advisement. Sediment dynamics modeling and related studies will be completed in fall 2005. At the reduced State funding level, it is estimated that only completion of the environmental documents and some preliminary design work will be completed. Project environmental documentation is expected to be completed by early 2006. DWR has been asked to expand the scope of the environmental documents to include additional flood control options advocated by Sacramento County for the Beach Stone Lakes and Franklin Pond areas. This action would delay completing environmental studies at least 6-8 months, potentially much longer; however, a final determination on scope has not been made. Funding for design and construction has not yet been identified, but will be pursued through the CBDA solicitation process and other programs. North Delta Flood Control and Ecosystem Restoration Improvements will continue careful coordination with DCC and TDF actions, Levee Program actions, and CALFED ERP and Science Program actions. The participation of the U.S. Army Corps of Engineers is being evaluated.

Funding: State General Funds have been the primary source of funding; however, funds have been limited.

Schedule: Complete early 2008.

SWP/CVP Intertie Actions – to consider the need for two specific SWP/CVP intertie projects which physically connect the SWP and CVP facilities.

Delta Mendota Canal/California Aqueduct Intertie (Delta Improvements Package) – USBR is lead agency for this project. Public review of the draft EA/IS was completed in December 2004. The San Luis and Delta-Mendota Water Authority is the CEQA lead. The FONSI/NEG DEC was signed in April 2005. Final design is expected to be completed in June 2005 and construction initiated in October 2005.

Funding: \$28.3 million from local water users

Schedule: Complete construction and begin operation by late 2006.

Clifton Court Forebay / Tracy Pumping Plant Intertie – DWR is lead agency for this project. Work activities in support of providing increased operational flexibility to improve water quality, water supply reliability, and minimizing impacts on fish are expected to start in year 6.

Funding: Funding source yet to be determined

Schedule: Completion yet to be determined.

Complementary Actions – objectives that were not analyzed in the final Programmatic EIS/EIR.

Temporary Barriers Project – DWR is lead agency for this project. The temporary barriers will continue to be installed seasonally to improve water levels and circulation in the south Delta. Agency, stakeholder, and local communication will occur regarding barrier status and operation through weekly reports via email. Permits obtained early in Year 5 have allowed implementation of the dredging/agricultural diversions modification program that began later that year. Dredging and/or diversion modifications will be coordinated closely with local beneficiaries to perform work and to update State and Federal agencies.

Funding: State Water Project funds \$6.6 - 7.1 M annually

Schedule: Complete annually until Permanent Operable Gates are installed (2008)

Oversight, Coordination, and Science – CBDA will provide general oversight to assist in meeting the goals and objectives of the Conveyance Program, ensure integration with other programs, and provide Science support, where necessary. DWR will manage the overall Conveyance Program

Funding: State Water Project Funds

Schedule: Completion Ongoing.

SWP/CVP Integration Plan – conveying up to 50,000 acre-feet of Level 2 refuge supply by the SWP; using up to 37,000 acre-feet of releases from Shasta Reservoir to meet SWP Delta water quality requirements; and implementing a program to protect the low point in San Luis Reservoir for water quality purposes.

Intermediate Action – Intermediate steps to improve coordination and project reliability are proposed to be taken prior to the SWP Delta export limit being raised to the 8500 cfs level. The actions are: conveying up to 50,000 acre-feet of Level 2 refuge supply by the SWP; using up to 37,500 acre-feet of releases from Shasta Reservoir to meet SWP Delta water quality requirements; and implementing a program to protect the low point in San Luis Reservoir for water quality purposes.

Funding: State Water Project and federal funds

Schedule: Incorporated into the Stage 2 decision for the Operational Component of the SDIP.

Public Involvement and Outreach

South Delta Actions – to increase State Water Project (SWP) and Central Valley Project (CVP) export capability, improve the Delta ecosystem through fish-protective measures, and ensure that local in-Delta agricultural water needs are met.

8,500 cfs and Permanent Operable Gates (South Delta Improvements Program, Delta Improvements Package) – DWR held a public information meetings in December 2004 and April 2005.

Clifton Court Fish Screens and 10,300 cfs – The South Delta Fish Facility Forum has been conducting meetings over the past year to discuss pertinent fishery issues and develop recommendations concerning the alternatives to constructing new fish screens at the intake to Clifton Court Forebay and the Tracy Facility. These meetings have been opened to all who are interested. It is expected that the Forum will be proposing recommendations which will be considered by the California Bay-Delta Authority for action.

Tracy Fish Test Facility – See discussion under Clifton Court Fish Screens and 10,300 cfs.

Lower San Joaquin Flood Improvements – Scope of the project has yet to be defined.

North Delta Actions – to improve flood protection and conveyance facilities, water quality, Delta fisheries, and avoid water supply disruptions, to increase the water supply reliability for the SWP and CVP and to enhance the Delta ecosystem.

Delta Cross Channel Re-Operation (Delta Improvements Package) – Public involvement is limited to participation in a technical advisory team and briefing BDPAC subcommittees.

Through-Delta Facility (Delta Improvements Package) – Public involvement is limited to participation in a technical advisory team and briefing BDPAC subcommittees.

North Delta Flood Control and Ecosystem Restoration Improvements Program – Participation is achieved through meetings of the North Delta Improvements Group, North Delta Agency Team and the Mokelumne-Cosumnes Watershed Alliance. Participants include DWR, DFG, State Lands Commission, RWQCB, Delta Protection Commission, Reclamation Districts, USFWS and NOAA Fisheries.

SWP/CVP Intertie Actions – to consider the need for two specific SWP/CVP intertie projects which physically connect the SWP and CVP facilities.

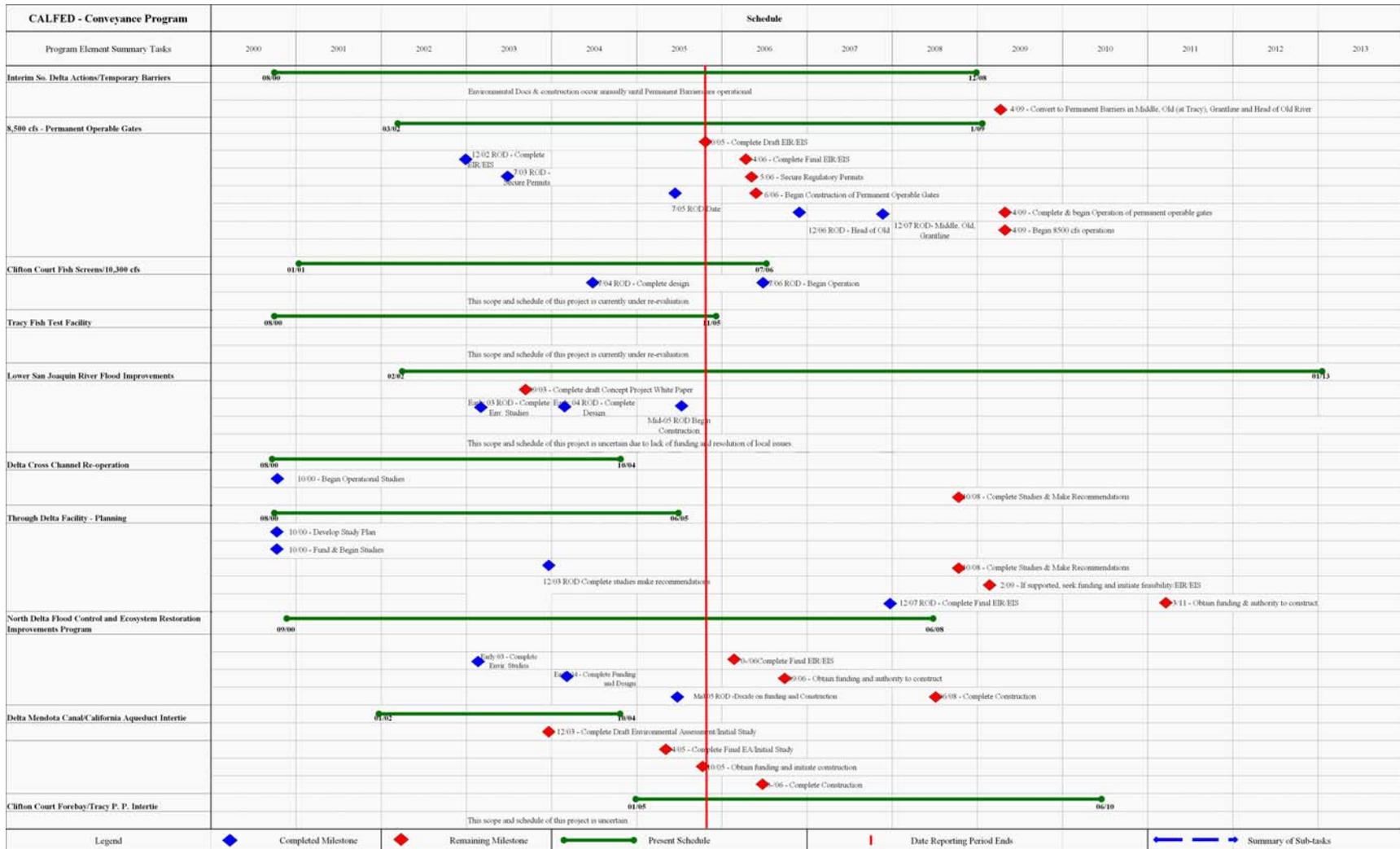
Delta Mendota Canal/California Aqueduct Intertie (Delta Improvements Package) – Briefing to the Water Supply Subcommittee in November 2004. Public review and comment of the draft EA/IS in December 2004.

Clifton Court Forebay/Tracy Pumping Plant Intertie – Project has not yet begun.

Complementary Actions – objectives that were not analyzed in the final Programmatic EIS/EIR.

Temporary Barriers Project – The Temporary Barriers Project is an ongoing project operating under existing regulatory permits and private Temporary Entry Permits (needed for site access). Formal coordination is accomplished in accordance with the various permits. Informal agency, stakeholder, and local communication occur regarding barrier status and operation through weekly reports via email.

Schedule



Integrating Science, Environmental Justice and Tribal Relations

The planning and development of the actions under the Conveyance Program will involve a coordinated effort with Science, Environmental Justice and Tribal Relations. This coordinated effort will occur at the working level as well as the management and oversight levels and is expected to vary for each of the Conveyance projects. Project teams and/or work groups will be utilized and briefings will be made to respective Bay-Delta Public Advisory Committee subcommittees to ensure the needed project coordination and implementation in accordance with the CALFED Record of Decision.

Science

The Conveyance Program will work closely with the Science Program to identify key knowledge gaps relative to improvement of water supply reliability and water quality and concurrent improvement and minimization of impacts on Delta fisheries. Conveyance will continue to implement and refine existing scientific practices, such as independent peer review, collaborate with the Science Program to design and conduct programmatic reviews, and continue to fund scientific studies pertinent to knowledge needed by the program. Science reviews have been used for delta smelt salvage and multidisciplinary field studies at the Delta Cross Channel and south Delta channels, and will continue to be used for all technical projects. The need for and support of external scientific reviews is expected to increase in the coming years.

In addition, the Conveyance Program is also developing performance measures to assess progress toward improving water supply reliability and quality projected for, and resulting from installation and operation of conveyance projects. Performance measures translate program goals and objectives into measurable benchmarks of success. Conveyance is currently using simple administrative metrics (such as project expenditures and percent completion) to track performance. The program is also undertaking a number of scientific studies to develop a more robust scientific basis for developing and evaluating viable project alternatives, which in turn, will support more complex performance metrics such as quantifiable changes in water quality parameters changes directly related to the operation of one or more Conveyance projects. Future investments in performance measurement will support more complex cross-program assessments such as determining the effect of conveyance projects on overall improvements in water supply reliability. .

The following is a description of the Science activities associated with each of the Conveyance Program key objectives.

South Delta Actions – to increase State Water Project (SWP) and Central Valley Project (CVP) export capability, improve the Delta ecosystem through fish protective measures, and ensure that local in-Delta agricultural water needs are met.

8,500 cfs and Permanent Operable Gates (South Delta Improvements Program):

The SDIP has two components, a physical/structural component and an operational component. The decision-making for the selection of the preferred project will be done in two stages. The staged decision is to respond to the uncertainties regarding the causes of the pelagic organism decline and allows time to incorporate new information on the reasons for the decline of Delta pelagic fishes. Stage 1 will focus on the preferred physical/structural component (permanent operable gates, dredging, and local diversion modifications). Stage 2 will focus on the operational component (increasing the SWP export limit from 6680 cfs to 8500 cfs). Science review will be incorporated as needed in Stage 1 (beginning with the release of the Draft EIR/S in August, 2005). The CALFED Science Program will participate in the Stage 2 decision process as part of the scientific team developing new scientific information on the causes of the pelagic organism decline in the Delta. Stage 2 would begin after the Stage 1 decision is made (expected in Spring 2006).

Additionally, DWR is developing a study plan to evaluate the impacts of predation on steelhead in Clifton Court Forebay in coordination with State and federal fisheries agencies. These studies will increase the understanding of what is happening to steelhead and what might be done to do to improve operations and/or the facilities to protect the steelhead and other similar fish species. The study plan is expected to be reviewed by the Central Valley Fish Facility Review Team, the Interagency Ecological Program and an independent Science review panel prior to implementation.

Clifton Court Fish Screens and 10,300 cfs:

A South Delta Hydrodynamic Study is a multi-year study being conducted to better understand the flows and movement of water, fish and water quality in the south Delta. It is hoped that the information obtained from this study will enable the SWP and CVP to better operate its export facilities to improve water deliveries and water quality, and minimize impacts on Delta fisheries. An initial pilot study proposal has been evaluated by the Interagency Ecological Program and a Science review panel and began in FY04/05. This project may also conduct debris, water quality and fishery studies which will likely involve the need for Science reviews and oversight. The hydrodynamic study plan is expected to be reviewed by the Central Valley Fish Facility Review Team, the Interagency Ecological Program and an independent Science review panel prior to implementation.

Tracy Fish Test Facility:

Ongoing studies to further define the integrated components of TTF have been following a rigorous review process that includes peer review, interagency/stakeholder review, and publishing related documents. In conjunction with the efforts to improve SWP and CVP fish salvaging facilities, DWR is funding a fish collection, handling, transportation and release study at existing export fish salvaging facilities. A study plan for fish collection, handling, transportation, and release at SWP and CVP fish salvaging facilities has been reviewed and approved by the Central Valley Fish Facility Review Team, the Interagency Ecological Program and an independent Science review panel. There are additional study plans being developed to evaluating potential improvements to these facilities. These studies will also involve review by science advisors if needed.

Lower San Joaquin Flood Improvements:

This project will define its science issues during the EIR/EIS phase, which has not yet been planned.

North Delta Actions – to improve flood protection and conveyance facilities, water quality, Delta fisheries, and avoid water supply disruptions, to increase the water supply reliability for the SWP and CVP and to enhance the Delta ecosystem.

Delta Cross Channel Re-Operation:

In past studies conducted, an independent science panel has reviewed study proposals to address 22 unknowns outlined in the overall work plan for the DCC and TDF. The panel's comments and suggestions were included in the final work study plans. A regional hydrodynamic study of the north and central Delta is being prepared and is expected to be reviewed by the Central Valley Fish Facility Review Team, the Interagency Ecological Program and an independent Science review panel prior to implementation. A draft study proposal is expected to be available by 2006.

Through-Delta Facility:

In past studies conducted, an independent science panel has reviewed study proposals to address 22 unknowns outlined in the overall work plan for the DCC and TDF. The panel's comments and suggestions were included in the final work study plans. Studies are currently being conducted to determine if sturgeon have the ability to swim up through a bypass flume system. A regional hydrodynamic study of the north and central Delta is being prepared and is expected to be reviewed by the Central Valley Fish Facility Review Team, the Interagency Ecological Program and an independent Science review panel prior to implementation. A draft study proposal is expected to be available by 2006.

North Delta Flood Control and Ecosystem Restoration Improvements Program:

Numerous science issues for North Delta Flood Control and Ecosystem Restoration Improvements Program include sedimentation processes, dendritic channel creation and function, exotics, mercury methylation, salinity/WQ effects (organic carbon, THM), subsidence reversal, mosquitoes, and hydrodynamics. DWR North Delta staff has engaged an academic peer review panel to address the above issues of concern. One very successful panel meeting was held in fall 2004 that built on the work of the two previous panel meetings. A final panel meeting is planned for 2005. Sediment studies have progressed and will be completed in 2005. There is no funding available for additional science studies.

SWP/CVP Intertie Actions – to consider the need for two specific SWP/CVP intertie projects which physically connect the SWP and CVP facilities.

Delta Mendota Canal/California Aqueduct Intertie:

Performance measures and/or adaptive management will be incorporated into the project in coordination with the Science program.

Clifton Court Forebay / Tracy Pumping Plant Intertie:

Work activities regarding this project are not expected to commence until year 7.

Complementary Actions – objectives that were not analyzed in the final Programmatic EIS/EIR.

Temporary Barriers Project:

Monitoring data and general performance of past operations of these barriers will guide the design of the Permanent Operable Gates.

Science Process

Some Conveyance Program projects have utilized Science review panel and/or workshops to incorporate input from the Science community. The science needs of each project will be evaluated separately, however, in most cases, it is expected that the use of Science advisors or Science review panels will be utilized to guide and support the development of the various Conveyance Program projects. An additional process will be developed to evaluate the overall Conveyance Program and the interaction among the various individual Conveyance projects as well the interaction with other CALFED Program Elements.

Application of science in major Conveyance Program activities

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
8,500 cfs and Permanent Operable Gates (South Delta Improvements Program)	X	X	X	X	X	X	ERP	\$2M
Clifton Court Fish Screens and 10,300 cfs	X	X	X	X	X	X	ERP DWQ	\$5M
Tracy Fish Test Facility	X	X	X	X	X	X	ERP	\$2M
Lower San Joaquin Flood Improvements							ERP Levees	Unfunded
Delta Cross Channel Re-Operation	X	X	X	X	X	X	ERP DWQ	\$3-4M
Through-Delta Facility	X	X	X	X	X	X	ERP DWQ	\$4-6M
North Delta Flood Control and Ecosystem Restoration Improvements Program	X	X	X	X	X	X	ERP Levees	Unfunded
Delta Mendota Canal/California Aqueduct Intertie								
Clifton Court Forebay / Tracy Pumping Plant Intertie								

Environmental Justice

Environmental Justice is an Implementation Principle in the Record of Decision which applies to all CALFED Program Elements. During the planning and development of the Conveyance actions, fair treatment will be sought of people of all races, cultures, and incomes, and proposed project actions shall not cause any segment of the population to bear a disproportionately high or adverse health, environmental, social, or economic impact. Particular emphasis will be placed on underserved and overburdened minority and low income communities.

Under those Conveyance actions involving environmental justice issues, the Conveyance Program will work with the Environmental Justice Coordinator and EJ Subcommittee to resolve these issues. The following is a description of the environmental justice activities associated with each of the Conveyance Program key objectives.

South Delta Actions – to increase State Water Project (SWP) and Central Valley Project (CVP) export capability, improve the Delta ecosystem through fish protective measures, and ensure that local in-Delta agricultural water needs are met.

8,500 cfs and Permanent Operable Gates (South Delta Improvements Program):

Environmental justice issues will be addressed through the environmental documentation impact analysis process.

Clifton Court Fish Screens and 10,300 cfs:

Major activities for this project are on hold.

Tracy Fish Test Facility:

No environmental justice concerns have been identified for this project.

Lower San Joaquin Flood Improvements:

This project, in collaboration with local community interests and stakeholders will research and identify the environmental justice issues during the EIR/EIS phase, which has not yet been planned.

North Delta Actions – to improve flood protection and conveyance facilities, water quality, Delta fisheries, and avoid water supply disruptions, to increase the water supply reliability for the SWP and CVP and to enhance the Delta ecosystem.

Delta Cross Channel Re-Operation:

No environmental justice concerns have been identified for this project.

Through-Delta Facility:

No environmental justice concerns have been identified for this project.

North Delta Flood Control and Ecosystem Restoration Improvements Program:

Environmental justice issues will be addressed through the environmental documentation impact analysis process.

SWP/CVP Intertie Actions – to consider the need for two specific SWP/CVP intertie projects which physically connect the SWP and CVP facilities.

Delta Mendota Canal/California Aqueduct Intertie:

Effects on environmental justice are being analyzed using the same significance criteria applied in the CALFED Final Programmatic EIS/EIR. Preliminary analysis indicates that no environmental justice impacts would occur.

Clifton Court Forebay/Tracy Pumping Plant Intertie:

Work activities regarding this project are not expected to commence until year 7.

Complementary Actions – objectives that were not analyzed in the final Programmatic EIS/EIR.

Temporary Barriers Project:

As an ongoing project since the early 1990's, the original environmental documents upon which this project was approved were not prepared to address more recent issues such as environmental justice. The South Delta Improvements Program (SDIP), which includes permanent barriers to replace the temporary barriers, is expected to address this issue.

Tribal Relations

Tribal knowledge and involvement in the implementation and evaluation of the Conveyance Program is an Implementation Principle in the Record of Decision. During the planning and development of the Conveyance actions, a determination of the need for tribal involvement will be made for each project as early as possible. This may generally occur during the environmental documentation phase of the project.

The CALFED Record of Decision made the following commitment to tribal consultation: "The CALFED Agencies will actively engage federally recognized tribal governments in the planning and development of specific projects in their areas and will consult with such tribes on a government-to-government basis, to the greatest extent practicable and to the extent permitted by law, prior to taking actions that affect such tribal governments.

A major effort of the Bureau of Indian Affairs and Tribes is to protect and preserve Indian Trust Assets in the areas of water rights, water quality, water supply, archeological resources protection(cultural resources), and watershed protection and improvements. Under those Conveyance actions needing tribal involvement, the Conveyance Program will work with tribal representations to resolve issues concerning these areas.

The following is a description and/or status of the tribal relations activities associated with each of the Conveyance Program key objectives.

South Delta Actions – to increase State Water Project (SWP) and Central Valley Project (CVP) export capability, improve the Delta ecosystem through fish protective measures, and ensure that local in-Delta agricultural water needs are met.

8,500 cfs and Permanent Operable Gates (South Delta Improvements Program):

Tribal relations issues will be addressed through the environmental documentation impact analysis process.

Clifton Court Fish Screens and 10,300 cfs:

Major activities for this project are on hold.

Tracy Fish Test Facility:

No tribal concerns have been identified for this project.

Lower San Joaquin Flood Improvements:

This project will be defining the tribal relation issues during the EIR/EIS phase, which has not yet been planned.

North Delta Actions – to improve flood protection and conveyance facilities, water quality, Delta fisheries, and avoid water supply disruptions, to increase the water supply reliability for the SWP and CVP and to enhance the Delta ecosystem.

Delta Cross Channel Re-Operation:

No tribal concerns have been identified for this project.

Through-Delta Facility:

No tribal concerns have been identified for this project.

North Delta Flood Control and Ecosystem Restoration Improvements Program:

Tribal relations issues will be addressed through the environmental documentation impact analysis process.

SWP/CVP Intertie Actions – to consider the need for two specific SWP/CVP intertie projects which physically connect the SWP and CVP facilities.

Delta Mendota Canal/California Aqueduct Intertie:

Reclamation provided the draft EA/IS to all interested parties for review and comment. This distribution included interested tribes.

Clifton Court Forebay/Tracy Pumping Plant Intertie:

Work activities regarding this project are not expected to commence until year 7.

Complementary Actions – objectives that were not analyzed in the final Programmatic EIS/EIR.

Temporary Barriers Project:

The Temporary Barriers Project is an ongoing program of seasonally installed rock barriers. The sites for the barriers are highly disturbed from agricultural activities, levee construction, and maintenance. The sites have been surveyed for prehistoric or historic archeological and cultural resources during the preparation of the original environmental documents for the project. The Native American Heritage Commission was contacted as part of the survey. No such resources were found.

Cross-Program Relationships

The planning and development of the various actions under the Conveyance Program will involve a coordinated effort with other CALFED Program Elements. This coordinated effort will occur at the working level as well as the management and oversight levels and may vary from project to project. Project teams, work groups and/or committees will be utilized and briefings will be made to respective Bay-Delta Public Advisory Committee subcommittees to ensure the needed project coordination across all CALFED Program Elements.

Storage – The development of 8500 cfs/Permanent Operable Gates Clifton Court Fish Screens/10,300 cfs, Delta Cross Channel Reoperation, Through-Delta Facility, and Franks Tract projects will be coordinated with the various Storage projects to ensure that the operational benefits of these projects are maximized and the impacts are minimized. .

Environmental Water Account (EWA) – The development of 8500 cfs/Permanent Operable Gates and Clifton Court Fish Screens/10,300 cfs projects will involve coordination with the EWA Program to ensure the operational feasibility of the proposed actions.

Water Transfer – Similarly, the development of 8500 cfs/Permanent Operable Gates and Clifton Court Fish Screens/10,300 cfs will involve coordination with the Water Transfers Program.

Drinking Water Quality – The operations of 8500 cfs/Permanent Operable Gates, Clifton Court Fish Screens/10,300 cfs, Delta Cross Channel Re-operation, Through-Delta Facility, Franks Tract, Old River and Rock Slough Water Quality Improvement Projects are expected to have an impact on water quality in the Delta. As a result, these projects will be developed in coordination with the Water Quality Program.

Ecosystem Restoration – Studies and programs related to the Clifton Court Fish Screens, Lower San Joaquin River Flood Improvements, 8500 cfs/Permanent Operable Gates, Delta Cross Channel Re-Operation, Through Delta Facility, Franks Tract, and North Delta Flood Control and Ecosystem Restoration Improvements will be coordinated with the Ecosystem Program. Conveyance projects such as the Lower San Joaquin River Flood Improvement Project, North Delta Flood Control and Ecosystem Restoration Improvement Program, Sacramento and San Joaquin Comprehensive Study and possibly others will have direct and indirect land-use implications for rural communities and agricultural landowners in the Delta. These projects will coordinate their planning and development efforts with the Bay-Delta Public Advisory Committee's Working Landscape Subcommittee to integrate, to extent reasonably possible, a working landscape approach to their implementation.

Levee System Integrity – The development of Lower San Joaquin Flood Improvements and North Delta Flood Control and Ecosystem Restoration Improvements Program are expected to involve levee improvements in the Delta and involve coordination with the Levee System Integrity Program.

Funding

Conveyance (\$ in millions)	Yr 6	Yr 7	Yr 8	Yr 9	Grand Total
State ¹	\$ 27.3				\$ 27.3
Federal ²	\$ 2.4				\$ 2.4
Water User ³	\$ 15.4	\$ 0.1	\$ 0.1	\$ 0.1	\$ 15.7
Available Funding Total	\$ 45.1	\$ 0.1	\$ 0.1	\$ 0.1	\$ 45.4

1. State funding includes \$19.92 million from the final enacted budget in Year 6 (FY 05-06) and \$8.32 million available funding from prior years for the California Bay-Delta Authority (Authority), Department of Water Resources (DWR), and the Department of Fish and Game (DFG). Of the \$19.92 million in State funding for FY 05-06, \$2.6 million may not be available pending legislative discussion. This program plan does not consider the \$2.6 million available. The State budget includes the \$19.92 million described here as State funding, as well as State Water Project funding (\$14.4 million) described as water user funding, for a total of \$34.34 million.

2. Federal funds are the President's Budget for the US Bureau of Reclamation (Reclamation). Federal appropriations beyond Year 6 are unknown.

3. Water user funding includes State Water Project funds and CVPIA Restoration funds that are collected from state water contractors and Central Valley Water Project water users, but are budgeted and appropriated through the federal and state governments.

Funding By Task

Conveyance (\$ in millions)	Yr 6	Yr 7	Yr 8	Yr 9	Grand Total
1) 8,500 cfs - Permanent Operable Gates	\$ 22.3				\$ 22.3
2) Clifton Court Fish Screens / 10,300 cfs	\$ 1.0				\$ 1.0
3) Tracy Fish Test Facility ¹	\$ 6.5				\$ 6.5
4) Lower San Joaquin Flood Improvements					\$ -
5) Delta Cross Channel Re-operation ²	\$ 1.3				\$ 1.3
6) Through Delta Facility ³	\$ 6.8				\$ 6.8
7) North Delta Flood Control & Ecosystem Restoration Improvement Project	\$ 0.5				\$ 0.5
8) Delta Mendota Canal / California Aqueduct Intertie					\$ -
9) Clifton Court Forebay/Tracy Pumping Plant Intertie	\$ -				\$ -
10) Temporary Barriers	\$ 6.6				\$ 6.6
11) Oversight, Coordination & Science	\$ 0.1	\$ 0.1	\$ 0.1	\$ 0.1	\$ 0.4
Available Funding Total	\$ 45.1	\$ 0.1	\$ 0.1	\$ 0.1	\$ 45.4
¹ Includes approx. \$4.1 million in Proposition 13 funds from prior year for CHTR Study ² Includes approximately \$1.2 million in Proposition 13 funds from prior year for fish facility studies ³ Includes approximately \$6.5 million in Proposition 13 funds from prior year for fish facility studies					

Geographical Distribution of Activities

