

Appendix B

Actions Status by Evaluation Topic

This appendix describes the status and progress of the 85 actions recommended in the *Delta Vision Strategic Plan*. Actions are grouped by the evaluation topics described in Section 2 of the *2012 Delta Vision Report Card*.

Near-Term Actions	B-3
Governance	B-11
Ecosystem Restoration and Recovery	B-20
Delta Vitality and Security	B-42
Water Supply Reliability	B-61

Acronyms

The following are the acronyms used in this appendix.

AWMC	Agricultural Water Management Council
BDCP	Bay-Delta Conservation Plan
BFA	State Board of Food and Agriculture
BTH	California Business, Transportation, and Housing Agency
Cal EMA	California Emergency Management Agency
CalEPA	California Environmental Protection Agency
Caltrans	Department of Transportation
CCWD	Contra Costa Water District
CDFA	California Department of Food and Agriculture
CDPR	California Department of Parks and Recreation
cfs	cubic feet per second
CUWCC	California Urban Water Conservation Council
CVP	Central Valley Project
CVFPB	Central Valley Flood Protection Board
CVFPP	Central Valley Flood Protection Plan
Central Valley Regional Board	Central Valley Regional Water Quality Control Board
CWC	California Water Commission
Conservancy	Sacramento-San Joaquin Delta Conservancy
CZMA	Coastal Zone Management Act
Delta	Sacramento-San Joaquin River Delta
DFG	California Department of Fish and Game
DOC	U.S. Department of Commerce
DOI	U.S. Department of the Interior
DPC	Delta Protection Commission
DSC	Delta Stewardship Council
DSP	Delta Science Program
DVF	Delta Vision Foundation
DVSP	Delta Vision Strategic Plan
DWR	California Department of Water Resources
EIR	Environmental Impact Report
EIS	Environmental Impact Statement
ERP	Ecosystem Restoration Program
ESA	Endangered Species Act
ESP	Economic Sustainability Plan

2012 Delta Vision Report Card

FEMA	Federal Emergency Management Agency
IEP	Interagency Ecological Program
IRWM	Integrated Regional Water Management
ISB	Independent Science Board
MOU	Memorandum of Understanding
NMFS	National Marine Fisheries Service
NPDES	National Pollution Discharge Elimination System
NRCS	Natural Resources Conservation Service
NTA	Near-term Action
OCAP	Operational Criteria and Plan
Reclamation	Bureau of Reclamation
Regional Board	Regional Water Quality Control Board
Resources	California Natural Resources Agency
SLC	State Lands Commission
State Board	California State Water Resources Control Board
SWP	State Water Project
TMDL	Total Maximum Daily Load
USACE	U.S. Army Corps of Engineers
USDA	U.S. Department of Agriculture
USEPA	U.S. Environmental Protection Agency
USFWS	U.S. Fish and Wildlife Service
USGS	U.S. Geological Survey

Progress Evaluation

The Delta Vision Foundation assessed the status of each action in the *DVSP* using a ten-point scale (0 to 10), as follows.

Progress and Completion		
0 points	No action	No action by Governor, Legislature, or Agency Director to initiate
1 point	Authorized	Legislative authority granted and Administrative direction and initial funding provided
2 points	Initiated	Purpose defined, work plan and schedule developed, team assembled
3 points	Planned	Planning complete, ready for implementation.
4 points	In Progress Early	Implementation begun, funding authorized, workforce mobilized
6 points	In Progress Mid	Implementation substantially underway
8 points	In Progress Late	Implementation nearing completion
10 points	Completed	Action completed, ongoing adaptive management and maintenance

Actions Status by Evaluation Topic

Action # Action Name

State Lead

Action Description

Other Responsible Organizations

Evaluation Topic: 1 - Near-term Actions

NTA01 Water Diversion Information

State Board

Obtain needed information on water diversion and use.

State Board, DWR

Progress Score: 4 **Enacting Legislation:** Water Code Sections 85086(a), 85230, and 5100

Status Description:

The 2009 water legislation (SBX7-1) directed the State Board to establish an effective system of Delta watershed diversion data collection and public reporting by December 31, 2010. As required by the legislation, the State Board appointed Craig Wilson as the Delta Watermaster, effective August 1, 2010 and delegated authority to him on October 5, 2010. The State Board has an online reporting tool for water rights diversion reporting. SBX7-8 requires diverters to report monthly after January 1, 2012.

The State Board adopted emergency regulations on November 2, 2010 to add chapter 2.7 to the California Code of Regulations (CCR) providing for electronic filing of reports of water diversion or use. The regulations require mandatory electronic filing of reports on the State Board website to report: (1) Changes in Name, Address, or Ownership; (2) Supplemental Statements of Water Diversion and Use; (3) Progress Reports by Permittee; (4) Reports of Licensee; and (5) Notices of Groundwater Extraction and Diversion. The chapter also requires watermasters who choose to file annual reports with the Board to file such reports on electronic spreadsheets acceptable to the Board.

The State Board has created a computer database and online information system for water rights reporting, the Electronic Water Rights Information Management System (eWRIMS). eWRIMS contains information on water right permits and licenses that have been issued by the State Water Resources Control Board and its predecessors. The eWRIMS Report Management System provides water right holders the ability to report monthly diversion and use electronically. Four types of water use reports are supported by the system: Supplemental Statements of Diversion and Use, Report of Licensee, Progress Report by Permittee, and Groundwater Extraction Notices.

eWRIMS consists of both a tabular database and an integrated geographic information system (GIS). Users can search eWRIMS data by several criteria, including the water right owner's name, watershed, stream system, and county. Users can then plot the results. The GIS will visually display the point(s) of diversion for each of the water rights that match search criteria. In the GIS, users can view important information about each water right that you've selected.

On May 31, 2011 the State Board's Office of Delta Watermaster developed an interoffice memorandum on the new requirements for measurement of water diversions. The State Board held a workshop to consider information regarding water diversion measurement on Thursday, July 21, 2011. The Board posted guidance on how to comply with the new measurement requirements and sent letters to all diverters.

Actions Status by Evaluation Topic

Action # Action Name

State Lead

Action Description

Other Responsible Organizations

NTA02 Delta Information Collection

Delta Protection Commission

Initiate collection of improved socio-economic, ecosystem, and physical structure data about the Delta to inform policy processes and project level decision making by all public agencies, local, state, and federal.

DWR, DFG, DPC, DSC, State Board, Regional Boards, and Local Govts

Progress Score: 3 **Enacting Legislation:** Public Resources Code section 29759, Water Code Section 85086(a), Water Code 12924, Water Code Sections 13167 and 13181

Status Description:

Diversions - Water Code section 85086(a) instructs the State Board to establish an effective system of Delta watershed diversion data collection and public reporting by December 31, 2010 (see NTA01).

Groundwater - Water Code section 12924 establishes a program for the collection of groundwater elevation data. As a result, DWR has created the California Statewide Groundwater Elevation Monitoring Program (CASGEM) to collect groundwater elevations and make the data available online. By September 2011, DWR had received 407 basin monitoring notifications. Monitoring Entities conducted the first round of groundwater elevation monitoring in Fall 2011, and resulting data must be submitted to DWR by January 1, 2012. Designated Monitoring Entities and the respective groundwater basins are posted and updated on the CASGEM Designated Monitoring Entities webpage: http://www.water.ca.gov/groundwater/casgem/designated_entities.cfm.

Aquatic species and habitat - The IEP initiated an inventory of research and monitoring in the Delta to improve information sharing and facilitate decision-making. The IEP includes: DWR, DFG, and the State Board; USFWS, Reclamation, USGS, USACE, NMFS, and USEPA; and the San Francisco Estuary Institute. The IEP agencies have compiled an inventory of studies and monitoring efforts related to IEP core and agency-directed studies. The IEP Coordinators have initiated a business process review to ensure there is an on-going process to manage, track and report all research and monitoring efforts. The IEP is supporting efforts to develop a public facing website (CA Water Monitoring Council's My Water Quality portal).

Water quality - In November 2007, CalEPA and Resources signed a Memorandum of Understanding (MOU) to establish the California Water Quality Monitoring Council (Monitoring Council). Water Code Sections 13167 and 13181 and the MOU require the Monitoring Council to develop recommendations to improve the coordination and cost-effectiveness of monitoring, enhance the integration of data, and increase public accessibility to data. On March 11, 2011 the Aquatic Science Center issued the first annual "Pulse of The Delta 2011: Monitoring and Managing Water Quality in the Sacramento-San Joaquin Delta. Re-Thinking Water Quality Monitoring," highlighting water quality issues, including wastewater treatment plant discharges. The draft "Pulse of the Delta 2012" was released in March 2012. See also Action 3.5.4, Comprehensive Delta Monitoring.

Socio-economic - Public Resources Code section 29759 requires the DPC to adopt an Economic Sustainability Plan by July 1, 2011. The Draft ESP (October 10, 2011) compiled baseline socio-economic data for the Delta. The ESP recommended additional and ongoing data collection regarding recreation, development of an economic scorecard for the Delta, and additional engineering and economic research by the Delta Science Program.

Actions Status by Evaluation Topic

Action # Action Name

State Lead

Action Description

Other Responsible Organizations

NTA03 In-stream Flow Analysis

Department of Fish and Game

Accelerate completion of in-stream flow analyses for the Delta watershed by the Department of Fish and Game. DFG, USFWS, NMFS

Progress Score: 2 **Enacting Legislation:** Water Code Section 85084.5

Status Description:

The 2009 water legislation (SBX7-1) directed DFG, in consultation with USFWS and NMFS, to develop and recommend to the State Board Delta flow criteria and quantifiable biological objectives for aquatic and terrestrial species of concern dependent on the Delta by November 2010. DFG completed its report "Quantifiable Biological Objectives and Flow Criteria for Aquatic and Terrestrial Species of Concern Dependent on the Delta" on December 3, 2010.

DFG released the 2011 in-stream flow program annual report in February 2012, which provides a general work plan for 2012. (<http://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=41954>)

The new instream flow studies on Delta tributaries began in the fall of 2011 and will extend through 2021. DFG hired three permanent staff and two scientific aides to conduct SBX7-1 studies. The new staff have been involved in several training efforts, and have developed a work plan and schedule for evaluating and recommending instream flow studies for the 10-year effort. DFG continues to coordinate with the State Board regarding which Delta tributaries will be prioritized. Staff has completed a work plan for evaluating and implementing the Sacramento- San Joaquin Rivers Delta Tributary instream flow studies through SBX7-1. Once contracts are in place, DFG staff will team with USFWS to complete the first Delta Tributary instream flow study on Lower Butte Creek starting fall 2012. The IFP is currently assisting Region 2 staff conducting an instream flow study on Auburn Ravine. The IFP is coordinating with Region 1 staff pending contracts issued for instream flow studies on Deer and Mill Creeks in 2012.

See also 3.4.1, Instream Flows.

Actions Status by Evaluation Topic

Action # Action Name

State Lead

Action Description

Other Responsible Organizations

NTA04 Middle River Two Barrier Project

Department of Water Resources

Conduct a Middle River Corridor Two Barrier pilot project.

DWR, DFG, Central Valley Regional Board, SLC, Reclamation

Progress Score: 2 **Enacting Legislation:** Water Code Sections 85085 and 85350

Status Description:

The 2009 water legislation (SBX7-1) directed DFG to coordinate with the State Board, the regional water quality control boards, and the SLC and their efforts to cooperate with Reclamation to construct and implement the Two-Gates Fish Protection Demonstration Project by December 1, 2010. The legislation appropriated \$28M to DWR for the project.

Work on the Two Barrier Project has been suspended due to high cost and concerns that it would not achieve the desired benefits and could have significant impacts on listed fish by increasing predator habitat and adversely affecting critical habitat. IEP is conducting turbidity studies associated with early winter outflow to assess Delta smelt movement. A report on initial field investigations is in preparation. Additional field work is planned for winter 2012-2013. These studies are not assessing the effectiveness of flow control structures since none are in place or planned to be constructed.

NTA05 CCWD Alternate Intake Project

Contra Costa Water District

Complete construction of an alternative intake for the Contra Costa Water District.

CCWD

Progress Score: 10 **Enacting Legislation:**

Status Description:

The Alternate Intake Project is complete and was dedicated on July 20, 2010.

NTA06 Three Mile Slough Barrier

Department of Water Resources

Evaluate the effectiveness of a Three Mile Slough Barrier project.

DWR, Reclamation, DFG

Progress Score: 2 **Enacting Legislation:** Water Code Section 85085(b)

Status Description:

The 2009 water legislation (SBX7-1) directed DFG to evaluate the effectiveness of the Three Mile Slough Barrier project. This project is an alternative being evaluated as part of the Franks Tract Project. In February 2009, Reclamation published the "Initial Alternatives Investigation Report" on potential improvements in the North and Central Delta. The report recommends further investigation of the Three Mile Slough Barrier and the West False River Barrier. The Draft EIR on the projects was planned for Spring 2011, with a Record of Decision in Spring 2012, and construction beginning in Summer 2012. The project has been delayed by difficulties in developing agreement between DWR and Reclamation on modeling baselines, lack of federal budget for Reclamation participation and review, and redirection of staff to work on OCAP biological opinions. The date for the Draft EIS/EIR has been revised to April 2013 although federal funding to meet that date is uncertain.

Actions Status by Evaluation Topic

Action # Action Name

State Lead

Action Description

Other Responsible Organizations

NTA07 Clifton Court Fish Screen Demonstration

Department of Water Resources

Construct a demonstration fish protection screen at Clifton Court Forebay.

DWR, DFG

Progress Score: 2 **Enacting Legislation:**

Status Description:

In July of 2010, MWD of So Cal, CCWD, SCVWD, ACWD, and Zone 7 initiated a feasibility-level study of low-flow fish screens at Clifton Court Forebay, building upon DWR's December, 2009 Low-flow Intake Technical Analysis Report. The final report is expected soon, potentially followed by an independent science review. Preliminary results indicate that there may be both fish and water supply benefits from installing fish screens at Clifton Court that would operate only during low flow diversion periods (typically in the winter).

Actions Status by Evaluation Topic

Action # Action Name

State Lead

Action Description

Other Responsible Organizations

NTA08 Near-term Ecosystem Restoration

Department of Fish and Game

Advance near-term ecosystem restoration opportunities.

DWR, DC, DFG

Progress Score: 3 **Enacting Legislation:** Water Code Sections 85085(c) and (d)

Status Description:

The 2009 water legislation (SBX7-1) directed DFG to expeditiously move ahead with the DVSP near-term actions and assist in implementing early action ecosystem restoration projects. These projects include, among others, the Dutch Slough and Meins Landing tidal marsh restorations.

In coordination with the other ERP implementing agencies (USFWS and NMFS), DFG is finalizing the ERP Conservation Strategy for release in June 2012 as a "single blueprint for ecosystem restoration" for the Delta. The ERP has identified near-term land acquisition and habitat enhancement priorities for the Delta. These projects were identified based on habitat types that fit into upland, intertidal, and subsided/deep open water classifications and would provide achievement toward meeting the ERP Goals. Restoration of intertidal and shallow subtidal areas continues to be a very high priority for the Delta while considering potential concerns about promoting invasive species and the methylation of mercury in sediments.

Near term Ecosystem Restoration Actions included in the recently completed Fish Restoration Program Agreement Implementation Strategy (see 3.1.2, Tidal Habitat Restoration).

In the Cache Slough Complex:

Prospect Island Tidal Habitat Restoration. Status: Hydraulic modeling of 15 levee breach alternatives to aid selection of design alternatives. Challenges: access to adjacent property following levee breach, trespassing and vandalism, legal access issues with adjoining property owners; Ryer Island levee seepage. DFG is investigating the removal of the Deep Water Ship Channel levee (or a portion of it) on the west side of Prospect Island, however, USACE and the bar pilots association (the folks who drive the ships in the channel) are concerned about how that would affect navigation of the DWSC and flood control.

Liberty Island/Cache Slough Enhancement Plan. Status: ongoing monitoring for habitat use by fisheries, working on habitat management plan for island.

Lindsey Slough/Calhoun Cut Freshwater Tidal Marsh Enhancement. Status: Feasibility evaluation complete, 30% design completed. Challenges: Permitting through the USACE and RWQCB regarding on-site beneficial use of dredged material. USACE is working through the difficulties of permitting tidal marsh restoration. Solano County Water Agency has concerns over increased primary production/nutrients in the system and the negative effects it would have on water quality near the Barker Slough Pumping Plant.

Lower Yolo Ranch Aquatic Habitat Restoration. Status: Restoration to be done by State Water Contractors; DFG coordinating for project planning and permitting.

Battle Creek Salmon and Steelhead Restoration Project. Status: FRPA provides for a one-time contribution of \$12 million towards this project. Challenges: The first contribution of less than \$6 million has been used to facilitate a landowner buyout, which has resulted in a future project savings of greater than \$10 million. The remaining \$6+ million is being transferred to USBR to complete Phase 1 and begin Phase 2 of the Project.

Actions Status by Evaluation Topic

Action # Action Name

State Lead

Action Description

Other Responsible Organizations

In Suisun Marsh:

Hill Slough Tidal Marsh Restoration Project. Status: Writing management plan; in conceptual design and permitting phase; public draft EIR to be released early this June; construction tentatively scheduled for 2013. Challenges: Retrofit of PG&E towers to accommodate flooding; Grizzly Island Road improvement for continued access.

Meins Landing Tidal Marsh Restoration. Status: In planning & conceptual design phase. Challenge: Maintaining access for repair and maintenance of existing gas pipeline.

Rush Ranch. Status: In planning and conceptual design. Initial Study and Mitigated Negative Declaration should be completed by December 2012. Developing a system-wide management plan for invasive weed species; permitting in progress. Challenge: working through difficulties of permitting tidal marsh restoration. Construction challenge: control of invasive non-native perennial pepperweed (*Lepidium latifolium*) and general weed management solutions that avoid impacts to listed native plants.

Other actions:

Little Holland Tract Acquisition and Enhancement. Status: Land belongs to the USACE; DFG intends to work with USACE on solutions for restoration of Little Holland Tract as part of the Cache Slough Complex.

Battle Creek Salmon and Steelhead Restoration Project. In 1999, the Bureau of Reclamation received \$28 million Federal CALFED Bay-Delta Program Ecosystem Restoration Program (ERP) funds for project planning and implementation. ERP transferred an additional \$26,812,500 to Reclamation in 2008.
<http://www.battle-creek.net/>

Blacklock Restoration project. http://www.water.ca.gov/suisun/docs/Blacklock%20Restoration%20Plan_Final_062807.pdf

McCormack-Williamson Tract and Staten Island are part of a long-term coordination effort with DWR. An EIR has been completed to allow the island's levees to overtop and flood the island during storm events. The project is designed to implement flood control improvements that encourage establishment of aquatic and terrestrial habitats, native species, and ecological processes. The southern quarter of McCormack – Williamson Tract has been restored as inter-tidal and marsh habitat. Project implementation will restore and enhance approximately 2000 acres of various habitat types.

Actions Status by Evaluation Topic

Action # Action Name

State Lead

Action Description

Other Responsible Organizations

NTA09 Emergency Response Materials

Department of Water Resources

Stockpile rock and other emergency response materials.

DWR

Progress Score: 3 **Enacting Legislation:** Water Code Section 83002.7

Status Description:

In October 2010, DWR informed the DSC Early Actions Committee that stockpiles of rock have been placed in the Delta. DWR continues to add additional emergency response materials. For example, 5 miles of plastic sheeting have been stockpiled and bids are being sought to increase to 15 miles by the end of 2013.

Work is underway to establish 3 materials transfer sites in the Delta. Site screening evaluated 110 possible sites, which have been screened to 6 viable sites. Capital funding has been approved for purchase and construction. DWR expects to have 3 sites completed by mid-2013.

NTA10 Emergency Response Capacity Improvement

Emergency Management Agency

Assess and improve state capacity to respond to catastrophic events in the Delta.

Cal EMA, DPC, BTH, DFG, DWR

Progress Score: 2 **Enacting Legislation:** Water Code Section 85305(a)

Status Description:

The 2009 water legislation directed that the Delta Plan must attempt to reduce risks to people, property, and State interests and that the DSC may incorporate into the Delta Plan the emergency preparedness and response strategies for the Delta developed the Sacramento-San Joaquin Delta Multi-Hazard Coordination Task Force (Task Force). (See 6.1.1.)

Water Code Section 12994.5 established the Task Force, led by Cal EMA, to develop a draft emergency preparedness and response strategy for the Delta by January 1, 2011. The Task Force, which includes DPC, DWR, and a representative of each of the five Delta counties, was chartered on March 15, 2010.

On September 3, 2010, Cal EMA completed, and presented to the Governor's Office, the 2010 State of California Multi-Hazard Mitigation Plan (Multi-Hazard Plan), which includes the Sacramento-San Joaquin Delta Multi-Hazard Coordination Task Force Report. The report from the Sacramento-San Joaquin Delta Multi-Hazard Coordination Task Force Report was approved for release on May 9, 2012. The report describes recommended actions to improve emergency response planning and coordination in the Delta region.

DWR continues to increase stockpiles of emergency response materials.

Cal EMA and other agencies conducted emergency response exercises for a simulated flood event in the Delta the week of May 16, 2011.

Cal EMA and other agencies will prepare a Catastrophic Flood Plan by fall 2013.

Actions Status by Evaluation Topic

Action # Action Name

State Lead

Action Description

Other Responsible Organizations

Evaluation Topic: 2 - Governance

1.1.1 Statutory Co-equal Goals

Legislature

Write the co-equal goals into the California Constitution or into statute.

Governor and Legislature

Progress Score: 10 **Enacting Legislation:** Public Resources Code Section 29702, Water Code Sections 85054, 85020, 85021, 85022(c), and 85023

Status Description:

Enacting legislation complete. Accurately defines the Delta Vision Strategic Plan (DVSP) objectives including The Two Co-Equal Goals and policy objectives.

Federal law now incorporates the Two Co-Equal Goals. The Delta Plan notes that the federal Energy and Water Development Appropriations Act of 2012 (Title II of the Consolidated appropriations Act of 2012 (PL 112-074)) contains, in pertinent part, the following: The Federal policy for addressing California's water supply and environmental issues related to the Bay-Delta shall be consistent with State law, including the coequal goals of providing a more reliable water supply for the State of California and protecting, restoring, and enhancing the Delta ecosystem...Nothing herein modifies existing requirements of Federal law. (Section 205)

1.1.2 Administrative Co-Equal Goals

Governor

Incorporate the co-equal goals into the mandated duties and responsibilities of all state agencies with significant involvement in the Delta.

Governor and Legislature

Progress Score: 2 **Enacting Legislation:**

Status Description:

The Governor has not directly incorporated the co-equal goals into the mandated duties and responsibilities of relevant state agencies. In his January 12, 2012 State of the State speech, Governor Brown briefly included a commitment to the Delta co-equal goals, of which the agencies are sure to take note:

"Another huge issue we must tackle is water. Last week, Secretary of the Interior, Ken Salazar - met here in Sacramento with those in my administration who are working to complete the Bay-Delta Conservation Plan. Together we agreed that by this summer we should have the basic elements of the project we need to build. This is something my father worked on and then I worked on—decades ago. We know more now and are committed to the dual goals of restoring the Delta ecosystem and ensuring a reliable water supply."

Governor Brown announced the appointment of Felicia Marcus to the State Water Resources Control Board May 10, 2012. She has been a member of the DSC since 2010 so will add her understanding of the co-equal goals to the State Board.

Interviews with primary responsible agencies have shown that all agencies are considering the Two Co-Equal Goals and how to incorporate them into agency strategies and actions. Further definition of the Two Co-Equal Goals is needed in all agencies.

Actions Status by Evaluation Topic

Action # Action Name

Action Description

State Lead

Other Responsible Organizations

1.1.3 Requiring Achievement of Co-Equal Goals

Legislature

Require the achievement or advancement of the co-equal goals in all water, environmental, and other bonds, and operational agreements and water contracts or water rights permits that directly or indirectly fund activities in the Delta.

Governor and Legislature, Resources, CalEPA

Progress Score: 1 **Enacting Legislation:** Division 26.7, Section 79700

Status Description:

The Delta Plan requires that by 2100 the Two Co-Equal Goals of restoring the Delta ecosystem and providing a more reliable water supply for California will be the foundation of all State water management policies. Under the Delta Plan, no water rights decisions or water contracts that, directly or indirectly, affect the Delta may be made without considering the Two Co-Equal Goals.

The proposed water bond (SBX7-2) funds both ecosystem restoration and water supply reliability activities. The bond measure is scheduled for the November 2012 ballot, but is likely to be deferred to the November 2014 ballot.

The 2009 water legislation (SBX7-8) appropriated \$546 million of previously approved bond funds for activities in or related to the Delta: \$250M for integrated regional water management, \$32M for flood control, \$170M to reduce risk of levee failure that would jeopardize water conveyance, \$70M for stormwater flood management projects, and \$24M for grants to support natural community conservation plans.

7.1.1 Delta Stewardship Council

Legislature

Establish a California Delta Stewardship Council to replace the Bay-Delta Authority and take over CALFED programs.

Governor and Legislature

Progress Score: 10 **Enacting Legislation:** Water Code Sections 85034(c) and 85280(c)

Status Description:

The 2009 water legislation established the DSC as an independent State agency with a proposed 2011-2012 budget of \$43,972,000. Per the Fourth Staff Draft of the Delta Plan, the fundamental purpose of the DSC's "legally enforceable management plan" is to achieve the Two Co-Equal Goals and to "...develop, adopt and commence implementation of the Delta Plan by January 1, 2012."

The DSC assumed the duties and responsibility of the previous CALFED Bay-Delta Authority, as mandated by Water Code sections 85034(c) and 85280(c), which were added by the 2009 water legislation.

Actions Status by Evaluation Topic

Action # Action Name

Action Description

State Lead

Other Responsible Organizations

7.1.2 Delta Conservancy

Legislature

Establish a California Delta Conservancy as early as possible in the 2009 legislative session.

Governor and Legislature

Progress Score: 10 **Enacting Legislation:** Public Resources Code Sections 32320 and 32322

Status Description:

The 2009 water legislation established the Conservancy to act as a primary State agency to implement ecosystem restoration in the Delta. The Conservancy selected their Executive Officer, Campbell Ingram, in March 2011. The Conservancy Strategic Plan is due within 2 years.

All DVSP recommendations have been met, except: the Chair is elected by members, not appointed by the Governor as recommended. On February 17, 2011, Cindy Messer, Conservancy Interim Executive Officer, reported to Conservancy Board that no funding is available for fiscal year 2011-12 for strategic plan implementation, rent, and student services and that funding is uncertain for future years.

7.1.3 Delta Protection Commission

Legislature

Strengthen the Delta Protection Commission through legislation.

Governor and Legislature

Progress Score: 10 **Enacting Legislation:** Public Resources Code Sections 29735

Status Description:

The Legislature made the following changes to the DPC governance and authority:

- Directed the DPC to prepare and submit to the Legislature recommendations regarding the potential expansion of, or change to, the Primary Zone or the Delta.
- Tasked the DPC with issuing recommendations to the Stewardship Council on "methods of preserving the Delta."
- Reduced the terms of office of DPC members from 4 years to 2 years.
- Reduced DPC size from 23 members to 15 members.
- Instructed the DPC to develop an economic sustainability plan for the Delta.
- Gave the DPC authority to facilitate implementation of joint habitat restoration and enhancement plans.

Actions Status by Evaluation Topic

Action # Action Name

State Lead

Action Description

Other Responsible Organizations

7.1.4 Delta Science and Engineering Program

Legislature

Require the California Delta Stewardship Council to create a Delta Science and Engineering Program and a Delta Science and Engineering Board by September 1, 2009. Governor and Legislature

Progress Score: 10 **Enacting Legislation:** Water Resources Code Section 85280

Status Description:

The 2009 water legislation (SBX7-1) established the Delta Independent Science Board (ISB), whose members are to be appointed by the DSC. The ten current Delta ISB members were appointed by the DSC on May 27, 2010 for five-year terms. The DSC developed and approved a "Charge to the Delta ISB" on August 26, 2010. The Delta ISB replaces the previous CALFED Independent Science Board. The ISB has been reviewing and commenting on the drafts of the Delta Plan.

As required by the legislation, the DSC also has appointed a lead scientist, Clifford Dahm.

Actions Status by Evaluation Topic

Action # Action Name

State Lead

Action Description

Other Responsible Organizations

7.1.5 Water Diversion Compliance

State Board

Improve the compliance of diversions water use with all applicable laws.

State Board, DWR

Progress Score: 3 **Enacting Legislation:** Water Code Sections 85086, 85230, and 5100

Status Description:

The 2009 water legislation (SBX7-1) requires the State Board to "establish an effective system of Delta watershed diversion data collection and public reporting" by December 31, 2010.

SBX7-1 also requires the State Board to appoint a Delta Watermaster and delegate authorities to "exercise the board's authority to provide timely monitoring and enforcement of board orders and license and permit terms and conditions.... The Delta Watermaster's authority shall be limited to diversions in the Delta, and for the monitoring and enforcement of the board's orders and license and permit terms and conditions that apply to conditions in the Delta."

Additional legislation (SBX7-8) modified the reporting requirements for surface water diversions. Most Delta diverters were covered for the first time. The State Board or DWR are allowed to promulgate emergency regulations to implement the reporting requirements. The law requires any diverter who diverts water after December 31, 1965 to report by July 1 their diversions from the previous year. There are some limited exceptions. Diverters are required to begin reporting monthly starting January 1, 2012.

The penalty for willful misstatements is \$1,000 and/or 6 months in jail. The State Board may impose penalties of \$1,000 and \$500 per day for failure to submit reports. The legislation also continuously appropriates \$3.75M annually from the Water Rights Fund for 25 enforcement personnel at the State Board.

The State Board adopted emergency regulations on November 2, 2010 to add chapter 2.7 to the California Code of Regulations (CCR) providing for electronic filing of reports of water diversion or use. The regulations require mandatory electronic filing of reports on the State Board website to report: (1) Changes in Name, Address, or Ownership; (2) Supplemental Statements of Water Diversion and Use; (3) Progress Reports by Permittee; (4) Reports of Licensee; and (5) Notices of Groundwater Extraction and Diversion. The chapter also requires watermasters who choose to file annual reports with the State Board to file such reports on electronic spreadsheets acceptable to the Board.

Compliance with reporting requirements by Delta diverters increased through implementation of the following measures: outreach meetings in the Delta, letters to all Delta diverters who had initially failed to submit reports, and follow-up contacts. Compliance rates for submittal of reports by Delta diverters in 2011 is: Licenses, 95%, Permits, 100%, and Statements, 100%. Two Delta diverters were fined for failure to submit reports.

Actions Status by Evaluation Topic

Action # Action Name

Action Description

State Lead

Other Responsible Organizations

7.2.1 Delta Plan

Delta Stewardship Council

Develop a legally enforceable California Delta Ecosystem and Water Plan.

Governor and Legislature, DSC

Progress Score: 2 **Enacting Legislation:** Water Code Section 85300

Status Description:

The 2009 water legislation requires the DSC to develop a Delta Plan.

The DSC issued the Final (Sixth) Staff Draft Delta Plan on May 14, 2012. The process for appealing projects to the DSC for a consistency determination is described in statute and defined in the appeals procedures adopted by the DSC and attached for reference purposes as Delta Plan Appendix B.

7.2.2 Delta Plan Adaptive Management

Delta Stewardship Council

Institutionalize adaptive management through updates to the California Delta Ecosystem and Water Plan every five years.

Governor and Legislature, DSC

Progress Score: 2 **Enacting Legislation:** Water Code Section 85300

Status Description:

The Delta Reform Act requires updates to the Delta Plan every five years. This requirement is incorporated into the Final (Sixth) Staff Draft Delta Plan (5/14/12). The DSC Delta Science Program has developed an adaptive management strategy as part of the Delta Plan. The strategy is covered in detail in Delta Plan Appendix A.

Actions Status by Evaluation Topic

Action # Action Name

Action Description

State Lead

Other Responsible Organizations

7.2.3 Adaptive Management Program

Delta Stewardship Council

Charge the Delta Science and Engineering Board, with support of the Delta Science and Engineering Program, to develop a science-based adaptive management program to provide for continued learning of, and adaptation to, actions implemented by state, federal, and local agencies in the Delta.

Progress Score: 2 **Enacting Legislation:** Water Resources Code Section 85280

Status Description:

The 2009 water legislation established the Delta ISB with a mission to "provide the best possible unbiased scientific information to inform water and environmental decision-making in the Delta. That mission shall be carried out through funding research, synthesizing and communicating scientific information to policymakers and decision makers, promoting independent scientific peer review, and coordinating with Delta agencies to promote science-based adaptive management. The Delta Science Program shall assist with development and periodic updates of the Delta Plan's adaptive management program."

The DSC Delta Science Program has developed an adaptive management strategy as part of the Delta Plan. The strategy is covered in detail in Delta Plan Appendix A.

Note: All references to engineering were dropped from the code by the Delta Reform Act. The "Delta Science and Engineering Board" became the "Delta Independent Science Board (ISB);" the "Delta Science and Engineering Program" became the "Delta Science Program."

7.3.1 Financing Principles

Legislature

Enact a series of principles regarding design of financing into legislation authorizing the Delta Stewardship Council.

Governor and Legislature

Progress Score: 0 **Enacting Legislation:** Water Resources Code Section 85350

Status Description:

The 2009 water legislation (SBX7-1) authorizing the DSC did not include financing principles. The proposed 2012 water bond, (SBX7-2), includes provisions authorizing the California Water Commission to develop guidelines for determining the public benefits that would be eligible for the funds dedicated to water storage projects.

The Final Staff Draft Delta Plan includes a chapter on funding. The DSC proposes to develop a funding and finance plan following completion of the Delta Plan. The chapter suggests five funding principles along with a discussion of potential user fees. The chapter identifies five near-term funding needs, but does not provide any estimated costs.

The BDCP will include a chapter on funding the conservation measures included in the proposed plan, including facilities construction, operations and maintenance and ecosystem restoration. These actions are projected to cost \$20 to \$23 billion over 50 years.

Actions Status by Evaluation Topic

Action # Action Name

Action Description

State Lead

Other Responsible Organizations

7.3.2 Delta Governance Funding

Legislature

Establish a base of revenues outside the state General Fund for the work of the California Delta Stewardship Council, the Delta Conservancy, the Delta Protection Commission, and related core activities of the Department of Fish and Game, the Department of Water Resources, and the State Water Resources Control Board.

Governor and Legislature, DSC

Progress Score: 0 **Enacting Legislation:**

Status Description:

Other than the Water Bond (SBX7-2), no apparent direction has been provided on financing the work of the DSC, DC, DPC, and other agencies.

7.3.3 New Funding Sources

Legislature

Find new revenue sources beyond the traditional bond funds or public allocations.

Governor and Legislature, DSC, Others?

Progress Score: 0 **Enacting Legislation:**

Status Description:

Several bills have been proposed in the Legislature to provide long-term funding for ecosystem and water supply reliability projects in the Delta and/or statewide. Other bills would establish principles or an outline of a finance plan. None of these bills has passed.

Senator Wolk has proposed legislation (SB571) in the current session that would direct the CWC to develop a financing plan for water projects across the state and review and approve funding allocations, similar to the California Transportation Commission.

Actions Status by Evaluation Topic

Action # Action Name

Action Description

State Lead

Other Responsible Organizations

7.4.1 Federal Participation

Delta Stewardship Council

Use existing authority under the CALFED Record of Decision to maximize participation of federal agencies in implementation of the Delta Vision Strategic Plan until the Delta Plan is completed.

DSC, Others?

Progress Score: 2 **Enacting Legislation:** Water Code section 85082

Status Description:

Federal law now incorporates the Two Co-Equal Goals. The Delta Plan notes that the federal Energy and Water Development Appropriations Act of 2012 (Title II of the Consolidated appropriations Act of 2012 (PL 112-074)) contains, in pertinent part, the following: The Federal policy for addressing California's water supply and environmental issues related to the Bay-Delta shall be consistent with State law, including the coequal goals of providing a more reliable water supply for the State of California and protecting, restoring, and enhancing the Delta ecosystem...Nothing herein modifies existing requirements of Federal law. (Section 205)

The Final (Sixth) Staff Draft Delta Plan (5/14/12) notes that the DSC staff will work with federal agency representatives to explore opportunities for federal participation in Delta Plan implementation efforts to help those agencies comply with this new Congressional policy directive.

The DSC is engaging federal agencies in the Delta Plan by seeking their input and review of each iteration. The Resources Agency has been, and will continue to, coordinate with federal agencies in the BDCP planning process.

7.4.2 Coastal Zone Management Act Consistency

Delta Stewardship Council

Prepare the California Delta Ecosystem and Water Plan according to guidelines of the Coastal Zone Management Act, in order to achieve ongoing federal consistency.

DSC

Progress Score: 2 **Enacting Legislation:** Water Code sections 85300 (d)(1)(A) and 85300(d)(2)

Status Description:

The 2009 water legislation directed the DSC to craft the Delta Plan consistent with the federal Coastal Zone Management Act of 1972 (16 U.S.C. Sec. 1451 et 9 seq.), and submit the Plan for approval to the United States Secretary of Commerce. The Final (Sixth) Staff Draft Delta Plan (5/14/12) notes the following:

"[T]he Delta Reform Act requires the Council to pursue a compliance mechanism that requires consistency of federal actions. The Delta Reform Act identifies the federal Coastal Zone Management Act of 1972 (CZMA), or "an equivalent compliance mechanism," as the preferred means to accomplish this objective... In this regard, the Council staff has met, and will continue to meet, with federal agency representatives to identify the appropriate process to submit the Delta Plan to the Secretary of Commerce for approval under CZMA (and with representatives of the California Coastal Commission and the San Francisco Bay Conservation and Development Commission (BDCP), which administer California's coastal management program)."

Actions Status by Evaluation Topic

Action # Action Name

State Lead

Action Description

Other Responsible Organizations

Evaluation Topic: 3 - Ecosystem Restoration and Recovery

Actions Status by Evaluation Topic

Action # Action Name

Action Description

State Lead

Other Responsible Organizations

3.1.1 Floodplain Inundation

Department of Fish and Game

Increase the frequency of floodplain inundation and establish new floodplains.

DFG, DC, DWR

Progress Score: 2 **Enacting Legislation:**

Status Description:

Yolo Bypass

BDCP Conservation Measure 2 (CM2) in the February 2012 administrative draft of the BDCP Conservation Strategy calls for development of a Yolo Bypass fisheries enhancement plan. As currently written, CM2 would inundate the bypass by notching the Fremont Weir on the eastside of the bypass to increase the availability of floodplain habitat in the bypass for fish rearing and spawning. A Yolo Bypass Working Group has been established by the BDCP Program to develop implementation plans with local government, landowners, and others. The NMFS OCAP Biological Opinion Reasonable and Prudent Alternatives (RPA) requires Reclamation and DWR to prepare an implementation plan for restoration of habitat in the Yolo Bypass by December 31, 2011. Reclamation and DWR plan to submit their implementation plan for RPA actions 1.6.1 and 1.7 to NMFS by mid-May 2012 and file a NOI/NOP in early 2013.

Lower Putah Creek Re-alignment and Floodplain Restoration. Status: Conceptual designs currently being evaluated. Contract for permitting and design is in process with DFG contracting office. ERP is granting Yolo Basin Foundation funds to cover design and permitting costs. Challenges: Continued debate among multiple agencies and stakeholders over design concept – agricultural delivery channel or more naturalistic creek and locating where the water will be returned from the creek to the Delta or bypass to meet the Putah Creek accord and water right requirements. Securing additional funding.

Lisbon Weir Improvements and Tule Canal Connectivity. Status: Evaluating flow criteria to feed into design options. Project to be funded through BDCP or by responsible agencies for the Biological Opinions. Challenges: Current structure is costly to maintain; progress contingent on completion of larger programmatic environmental documentation.

Fremont Weir Fish Passage and increased floodplain inundation. Status: Currently in conceptual design phase, alternatives are being hydraulically modeled. Alternative development, selection, environmental documentation and permitting will begin early 2013. Challenges: loss of agricultural production, potential impacts to federally funded restoration sites, loss of public access during flooding, conflicting federal and state easements on private lands

Mokelumne River

The Ecosystem Restoration Program (ERP) Priorities include developing a mosaic of seasonal floodplain, riparian, shallow subtidal, and tidal marsh areas at the Cosumnes-Mokelumne Confluence (California Department of Fish and Game, July 21 2010).

San Joaquin River and upstream

The ERP Priorities also include recommendations, with respect to the Lower San Joaquin River: (1) a mosaic of seasonal floodplain, riparian, shallow subtidal and tidal marsh areas be developed; and (2) lands be acquired in the South Delta that will accommodate shallow subtidal and tidal marsh areas (California Department of Fish and Game, July 21 2010).

Actions Status by Evaluation Topic

Action # Action Name

State Lead

Action Description

Other Responsible Organizations

Other Floodplain Actions

McCormack-Williamson Tract. See NTA08, Near-term Restoration Actions.

Seasonally Inundated Floodplain Restoration. The BDCP has proposed CM5-Seasonally Inundated Floodplain Restoration, which includes restoring 10,000 acres of seasonally inundated floodplain habitat within the north, east, and/or south Delta.

FloodSAFE and California Water Plan

Floodplain inundation is an important component of statewide water management planning in the Central Valley Plan of Flood Protection and the California Water Plan. DFG is coordinating closely with DWR to incorporate ecosystem restoration into flood and water management actions. Flood bypass concepts for the Yolo Bypass and San Joaquin River are included in both planning activities. A working group has been established to develop plans and strategies for a new flood bypass in Paradise Cut.

Actions Status by Evaluation Topic

Action # Action Name

State Lead

Action Description

Other Responsible Organizations

3.1.2 Tidal Habitat Restoration

Department of Fish and Game

Restore tidal habitats and protect adjacent grasslands and farmlands throughout the Delta, with active near-term pursuit of restoration targets.

DFG, DC, DWR

Progress Score: 2 **Enacting Legislation:** Water Code Sections 85085(c) and (d)

Status Description:

The agencies are coordinating regional restoration planning efforts, including the Ecosystem Restoration Plan, the Fish Restoration Program Agreement, BDCP, the Delta Plan, the Delta Conservancy's Restoration Workgroup, and the Suisun Marsh Plan. DFG, NMFS, and USFWS are finalizing the ERP Conservation Strategy for the Delta (See NTA08, Near-term Restoration Actions)

Ecosystem Restoration Program (ERP)

ERP has 22 ongoing restoration projects in the CALFED Bay and Delta Region (including acquisition (4), planning (4), pilot/demonstration projects (2), full-scale implementation (2), monitoring (1), research (7), and technical support (2). These projects total approximately \$20M. Restoration of intertidal and shallow subtidal areas continues to be a very high priority for the Delta and will generally be located on the margins of lands near sea level.

Example ERP Tidal Marsh restoration projects:

ERP-02D-P54. Aims to acquire through easement up to 1100 acres of delta slough habitat in the Cache Slough Complex. Status: one 146-acre easement on the Thomas Ranch had been acquired, and an additional 155 acres of easements on Barker Slough are being considered. All easements for this project will be held by Solano Land Trust.

ERP-06D-S16, 07D-P01, and 07D-P02 are all aspects of a larger effort to acquire up to 500 acres in Suisun Marsh through either fee title or easement. S16 is paying for the DFG staff to manage the wider effort, P01 is covering the public notification and site selection, and P02 deals with the actual acquisition. When the acquisition occurs it is anticipated that Wildlife Conservation Board will either be the owner or hold the easement.

See Ecosystem Restoration Program Plan- Year 12 Annual Report (State FYs 2011-12; Federal FY 2012;

<http://nrm.dfg.ca.gov/FileHandler.ashx?documentversionid=79228>)

Fish Restoration Program Agreement (FRPA)

FRPA was signed on October 18, 2010, and addresses specific OCAP habitat restoration requirements of the USFWS and NMFS BOs for SWP and CVP operations, including the habitat restoration requirements of the DFG Longfin Smelt Incidental Take Permit (ITP) for SWP Delta Operations. The primary objective of the FRPA is to implement the OCAP BO fish habitat restoration requirements and related actions in the Delta, Suisun Marsh, and Yolo Bypass with a focus on 8,000 acres of delta smelt habitat, and 800 acres of longfin smelt habitat. The specific actions and mitigation acreage that will be implemented through FRPA as follows:

-DWR to restore minimum of 8,000 acres of intertidal and associated subtidal habitat in the Delta and Suisun Marsh (Delta Smelt BO RPA Component 4)

-Participate in the restoration of Battle Creek (NMFS BO RPA Actions 1.2.6)

Actions Status by Evaluation Topic

Action # Action Name

State Lead

Action Description

Other Responsible Organizations

-Funding and technical assistance for Yolo Bypass, Liberty Island and Lower Cache Slough fish passage improvement (NMFS BO RPA Action Suite 1.6 and 1.7)
-800 acres and associated subtidal wetland habitat in the mesohaline part of the Delta estuary (Longfin Smelt ITP Condition 7)

FRPA Milestones

- Fish Restoration Program Agreement (FRPA) signed on October 18, 2010.
- DFG hires Region and Water Branch Staff Environmental Scientists into FRPA program, Winter 2012.
- FRPA Implementation Strategy for Habitat Restoration and Other Actions for Listed Delta Fish approved March 9, 2012.
- Draft Cache Slough Complex Conservation Strategy completed early 2012.
- \$12 million transferred to the Battle Creek Salmon and Steelhead Restoration Project.
- DFG has proposed new staff ES positions to continue existing monitoring efforts in the Delta and support monitoring of FRPA actions required under the Biological Opinions and ITP.
- DFG will be finalizing plans and permitting to begin construction on the 900-acre Hill Slough restoration in summer 2012 and the Calhoun Cut restoration project in 2012.
- DWR has initiated planning to implement 800 acres of tidal habitat restoration as required by the Incidental Take Permit for Sacramento splittail, issued by DFG.

Performance Measures

Significant progress has been made towards generating performance measures for ecosystem restoration in the Delta, including the following.

- A full suite of draft performance measures is included in the ERP Conservation Strategy described above.
- Several coordinated efforts to generate performance measures for the Delta ecosystem are underway
 - the Delta Plan (in coordination with the DSP and DSC)
 - the Delta Conservancy's Ecosystem Restoration workgroup
 - the Ecosystem Monitoring workgroup for the My Water Quality web portal
- A conceptual model for tidal marsh function has been developed under DRERIP (see http://www.dfg.ca.gov/ERP/conceptual_models.asp), and expected outcomes are defined as part of each restoration project, e.g. work is underway for Prospect Island.

Actions Status by Evaluation Topic

Action # Action Name

Action Description

State Lead

Other Responsible Organizations

3.2.1 Habitat Corridors

Department of Fish and Game

Improve physical habitats along selected corridors by 2015.

DFG, DC, DWR

Progress Score: 2 **Enacting Legislation:**

Status Description:

DFG continues to plan for and promote habitat corridors and contiguous habitats in all of its conservation and restoration activities. Examples of programs include BDCP, Fish Restoration Program Agreement (FRPA) and related FRPA Implementation Plan, and ERP Conservation Strategy for Restoration, which guides ERP activities, DWR FloodSafe Environmental Stewardship Program, and county-level conservation planning.

Ecosystem Restoration Program

DFG projects that contribute to this action include Dutch Slough (expected to go to construction by June 2012), Lindsey Slough, Hill Slough and Liberty Island, the McCormack Williamson flood corridor, and the Putah Creek re-alignment in the Yolo Bypass. Two 2005 Prop 50 grants to develop habitat on working landscapes have also added habitat in the Delta and Delta watersheds upland in Yolo and Solano County. There were a number of agricultural habitat development projects on Delta islands. In Yolo and Solano Counties, nine Sacramento perch breeding ponds connected to the Delta were created in addition to miles of riparian habitat on Willow Slough and other agricultural water delivery channels.

In addition to habitat restoration actions in the Delta, there is significant interest in establishing a new connection between the Delta and the Suisun Marsh, by way of a new corridor connecting the Cache Slough Complex to northeastern Suisun Marsh. This proposed corridor currently contains a mosaic of perennial grasslands and vernal pool areas, and has been identified by local planners as having great potential for ecological benefits from restoration. ERP will therefore seek to protect existing habitat areas and to secure land and easement interests from willing landowners to enhance these resources.

FloodSafe

DWR is developing a Conservation Strategy for the Central Valley Flood Protection Plan (CVFPP), based on the Conservation Framework included in the Draft CVFPP. DFG is participating in the development of the Conservation Strategy to identify areas for restoration or recovery that will improve physical habitats in the selected corridors. DWR will be soliciting grant proposals this year for restoration projects that will provide early implementation restoration for the Conservation Strategy. These projects should be funded and underway by 2015. In the long term, DWR will also fund and implement additional projects that will improve habitat corridors through their larger effort to develop a NCCP/HCP for the CVFPP. DFG is coordinating with DWR on the early stages of development for an NCCP to identify habitat corridor and floodplain improvement opportunities.

County Planning

DFG also participates at a regional level with multiple counties in the development of county-wide NCCPs. For example, NCCPs are being developed in Butte, Yuba/Sutter, and Yolo Counties. These NCCPs all share boundaries and are being developed in consideration of the restoration and recovery actions established in each individual plan. DFG is coordinating among multiple agencies to facilitate the NCCP process, and this will lead to improved physical habitats in the selected corridors going through multiple county boundaries.

Actions Status by Evaluation Topic

Action # Action Name

State Lead

Action Description

Other Responsible Organizations

Other Activities

The California Essential Habitat Connectivity Project (CEHCP) (Spencer et al. 2010) mapped corridors to provide ecological integrity of existing preserved areas and those areas critical to maintaining sustainable populations of terrestrial species. The CEHCP can be used to complement ERP activities within a statewide context.

3.2.2 Fish Migration Flows

State Board

Provide adequate flows at the right times to support fish migrations, and reduce conflicts between conveyance and migration, by 2012. State Board, DWR, Reclamation

Progress Score: 2 **Enacting Legislation:** Water Code Sections 85084.5 and 85086

Status Description:

The 2009 water legislation directed the State Board to develop new Delta flow criteria by August 2010 as necessary to protect public trust resources. The new criteria are intended to inform planning decisions for the Delta Plan and the Bay Delta Conservation Plan.

On August 3, 2010, the State Board adopted Resolution 2010-0039 approving the final report on new flow criteria for the Delta ecosystem. On August 25, 2010 the State Board submitted the final flow criteria report to the Delta Stewardship Council.

Per statutory requirements, in December 2010 the State Board submitted to the legislature a prioritized schedule and estimate of costs to complete in-stream flow studies for the Delta and for high priority rivers and streams in the Delta watershed and Sacramento River watershed by 2018.

The 2009 water legislation (SBX7-1) also directed DFG, in consultation with USFWS and NMFS, to develop and recommend to the State Board Delta flow criteria and quantifiable biological objectives for aquatic and terrestrial species of concern dependent on the Delta by November 2010. DFG completed its report "Quantifiable Biological Objectives and Flow Criteria for Aquatic and Terrestrial Species of Concern Dependent on the Delta" on December 3, 2010.

See also 3.4.1, Instream Flows.

Actions Status by Evaluation Topic

Action # Action Name

State Lead

Action Description

Other Responsible Organizations

3.2.3 Flood Conveyance Capacity Expansion

Department of Water Resources

Immediately use the Central Valley Flood Protection Plan to identify areas of the San Joaquin River within and upstream of the Delta where flood conveyance capacity can be expanded.

DWR

Progress Score: 2 **Enacting Legislation:** Water Code Section 85306

Status Description:

The draft CVFPP, which identifies flood conveyance capacity expansion options in the north Delta and South Delta, was delivered to the Central Valley Flood Protection Board on December 30, 2011. The Board is conducting public review meetings around the Central Valley and expects to adopt the Plan by June 30, 2012. The Plan provides an overall framework for flood management. Regional studies, which will examine flood bypass opportunities on the San Joaquin River, will follow adoption of the Plan.

Actions Status by Evaluation Topic

Action # Action Name

Action Description

State Lead

Other Responsible Organizations

3.2.4 Delta Recreational Investment

Delta Protection Commission

Using the National Heritage Area and regional economic development planning efforts, begin immediately to identify ways to encourage recreational investment along the key river corridors.

DPC, Local Governments, DC, CDPR

Progress Score: 2 **Enacting Legislation:**

Status Description:

The DPC prepared a feasibility study on National Heritage Area (NHA) designation for the Delta (draft October 2011) and a Delta Economic Sustainability Plan (final January 2012). CDPR released the draft "Recreation Proposal for the Sacramento-San Joaquin Delta and Suisun Marsh" for public review in April 2011.

In October 2011, DPC completed a public review draft Feasibility Study for a (NHA) designation in the Sacramento-San Joaquin Delta. As the result of public comments, DPC made the recommendation that the NHA be expanded to include much of the Primary Zone of the Legal Delta plus the Carquinez Strait, Suisun Marsh, and the City of Rio Vista.

During March 2012, National Park Service (NPS) staff in San Francisco and Washington, D.C. reviewed the Feasibility Study for consistency with the NPS criteria for NHA. DPC staff is incorporating these comments into a final draft of the study which will then be sent back to NPS staff who will review the study and provide an official letter which states if it meets the ten NPS feasibility study criteria.

The final study would be forward to the Congressional Affairs Office, for support of legislation to be requested of a Delta Congressional Representative, by the DPC to establish a Delta NHA. DPC staff anticipates that the final study, along with the letter from NPS, will be presented at the July 2012 DPC meeting.

The Great California Delta Trail: Pursuant to the provisions of Senate Bill 1556 (Torlakson) DPC has continued to develop and plan a trail network through all five counties of the Delta. Grant funding from the California Coastal Conservancy as well as funding and resource commitments from Contra Costa County and the National Parks Service were received allowing DPC to initiate the outreach process in Contra Costa and Solano Counties. The Trail Blueprint Report for Contra Costa and Solano was completed in September 2010. It will be a model for the development of a Trail Blueprint Report for Sacramento, San Joaquin, and Yolo Counties; DPC staff commenced work on the new report in March 2012. When completed, DPC will present it for adoption by the Commission as well as the Boards of Supervisors for Sacramento, San Joaquin, and Yolo Counties. Stakeholder Advisory Committees and Technical Advisory Committees have been formed for each County to be part of the development process.

Actions Status by Evaluation Topic

Action # Action Name

State Lead

Action Description

Other Responsible Organizations

3.3.1 Fish Entrainment

Department of Water Resources

Reduce fish kills in Delta pumps by instituting diversion management measures by 2009, implementing near-term conveyance improvements by 2015, and relocating diversions.

DWR, Reclamation, Others?

Progress Score: 2 **Enacting Legislation:**

Status Description:

The courts have implemented revised requirements for SWP and CVP diversions. DWR and Reclamation are implementing the measures stipulated in the OCAP biological opinions. DWR has tested non-physical barriers at the head of Old River to reduce entrainment. Initial tests showed reduced entrainment but increased predation at the barrier. In related work, DWR is studying predation near the pumps to determine reduction targets.

Fish salvage data for 2011 shows mixed results. According to Geir Aasen's (CDFG) report "Fish Salvage at the State Water Project's and Central Valley Project's Fish Facilities During the 2011 Water Year," annual fish salvage (all fish species combined) at the TFCF was high at 8,724,498 (Figure 3). TFCF salvage was an increase from the record-low in 2010 (1,318,613), but well below the record high salvage of 37,659,835 in 2006 (Figure 3). Annual salvage at the SDFPF was 3,092,553. SDFPF salvage was an increase from 2007- 2010 which ranged from 646,290 to 2,484,282. (Interagency Ecological Program for the San Francisco Estuary (IEP) Newsletter Volume 25 No.1 Fall/Winter 2012.)

<NEED INFO FROM DWR AND RECLAMATION ON WHAT THEY ARE DOING ON FISH SCREENING.>

Pilot Projects

Beginning in fall 2009 the Lower Mokelumne River Partnership implemented three key management actions designed to improve survival and returns of fall-run Chinook salmon to the Mokelumne River while reducing stray rates to other Central Valley rivers (primarily the American River). The management actions were moving the release location for Mokelumne River Fish Hatchery Chinook production, initiating fall pulse/attraction flows, and working with USBR to initiate temporary closures of the Delta Cross Channel.

Based on three years of data it appears that the combined effects of the key management actions have achieved the stated goals. In each of the past three years Chinook returns to the Mokelumne River have improved and in 2011 the return was the highest observed since 1940 with an escapement of over 18,000 salmon. Stray rates to the American have markedly declined from over 50% in 2009 to < 10% in 2011. Based on these initial results EBMUD is working with its partners (DFG, USFWS, USBR) to develop a 5-year study plan to further evaluate the effectiveness of the management actions and identify potential operational constraints.

Actions Status by Evaluation Topic

Action # Action Name

State Lead

Action Description

Other Responsible Organizations

3.3.2 Invasive Species

Department of Fish and Game

Control harmful invasive species at existing locations by 2012, and minimize or preclude new introductions and colonization of new restoration areas to non-significant levels.

DFG, DWR, State Board, CDFA

Progress Score: 6 **Enacting Legislation:**

Status Description:

DFG is actively involved with the Invasive Species Council of California (ISCC) and the California Invasive Species Advisory Committee (CISAC). ISCC helps coordinate and ensure complimentary, cost-efficient, environmentally sound, and effective state activities for invasive species as advised and recommended by CISAC.

DFG's Invasive Species Program publishes a quarterly newsletter, Eyes on Invasives, dedicated to informing the public about current invasive species activities being conducted in California.

DFG's Marine Invasive Species Program coordinates with the State Lands Commission to control the introduction of nonnative species from the ballast of ocean-going vessels. The program includes biological surveys to monitor the coastal and estuarine waters of the state to determine the level of invasion by nonnative species, ballast water inspections, and monitoring and research. Survey sites within the Delta include: the Ports of Sacramento and Stockton, San Pablo Bay, Suisan Marsh, and San Francisco Bay.

DFG's Lands Program actively controls many invasive plant species on DFG-managed lands throughout the state using chemical and non-chemical methods. With the Delta Region, DFG controls invasive plants at Grizzly Island Wildlife Area (WA), Hill Slough, Petaluma Marsh WA, Peytonia Slough, Yolo WA, and Napa River Ecological Reserve.

DFG's final Ecosystem Restoration Program Conservation Strategy for Restoration of the Sacramento-San Joaquin Delta, Sacramento Valley and San Joaquin Valley Regions contains eight actions for Non-Native Invasive Species which have been incorporated into the DSC's Delta Plan, along with the supporting text. Including these actions in the Delta Plan has the potential to go a long way towards increased coordination in the control of invasive species in the Delta.

DFG is working with DWR to develop two conservation measures within the Delta Region under the BDCP that address: (1) controlling the introduction and spread of invasive aquatic plant species within BDCP aquatic restoration areas and (2) preventing the introduction of new and reducing the spread of existing aquatic invasive species via recreational watercraft, trailers, and other equipment.

DFG has funded, published, and/or assisted in the preparation of several documents, including response plans, action plans, guidebooks, and education/outreach materials; and developed and initiated response, action, and education/outreach programs for managing specific aquatic invasive species (AIS) such as Dreissenid mussels (quagga and zebra mussels).

Prevention is the least ecologically harmful and most cost effective way to combat invasive species. Statewide invasive species preventative actions

Actions Status by Evaluation Topic

Action # Action Name

State Lead

Action Description

Other Responsible Organizations

implemented by DFG within or that benefit the Delta Region include: assessing live bait as a vector and developing live bait regulations; developing a fish hatchery AIS protocol; developing and distributing AIS information in state hunting, fishing, and boating regulations and licenses; providing AIS outreach and education materials to the public, including direct mailings to boat owners, posting notifications at waterbodies, distributing informational cards at multiple locations statewide, and providing information through the media; providing watercraft inspection and decontamination trainings to local communities statewide; sponsoring Dreissenid mussel workshops; sponsoring AIS workshops for waterbody managers; initiating the development and implementation of AIS monitoring plans for high risk waters in the state; increasing inspections for AIS at California Department of Food and Agriculture Border Protection Stations; training and deploying DFG staff to survey and inspect waterbodies statewide; purchasing and deploying portable recreational equipment wash stations in each DFG Region; compiling AIS prevention and control programs; identifying reciprocal AIS inspection programs; and coordinating statewide AIS data.

USFWS published the AIS rapid response and economic feasibility study for the Delta in July 2011. It is available at:
<http://www.dfg.ca.gov/invasives/quaggamussel/>

Actions Status by Evaluation Topic

Action # Action Name

State Lead

Action Description

Other Responsible Organizations

3.4.1 Instream Flows

Department of Fish and Game

Charge the Department of Fish and Game with completing recommendations for in-stream flows for the Delta and high priority rivers and streams in the Delta watershed by 2012 and for all major rivers and streams by 2018.

Governor and Legislature, DFG

Progress Score: 2 **Enacting Legislation:** Water Code Sections 85084.5 and 85087

Status Description:

As a result of the settlement in California Coastkeeper Alliance v. McCamman, (Super. Ct. Sacramento County, 2007, No. 07-CS-01353, Notice of Final Settlement and Dismissal, May 30, 2008), DFG instituted its “Instream Flow Program” website in 2010 (http://www.dfg.ca.gov/water/instream_flow_docs.html). DFG will continue to maintain the web site by updating links to instream flow reports, documents, annual reports, work plans, study plans, priority stream list, flow recommendations, and historical flow studies. DFG continues to seek funding through grant programs and other efforts for implementation of the Instream Flow Program per the “DFG Instream Flow Program Annual Report 2011” released February 1, 2012 (<http://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=41954>).

The DFG may plan and implement investigations of flow and habitat relationships itself or contract externally, or use studies conducted by others to develop flow recommendations. DFG’s first instream flow study, “Minimum Instream Flow Recommendations: Butte Creek, Butte County” (<http://www.nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=14145>) was transmitted to the State Board in May 2009. DFG began preparing flow recommendations for the McCloud River in 2010, based on an existing flow study conducted by Pacific Gas and Electric Company (PG&E) for the Federal Energy Regulatory Commission (FERC) relicense of its hydroelectric facilities. In response to complex stakeholder concerns PG&E is conducting further data collection and reanalysis of the data. As a result, DFG will use the revised study, which will delay issuing flow recommendations.

The new instream flow studies on Delta tributaries began in the fall of 2011 and will extend through 2021. DFG hired three permanent staff and two scientific aides to conduct SBX7 1 studies. The new staff has been involved in several training efforts, and are currently coordinating with the Department’s Fisheries Branch to prioritize instream flow studies for key tributaries of the Sacramento River basin. Major tributaries of the San Joaquin River basin are already undergoing study as part of FERC relicense proceedings and the DFG has already provided input on these study plans, and may use the study results to make its own flow recommendations. At this time, DFG will focus new studies on Sacramento River tributaries. The IFP began assisting DFG Region 2 staff in conducting an instream flow study on Auburn Ravine in 2011. The lower Butte Creek study, a DFG priority for salmonids, is the first of major Delta tributary flow studies, to commence in the Fall of 2012 pending completion of a contract with the USFWS. Delays encountered during the federal and state contracting process prevented starting the study in 2011 as originally planned. The IFP is preparing for instream flow studies on Deer and Mill Creeks in 2012, as well. Instream flow studies typically include one to three years of field data collection, and one year of data analysis for a total of two to four years to submit a flow recommendation to the State Board.

Other priority Delta tributary rivers for which the DFG may develop flow recommendations over the next 10 years, include, but may not be limited to: Sacramento River tributaries of Battle Creek, Clear Creek, Antelope Creek, and Bear River; the Tuolumne River (current FERC study); the Merced River (current FERC study); the Middle Fork Feather River; the Stanislaus River (current USFWS study); the Shasta River – upstream of the Canyon Reach; and the Scott River. Several of these rivers are also on the DFG’s statewide list of 22 priority streams produced in compliance with Public Resources Code 10001. Many of these

Actions Status by Evaluation Topic

Action # Action Name

State Lead

Action Description

Other Responsible Organizations

rivers are also tributaries of the Delta identified by the SWRCB's Instream Flow Studies for the Protection of Public Trust Resources: A Prioritized Schedule and Estimate of Costs (2010). At the SWRCB's request, DFG provided its list of Sacramento River tributaries it will study so that the Board could refine its own schedule and avoid duplication of effort.

The DFG hosted a Riverine Habitat Simulation (RHABSIM) computer modeling analysis class in May 2011 for DFG and State Board staff. The IFP has been coordinating with DFG Fisheries Branch, DFG Engineering Branch, DFG Regions, USFWS, and other scientist and interested parties on instream flow study efforts.

The DFG continues to maintain a partnership with the State Board in 2011 and 2012 to align priority setting, study availability, and data evaluation. DFG staff provides field methods training, promotes instream flow study implementation coordination, and participates in quarterly coordination meetings to coordinate activities and explore collaboration options on Delta tributary and other flow studies with State Board staff.

In 2011, DFG initiated development of an instream flow Quality Assurance (QA) Program under contract with the QA Research Group at Moss Landing Marine Laboratories. The QA Program is developing Standard Operation Procedures and fact sheets to provide instream flow study design tools and guidance for agencies, contractors, and scientists to collect defensible, comparable instream flow data that meets DFG's needs under mandates in Public Resources Code 10000-10005.

Actions Status by Evaluation Topic

Action # Action Name

State Lead

Action Description

Other Responsible Organizations

3.4.2 Wet Period Diversions

State Board

Develop and adopt management policies supporting increased diversion during wet periods, a joint effort of the State Water Resources Control Board, the Department of Fish and Game, the Department of Water Resources, and related federal agencies, by 2012.

State Board, DFG, DWR, Fed. Agencies

Progress Score: 2 **Enacting Legislation:** Water Code Section 85086(c)(1)

Status Description:

The 2009 water legislation (SBX7-1) directed the State Board to prepare a report on Delta flow criteria. On August 3, 2010, the State Board adopted Resolution 2010-0039 approving the final report "Development of Flow Criteria for the Sacramento-San Joaquin Delta Ecosystem Prepared Pursuant to the Sacramento-San Joaquin Delta Reform Act of 2009." DFG, USFWS, NMFS reviewed the report. It contains the recommendations on increased diversion during wet periods. On August 25, 2010 the State Board submitted the final flow criteria report to the DSC.

DFG participates in various fish protection oversight committees related to implementation of the State and federal listed species incidental take permits and mitigation measures (Endangered Species Act and California Endangered Species Act). DFG provides scientific and technical input to reduce constraints on exports when water flows are high and when DFG does not believe there will be harm to listed species. The longfin smelt CESA Incidental Take Permit also has exceptions for pumping reduction actions when flows in the Sacramento or San Joaquin rivers exceed threshold corresponding to "wet" conditions.

The State Board Flow Criteria Report will be used by the State Board in its on-going and subsequent proceedings, including the review and development of flow objectives in the San Joaquin River (Board decision expected fall 2012), the update to the 2006 Bay-Delta Plan (Notice of Preparation, January 2012; Board decision expected April 2014), and the associated water rights proceedings to implement the Bay-Delta Plan updates (ongoing from 2012).

3.4.3 Delta Outflow

State Board

Adopt new State Water Resources Control Board requirements by 2012 to increase spring Delta outflow. Commence implementation no later than 2015.

State Board

Progress Score: 2 **Enacting Legislation:** Water Code Section 85086(c)(1)

Status Description:

The 2009 water legislation (SBX7-1) directed the State Board to prepare a report on Delta flow criteria. On August 3, 2010, the State Board adopted Resolution 2010-0039 approving the final report "Development of Flow Criteria for the Sacramento-San Joaquin Delta Ecosystem Prepared Pursuant to the Sacramento-San Joaquin Delta Reform Act of 2009." DFG, USFWS, NMFS reviewed the report. It includes the Action 3.4.3 recommendation on increased spring outflow. On August 25, 2010 the State Board submitted the Final Flow Criteria Report to DSC.

The State Board Flow Criteria Report will be used by the State Board in its on-going and subsequent proceedings, including the review and development of flow objectives in the San Joaquin River (Board decision expected fall 2012), the update to the 2006 Bay-Delta Plan (Notice of Preparation, January 2012; Board decision expected April 2014), and the associated water rights proceedings to implement the Bay-Delta Plan updates (ongoing from 2012).

Actions Status by Evaluation Topic

Action # Action Name

State Lead

Action Description

Other Responsible Organizations

3.4.4 Fall Delta Outflow

State Board

Adopt new State Water Resources Control Board requirements by 2012 to reintroduce fall outflow variability no later than 2015. State Board

Progress Score: 2 **Enacting Legislation:** Water Code Section 85086(c)(1)

Status Description:

The 2009 water legislation (SBX7-1) directed the State Board to prepare a report on Delta flow criteria. On August 3, 2010, the State Board adopted Resolution 2010-0039 approving the final report "Development of Flow Criteria for the Sacramento-San Joaquin Delta Ecosystem Prepared Pursuant to the Sacramento-San Joaquin Delta Reform Act of 2009." DFG, USFWS, NMFS reviewed the report. It includes the Action 3.4.3 recommendation on increased spring outflow. On August 25, 2010 the State Board submitted the Final Flow Criteria Report to DSC.

The State Board Flow Criteria Report will be used by the State Board in its on-going and subsequent proceedings, including the review and development of flow objectives in the San Joaquin River (Board decision expected fall 2012), the update to the 2006 Bay-Delta Plan (Notice of Preparation, January 2012; Board decision expected April 2014), and the associated water rights proceedings to implement the Bay-Delta Plan updates (ongoing from 2012).

IEP is conducting studies to evaluate the potential benefits of modifications to fall Delta outflow for delta smelt. The first pilot studies were initiated in fall 2011. Additional studies are ongoing.

3.4.5 San Joaquin River Flow Objectives

State Board

Increase San Joaquin River flows between February and June by revising the State Water Resources Control Board's Vernalis flow objectives and the state and federal water projects' export criteria. Revise the flow objectives and criteria no later than 2012. State Board

Progress Score: 2 **Enacting Legislation:** Water Code Section 85086(c)(1)

Status Description:

The 2009 water legislation (SBX7-1) directed the State Board to prepare a report on Delta flow criteria. On August 3, 2010, the State Board adopted Resolution 2010-0039 approving the final report "Development of Flow Criteria for the Sacramento-San Joaquin Delta Ecosystem Prepared Pursuant to the Sacramento-San Joaquin Delta Reform Act of 2009." DFG, USFWS, NMFS reviewed the report. It includes the Action 3.4.5 recommendations on increased spring flows. On August 25, 2010 the State Board submitted the final flow criteria report to DSC. In addition, see Action 3.4.2.

The State Board is reviewing and updating the San Joaquin River flow objectives, and the program for implementing those objectives, to be completed by fall 2012. As part of the Bay-Delta Plan update, the State Board is preparing environmental documents to evaluate the effects of potential modifications to southern Delta salinity objectives and San Joaquin River flow objectives. Final draft environmental documents are planned for August 2012. Additional information is available at:

http://www.waterboards.ca.gov/waterrights/water_issues/programs/bay_delta/bay_delta_plan/water_quality_control_planning/index.shtml

Actions Status by Evaluation Topic

Action # Action Name

State Lead

Action Description

Other Responsible Organizations

3.4.6 San Joaquin Fall Pulse Flows

State Board

Provide short-duration San Joaquin River pulse flows in the fall starting by 2015.

State Board

Progress Score: 2 **Enacting Legislation:** Water Code Section 85086(c)(1)

Status Description:

The 2009 water legislation (SBX7-1) directed the State Board to prepare a report on Delta flow criteria. On August 3, 2010, the State Board adopted Resolution 2010-0039 approving the final report "Development of Flow Criteria for the Sacramento-San Joaquin Delta Ecosystem Prepared Pursuant to the Sacramento-San Joaquin Delta Reform Act of 2009." DFG, USFWS, NMFS reviewed the report. It includes the 3.4.6 recommendations on short duration pulse flows. On August 25, 2010 the State Board submitted the final flow criteria report to DSC.

The State Board is reviewing and updating the San Joaquin River flow objectives, and the program for implementing those objectives, to be completed by fall 2012. As part of the Bay-Delta Plan update, the State Board is preparing environmental documents to evaluate the effects of potential modifications to southern Delta salinity objectives and San Joaquin River flow objectives. This evaluation includes consideration of mechanisms to achieve San Joaquin River pulse flows in October. Final draft environmental documents are planned for August 2012. Additional information is available at:

http://www.waterboards.ca.gov/waterrights/water_issues/programs/bay_delta/bay_delta_plan/water_quality_control_planning/index.shtml.

3.4.7 Delta Waterway Geometry

Department of Fish and Game

Reconfigure Delta waterway geometry by 2015 to increase variability in estuarine circulation patterns.

DFG, DWR

Progress Score: 2 **Enacting Legislation:** Water Code Section 85302(e)

Status Description:

Water Code Section 85302(e): "The following subgoals and strategies for restoring a healthy ecosystem shall be included in the Delta Plan....(4) Restore Delta flows and channels to support a healthy estuary and other ecosystems."

DFG issued final ERP Conservation Strategy for the Delta on July 21, 2010. The proposed Stage 2 Actions for Channel Geometry include:

- Action 1: Conduct further Delta Cross Channel operational studies: No additional studies are underway. Cross Channel gate operations are being managed under the OCAP Biological Opinions to avoid entrainment of Sacramento River salmonids into the central Delta.
- Action 2: Conduct further experiments with salinity control gates in Suisun Marsh: No experiments are being undertaken.
- Action 3: Study Two-Gates and the effectiveness of barges as barriers: IEP is conducting turbidity studies associated with early winter out flow to assess Delta smelt movement. A report on initial field investigations is in preparation. Additional field work is planned for winter 2012-2013. These studies are not assessing the effectiveness of flow control structures since none are in place or planned to be constructed with the abandonment of the Two Gates Project.
- Action 4: Study bubble curtain effectiveness as barriers, and their effects on other species: Studies were conducted on nonphysical barriers at the Head of Old River in 2009 and 2010, they indicated that they were effective at redirecting fish although predation at the structures was high under low water conditions. DWR is testing a nonphysical barrier at Georgiana Slough. Results are pending.

Actions Status by Evaluation Topic

Action # Action Name

Action Description

State Lead

Other Responsible Organizations

3.5.1a Wastewater Discharges

Central Valley Regional Water Quality Control

Require the Central Valley Regional Water Quality Control Board to immediately re-evaluate wastewater treatment plant discharges into Delta waterways and upstream rivers and set discharge requirements at levels that are fully protective of human health and ecosystem needs.

Central Valley Regional Board

Progress Score: 3 **Enacting Legislation:**

Status Description:

National Pollutant Discharge Elimination System (NPDES) permits adopted by the Central Valley Regional Board regulate discharges from all wastewater discharges in the Delta and tributaries to the Delta. The Central Valley Regional Board has required all the significant NPDES dischargers in the Delta to upgrade their facilities to include ammonia and nitrogen removal, filtration and disinfection, including Sacramento County, the Cities of Stockton, Lodi, Manteca, Vacaville and Tracy, and the Mountain House Community Services District.

Sacramento - The Central Valley Regional Board issued a new NPDES permit on December 9, 2010 to the Sacramento Regional Wastewater Treatment Plant (WWTP), which is the largest wastewater discharger in the Delta, discharging 14 tons of ammonia/ammonium per day. The new permit imposes new ammonia effluent limits and requires tertiary treatment and nitrogen removal. On May 4, 2011, Central Valley Regional Board issued a Record of Decision upholding the more stringent waste discharge requirements for the Sacramento Regional WWTP.

Stockton - The Stockton Regional Wastewater Control Facility (WWCF) was upgraded over the last decade to include treatment processes for ammonia. The upgraded facility is significantly reducing ammonia in the treated effluent (per the USEPA Unabridged Advance Notice of Proposed Rulemaking: Water Quality Challenges in the San Francisco Bay/Sacramento-San Joaquin Delta. February, 2011, pages 27-29).

The Regional Board continues efforts to improve understanding the the impact of ammonia on water bodies and the Delta ecosystem. Staff provided an update to the Regional Board in October 2010, "Effects of Ambient Ammonia Concentrations."

In 2006, the Central Valley Regional Board, the State Board, and stakeholders began a joint effort to address salinity and nitrate problems in California's Central Valley and adopt long-term solutions for enhanced water quality and economic sustainability called the Central Valley Salinity Alternatives for Long-Term Sustainability (CV-SALTS). Initial background information has been collected to provide a foundation for the effort (economic study, pilot source and fate modeling, compilation of data sources, GIS layers to facilitate evaluation of alternatives, etc.), with an updated strategy and workplan approved in January 2012. A draft Central Valley-wide salt and nitrate management plan is expected by June 2014.

In October 2011, the Central Valley Water Board directed staff to work in concert with the CV-SALTS initiative and review appropriate beneficial use designations and levels of protection in agriculturally dominated water bodies while insuring beneficial use protection in natural streams. A draft workplan for the effort was approved in December 2011. A stakeholder workgroup has initiated work in water bodies within the Sacramento River Basin that receive discharges from wastewater treatment plants. Expansion to the rest of the Central Valley is anticipated through 2013. A basin plan amendment is anticipated in June 2014.

Actions Status by Evaluation Topic

Action # Action Name

State Lead

Action Description

Other Responsible Organizations

3.5.1b Irrigated Agricultural Lands Discharges

Central Valley Regional Water Quality Control

Require the Central Valley Regional Water Quality Control Board to adopt by 2010 a long-term program to regulate discharges from irrigated agricultural lands.

CVWRCB

Progress Score: 2 **Enacting Legislation:**

Status Description:

The Central Valley Regional Board has adopted regulatory requirements for discharges from irrigated lands (tailwater, water from underground drains, stormwater runoff) to waters of the State under a Conditional Waiver of Waste Discharge Requirements. The interim Irrigated Lands Regulatory Program (ILRP) regulates discharges within the jurisdiction of the Central Valley Regional Board. Eight grower coalitions have formed throughout the Valley to conduct monitoring for water quality problems and potential sources. The Conditional Waiver requires that Coalition Groups prepare and implement Monitoring and Reporting Program (MRP) plans, submit periodic monitoring reports, and monitoring data. When there have been two or more exceedances of the same pollutant at the same site within a three-year period, Management Plans must be prepared and implemented to control the pollutants.

The Central Valley Regional Board has proposed a long-term program to regulate irrigated lands. The Central Valley Regional Board released a certified the program Environmental Impact Report (PEIR) for the long-term Irrigated Lands Regulatory Program (ILRP) in April 2011.

The Regional Board will be adopting a series of waste discharge requirements (WDRs) to implement the long-term program. The first WDRs address the eastern San Joaquin River watershed and will address discharges to groundwater and surface water over 800,000 acres of irrigated agriculture. The eastern San Joaquin River watershed WDRs will be brought to the Board for consideration in October 2012. The remaining WDRs will be considered by the Board on the following schedule:

- General Waste Discharge Requirements for Individuals, December 2012
- Tulare Lake Basin, February 2013
- Sacramento Valley Rice Growers, March 2013
- Grasslands Bypass, June 2013
- Sacramento River Watershed, June 2013
- Westlands Water District, August 2013
- West-side San Joaquin River, October 2013
- San Joaquin County and Delta, October 2013

In March 2012 the USDA's NRCS announced four new focus areas where \$8.5 million will be made available through the Environmental Quality Incentives Program (EQIP) to help producers undertake water quality and water conservation projects. The four areas targeting water quality/water conservation include:

- Walker Creek portion of the Colusa-Glenn subwatershed in Glenn County;
- Lower Snake River in Sutter County;
- French Camp Slough Watersheds in San Joaquin and Stanislaus counties; and
- Eastern portion of the San Joaquin River watershed in Stanislaus and Merced counties.

Actions Status by Evaluation Topic

Action # Action Name

State Lead

Action Description

Other Responsible Organizations

These watercourses were chosen because of 2011 exceedances for organophosphate pesticides in the Lower Snake River and potentially resulting in a Clean Water Act (CWA) 303d listing as impaired for beneficial uses.

3.5.1c Urban Runoff

Central Valley Regional Water Quality Control

Require the Central Valley Regional Water Quality Control Board to review by 2012 the impacts of urban runoff on Delta water quality and adopt a plan to reduce or eliminate those impacts. Central Valley Regional Board

Progress Score: 1 **Enacting Legislation:**

Status Description:

Phase I National Pollutant Discharge Elimination System (NPDES) Municipal Separate Storm Sewer System (MS4) permits regulate the storm water discharges from municipalities with a population of 100,000 or more (Sacramento, Stockton and Contra Costa County). These permits are reviewed and updated on a five year schedule. The permits require the municipalities to incorporate best management practices and control measures in their storm water management program to address specific pollutants of concern and identify sources of pollutants to protect beneficial uses of the receiving waters. The permits include waste load allocations for pesticides, mercury and other constituents that were the topics of recently adopted TMDLs. Each of the municipalities has their own Regional Board endorsed plan to insure that their discharges don't have adverse impacts.

The SWRCB is updating the statewide general NPDES permit (Phase II) that regulates storm water discharges from smaller communities within the Delta. The Phase II permit covers municipalities with a population less than 100,000 and includes military bases, prisons and university campuses. The SWRCB is working with stakeholders towards its development of a new Phase II permit.

The Central Valley Regional Board operates under the California Nonpoint Source Pollution Control Program. This program was fully approved by the USEPA in 2000 under Section 319 of the Clean Water Act and Section 6217 of the Coastal Zone Reauthorization Amendments of 1990 (CZARA). Statewide, the program continues to receive at least \$10 million from USEPA annually. The USEPA characterized the Program as an "effective and dynamic" program (USEPA Unabridged Advance Notice of Proposed Rulemaking: Water Quality Challenges in the San Francisco Bay/Sacramento-San Joaquin Delta. February, 2011, page 17).

In July 2010, the Central Valley Regional Board adopted Resolution No. R5-2010-0079 directing staff to establish a drinking water policy for the Sacramento-San Joaquin Delta and upstream tributaries. Technical studies included source evaluation and development of a comprehensive analytical model. In February 2012, the Central Valley Drinking Water Policy Workgroup (a group of stakeholders formed to facilitate development of the policy) finalized a report documenting and synthesizing the results of technical studies. A draft Policy is scheduled to be considered by the Regional Board by July 2013. All the documents discussed above are available on the Drinking Water Policy website: http://www.waterboards.ca.gov/centralvalley/water/issues/drinking_water_policy/

Actions Status by Evaluation Topic

Action # Action Name

State Lead

Action Description

Other Responsible Organizations

3.5.2 Drinking Water Intake Relocation

Department of Water Resources

Relocate as many Delta drinking water intakes as feasible away from sensitive habitats and to channels where water quality is higher.

DWR and local water agencies

Progress Score: 4 **Enacting Legislation:**

Status Description:

Contra Costa Water District - CCWD completed its Alternate Intake Project in July 2010 (Near-term Action #5).

City of Stockton - The initial phase of the City of Stockton Delta Water Project is complete. The project will initially divert and treat 30 million gallons per day (mgd) from the San Joaquin River on Empire Tract. This water will serve approximately one-third of Stockton's water needs. At full capacity (2050), the plant can treat 160 mgd.

North Bay Aqueduct - DWR has proposed to implement the North Bay Aqueduct Alternate Intake Project (NBA AIP) to improve water quality and to provide reliable deliveries of State Water Project (SWP) supplies to its contractors, the Solano County Water Agency (SCWA) and the Napa County Flood Control and Water Conservation District (Napa County FC&WCD). Public Scoping for the EIR was completed in January 2010. The Draft EIR is expected in late 2012.

3.5.3 Mercury TMDL Programs

Central Valley Regional Water Quality Control

Establish Total Maximum Daily Load programs by 2012 for upstream areas to reduce organic and inorganic mercury entering the Delta from tributary watersheds.

Central Valley Regional Board

Progress Score: 3 **Enacting Legislation:**

Status Description:

Mercury TMDL programs are complete for the Cache Creek watershed, Bear Creek, and Harley Gulch, and implementation work is underway to reduce mercury loading from these watersheds. These watersheds are major contributors of inorganic mercury to the Delta.

In October 2011 the U.S. EPA approved the Regional Board TMDL and Basin Plan amendment for the control of mercury and methylmercury in the Delta estuary. The amendment assigns mercury allocations to the Delta tributaries. Currently, point sources (wastewater treatment plants and urban Stormwater runoff) and non-point sources (irrigated agriculture, wetland managers and state and federal agencies) are coordinating and collaborating on developing and implementing methylmercury control studies to develop and evaluate best management practices to reduce methylmercury levels.

Staff from multiple regions is currently developing a statewide mercury TMDL for 74 of the state's reservoirs impaired by mercury, and State Board staff is developing statewide mercury objectives. Both of these projects will lead to less mercury discharges to surface waters, including tributaries of the Delta.

Actions Status by Evaluation Topic

Action # Action Name

Action Description

State Lead

Other Responsible Organizations

3.5.4 Comprehensive Delta Monitoring

Central Valley Regional Water Quality Control

Begin comprehensive monitoring of water quality and Delta fish and wildlife health in 2009.

ISB, IEP, State Board, Delta Science Program, USGS, DFG

Progress Score: 4 **Enacting Legislation:**

Status Description:

Numerous agencies and programs are collecting data related to water quality and Delta fish and wildlife health. These agencies include the State Board, Central Valley Regional Board, DWR (through Municipal Water Quality Investigations), the Interagency Ecological Program (IEP), and DFG. The regulatory drivers are the federal Clean Water Act, the National Endangered Species Act, the Porter Cologne Water Quality Control Act, and the California Endangered Species Act.

The State Board, Central Valley Regional Board, and San Francisco Bay Regional Board adopted in June 2010 the “Strategic Workplan for Activities in the San Francisco Bay/Sacramento-San Joaquin Delta Estuary.” It outlines a comprehensive data-monitoring program for the Delta. The short-term (i.e. within 1-2 years) data-monitoring goal is to establish a framework for regularly gathering, compiling, assessing, and reporting readily available data. The long-term goal (within 3-5 years) is to develop a Regional Monitoring Program for the Delta (Delta RMP). The Delta RMP completed its first annual report, Pulse of the Delta, in March 2011. The report is available at:

http://www.waterboards.ca.gov/centralvalley/water_issues/delta_water_quality/comprehensive_monitoring_program/

Currently, the focus is on assessing water quality data. The Surface Water Ambient Monitoring Program (SWAMP) database is a subset of the California Environmental Data Exchange Network (CEDEN) database (<http://www.ceden.org>). These data are accessible to stakeholders, and visually display water quality within selected watersheds. Next steps include comparing these data with other databases, and working with stakeholders to identify their expectations and needs. The Water Quality Monitoring Council is developing the Water Quality Portal for the Estuary. It will eventually be used to identify open issues with respect to water quality monitoring.

The Central Valley Watershed Monitoring Directory was built to promote and facilitate improved coordination of water monitoring across the basin. The Monitoring Directory was developed with funding and participation from SWAMP and USEPA. The Central Valley Regional Board will continue to fund maintenance, updating, and necessary upgrades for another two years, while a long-term sustainability plan is being developed.

<Http://www.centralvalleymonitoring.org>

The Interagency Ecological Program (IEP) has been conducting cooperative ecological monitoring in the Bay-Delta since 1970. IEP agencies include DFG, USGS, NMFS, DWR, USFWS, SWRCB, USACE, USBR, USEPA, and DSP. The IEP has the lead role in monitoring and studies required under the Federal Biological Opinions (OCAP) and the State water rights permit conditions for the delta operations of the CVP and SWP. The IEP is coordinating with the Central Valley Regional Board (Stephanie Fong), DFG (Adam Ballard), DWR (Karen Gehrts), and others, to help the water board review and draft a comprehensive regional monitoring plan for the Delta.

Actions Status by Evaluation Topic

Action # Action Name

State Lead

Action Description

Other Responsible Organizations

Evaluation Topic: 4 - Delta Vitality and Security

2.1.1 NHA Designation

Delta Protection Commission

Apply by 2010 for the designation of the Delta as a federally recognized National Heritage Area.

Resources, DPC

Progress Score: 2 **Enacting Legislation:** Water Code Section 85301(b)(1)

Status Description:

The 2009 water legislation directed the DPC to include in their proposed Delta protection plan to the DSC a plan for achieving state and federal special designation for the Delta.

In October 2011, DPC completed a public review draft Feasibility Study for a National Heritage Area (NHA) designation in the Sacramento-San Joaquin Delta. As the result of public comments, DPC made the recommendation that the NHA be expanded to include much of the Primary Zone of the legal Delta plus the Carquinez Strait, Suisun Marsh, and the City of Rio Vista.

National Park Service (NPS) staff in San Francisco and Washington D.C. reviewed the Feasibility Study for consistency with the National Park Service criteria for NHA. DPC staff is incorporating these comments into a final draft of the study. DPC staff anticipates that the final study, along with the letter from NPS, will be presented at the July 2012 DPC meeting. DPC will forward the final study to the Congressional Affairs Office, for support of legislation to be requested by a Delta Congressional Representative to establish a Delta National Heritage Area.

On March 7, 2012 there was a National Parks Subcommittee Hearing in Washington D.C. to receive testimony on ten NPS bills, one of them being S. 29, a bill to establish the Sacramento-San Joaquin Delta National Heritage Area (Feinstein).

Actions Status by Evaluation Topic

Action # Action Name

State Lead

Action Description

Other Responsible Organizations

2.1.2 Delta Recreation Area

Natural Resources Agency

Expand by 2010 the State Recreation Area network in the Delta, combining existing and newly designated areas. Resources, CDPR

Progress Score: 2 **Enacting Legislation:** Water Code Section 85301(c)(1)

Status Description:

In 2009, CDPR published the Central Valley Vision Implementation Plan (CVVIP), a “catalog of potential initiatives,” for Central Valley parks and recreation including the Delta. The CVVIP recommended a set of initiatives consistent with the Delta Vision Strategic Plan recommendations, including development of campsites, picnic sites, and previously undeveloped land, as well as restoration of about 500 acres of wildlife habitat.

The 2009 water legislation directed CDPR to prepare and submit to the DPC a proposal for expanding the Delta network of State recreation areas, combining existing and newly designated areas, and including any plans or concepts included in the CVVIP.

In April 2011, the CDPR published a draft report, "Recreation Proposal for the Sacramento-San Joaquin Delta and Suisun Marsh." It contains all the CVVIP plans and concepts as well as many other specific actions to expand the Delta network of recreational areas. The recommendations were considered and incorporated into the DPC Economic sustainability Plan and the Final Staff Draft Delta Plan.

State budget constraints have resulted in closure or hours curtailment for state parks in the Delta.

Actions Status by Evaluation Topic

Action # Action Name

Action Description

State Lead

Other Responsible Organizations

2.2.1 Delta Agriculture Support

Department of Food and Agriculture

Establish special Delta designations within existing federal and state agricultural support programs.

CDFA, DPC, DC, USDA

Progress Score: 2 **Enacting Legislation:** Water Resources Code Section 85301(c)(2)

Status Description:

The 2009 water legislation directed CDFA to prepare and submit a proposal to the DPC to establish market incentives and infrastructure to protect and enhance the economic and public values of Delta agriculture. The State Board of Food and Agriculture (BFA) met on May 25, 2011, to address the Delta Plan. The purpose of the meeting was to begin to examine the best agricultural options for farmers, ranchers and other stakeholders while maintaining the Two Co-Equal Goals for the Delta. Staff from the DPC participated in a panel discussion at the meeting.

The DPC Economic Sustainability Plan (ESP) includes important baseline information about the agricultural economy in the Delta. The ESP includes recommendations to protect and enhance Delta agricultural activity and productivity.

No actions undertaken by the DFA.

Discover the Delta Foundation

Discover the Delta is a nonprofit entity whose mission is to promote, protect and preserve the Delta by providing objective and science-based information so that the Delta can be better understood, enhanced and enjoyed. One of its goals is to preserve and enhance the Delta's agricultural resources.

The US Department of Agriculture's Farmers' Market Promotion Program awarded the Discover the Delta Foundation a \$40,000 grant. The Delta Farmer's Market, owned and operated by the Discover the Delta Foundation, is the first phase of the larger Delta Discovery Center project that will be located on a five-acre site in Isleton California near the intersection of highways 4 and 160. When completed, an 8000 square-foot educational center will include a model of the delta, a wine tasting room, farmers' market, classrooms and a museum showcasing the agricultural and cultural history of the region.

DTD Foundation also sponsors the California Delta Road Sign Project. The purpose of the project is to increase the awareness of the California Delta by erecting welcoming signs at road and highway entrances to the Delta. The project is funded by the Delta Protection Commission, Contra Costa County Board of Supervisors and Public Works Department, Sacramento County Board of Supervisors and Public Works Department, Solano County Board of Supervisors and Public Works Department, San Joaquin County Board of Supervisors and Public Works Department, Yolo County Board of Supervisors and Public Works Department and the California Department of Transportation.

Actions Status by Evaluation Topic

Action # Action Name

State Lead

Action Description

Other Responsible Organizations

2.2.2 Agricultural Sustainability Research

Department of Food and Agriculture

Conduct needed research and development for agricultural sustainability in the Delta.

CDFA, DPC, USDA

Progress Score: 1 **Enacting Legislation:** Water Code Section 85301(c)(2)

Status Description:

The 2009 water legislation directed the CDFA to prepare and submit a proposal to the DPC to establish market incentives and infrastructure to protect and enhance the economic and public values of Delta agriculture.

CDFA's "California Agricultural Vision: Strategies For Sustainability" (December 2010) noted that unless a long-term solution is found to the problems of the Delta, lands that rely on water from the Central Valley Project and the State Water Project could be permanently removed from agricultural production. Immediate action endorsed by the State Board of Food and Agriculture included asking the Agriculture & Natural Resources Division of the University of California (UC-ANR) to conduct a study of California's long-term agricultural land, water, and other resource needs, based on future demand for food, fiber, renewable energy, and ecosystem services, and on the influence of urbanization, water availability, climate change, energy costs, technology, and other factors on future agricultural productivity and production capacity.

The DPC's Economic Sustainability Plan (ESP) will include research and analysis needed to prepare specific long-term sustainability recommendations for agriculture in the Delta. The development of the ESP will be completed by a team of consultants headed by the University of the Pacific, in conjunction with the University of California Berkeley. Input is also being received from the CDPR and CDFA.

Actions Status by Evaluation Topic

Action # Action Name

Action Description

State Lead

Other Responsible Organizations

2.2.3 Delta Agricultural Markets

Department of Food and Agriculture

Establish new markets for innovative agricultural products and enterprises in the Delta.

CDFA, DPC, USDA

Progress Score: 1 **Enacting Legislation:** Water Code Section 85301(c)(2)

Status Description:

The 2009 water legislation directed CDFA to prepare and submit a proposal to the DPC to establish market incentives and infrastructure to protect and enhance the economic and public values of Delta agriculture.

CDFA's "California Agricultural Vision: Strategies For Sustainability" (December 2010) recommended that the State Board of Food and Agriculture (BFA) should encourage a partnership between agricultural and nonprofit organizations to study the potential of regional food markets to create economic opportunity for all California agricultural producers, ranging from those who now produce only for the global market to those who are trying to expand existing regional markets for their products.

On March 21, 2011, in accordance with the directive of the 2009 water legislation (SBX7-1), CDFA presented to the DPC and the DSC its evaluation of policy alternatives to benefit agriculture in the Delta. The report was prepared for CDFA by the University of California, Agricultural Issues Center.

The BFA met on May 25, 2011, to address the Delta Plan. The purpose of the meeting was to begin to examine the best agricultural options for farmers, ranchers and other stakeholders while maintaining the Two Co-Equal Goals for the Delta. Staff from the DPC participated in a panel discussion at the meeting.

The DPC has initiated a process for developing a Delta-wide agricultural conservation easement program.

Actions Status by Evaluation Topic

Action # Action Name

State Lead

Action Description

Other Responsible Organizations

2.3.1 Delta Economic Development Plan

Delta Protection Commission

Charge the Delta Protection Commission with facilitating a consortium of local governments to create a regional economic development plan that addresses agriculture, recreation, tourism, and other innovative land uses.

Governor and Legislature, DPC, Local Governments

Progress Score: 3 **Enacting Legislation:** Public Resources Code Section 29759

Status Description:

The 2009 water legislation required the DPC to prepare and adopt an Economic Sustainability Study (ESP) for the Delta. The DSC will review the plan for consistency and may adopt the recommendations as part of the Delta Plan. The ESP will inform the DSC policies regarding the socioeconomic sustainability of the Delta region.

DPC released the ESP in October 2011. The ESP included information and recommendations to inform DSC policies regarding the socioeconomic sustainability of the Delta region. The ESP makes recommendations in four areas:

1. Public safety recommendations, such as flood protection.
2. The economic goals, policies, and objectives in local general plans and other local economic efforts, including recommendations on continued socioeconomic sustainability of agriculture and its infrastructure and legacy communities in the Delta.
3. Comments and recommendation to the Department of Water Resources concerning its periodic update of the flood management plan for the Delta.
4. Identification of ways to encourage recreational investment along key river corridors.

The Delta Reform Act of 2009 required, as part of the Economic Sustainability Plan, recommendations for improved emergency response and preparedness in the Delta. As part of this mandate, ESP Appendix M focuses on the Standardized Emergency Management System (SEMS) and provides examples of issues with SEMS needing action as it has been applied in the Delta.

On January 26, 2012 DPC released the final ESP, "Proposal to Protect, Enhance, and Sustain the Unique Cultural, Historical, Recreational, Agricultural and Economic Values of the Sacramento-San Joaquin Delta as an Evolving Place" for consideration and incorporation into the Delta Plan by the Delta Stewardship Council (DSC) as specified in Section 85301 of the Delta Reform Act of 2009.

Actions Status by Evaluation Topic

Action # Action Name

Action Description

State Lead

Other Responsible Organizations

2.3.2 Delta Enterprise Zones

Office of Planning and Research

Establish special enterprise zones at the major "gateways" to the Delta as part of the economic development plan.

OPR, Local Governments, Legislature and Governor

Progress Score: 1 **Enacting Legislation:**

Status Description:

Enterprise zones were initially targeted for elimination in the 2011-12 state budget. Although enterprise zones survived this year's budget cuts, actions continue to reduce enterprise zone tax credits. The prospect for approving new enterprise zones is low. Regardless, much of the Delta is already in Enterprise Zones, including almost all of the Delta in San Joaquin County.

The San Joaquin County Enterprise Zone covers the San Joaquin County and the Cities of Stockton, Lodi, Tracy, Lathrop, and Manteca offer business and industry the considerable advantages of a California State Enterprise Zone. The San Joaquin County Enterprise Zone encompasses approximately 656 square miles with over 55 square miles of commercial and industrial properties. The San Joaquin County Enterprise Zone's designation expires 2013. Enterprise Zone staff report a significant increase over last year in applications activity for FY 2010-2011. More than 800 San Joaquin County businesses received approved Hiring Tax Credit Vouchers, with 10,099 new employees hired.

The new Sacramento Enterprise Zone received its final designation January 12, 2012. On April 10, 2012, Housing and Community Development issued a final Enterprise Zone designation to Pittsburg, adjacent to the Delta.

2.4.1 Delta Investment Fund

Legislature

Initiate the Delta Investment Fund with state funding.

Governor and Legislature

Progress Score: 10 **Enacting Legislation:** Public Resources Code Section 29778.5

Status Description:

The 2009 water legislation established the Delta Investment Fund, which may receive funds from federal, State, local, and private sources. The funds must be used in accord with DSC Economic Sustainability Plan. The Legislature provided an initial allocation of \$250,000.

In 2011 and 2012, the DPC and Delta Conservancy relied on funds from other sources to complete planning work. The DPC received funding from the Environmental License Plate Fund and the Harbors and Watercraft Fund. Additionally, funding strategies from various foundations was used for the following projects: NHA Phase II Feasibility Study, The Great California Delta Trail, and Delta Working Landscapes. The Delta Conservancy borrowed funds from the DSC to complete the strategic plan and received foundation grant funds to continue outreach and coordination.

Actions Status by Evaluation Topic

Action # Action Name

Action Description

State Lead

Other Responsible Organizations

2.4.2 Delta Investment Fund Structure

Structure the Delta Investment Fund so that it can accept revenues from federal, state, local, and private sources.

Legislature

Governor and Legislature

Progress Score: 10 **Enacting Legislation:** Public Resources Code Section 29778.5

Status Description:

The Legislature established the Delta Investment Fund, which may receive funds from federal, State, local, and private sources. The funds must be used in accord with DSC Economic Sustainability Plan. The Legislature provided an initial allocation of \$250,000.

2.4.3 Delta Investment Fund Management

Place the Fund under the joint management of the Delta Protection Commission and a consortium of local governments.

Delta Protection Commission

Governor and Legislature

Progress Score: 3 **Enacting Legislation:** Public Resources Code Section 29778.5

Status Description:

The Legislature established the Delta Investment Fund, which may receive funds from federal, State, local, and private sources. The funds must be used in accord with the DPC Economic Sustainability Plan. The Legislature provided an initial allocation of \$250,000. The Fund is subject to appropriation by the Legislature to the DPC. The restructuring of the DPC incorporates local government into the management of the Delta Investment Fund.

In 2011 and 2012, the DPC and Delta Conservancy relied on funds from other sources to complete planning work. The DPC received funding from the Environmental License Plate Fund and the Harbors and Watercraft Fund. Additionally, funding strategies from various foundations was used for the following projects: NHA Phase II Feasibility Study, The Great California Delta Trail, and Delta Working Landscapes. The Delta Conservancy borrowed funds from the DSC to complete the strategic plan and received foundation grant funds to continue outreach and coordination.

Actions Status by Evaluation Topic

Action # Action Name

Action Description

State Lead

Other Responsible Organizations

6.1.1 Delta Emergency Response Plan

Emergency Management Agency

Complete a Delta-wide regional emergency response plan by 2010 that establishes legally binding regional coordination.

Cal EMA, DPC, DWR, and Local Governments

Progress Score: 3 **Enacting Legislation:** Water Code Section 12994.5 and Water Code Section 85305

Status Description:

The 2009 water legislation directed that the Delta Plan must attempt to reduce risks to people, property, and State interests and that the DSC may incorporate into the Delta Plan the emergency preparedness and response strategies for the Delta developed the Sacramento-San Joaquin Delta Multi-Hazard Coordination Task Force (Task Force). As part of the Delta Plan, the DSC has recommended formation of a regional emergency response organization for the Delta.

Water Code Section 12994.5 established the Task Force, led by Cal EMA, to develop a draft emergency preparedness and response strategy for the Delta by January 1, 2011. The Task Force, which includes DPC, DWR, and a representative of each of the five Delta counties, was chartered on March 15, 2010. As per Water Code 12994.5, the Sacramento-San Joaquin Delta Multi-Hazard Coordination Task Force Report must cover three topics:

- (1) Make recommendations to the California Emergency Management Agency relating to the creation of an interagency unified command system organizational framework, in accordance with the guidelines of the National Incident Management System and the Standardized Emergency Management System.
- (2) Coordinate the development of a draft emergency preparedness and response strategy for the Delta region, for submission to the Secretary of the California Emergency Management Agency. Where possible, the strategy shall utilize existing interagency plans and planning processes of the involved jurisdictions and agencies that are members of the Delta Protection Commission.
- (3) Develop and conduct an all-hazard emergency response exercise in the Delta, designed to test regional coordination protocols already in place.

On September 3, 2010, Cal EMA completed, and presented to the Governor's Office, the 2010 State of California Multi-Hazard Mitigation Plan (Multi-Hazard Plan), which includes planning for the Delta region. Section 12994.5 sunsets on January 1, 2013. Per Section 12994.5(d), the Task Force will cease to exist on the date on which the report is submitted.

The report from the Sacramento-San Joaquin Delta Multi-Hazard Coordination Task Force Report was approved for release on May 9, 2012.

DPC agreed in May 2011 to be the lead applicant for any joint regional funding requests developed by Delta agencies and jurisdictions for the Sacramento-San Joaquin Delta Regional Flood Response Project. On March 22, 2012, DPC approved a resolution authorizing the filing of a joint grant application to DWR's "Local Flood Emergency Planning, Preparedness, and Response Grant Program."

Actions Status by Evaluation Topic

Action # Action Name

Action Description

State Lead

Other Responsible Organizations

6.1.2 Emergency Management Actions

Emergency Management Agency

Immediately begin a comprehensive series of emergency management and preparation actions.

Cal EMA, DPC, DWR, and Local Governments

Progress Score: 2 **Enacting Legislation:** Water Code Sections 12994.5 and 85305

Status Description:

Delta Vision Strategic Plan Action 6.1.2 proscribes 14 recommended Delta emergency management activities to be undertaken by DWR, Cal EMA, the Delta counties' Flood Response Group, the Army Corps, DOD, FEMA, and the Coast Guard. DWR reports that these actions have been discussed and included in the Delta Multi-Hazard Mitigation Plan, with the exception of bond funding for emergency response actions, which is not allowed by bond requirements. (See Action 6.1.1.)

One of the important activities recommended was to conduct an emergency exercise in the Delta. A Golden Guardian Statewide Exercise Series (GG11) was held May 17, 18, and 19, 2011. The exercise focused on California's strategy in preparing for, responding to, and recovering from a catastrophic flood in the Inland Delta Region. The Final After Action Report has not been posted as of June 1, 2012.

Because the Delta Multi-Hazard Coordination Plan was not released by the Governor's office until May 2012, the Final Staff Draft Delta Plan does not yet incorporate the recommendations into Chapter 7 "Reduce Risk to People, Property, and State Interests in the Delta."

Cal EMA and FEMA have initiated a Catastrophic Delta Flood Plan, which will be completed in fall 2013.

Further monitoring of the implementation status of all the recommendations of Action 6.1.2 is necessary.

Actions Status by Evaluation Topic

Action # Action Name

State Lead

Action Description

Other Responsible Organizations

6.1.3 Highway Protection Strategies

Department of Transportation

Conduct a comprehensive analysis of the costs and benefits of highway protection strategies, and adopt a policy based on its findings by 2012. Caltrans

Progress Score: 2 **Enacting Legislation:** Water Code Section 85307(c)

Status Description:

The 2009 water legislation suggests that the DSC, "...in consultation with the Department of Transportation, may address in the Delta Plan the effects of climate change and sea level rise on the three State highways that cross the Delta." Caltrans has provided comments to the DSC.

Delta Plan

State highways and sea level rise are "Issues for Future Evaluation and Coordination" according to Chapter 7 of the Final Staff Draft Delta Plan (5/14/12). The DSC will consult with Caltrans regarding the potential effects of climate change and sea level rise on the three State highways that cross the Delta.

Delta Protection Recommendation 5 (DP R5) "Provide Adequate Infrastructure" advises that Caltrans, local agencies, and utilities should plan infrastructure, such as roads and highways, to meet needs of development consistent with sustainable community strategies, local plans, the DPC's Land Use and Resource Management Plan, and the Delta Plan.

Delta Protection Recommendation 6 (DP R6) "Plan for State Highways" proposes that the DSC, as part of the prioritization of State levee investments, should consult with Caltrans as provided in Water Code section 85307(c) to consider the effects of flood hazards and sea level rise on state highways in the Delta.

Delta Protection Recommendation 2 (DP R2) "Designate State Route 160 as a National Scenic Byway" suggests that Caltrans seek designation of State Route 160 as a National Scenic Byway and prepare and implement a scenic byway plan for it.

Caltrans Guidance

Caltrans has completed the following assessment and guidance reports:

- "Vulnerability of Transportation Systems to Sea Level Rise, Preliminary Assessment" (2009), which assesses the vulnerability of the State's transportation system to sea level rise due to climate change.
- "Guidance on Incorporating Sea Level Rise," which analyzed the costs and benefits of highway protection strategies (May 16, 2011).

State Route 12

Caltrans is preparing a "SR-12 Comprehensive Corridor Evaluation and Corridor Management Plan," from SR-29 to I-5. Caltrans issued "Corridor Improvement Strategies – Final Technical Memorandum Corridor Improvement Strategies for SR-12" in October 2011. The report found that projected impacts of sea level rise would inundate Delta areas west of Rio Vista including Suisun City, Fairfield, segments of SR-12 between Rio Vista and the I-5 interchange and access to the Travis Air Force Base. However, the report concluded, "There is no concrete policy guidance nor are there directives on definitive corridor enhancement measures for such a dire scenario."

Actions Status by Evaluation Topic

Action # Action Name

State Lead

Action Description

Other Responsible Organizations

According to the February 27, 2012 meeting of the SR-12 Comprehensive Corridor Evaluation and Corridor Management Plan Technical Advisory Group, next steps include development of short-term and long-term recommendations and a final report due out after June 2012.

State Route 160

As a first step in developing a SR-160 Corridor Management Plan (CMP), the Transportation Concept Report for SR-160 was issued August 29, 2011. The Plan notes that, according to the 2009 "Vulnerability of Transportation Systems to Sea Level Rise Preliminary Assessment," the SR-160 Delta corridor is most likely to be affected by an expected 55-inch rise in the sea level by 2100. Caltrans' stated intent is to assess SR-160 project vulnerability in its CMP and reduce anticipated risks associated with sea level rise.

State Route 4

The "Corridor System Management Plan for State Route (SR) 4" (October 25, 2010) does not include a discussion of sea level rise.

Actions Status by Evaluation Topic

Action # Action Name

State Lead

Action Description

Other Responsible Organizations

6.1.4 Infrastructure Protection Strategies

Delta Stewardship Council

Complete a comprehensive analysis of the costs and benefits of infrastructure protection strategies. Adopt a policy based on its findings by 2012.

BTH, CPUC, ERCDC

Progress Score: 1 **Enacting Legislation:** Water Code Section 85307

Status Description:

The 2009 water legislation suggests that the DSC, "...in consultation with the State Energy Resources Conservation and Development Commission and the Public Utilities Commission, may incorporate into the Delta Plan additional actions to address the needs of Delta energy development, energy storage, and energy transmission and distribution."

The Central Valley Flood Protection Act of 2008 directed DWR to prepare the Central Valley Flood Protection Plan (CVFPP). The CVFPP is a flood management planning effort that addresses flood risks and ecosystem restoration opportunities in an integrated manner. It specifically proposes a systemwide approach to flood management for the areas currently protected by facilities of the State Plan of Flood Control (SPFC). Approximately two-thirds of the Delta levees are not included in the SPFC. The CVFPP considers impacts to areas of the Delta not covered by the SPFC, but does not include an analysis of the costs and benefits of infrastructure protection strategies in these areas.

The Final Staff Draft Delta Plan describes a process to prioritize levee investments to protect Delta infrastructure. The proposed process would include an "economics-based risk analysis" for Delta islands that would consider the value of protecting infrastructure, land uses, and people in the Delta. The Delta Plan includes the following policies and recommendations related to analyzing the costs and benefits of infrastructure protection strategies (See also 6.3.1, Delta Levee Investment Strategy.):

- RR P1 Prioritization of State Investments in Delta Levees and Risk Reduction: The Delta Stewardship Council, in consultation with the Department of Water Resources, the 5 Central Valley Flood Protection Board, and the California Water Commission, shall develop 6 priorities for State investments in Delta levees by January 1, 2015.

- RR R3 Fund Actions to Protect Infrastructure from Flooding and Other Natural Disasters: The CPUC should immediately commence formal hearings to impose a reasonable fee for flood and disaster prevention on regulated privately owned utilities with facilities located in the Delta.... The CPUC should direct all regulated public utilities in their jurisdiction to immediately take steps to protect their facilities in the Delta from the consequences of a catastrophic failure of levees in the Delta, in order to minimize the impact on the State's economy.... The Governor, by Executive Order, should direct State agencies with projects or 29 infrastructure in the Delta to set aside a reasonable amount of funding to pay for flood 30 protection and disaster prevention. The local share of these funds should be allocated as 31 described above.

Actions Status by Evaluation Topic

Action # Action Name

State Lead

Action Description

Other Responsible Organizations

6.2.1 South Delta Land Use Oversight

Delta Protection Commission

Immediately strengthen land use oversight of the Cosumnes/Mokelumne floodway and the San Joaquin/South Delta lowlands.

Legislature, DPC

Progress Score: 2 **Enacting Legislation:** Public Resources Code Section 29773.5

Status Description:

The Final Draft Delta Plan includes land use restrictions to protect floodways and floodplains in the Delta:

- RR P3 Protect Floodways. Floodways shall not be encroached upon nor diminished without mitigating for future flood flows.
- RR P4 Protect Floodplains. The following areas shall not be encroached upon without mitigating for future flood flows because they are critical floodplains:
 - Specified areas in the Yolo Bypass
 - The Cosumnes River-Mokelumne River Confluence
 - The Lower San Joaquin River Floodplain Bypass area

The 2009 water legislation directed the DPC to prepare and submit to the Legislature recommendations regarding the potential expansion of, or change to, the Primary Zone or the Delta. In December 2010, the DPC completed the "Sacramento San Joaquin Delta Primary Zone Study," which recommended that the Cosumnes/Mokelumne River Central, Bethel Island and Andrus/Brannan Island be redesignated as part of the Primary Zone and that the area within the City of Rio Vista city limits be changed from the Primary Zone to Secondary Zone.

Following completion of the Economic Sustainability Plan, the DPC recommended no changes to the Primary Zone. The Secondary Zone designation will be maintained for these study areas: Cosumnes/Mokelumne River North, Cosumnes/Mokelumne River South, Isleton, and San Joaquin River/South Delta.

6.2.2 Central Delta Land Use Oversight

Delta Protection Commission

Immediately strengthen land use oversight for Bethel Island, the city of Isleton, and Brannan-Andrus Island.

Legislature, DPC

Progress Score: 2 **Enacting Legislation:** Public Resources Code Section 29773.5

Status Description:

The 2009 water legislation directed the DPC to prepare and submit to the Legislature recommendations regarding the potential expansion of, or change to, the Primary Zone or the Delta. In December 2010, the DPC completed the "Sacramento San Joaquin Delta Primary Zone Study," which recommended that the Cosumnes/Mokelumne River Central, Bethel Island and Andrus/Brannan Island be redesignated as part of the Primary Zone and that the area within the City of Rio Vista city limits be changed from the Primary Zone to Secondary Zone.

Following completion of the Economic Sustainability Plan, the DPC recommended no changes to the Primary Zone. The Secondary Zone designation will be maintained for these study areas: Cosumnes/Mokelumne River North, Cosumnes/Mokelumne River South, Isleton, and San Joaquin River/South Delta.

Actions Status by Evaluation Topic

Action # Action Name

State Lead

Action Description

Other Responsible Organizations

6.2.3 Delta At-Risk Lands Plans

Department of Water Resources

Immediately prepare local plans for these five at-risk locations within the primary zone: Walnut Grove (including the residential area on Grand Island), Locke, Clarksburg, Courtland, and Terminous.

DWR, DPC, Local Governments, USACOE

Progress Score: 1 **Enacting Legislation:**

Status Description:

Because all of these communities are protected in whole or in part by project levees, they are included in the Central Valley Flood Protection Plan (draft released in December 2011, approval expected in June 2012). The follow-on regional plans will address specific actions to improve protection for these communities.

DWR has provided funds to Delta Reclamation Districts to prepare 5-year levee plans. DWR is also providing funds for improvements to non-project levees in the Delta according to establish grant guidelines that consider: (1) levee improvements; (2) habitat improvements; and (3) acquisition of habitat credits.

Each of these five areas is included in the respective county Hazard Mitigation Plan. The USACOE has prepared a map book of levees, which has helped DWR identify technical information needs for these five areas. DWR Emergency Response is coordinating with these communities to identify additional technical data to inform emergency response planning and action. Specific flood protection plans for these areas have not been completed.

6.2.4 Delta Land Use Consortium

Department of Water Resources

Immediately form a landowner consortium to create a new land use strategy that fosters recreation, increases habitat, reverses subsidence, sequesters carbon, improves handling of dredged material, and continues appropriate agriculture on Sherman, Twitchell, and Jersey Islands.

DWR, Local Agencies

Progress Score: 2 **Enacting Legislation:**

Status Description:

DWR is working with local Reclamation Districts on Sherman, Twitchell, and Jersey islands to implement several projects in habitat enhancement, subsidence reversal, carbon sequestration, and dredged material reuse. DWR is using these projects to develop project protocols for carbon credits that comply with California's cap-and-trade program.

To date, results show that rice farming can increase soil levels approximately 2" per year. Several hundred acres are managed to reverse subsidence and sequester carbon. There are approximately 12,000 acres available on Sherman and Twitchell islands.

Actions Status by Evaluation Topic

Action # Action Name

State Lead

Action Description

Other Responsible Organizations

6.3.1 Delta Levee Investment Plan

Delta Stewardship Council

Require the Department of Water Resources, in cooperation with local Reclamation Districts and other agencies, to develop a comprehensive plan for Delta levee investments.

Governor and Legislature, Resources, DSC, DWR, CVFPB, Others

Progress Score: 2 **Enacting Legislation:** Water Code Section 85306

Status Description:

The 2009 water legislation requires the DSC, in consultation with CVFPB, to recommend in the Delta Plan priorities for State investments in levee operation, maintenance, and improvements in the Delta, including both levees that are a part of the State Plan of Flood Control and nonproject levees.

In the Final Staff Draft Delta Plan, the DSC has proposed the following policies and recommendations:

- Delta Plan Risk Reduction Policy 1 (RR P1) "Prioritization of State Investments in Delta Levees and Risk Reduction" gives authority for levee priorities to the DSC with consultation from DWR: "The Delta Stewardship Council, in consultation with the Department of Water Resources, the Central Valley Flood Protection Board, and the California Water Commission, shall develop priorities for State investments in Delta levees by January 1, 2015."

- Delta Plan Risk Reduction Recommendation 2 (RR R2) "Finance Local Flood Management Activities" advises that: "The Legislature should create a Delta Flood Risk Management Assessment District with fee assessment authority (including over State infrastructure) to provide adequate flood control protection and emergency response for the regional benefit of all beneficiaries, including landowners, infrastructure owners, and other entities that benefit from the maintenance and improvement of Delta levees, such as water users who rely on the levees to protect water quality."

This district should be authorized to:

- Identify and assess all beneficiaries of Delta flood protection facilities.
- Develop, fund, and implement a regional plan of flood management for both Project and non project levees of the Delta, including the maintenance and improvement of levees, in cooperation with the existing reclamation districts, cities, counties, and owners of infrastructure and other interests protected by the levees.

Actions Status by Evaluation Topic

Action # Action Name

Action Description

State Lead

Other Responsible Organizations

6.3.2 Levee Bond Fund Priorities

Prioritize the \$750 million appropriated by Proposition 1E and Proposition 84 funds for the improvement of Delta levees, including in legacy towns.

Delta Stewardship Council

DWR, CVFPB, CWC

Progress Score: 2 **Enacting Legislation:** Water Code Section 85306

Status Description:

The 2009 water legislation requires the DSC, in consultation with CVFPB, to recommend in the Delta Plan priorities for State investments in levee operation, maintenance, and improvements in the Delta, including both levees that are a part of the State Plan of Flood Control and nonproject levees.

DWR submitted "A Framework for Department of Water Resources Investment in Delta Integrated Flood Management in February 2011. DWR expects to finalize the Framework by the end of 2012.

In the Final Staff Draft Delta Plan, the DSC has proposed that "the Delta Stewardship Council, in consultation with the Department of Water Resources, the Central Valley Flood Protection Board, and the California Water Commission, shall develop priorities for State investments in Delta levees by January 1, 2015. These priorities shall be consistent with the provisions of the Delta Reform Act in promoting effective, prioritized strategic State investments in levee operations, maintenance, and improvements in the Delta for both levees that are a part of the State Plan of Flood Control and non-project levees."

6.3.3 Delta Levees Classification Table

Require those preparing the comprehensive levee plan to incorporate the Delta Levees Classification Table to ensure consistency between levee designs and the uses of land and water enabled by those levees.

Delta Stewardship Council

Governor and Legislature, Resources, DWR, CVFPB

Progress Score: 2 **Enacting Legislation:**

Status Description:

The four levee standards and guidance applicable to the Delta are discussed and illustrated in the Final (Sixth) Staff Draft Delta Plan (5/14/12); they are ordered from highest to lowest level of flood protection. No particular standard is recommended. The DSC removed the Delta Levees Classification Table that had been included in earlier drafts.

Actions Status by Evaluation Topic

Action # Action Name

State Lead

Action Description

Other Responsible Organizations

6.3.4 Levee Subventions Program

Department of Water Resources

Continue the existing Department of Water Resources levee subventions program until the comprehensive levee plan is completed. DWR

Progress Score: 3 **Enacting Legislation:** Water Code Sections 12980 through 12995

Status Description:

Subventions. The Delta Levees Maintenance Subventions Program is a cost share program that provides technical and financial assistance to local levee maintaining agencies in the Delta for the maintenance and rehabilitation of nonproject and eligible project levees. The Subventions Program is authorized by California Water Code Sections 12980 through 12995 and is managed by DWR. The CVFPB reviews and approves DWR's recommendations and enters into agreements with local agencies to reimburse eligible costs of levee maintenance and rehabilitation. As currently authorized, the Subventions program provides up to 75% of eligible project costs from Propositions 84 and 1E. Since 2006, the State has invested approximately \$67 million in Delta levee maintenance. Under current law, the Subventions Program will sunset in 2013, at which time the State contribution to subventions project will revert to a 50% of eligible costs. Legislation is pending to extend the 75% State contribution for two years.

Special Projects. The Delta Levees Special Flood Control Projects provides financial assistance to local levee maintaining agencies for rehabilitation of levees in the Delta. The program was established by the California Legislature under SB 34, SB 1065, and AB 360. Since the inception of the program, more than \$100 million have been provided to local agencies in the Delta for flood control and related habitat projects. The Special Project is authorized in the California Water Code, Sections 12300 through 12314. The intent of Legislature, as stated in the Water Code, is to preserve the Delta as much as it exists at the present time. The program presently focuses on flood control projects and related habitat projects for eight western Delta Islands--Bethel, Bradford, Holland, Hotchkiss, Jersey, Sherman, Twitchell and Webb Islands--and for the Towns of Thornton and Walnut Grove.

Five-Year Plans. DWR provides funding to encourage each local agency in the Delta to assess the current conditions of its levees and develop a strategic Five-Year Plan for rehabilitation of its facilities to a desired level of protection. Five-Year Plans will be required for all Special Projects applicants under the future Program Guidelines. The State will fund 100% of the first \$50,000 spent on the preparation of Five-Year Plan, 75% of any costs between \$50,000 and \$100,000 and will not share any costs related to the Five-Year Plan beyond \$100,000. The Five-Year Plan must provide an assessment of the district's existing levee system, a strategic plan to meet a desired level of protection, identification of risks to island assets, a long-term funding strategy, habitat mitigation and/or enhancement plans, and a CEQA and permit compliance plan.

Actions Status by Evaluation Topic

Action # Action Name

Action Description

State Lead

Other Responsible Organizations

6.3.5 Levee Priorities Authority

Delta Stewardship Council

Vest continuing authority for levee priorities and funding with the California Delta Stewardship Council to ensure a cost-effective and sustainable relationship between levee investments and management of the Delta over the long term.

Governor and Legislature, DSC, CVFPB

Progress Score: 2 **Enacting Legislation:** Water Code Section 85306

Status Description:

The 2009 water legislation directs DSC, in consultation with the Central Valley Flood Protection Board, to recommend in the Delta Plan priorities for State investments in levee operation, maintenance, and improvements in the Delta, including both levees that are a part of the State Plan of Flood Control and nonproject levees. The Final (Sixth) Staff Draft Delta Plan (5/14/12) includes the following policies and recommendations:

- Delta Plan Risk Reduction Policy 1 (RR P1) "Prioritization of State Investments in Delta Levees and Risk Reduction" gives authority for levee priorities to the DSC: The Delta Stewardship Council, in consultation with the Department of Water Resources, the Central Valley Flood Protection Board, and the California Water Commission, shall develop priorities for State investments in Delta levees by January 1, 2015.
- Delta Plan Risk Reduction Recommendation 2 (RR R2) "Finance and Implement Local Flood Management Activities" recommends that: The Legislature should create a Delta Flood Risk Management Assessment District with fee assessment authority.

Actions Status by Evaluation Topic

Action # Action Name

Action Description

State Lead

Other Responsible Organizations

Evaluation Topic: 5 - Water Supply Reliability

4.1.1 Statewide Water Use Efficiency

Improve statewide water use efficiency and conservation.

Department of Water Resources

DWR, State Board, CUWCC, AWMC, Others

Progress Score: 3 **Enacting Legislation:** Water Code Sections 10608, 85303

Status Description:

The 2009 water legislation SB X7-7 was enacted in November 2009 mandating water conservation targets and efficiency improvements for urban and agricultural water suppliers, respectively. DWR developed work plans for the 18 actions in the legislation for which DWR is assigned as the lead agency. The legislation requires that DWR implement certain provisions of the law through public processes. To meet this requirement, DWR formed an Urban Stakeholder Committee (USC) and an Agricultural Stakeholder Committee (ASC). DWR also sought public input through public workshops, the SB X7-7 website, a Commercial, Industrial, and Institutional (CII) Task Force, and the rulemaking process. DWR also convened an Agency Team (AT) to seek general advice in the implementation of the SB X7-7 requirements.

DWR is developing a standardized water use reporting form for urban and agricultural water agencies. The form will be complete in 2012.

See 4.1.2, Urban Water Demand, and 4.1.3, Agricultural Water Use Efficiency, for specific actions status.

4.1.2 Urban Water Demand

Reduce urban per-capita water demand through specific recommended actions.

Department of Water Resources

DWR, CUWCC, Others

Progress Score: 4 **Enacting Legislation:** Water Code Section 10608

Status Description:

The 2009 water legislation included SBX7-7, which establishes methods for urban retail water suppliers to determine targets for achieving increased water use efficiency by the year 2020, in accordance with the overall goal of a 20-percent reduction.

On October 1, 2010, DWR published "Technical Methodologies for Calculating Urban Water Use Targets." In February 2011, DWR published "Provisional Method 4 for Determining Water Use Targets." DWR has also published "Guidebook to Assist Urban Water Suppliers to Prepare a 2010 Urban Water Management Plan" incorporating the requirements of SBX7-7 (March 2011). DWR has been conducting public workshops and working closely with the Agricultural Stakeholder Committee since March 2010. Updated Urban Water Management Plans were due to DWR from water providers by July 2011. 387 UWMPs are posted on DWR's website. DWR is reviewing the plans.

Final regulations regarding the exclusion of certain process water from water use calculations at commercial, industrial, and institutional facilities were published on July 8, 2011. Commercial, Institutional and Industrial (CII) Task Force has met 13 times to develop water use Best Management Practices for the CII sector and a report to the Legislature (<http://www.cuwcc.org/2column.aspx?id=16620>).

Actions Status by Evaluation Topic

Action # Action Name

Action Description

State Lead

Other Responsible Organizations

4.1.3 Agricultural Water Efficiency

Ensure the most efficient use of water in agriculture.

Department of Water Resources

DWR, AWMC, CDFA, Reclamation, USDA, Others

Progress Score: 3 **Enacting Legislation:**

Status Description:

DWR has prepared a 5-year work plan for implementing the agricultural water measurement requirements of SBX7-7. DWR prepared an emergency agricultural water management regulation, which was approved by the California Water Commission in June 2011 and by the Office of Administrative Law (OAL) in July 2011. DWR drafted a permanent agricultural water measurement regulation, which has been reviewed by the California Water Commission and submitted to the Office of Administrative Law. The rule is expected to be final by July 2012.

To comply with provisions of the statute, agriculture water supplies must submit an Agricultural Water Management Plan by December 31, 2012, again on December 31, 2015, and every five years thereafter. DWR has been conducting public workshops and working closely with the Agricultural Stakeholder Committee since July 2010. DWR held a "Public Workshop for the Draft Guidebook for Agricultural Water Management Plans" on February 1, 2012 to discuss DWR's proposed Agricultural Water Management Plan Guidebook. The purpose of the Guidebook is to assist agricultural water suppliers in complying with the requirement to submit an agricultural water management plan to DWR by December 31, 2012 per SBx7-7 per the Water Conservation Act of 2009. The guidelines are expected to be approved by July 2012. On April 24, 2012, the Agricultural Stakeholder Committee met to review the final draft of "A Proposed Methodology for Quantifying the Efficiency of Agricultural Water Use," which will be submitted to the Legislature.

In May 2012, the Bureau of Reclamation announced the award of \$3.5 million in CALFED Water Use Efficiency grants for Fiscal Year 2012. Combined with local cost-share contributions, more than \$12.5 million in water management improvement projects will be implemented during the next 24 months saving an estimated 8,000 acre-feet per year. Also in May, Agriculture Deputy Secretary Kathleen Merrigan and Deputy Secretary of the Interior David Hayes announced \$5.3 million in funding for 5 water districts and associated growers to improve the efficiency of agricultural water use in California.

4.2.1 Water Recycling

Modify the Water Recycling Act of 1991 to add a statewide target to recycle on the order of 1.5 million acre-feet of water annually by 2020.

Legislature

Governor and Legislature

Progress Score: 0 **Enacting Legislation:**

Status Description:

In 2009, the Legislature considered a measure to increase the statewide target for recycled water (AB410 De La Torre). This bill would refer to the existing statewide recycling goal as a target, (recycle a total of 700,000 acre-feet of water per year by the year 2000 and 1,000,000 acre-feet of water per year by the year 2010) and would additionally set a target to recycle a total of 1,525,000 acre-feet of water per year by 2020, and 2,525,000 acre-feet of water per year by 2030 for the purpose of maximizing the use of recycled water in the state. The legislation passed in the Assembly, but did not reach a floor vote in the Senate.

Actions Status by Evaluation Topic

Action # Action Name

Action Description

State Lead

Other Responsible Organizations

4.2.2 Desalination

Legislature

Enact legislation now to encourage local water agencies to at least triple the current statewide capacity for generating new water supplies through ocean and brackish water desalination by 2020.

Governor and Legislature

Progress Score: 0 **Enacting Legislation:**

Status Description:

The 2009 water legislation did not include provisions with respect to desalination.

The DWR "California Water Plan Update 2009" makes several recommendations to facilitate greater use of desalination in California. These include: ensuring adequate funding to develop emerging desalination technologies; providing technical assistance and funding to local agencies; providing guidance on permitting requirements; and ensuring adequate planning to make certain of a collaborative process. DWR's 2008 California Desalination Planning Handbook remains the seminal resource for desalination planning.

Actions Status by Evaluation Topic

Action # Action Name

State Lead

Action Description

Other Responsible Organizations

4.2.3 Urban Stormwater Goals

Legislature

Request that the State Water Resources Control Board set goals by 2015 for infiltration and direct use of urban storm water runoff throughout the Delta watershed and its export areas.

Governor and Legislature, State Board

Progress Score: 1 **Enacting Legislation:**

Status Description:

In 2009, the Legislature approved SB 790 (Pavley). The bill authorizes grants for projects designed to implement or promote low-impact development for new or existing developments that will contribute to the improvement of water quality or reduce stormwater runoff and for projects designed to implement specified stormwater resource plans. The bill would authorize a city, county, or special district to develop, jointly or individually, stormwater resource plans. The bill would authorize a regional water management group to coordinate its planning activities to address or incorporate into its plan any stormwater resource planning that is undertaken pursuant to the bill's provisions.

The State and Regional Water Boards adopted a stormwater reuse target in the Recycled Water Policy, approved by the Office of Administrative Law in May 2009, to "Increase the use of stormwater over use in 2007 by at least 500,000 acre feet per year (AFY) by 2020 and by at least one million AFY by 2030."

On March 16, 2011 the State Board's "Status of Water Boards' Strategic Priority Actions" list identified the following actions among their highest priority for timely completion and committed to direct the resources needed to ensure completion of these priorities by the end of 2012.

Statewide Phase II Small Municipal Separate Storm Sewer System (MS4) General Permit. The MS4 General Permit, which currently covers more than 250 entities in California, expired in May 2008. State Board staff is developing a second five-year term period.

Stormwater Industrial General Permit Reissuance. The statewide General Permit for Discharges of Stormwater Associated with Industrial Activities (commonly referred to as the Industrial General Permit), was last reissued in 1997. It is due to be reissued using the approach and principles (including numeric limits) adopted in the 2009 General Construction Permit.

SWB Action Item 5 is the Caltrans MS4 Permit. Stormwater discharges from the Caltrans Municipal Separate Storm Sewer system (MS4) are regulated under an individual NPDES permit.

Actions Status by Evaluation Topic

Action # Action Name

State Lead

Action Description

Other Responsible Organizations

4.2.4 Diversion Data Collection

State Board

Request agencies to ensure that accurate and timely information is collected and reported on all surface water and groundwater diversions in California by 2012.

Governor and Legislature, State Board, DWR

Progress Score: 3 **Enacting Legislation:** Water Code Section 5101 and 5107

Status Description:

The 2009 water legislation included (SBX7-8), which modified the reporting requirements for surface water diversions and added civil and criminal penalties, which had been previously lacking. Most diverters in the Delta were added to this reporting program for the first time. The State Board or DWR are allowed to promulgate emergency regulations to implement the reporting requirements. The law requires any diverter who diverts water after December 31, 1965 to report by July 1 their diversions from the previous year. There are some limited exceptions. Diverters are required to monitor their diversions on a monthly basis starting January 1, 2012.

The penalty for willful misstatements is \$1,000 and/or 6 months in jail. The State Board may impose penalties of \$1,000 and \$500 per day for failure to submit reports. The legislation also continuously appropriates \$3.75M annually from the Water Rights Fund for 25 enforcement personnel at the State Board.

The State Board adopted emergency regulations on November 2, 2010 to add chapter 2.7 to the California Code of Regulations (CCR) providing for electronic filing of reports of water diversion or use. The regulations require mandatory electronic filing of reports on the State Board website to report: (1) Changes in Name, Address, or Ownership; (2) Supplemental Statements of Water Diversion and Use; (3) Progress Reports by Permittee; (4) Reports of Licensee; and (5) Notices of Groundwater Extraction and Diversion. The chapter also requires watermasters who choose to file annual reports with the Board to file such reports on electronic spreadsheets acceptable to the Board.

Since 2009, the State Water Board has hired 20 new staff to perform water right enforcement and public trust protection activities. These resources have been focused on investigations in the North Coast Instream Flow Policy Area to address illegal reservoir diversions and in the Delta counties to achieve compliance with the self-monitoring and measurement requirements of the legislation.

In coordination with the Delta Watermaster, voluntary compliance monitor their diversions on a monthly basis by hundreds of Delta diverters have been achieved and formal enforcement has been taken on those failing to comply voluntarily. Compliance efforts undertaken by the Delta Watermaster included outreach meetings in the Delta to inform diverters of the new requirements to file statements, letters to all Delta diverters, and follow-up contacts to increase compliance. These efforts, focused on Delta diverters, have substantially increased compliance rates with reporting requirements. Delta diverters have the following compliance rates for submitting 2011 reports: Licenses, 95%, Permits, 100%, and Statements, 100%. The Division has also issued more than 20 formal penalties and 10 cease and desist actions against illegal reservoir owners and other diverters that failed to report water diversions in the Policy Area. The Delta Watermaster has assessed fines against two diverters in the Delta for failure to file statements. Investigations and enforcement activities are continuing.

Actions Status by Evaluation Topic

Action # Action Name

State Lead

Action Description

Other Responsible Organizations

4.2.5 Drought Contingency Plans

Department of Water Resources

Require that all water purveyors develop an integrated contingency plan by 2015 in case of Delta water supply curtailments or drought.

Governor and Legislature, State Board, DWR

Progress Score: 3 **Enacting Legislation:** Water Code Section 85021

Status Description:

DWR completed the first statewide drought contingency plan in November 2010 as part of the California Water Plan. DWR is updating the drought contingency plan as part of Water Pla Update 2013 to ensure that it covers preparing for responding to, and recovering from a drought, including documenting activities and lessons learned from 2007, 2008, and 2009. The activities include defining State agencies' role in droughts, developing the toolbox for local and regional drought management, and defining the coordination and communications process.

DWR supports Integrated Regional Water Management planning through guidance, grants, and technical assistance. According to the DWR "Propositions 84 & 1E Integrated Regional Water Management (IRWM) Guidelines" (August, 2010), all proposals must "effectively address long-term drought preparedness by contributing to sustainable water supply and reliability during water shortages. Drought preparedness projects do not include California water emergency response actions, such as trucking of water or lowering well intakes."

The Water Conservation Bill of 2009 requires water suppliers to assess current demands and supplies over a 20-year planning horizon and consider various drought scenarios in Urban Water Management Plans (UWMP). The UWMP Act also requires water shortage contingency planning and drought response actions be included in a UWMP every five years. Urban water suppliers covered by the Act are those with 3,000 or more service connections or supplying 3,000 or more acre-feet of water per year. 2010 UWMPs were due to DWR by August 1, 2011.

Actions Status by Evaluation Topic

Action # Action Name

State Lead

Action Description

Other Responsible Organizations

4.2.6 Integrated Water Management

Department of Water Resources

Establish a regulatory framework that encourages efficient and integrated management of water resources at local, regional, and statewide levels, with a focus on specific actions.

Governor and Legislature, State Board, DWR

Progress Score: 3 **Enacting Legislation:** Water Code Section 85021

Status Description:

Water Code Section 85021 states that “The policy of the State of California is to reduce reliance on the Delta in meeting California's future water supply needs through a statewide strategy of investing in improved regional supplies, conservation, and water use efficiency. Each region that depends on water from the Delta watershed shall improve its regional self-reliance for water through investment in water use efficiency, water recycling, advanced water technologies, local and regional water supply projects, and improved regional coordination of local and regional water supply efforts.”

Integrated Water Management for California is coordinated through the State Water Plan and through Integrated Regional Water Management Plans (IRWMPs) implemented by 48 regional water management groups. DWR is preparing Update 2013 for the Water Plan. The Update includes a public advisory group and caucuses on key topics, such as groundwater, water quality, finance, and water technology. The Update also includes reference to and coordination with 23 related plans and programs, such as the State Wildlife Plan, the CPUC Water Action Plan, FloodSafe Strategic Plan, and the Delta Vision Strategic Plan.

DWR supports Integrated Regional Water Management (IRWM) planning through guidance, grants, and technical assistance funded from Propositions 50, 84, and 1E. IRWM is implemented across the state through an incentive approach supported by grants to regions implementing IRWM Plans. The 48 regional water management groups cover 87% of the land area of California and 99% of the population.

On February 22, 2011, DWR awarded \$21,046,952 in Planning Grants to 30 regional entities. These grants are intended to foster development or completion of Integrated Regional Water Management (IRWM) Plans, to enhance regional planning efforts, and to assist more applicants to become eligible for Implementation Grant funding. In May 2011, DWR announced proposed IRWM implementation funding for 23 projects totaling \$200 million. Local and regional matching funds bring the total value of these projects to \$1 billion. In September 2011, DWR recommended 18 projects to receive \$168 million from the Stormwater Flood Management Grant Program. Local and regional matching funds bring the total project value to approximately \$390 million.

DWR will award \$9 million for additional IRWM planning grants in July 2012. Local Groundwater Assistance Grants will be awarded in fall 2012, Round 2 Stormwater Flood Management Grants in July 2013, and Round 2 Implementation Grants in September 2013.

Actions Status by Evaluation Topic

Action # Action Name

State Lead

Action Description

Other Responsible Organizations

5.1.1 Dual Conveyance Feasibility

Natural Resources Agency

Direct the Department of Water Resources and other allied agencies to further investigate the feasibility of a dual conveyance facility, building upon the Bay-Delta Conservation Plan effort.

Governor and Legislature, Resources, DWR

Progress Score: 2 **Enacting Legislation:** Water Code Sections 85020(f), 85304, and 85320(b)(2)(B)

Status Description:

The 2009 water legislation directed that the BDCP should review and analyze a “reasonable range of Delta conveyance alternatives,” including “through-Delta, dual conveyance, and isolated conveyance alternatives and including further capacity and design options of a lined canal, an unlined canal, and pipelines.” The legislation further directs that the Delta Plan promote options for new and improved infrastructure relating to water conveyance in the Delta, storage systems, and the operation of both to achieve the Two Co-Equal Goals.

The BDCP Administrative Draft Chapter 3.4 describes Conservation Measure 1 (CM1), which includes construction and operation of a north of Delta diversion up to 15,000 cubic feet per second (cfs) to be operated in conjunction with and preferentially to south Delta diversion facilities, except at times necessary to meet fish conservation goals. The BDCP Administrative Draft Chapter 5 is the Effects Analysis of the proposed conservation measures, including CM1. The BDCP Administrative Draft Chapter 9 (February 2012) describes several dual conveyance alternatives with varying diversion and conveyance capacity from the Sacramento River to the south Delta pumping plants (3,000 to 9,000 cfs). The evaluation of these alternatives is not complete. The public draft environmental review is planned for late June 2012.

The Sixth Staff Draft Delta Plan recommends completion of the BDCP by December 31, 2014 as an important part of improving water management for California and restoring the Delta ecosystem. The draft Delta Plan further recommends action by DWR and other agencies to complete current water storage investigations and identify smaller, near-term actions and projects to improve the operation of existing Delta conveyance facilities, transfers, storage, and other water system benefits.

Actions Status by Evaluation Topic

Action # Action Name

Action Description

State Lead

Other Responsible Organizations

5.1.2 Storage and Conveyance Recommendations

Legislature

Direct the Department of Water Resources, the Department of Fish and Game, and other allied agencies to recommend the size and location of new storage and conveyance facilities by the end of 2010. Develop a long-term action plan to guide design, construction, and operation, and present the recommendation and plan to the California Delta Stewardship Council for a consistency determination.

Governor and Legislature, Resources, DWR, DFG, Reclamation, Others

Progress Score: 0 **Enacting Legislation:**

Status Description:

The 2009 water legislation (SBX7-1) specified the evaluation and compliance requirements for conveyance alternatives in the BDCP process. The legislation provides general statements regarding the importance of storage for improving water supply reliability, but there is no additional direction to DWR. The proposed 2012 water bond (SBX7-2) would provide funding for the public benefits associated with storage and conveyance. The water bond is expected to be postponed until November 2014.

In November 2010, DWR published a progress report on the CALFED storage investigations. That report notes that the four storage projects discussed could produce a long-term average increase in annual yield of approximately 800,000 acre-feet. The planning schedule included in the report estimated that storage studies would continue through 2013, with Federal and State decisions occurring in 2014. Funding for storage investigations from Proposition 50 has ended. The North of Delta Offstream Storage Project will release a public draft feasibility study in December 2012 with funding from Proposition 204. Reclamation has released the Administrative Draft Feasibility Study for Shasta Reservoir Expansion. Reclamation is conducting a value engineering study for the Temperance Flat Storage Project.

The Final Staff Draft Delta Plan recommends that DWR complete the storage investigations for proposed offstream storage facilities by December 31, 2012.

The DFG Central Region participated in the development of "Tulare Basin Conservation Plan Water Supply Strategies Report" by the Tulare Basin Wildlife Partners in 2010. This was intended to be a comprehensive report on the potential for use of wetlands and river corridors in the Tulare Lake Basin for the temporary surface storage and groundwater storage/recharge.

The Association of California Water Agencies has developed a groundwater strategy, which includes the development of additional groundwater storage.

Actions Status by Evaluation Topic

Action # Action Name

State Lead

Action Description

Other Responsible Organizations

5.1.3 Storage and Conveyance Construction

Department of Water Resources

Complete substantial development and construction of new surface and groundwater storage and associated conveyance facilities by 2020, with the goal of completing all planned facilities by 2030.

Resources, DWR, Reclamation

Progress Score: 1 **Enacting Legislation:**

Status Description:

Construction of Los Vaqueros Reservoir expansion was initiated on April 1, 2011. Dam construction is complete and recreation facilities will reopen in summer 2012.

Construction of other storage and conveyance projects is pending completion of feasibility studies, environmental documentation, and permitting, which are underway. DWR has estimated that storage studies would continue through 2013, with Federal and State decisions occurring in 2014.

Actions Status by Evaluation Topic

Action # Action Name

Action Description

State Lead

Other Responsible Organizations

5.2.1 Reservoir Operations

Department of Water Resources

Change the operating rules of existing reservoirs to incorporate and reflect modern forecasting capabilities.

DWR, Reclamation, Army Corps

Progress Score: 2 **Enacting Legislation:** Water Code Section 85309

Status Description:

The 2009 water legislation (SBX7-1) directs DWR, in consultation with USACE and the CVFPB, to prepare a proposal to coordinate flood and water supply operations of the SWP and the CVP, and submit the proposal to the DSC for consideration for incorporation into the Delta Plan. In drafting the proposal, DWR must consider all related actions set forth in the Delta Vision Strategic Plan.

As directed by SBX2-1, DWR, in partnership with others, developed the Plan of Study for a System Reoperation Study in June 2011. The study is identifying and evaluating options for the reoperation of the State's flood protection and water supply systems to improve system efficiency while achieving multiple objectives of improved water supply reliability, flood risk reduction, ecosystem restoration, and reducing groundwater overdraft. As part of Phase 2 of the study, the team is formulating reoperation strategies around five concepts:

1. Shasta Reservoir operated in conjunction with south of Delta groundwater
2. Oroville Reservoir operated in conjunction with south of Delta groundwater
3. Fully integrated SWP and CVP operations
4. Friant and San Joaquin River tributaries operated in conjunction with San Joaquin Valley groundwater
5. Shasta Reservoir operated to improve fish passage options

Based on preliminary analysis, reoperating Shasta with south of Delta groundwater storage, reoperating Oroville with south of Delta groundwater, and integrating the SWP/CVP appear to be the most promising. DWR is vetting reoperating ideas with local surface and groundwater storage owners to assess their interest in study of potential reoperation of their facilities with DWR.

DWR expects to complete Phase 2 in summer 2012 and begin initial analysis of the most promising strategies. Those strategies that meet the three program objectives will be carried forward for more detail analysis. The schedule for completing the detail analysis and the report is the middle of 2014.

Actions Status by Evaluation Topic

Action # Action Name

State Lead

Action Description

Other Responsible Organizations

5.2.2 San Joaquin Flood Bypass

Department of Water Resources

Require the Department of Water Resources to immediately create a flood bypass along the lower San Joaquin River.

Governor and Legislature, Resources, DWR

Progress Score: 2 **Enacting Legislation:** Water Code Section 9613(c)

Status Description:

As part of the Central Valley Flood Protection Act of 2008, the Legislature directed DWR and the CVFPB to "investigate and evaluate the feasibility of potential bypasses or floodways that would significantly reduce flood stage in the San Joaquin River Watershed, upstream and south of Paradise Cut."

The draft CVFPP, which identifies flood conveyance capacity expansion options in the north Delta and South Delta, was delivered to the Central Valley Flood Protection Board on December 30, 2011. The Board is conducting public review meetings around the Central Valley and expects to adopt the Plan by June 30, 2012. The Plan provides an overall framework for flood management. Regional studies, which will examine flood bypass opportunities on the San Joaquin River, will follow adoption of the Plan.

5.2.3 Infiltration Planning in Watersheds

Legislature

Request that the Department of Water Resources encourage greater infiltration as part of watershed management planning.

Governor and Legislature, Resources, DWR

Progress Score: 1 **Enacting Legislation:**

Status Description:

No action by the Legislature to address watershed planning.

The DWR "California Water Plan Update 2009" contains the policy strategy of requiring local agencies to develop water budgets that quantify the amount of water flowing into and out of the basin. Enhanced infiltration and groundwater flow are an important part of the inflow calculation for the watershed. Increased groundwater storage and conjunctive use of groundwater and surface water are specific strategies recommended for the Delta region.

Recent DWR actions indicate its intent to encourage infiltration as part of Integrated Regional Water Management (IRWM) activities. For example, on February 22, 2011, DWR awarded \$21,046,952 in Planning Grants to 30 regional entities. These grants are intended to foster development or completion of IRWM Plans and to enhance regional water planning efforts. One of the grant criteria is the increased use of groundwater in regional watershed planning.