

# Appendix C

## Actions Status by Lead Agency

This appendix the status and progress of the 85 actions recommended in the *Delta Vision Strategic Plan*. Actions are grouped by the responsible lead state agency.

Central Valley Regional Water Quality Control Board .....	C-3
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### 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
CDFW	California Department of Fish and Wildlife
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
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

## 2014 Delta Vision Report Card

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
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
OES	Office of Emergency Services
Reclamation	Bureau of Reclamation
Regional Board	Regional Water Quality Control Board
Resources	California Natural Resources Agency
SLC	State Lands Commission
State Water 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).

<b>Progress and Completion</b>		
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 Lead Agency

Action #	Action Name	Type
Action Description		Other Responsible Organizations
Central Valley Regional Water Quality Control Board		

## Actions Status by Lead Agency

Action #	Action Name	Type
Action Description	Other Responsible Organizations	
<b>3.5.1a</b>	<b>Wastewater Discharges</b>	2-Legal and Procedural Milestones
<i>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.</i>		Central Valley Regional Board
<b>Progress:</b> 4	<b>Enacting Legislation:</b>	
<b>Status Description:</b>		
<p>Central Valley Board Performance Metrics. In March 2012 the State Water Board issued the "Resource Priorities and Resources" with specific performance targets. The overall goal was to implement management Alignment Evaluation Report. The report assesses and aligns the State Water Board and Regional Water Quality Control Boards practices to ensure that workload outputs in all programs, beginning with fee funded programs, are associated with workload standards and driven by priorities. As per the March 2012 report's recommendations, the Central Valley Board established annual performance targets for key output measures. One of the measures is the issuance of NPDES wastewater permits. Nine major individual permits were issued, revised, and renewed for the 12-month period ending February 2014, meeting the Central Valley Board performance targets.</p> <p>Major Permit Actions. The Central Valley Board uses the National Pollutant Discharge Elimination System (NPDES) to regulate all wastewater discharges into the Delta and tributaries to the Delta.</p> <p>Sacramento Permit: on December 9, 2010 The Central Valley Regional Board issued a new NPDES permit to the Sacramento Regional County Sanitation District (SRCSD), which operates the largest wastewater discharge 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. In April 2013, SRCSD and the Central Valley Regional Board settled a challenge to the permit requirements regarding ammonia and nitrates. SRCSD will be implementing treatment plant upgrades over the next 10 years.</p> <p>Stockton Upgrade: the Stockton Regional Wastewater Control Facility (WWCF) has been upgraded over the last decade to include treatment processes for ammonia. The upgraded facility is significantly reducing ammonia in the treated effluent.</p> <p>NPDES Wastewater Enforcement Actions. During FY 11-12, the Central Valley Board issued 306 of the 435 combined regional board NPDES wastewater enforcement actions, or 79.34%. During FY 12-13, the Central Valley Board issued 254 of the 412 combined regional board NPDES wastewater actions, or 61.65%. During the first quarter of 2014, the CVB assessed 10 penalties for effluent limit violations of NPDES permits for wastewater discharges affecting the Delta. Most 2014 ACL penalties were for violations that occurred during the last 3 quarters of 2013.</p> <p>Toxicity Reduction Evaluation (TRE) Work Plan Guidance Issued. In order to comply with the CVB's Basin Plan toxicity objectives, all Publicly Owned Treatment Works (POTW) wastewater dischargers (POTW Dischargers) that impact the waters of the Delta are required to conduct effluent toxicity testing for chlorpyrifos, diazinon, mercury, organic enrichment, low dissolved oxygen, and pathogens. If the discharge exceeds certain toxicity monitoring triggers, the POTW Discharger must initiate a Toxicity Reduction Evaluation (TRE) Work Plan and have it approved by the Central Valley Board. A TRE Work Plan is a study designed to identify the sources of the toxicity, propose mitigation and control measures, and subsequently confirm the reduction in effluent toxicity. The Central Valley Board reviewed several TRE Work Plans and found that often POTW Dischargers did not understand the purpose of the TRE Work Plans</p>		

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and several plans were missing a plan of action to mitigate the effluent’s toxicity. In January 2014 the Central Valley Board published guidance for the POTW Dischargers and a sample TRE Work Plan template to aid dischargers in developing their own plan. The template also now serves as a tool for staff to use to expedite the work plan review process.		
Reducing Costs of Compliance for Dischargers. Beginning in 2012, four stakeholder groups (representing wastewater, storm water, and agricultural dischargers) were formed to evaluate the costs of complying with State Water Board regulations, permits, and policies to identify potential cost savings while still protecting the State’s waters. In June 2013, two of these wastewater stakeholder groups submitted reports documenting their findings and recommendations for reducing costs of compliance. Based on these recommendations, the State Water Board adopted Resolution 2013-0029 in September 2013, which directed Water Board staff to implement measures intended to reduce compliance costs and improve efficiency, including: streamlining sanitary sewer spill reporting requirements; forming a workgroup to identify any additional steps required to ensure a transparent, consistent, and efficient process for issuance and reissuance of individual NPDES permits; and piloting the use of cost considerations in developing Water Board policy. State Water Board staff will continue to work with the stakeholder groups to implement Resolution 2013-0029 and further develop other feasible recommendations for reducing compliance costs.		
For more information, see the California Water Boards 2013 Accomplishments Report (March 2014), which can be accessed at <a href="http://www.waterboards.ca.gov/about_us/performance_report_1213">www.waterboards.ca.gov/about_us/performance_report_1213</a> .		

## Actions Status by Lead Agency

Action #	Action Name	Type
Action Description	Other Responsible Organizations	
<b>3.5.1b</b>	<b>Irrigated Agricultural Lands Discharges</b>	2-Legal and Procedural Milestones
<i>Require the Central Valley Regional Water Quality Control Board to adopt by 2010 a long-term program to regulate discharges from irrigated agricultural lands.</i>		CVWRCB
<b>Progress: 4</b>	<b>Enacting Legislation:</b>	
<b>Status Description:</b>		
<p>Long-Term Irrigated Lands Regulatory Program. The current Long Term Irrigated Lands Regulatory Program (ILRP), which became final December 12, 2012, sets limits on discharges within the jurisdiction of the Central Valley Board. The Central Valley Board implements the ILRP limits on discharges from irrigated lands (e.g. tailwater, water from underground drains, stormwater runoff) to waters of the State (e.g., the Delta and its tributaries) by way of the "Conditional Waiver of Waste Discharge Requirements" (Conditional Waiver). The Conditional Waiver regulations mandate that if a waiver holder has had two or more exceedances of the same pollutant at the same site within a three-year period, they must prepare and implement a formal Management Plan to control the pollutants.</p> <p>Third Party Coalition Groups. The Conditional Waiver program, operated under the ILRP, requires that farmers: (1) form Third Party Coalition Groups (TPCG); (2) prepare and implement Monitoring and Reporting Program (MRP) plans; and (3) submit periodic monitoring reports and data. Of the estimated 35,000 growers in the Central Valley, there are about 25,000 landowners/operators, with a total of nearly 5 million acres of land, that are currently regulated by the Central Valley Board and are part of TPCGs. Growers who do not join a TPCG will be directly regulated by the Central Valley Board, and will be subject to higher costs.</p> <p>Beneficial Use of Agricultural Water Bodies. In October 2011, the Central Valley Water Board reviewed beneficial use designations in agriculturally dominated water bodies and streams. A draft workplan was approved in December 2011. A February 2013 staff update identified 160 natural water bodies in which agricultural drainage or supply water dominates to the point that these rivers, lakes, or streams may be unfit for beneficial use as drinking water or habitat for fish and wildlife.</p> <p>Waste Discharge Requirements (WDR). On December 13, 2012, the Central Valley Board announced new waste discharge requirements (WDR) to protect ground and surface water from irrigated agricultural discharges by farmers in the Eastern San Joaquin River Watershed who are part of a Coalition Group. A draft administrative WDR that will reflect new compliance dates for meeting selenium objectives in Mud Slough (north) is expected to be released in April/May 2014. The following General WDR Orders have been adopted by the Central Valley Board:</p> <ul style="list-style-type: none"> <li>-Eastern San Joaquin River Watershed Growers in a TPCG (Order No. R5-2012-0116-R2) was revised March 27, 2014.</li> <li>-Growers within the Sacramento River Watershed in a TPCG (Order No. R5-2014-0030) was adopted on March 14, 2014.</li> <li>-Growers within the San Joaquin County and Delta Area in a TPCG, (Order No. R5-2014-0029) was adopted on 12 March 12, 2014.</li> <li>-Growers within the Western Tulare Lake Basin Area in a TPCG, (Order No. R5-2014-0001) was adopted on January 9, 2014.</li> <li>-Growers within the Western San Joaquin River Watershed in a TPCG, Order No. R5-2014-0002, was adopted on January 9, 2014.</li> <li>-Sacramento Valley Rice Growers (No. R5-2014-0032) was adopted on March 27, 2014.</li> </ul>		

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Action Description	Other Responsible Organizations	
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<p>-Existing Milk Cow Dairies (Order No. R5-2013-0122) was adopted on October 3, 201</p>		
<p>Information Management. Central Valley Board staff is now working with the State Water Board Office of Information Management and Analysis (OIMA) and Division of Information Technology (DIT) to develop a pilot information management system to handle the tracking of thousands of parcels not currently enrolled in the ILRP.</p>		
<p>Enforcement. In January and February, 2014, ILRP staff inspected 104 parcels in the East San Joaquin River Watershed to determine if the parcels are commercial irrigated lands that require coverage under the Eastern San Joaquin River Watershed General Order. Data gathered during these inspections will be used to prioritize the issuance of directives to commercial irrigated lands that are not covered by the Eastern San Joaquin River Watershed General Order. In January, 2014, ILRP staff mailed pre-Administrative Civil Liability (pre-ACL) letters to five growers who did not respond to a California Water Code section 13260 Directive Letter. An additional pre-ACL letter was mailed in February 2014. None of these landowners has responded to date; staff therefore plans to issue ACL Complaints in these cases.</p>		
<p>USDA Natural Resources Conservation Service Grants. The USDA’s Conservation Innovation Grants (CIG) program is intended to stimulate the development and adoption of innovative conservation approaches and technologies related to agricultural production. Under the CIG, Environmental Quality Incentives Program (EQIP) funds are used to award competitive grants. The Natural Resources Conservation Service (NRCS) administers CIG for the State. At least 50 percent of the total cost of each project must come from non-Federal matching funds.</p>		
<p>Since 2004, California has been awarded 30 NRCS Conservation Innovation Grants through the USDA, bringing in over \$10 million. This money has been used to implement innovative conservation measures that benefit the State’s agricultural lands and waterways.</p>		
<p>In March 2012 the NRCS announced four new focus areas where \$8.5 million will be made available through the Environmental Quality Incentives Program (EQIP). EQIP grants will help producers undertake water quality and water conservation projects. Four tributaries to the Delta were chosen because of their 2011 exceedances for organophosphate pesticides, potentially resulting in a Clean Water Act (CWA) 303d listing as impaired for beneficial uses. Areas to be targeted for water quality/water conservation include:</p> <ul style="list-style-type: none"><li>• Walker Creek portion of the Colusa-Glenn subwatershed in Glenn County.</li><li>• Lower Snake River in Sutter County.</li><li>• French Camp Slough Watersheds in San Joaquin and Stanislaus counties.</li><li>• Eastern portion of the San Joaquin River watershed in Stanislaus and Merced counties.</li></ul>		
<p>In January 2013, the USDA NRCS in California announced that \$5 million is available to farmers and dairy producers east of the San Joaquin River in Merced and Stanislaus counties for water conservation and water quality improvements. The NRCS is also providing approximately \$1.5 million to farmers that implement water quality and irrigation efficiency practices in selected San Joaquin County watersheds. California agricultural producers who are certified organic or transitioning to organic production are being given technical and financial assistance through a national organic initiative administered by the NRCS.</p>		

## Actions Status by Lead Agency

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<b>3.5.1c</b>	<b>Urban Runoff</b>	2-Legal and Procedural Milestones
<i>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.</i>		Central Valley Regional Board
<b>Progress:</b> 3	<b>Enacting Legislation:</b>	
<b>Status Description:</b>		
<p>Stormwater Permits, Medium and Large Cities. 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, as well as other cities in the Central Valley). 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. Each of the municipalities has its own Regional Board endorsed plan to insure that their discharges don't have adverse impacts.</p> <p>Stormwater Permits, Small Communities. The SWRCB updated the statewide general NPDES permit (Phase II) that regulates storm water discharges from smaller communities. The Phase II permit covers municipalities with a population less than 100,000 and includes military bases, prisons and university campuses. On February 5, 2013, the State Water Board adopted the final Phase II Small MS4 General Permit, which will become effective on July 1, 2013.</p> <p>Drinking Water Policy. California's Central Valley watershed is 40 percent of the land area in California, provides more than half of the managed water supply, and contains three-quarters of the irrigated agriculture in California. Urban runoff, treated wastewater effluent, and agricultural practices discharge constituents that have the potential to affect downstream drinking water treatment facilities. In response to these issues, the Central Valley Regional Board, in July 2010, adopted Resolution No. R5-2010-0079 directing staff to establish a drinking water policy for the Sacramento-San Joaquin Delta and upstream tributaries. As part of this effort, the Water Board established a Central Valley Drinking Water Policy Workgroup (Workgroup) consisting of various stakeholders from the agricultural, urban runoff, wastewater, and drinking water supply communities and State and federal agencies. Workgroup results were published in the "Urban Runoff Source Control Evaluation for Central Valley Drinking Water Policy," which was finalized in February 2012. In February 2013, the Central Valley Regional Board issued a Draft Staff Report entitled "Amendment To the Water Quality Control Plan for the Sacramento River and San Joaquin River Basins To Establish a Drinking Water Policy for Surface Waters of the Sacramento-San Joaquin Delta and Upstream Tributaries (Staff Report)." The Staff Report provides the rationale and supporting documentation for a proposed amendment to the "Water Quality Control Plan for the Sacramento and San Joaquin River Basin (Basin Plan). It adds a Drinking Water Policy and a narrative water quality objective for chemical constituents of concern. The Central Valley Regional Board adopted the policy on July 26, 2013 (Resolution No. R5-2013-0098) and the State Water Board adopted it on December 3, 2013 (Resolution No. SB-2013-0038). All the documents discussed above are available on the Drinking Water Policy website: <a href="http://www.waterboards.ca.gov/centralvalley/water_issues/drinking_water_policy/">http://www.waterboards.ca.gov/centralvalley/water_issues/drinking_water_policy/</a>.</p>		



## Actions Status by Lead Agency

Action #	Action Name	Type
Action Description	Other Responsible Organizations	

### 3.5.3 Mercury TMDL Programs

3-Recommended Actions

*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:** 3

**Enacting Legislation:**

#### Status Description:

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

Basin Plan Amendment. 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 plans and urban stormwater runoff) and non-point sources (irrigated agriculture, wetland managers, and state and federal agencies) are collaborating on developing and implementing methylmercury control studies to develop and evaluate best management practices to reduce methylmercury levels.

Data Sets. Central Valley Regional Board staff, in coordination with State Water Board staff and USEPA, has been working to assess the data submitted by interested parties. More than 250 individual data sets, covering more than 20,000 individual waterbody pollutant combinations and over 150,000 sample points, were received from sources including government agencies, municipalities, environmental groups, citizen groups, and National Pollutant Discharge Elimination System dischargers.

Impaired Reservoirs. Staff from a number of regions are developing statewide mercury TMDLs for 74 of the state's reservoirs impaired by mercury. State Water Board staff is developing statewide mercury objectives. Both of these projects are intended to decrease mercury discharges to surface waters, including tributaries of the Delta. Staff continues to work on the assessment of the data in order to create an accurate and scientifically defensible report. State Water Board staff anticipates that the data assessment work will be completed and available for Regional Board public review by the end 2014.

Delta Mercury Control Program (DMCP). Phase 1 of the Central Valley Board's DMCP program, established June 2013, requires that dischargers and agencies tasked with addressing methylmercury perform studies to evaluate methods to control methylmercury. On February 24, 2014 the Central Valley Board Executive Officer approved seven methylmercury control study work plans addressing methylmercury in municipal wastewater, urban and industrial storm water, managed seasonal wetlands and open water channels. The control study areas include: irrigated agricultural lands, managed wetlands, and wetlands restoration projects that discharge to the Yolo Bypass and Delta subareas, existing NPDES permitted facilities in the Delta and the Yolo Bypass, the Sacramento Area Municipal Stormwater Permit (MS4), Stockton MS4, and Contra Costa County MS4 service areas within and upstream of the legal Delta boundary.

Delta Mercury Exposure Reduction Program (MERP). The Central Valley Board Delta Mercury Exposure Reduction Program (MERP) goal is to reduce human exposure to mercury from consumption of contaminated Delta fish. As of April 2014, twenty-six entities, including Delta municipalities, wastewater agencies, storm water programs, the Rice Commission and ecological reserves, have submitted letters committing funds to the Delta MERP. Additionally, the State

## Actions Status by Lead Agency

Action #	Action Name	Type
Action Description		Other Responsible Organizations
Water Board allocated \$370,000 to cover the share of funding expected from State agencies. To supplement MERP dollars, staff time or other in-kind services have been committed by the Department of Public Health (DPH), the Delta Conservancy, Department of Water Resources, State Lands Commission, the US Bureau of Land Management Cosumnes River Preserve and the US Fish and Wildlife Service Stone Lakes Refuge. The Central Valley Board expects to convene stakeholder group meetings and begin development of exposure reduction actions in September 2014.		

## Actions Status by Lead Agency

Action #	Action Name	Type
Action Description	Other Responsible Organizations	
<b>3.5.4</b>	<b>Comprehensive Delta Monitoring</b>	3-Recommended Actions
<i>Begin comprehensive monitoring of water quality and Delta fish and wildlife health in 2009.</i>		ISB, IEP, State Water Board, Delta Science Program, USGS, CDFW
<b>Progress: 6</b>	<b>Enacting Legislation:</b>	
<b>Status Description:</b>		
<p>Water Quality Monitoring. Numerous agencies and programs are collecting data related to water quality and Delta fish and wildlife health. These agencies include the State Water Board, Central Valley Regional Board, USGS, DWR, the Interagency Ecological Program (IEP), and CDFW. 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.</p> <p>Delta Regional Monitoring Program. In July 2008 the State Water Board, Central Valley Regional Board, and San Francisco Bay Regional Board adopted the "Strategic Workplan for Activities in the San Francisco Bay/Sacramento-San Joaquin Delta Estuary." The Strategic Workplan identifies the development of a comprehensive monitoring program, with a water quality focus, for the Delta as a priority action. The short-term (i.e., within 1-2 years) goal for this action is to establish a framework for regularly gathering, compiling, assessing, and reporting readily available data. This goal was achieved, in part, through the publication of the Pulse of the Delta in 2011 and 2012. The long-term goal (within 3-5 years) is to develop a Regional Monitoring Program for the Delta (Delta RMP). A Steering Committee, consisting of representatives from key stakeholder groups, was formed in late 2012 and has been meeting regularly to develop and guide the program. A Technical Advisory Committee (TAC) has also been formed, consisting of technical representatives from each of the stakeholder groups represented on the Steering Committee. Subgroups of the TAC have initiated development of draft monitoring plans for nutrients, pathogens, mercury, and pesticides. In support of Delta RMP implementation, the Central Valley Regional Board is developing changes to permit conditions to allow dischargers to participate in the Delta RMP in lieu of individual monitoring efforts. Initial program implementation is expected to begin in 2015.</p> <p>Pulse of the Delta. In 2012 the Delta RMP issued its second annual report, Pulse of the Delta: Linking Science &amp; Management Delta through Regional Monitoring. The report is available at:  <a href="http://www.waterboards.ca.gov/centralvalley/water_issues/delta_water_quality/comprehensive_monitoring_program/">http://www.waterboards.ca.gov/centralvalley/water_issues/delta_water_quality/comprehensive_monitoring_program/</a>.</p> <p>California Water Quality Monitoring Council. In accordance with the Monitoring Council's (2010) Comprehensive Monitoring Program Strategy for California, a principal role of each theme-specific workgroup is to identify data gaps and inconsistencies in methods that undermine the breadth and comparability of monitoring data and assessment results, and use the findings to continually improve monitoring activities and delivery of water quality information to the public and decision-makers. The California Estuaries Workgroup, which is initially focusing on the San Francisco Bay-Delta Estuary, released the California Estuaries Portal in October 2013. Workgroup membership encompasses the key entities engaged in monitoring and assessment activities in the Delta (e.g., member agencies of IEP and Delta RMP). Additional information regarding the web portals developed under the auspices of the Monitoring Council is provided in Section NTA02 Delta Information Collection.</p> <p>Central Valley Watershed Monitoring Directory. This 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 Surface Water Ambient Monitoring Program and USEPA.</p>		

## Actions Status by Lead Agency

Action #	Action Name	Type
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<p>Http://www.centralvalleymonitoring.org.</p> <p>Interagency Ecological Program (IEP). The IEP, which today consists of nine member agencies (CDFW, USGS, NMFS, DWR, USFWS, SWRCB, USACE, USBR, USEPA) with the support of DSP, has been conducting cooperative ecological monitoring and research in the Bay-Delta since 1970 (see: <a href="http://www.water.ca.gov/iep/">http://www.water.ca.gov/iep/</a>). This collaborative is the primary provider of monitoring and science required under State and Federal Biological Opinions and State water rights decisions for operation of the CVP and SWP. In 2013, the IEP helped coordinate 158 projects with direct implementation of \$25 million and leveraging of another \$19.6 million guided by others. Representatives from the IEP are currently serving on the Delta RMP Steering Committee and Technical Advisory Committee in support of the development and implementation of the Delta RMP.</p> <p>FRP Tidal Marsh Monitoring. CDFW has established the FRP Tidal Marsh Monitoring unit to monitor the effectiveness of tidal wetland restoration projects implemented in the Delta, Suisun Marsh, and Yolo Bypass pursuant to the Fish Restoration Program Agreement (FRPA), a joint program between DFW and DWR. CDFW monitoring will include phytoplankton, zooplankton, and fish sampling to evaluate the benefits of wetland restoration to at-risk fish populations and food web resources. This unit will facilitate and support IEP Tidal Wetland Monitoring Project Work Team activities.</p>		
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Action #	Action Name	Type
Action Description		Other Responsible Organizations
<b>Contra Costa Water District</b>		
<b>NTA05</b>	<b>CCWD Alternate Intake Project</b>	1-Near-Term Actions
<i>Complete construction of an alternative intake for the Contra Costa Water District.</i>		CCWD
<b>Progress:</b> 10	<b>Enacting Legislation:</b>	
<b>Status Description:</b>		
The Alternate Intake Project is complete and was dedicated on July 20, 2010.		

## Actions Status by Lead Agency

Action #	Action Name	Type
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Delta Protection Commission		
2.1.1	NHA Designation	2-Legal and Procedural Milestones
Apply by 2010 for the designation of the Delta as a federally recognized National Heritage Area.		Resources, DPC
Progress: 3	Enacting Legislation: Water Code Section 85301(b)(1)	
Status Description:		
<p>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. On February 4, 2013, U.S. Senators Dianne Feinstein and Barbara Boxer introduced the Sacramento-San Joaquin Delta Heritage Area Act, a bill that creates California’s first National Heritage Area. The bill (S.228) will establish the Sacramento-San Joaquin Delta as a National Heritage Area, to be managed by the Delta Protection Commission. The goal of the National Heritage Area is to conserve and protect the Delta, its communities, its resources and its history. On March 7, 2013, Congressman John Garamendi with original cosponsors Representatives George Miller, Doris Matsui, Jerry McNerney, and Mike Thompson, along with Northern California County Supervisors, announced the introduction of the Sacramento-San Joaquin Delta National Heritage Area Establishment Act. The bill, H.R. 1004, is the identical House companion to S.228.</p>		
<p>DelHAI Increases Local Support for NHA. No further action has been undertaken by Congress to date. Congress is likely to defer action on the Delta NHA until national guidelines are established by Congress and the National Park Service. However, while the national designation is under consideration, the Commission is embarking on a Delta Heritage Area Initiative (DelHAI) to advance and elevate recognition of the Delta's unique values. DelHAI aims to raise the profile of sites that are open to visitors and to educate the public on NHA themes. The idea of creating the DelHAI was first suggested in 2012 by the US Department of the Interior, as a way to engage and inspire local support for the NHA. Local engagement is one of the federal criteria for approving an NHA. On May 30, 2014, as part of the DelHAI process, the DPC in conjunction with PreservingCalifornia'sJapantowns.org, hosted a Planning Charrette to explore renewal and reuse of Clarkburg's Holland Union Gakuen, one of California's only remaining pre-World War II Japanese Language Schools.</p>		
<p>Since its initial proposal, the DPC has sought out and received more than 35 letters of support from local organizations, each expressing interest in serving as partners to assist with various projects and programs to support the Delta NHA.</p>		
See also Action 2.3.1.		

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### 2.3.1 Delta Economic Development Plan

*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.*

3-Recommended Actions

Governor and Legislature, DPC, Local Governments

**Progress:** 4      **Enacting Legislation:** Public Resources Code Section 29759

#### Status Description:

The DPC's Economic Sustainability Plan for the Sacramento-San Joaquin Delta (ESP) was approved by the DSC and many parts of it were incorporated into the Delta Plan in 2012. The ESP made recommendations in four areas:

1. Public safety recommendations, such as flood protection.
2. 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 Legislature has not yet committed resources for implementing the plan.

In February 2014, the US Department of the Interior issued the "Federal Investments for the California Bay-Delta Region." The report documents federal contributions, roles, and commitments in the Bay-Delta that further the co-equal goals of supporting a sustainable and reliable water supply for future generations, and restoring ecosystem protections for the region. While the report acknowledged the federal government's recognition of the importance of investments being made in improving water and ecosystem management in California through existing programs, it cautioned that "[f]unding for any specific program or project is subject to availability of funds, however, and environmental review with public input will be necessary before proposed programs or specific actions can be implemented."

The "Delta Protection Commission 2013 Annual Report" was released in February, 2014. Highlights of 2013 include the following:

- Working Landscapes. The DPC completed a series of "working landscapes" projects with partners Ducks Unlimited and Hart Restoration, funded by the California Department of Fish and Wildlife. The demonstration projects showed how farmers can integrate habitat restoration into farming practices, potentially to the benefit of the farming operation as well as wildlife. The restoration projects cover a total 312 acres of seasonal and permanent wetlands and 6.5 miles enhanced levees and waterways. The "Delta Working Lands Program Final Report" was issued in September 2013. It was prepared jointly by the Delta Protection Commission, California Department of Fish and Wildlife Ecosystem Restoration Program, Ducks Unlimited, and Delta Eco Farms.

- Delta Voice Published. The DPC revived its newsletter, which has not been published since 2004, renaming it the "Delta Voice." To be issued quarterly, the fall edition featured historical branding efforts for Delta produce as well as tourist destinations. For current editions, see [www.delta.ca.gov/DeltaVoice.htm](http://www.delta.ca.gov/DeltaVoice.htm)

## Actions Status by Lead Agency

Action #	Action Name	Type
Action Description	Other Responsible Organizations	
<p>- Delta Branding. The DPC initiated an effort to establish a brand identity for the Delta as a destination, agricultural hub, cultural landscape, and for possible use for the proposed National Heritage Area (NHA). In partnership with the Delta Conservancy, this effort is expected to position the Delta as a tourism destination; increase economic opportunities for Delta businesses, residents, and communities; and help protect the Delta’s heritage and natural beauty. Based on public workshops, focus groups, individual meetings, and small group interviews, the DPC and Conservancy will identify a preferred brand identity and develop a marketing plan for the Delta region.</p>		
2.4.3	Delta Investment Fund Management	2-Legal and Procedural Milestones
Place the Fund under the joint management of the Delta Protection Commission and a consortium of local governments.		Governor and Legislature
Progress: 3	Enacting Legislation: Public Resources Code Section 29778.5	
Status Description:		
<p>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 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.</p>		
<p>The Legislature has not provided any funds for Delta Investment Fund. In 2011, 2012, 2013, and 2014 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 from the California Coastal Conservancy, Contra Costa County, National Parks Service, and 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.</p>		



## Actions Status by Lead Agency

Action #	Action Name	Type
Action Description	Other Responsible Organizations	
<b>3.2.4</b>	<b>Delta Recreational Investment</b>	3-Recommended Actions
<i>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.</i>		DPC, Local Governments, DC, CDPR
<b>Progress:</b> 3	<b>Enacting Legislation:</b>	
<b>Status Description:</b>		
<p>National Heritage Area. The DPC prepared a feasibility study on a National Heritage Area (NHA) designation for the Delta (draft October 2011, final July 2012) and a Delta Economic Sustainability Plan (final January 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 and provided an official letter which stated that it met the ten NPS feasibility study criteria. The study was also submitted to the Delta Stewardship Council for inclusion in the Delta Plan. CDPR released the draft "Recreation Proposal for the Sacramento-San Joaquin Delta and Suisun Marsh" for public review in April 2011.</p> <p>As mentioned in 2.1.1, on February 4, 2013, U.S. Senators Dianne Feinstein and Barbara Boxer introduced the Sacramento-San Joaquin Delta Heritage Area Act, a bill that creates California's first National Heritage Area. The bill (S.228) will establish the Sacramento-San Joaquin Delta as a National Heritage Area, to be managed by the Delta Protection Commission. The goal of the National Heritage Area is to conserve and protect the Delta, its communities, its resources and its history. On March 7, 2013, Congressman John Garamendi with original cosponsors Representatives George Miller, Doris Matsui, Jerry McNerney, and Mike Thompson, along with Northern California County Supervisors, announced the introduction of the Sacramento-San Joaquin Delta National Heritage Area Establishment Act. The bill, H.R. 1004, is the identical House companion to S.228.</p> <p>As discussed more fully in 2.1.1, while the national designation is under consideration, the DPC is embarking on a Delta Heritage Area Initiative (DelHAI) to advance and elevate recognition of the Delta's unique values. By advancing activities and projects that elevate and promote the Delta, the initiative hopes to demonstrate the region's capacity for possible NHA designation.</p> <p>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.</p> <p>The "Trail Blueprint Report for Contra Costa and Solano" was adopted in September 2010. It is 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. In 2013 the DPC also hosted a well-attended public workshop in Clarksburg to advance the Eastern Region Blueprint for the Great Delta Trail. The workshop resulted in a draft Vision, Goals, and Policies document. Stakeholder Advisory Committees and Technical Advisory Committees have been formed for each County to be part of the development process. In 2014, the Commission continues work on a Blueprint Report for the Eastern region of the Delta. 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.</p> <p>In 2013, the DPC initiated an update of its Recreation Inventory, originally drafted in 1994 and updated periodically since. With assistance from California</p>		

## Actions Status by Lead Agency

Action #	Action Name	Type
Action Description	Other Responsible Organizations	
State Parks and Wildlife, the Recreation Inventory is expanding to include the diversification of agritourism, to include u-pick operations, Christmas tree farms, pumpkin patches, farm trails, and other unique Delta tourism attractions, in addition to wineries. In partnership with State Parks, new visitor data will be collected in a comprehensive user survey in coming years.		
6.2.1	South Delta Land Use Oversight	3-Recommended Actions
Immediately strengthen land use oversight of the Cosumnes/Mokelumne floodway and the San Joaquin/South Delta lowlands.		Legislature, DPC
Progress: 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. However, following completion of the Economic Sustainability Plan, the DPC recommended no changes to the Primary Zone or additional land use oversight for these areas.		
The Delta Plan includes policies to protect floodplains and prevent encroachment in the Cosumnes River-Mokelumne River Confluence, as defined by the North Delta Flood Control and Ecosystem Restoration Project (McCormack-Williamson), or in the Lower San Joaquin River Floodplain Bypass, as described in the Lower San Joaquin River Floodplain Bypass Proposal.		
6.2.2	Central Delta Land Use Oversight	3-Recommended Actions
Immediately strengthen land use oversight for Bethel Island, the city of Isleton, and Brannan-Andrus Island.		Legislature, DPC
Progress: 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. However, following completion of the Economic Sustainability Plan, the DPC recommended no changes to the Primary Zone or additional land use oversight for these areas. The Delta Plan limits new urban development in many areas of the Delta. Regarding Bethel Island, the Delta Plan requires any new development on the island be consistent with the Contra Costa County General Plan.		

## Actions Status by Lead Agency

Action #	Action Name	Type
Action Description	Other Responsible Organizations	
<b>6.2.3</b>	<b>Delta At-Risk Lands Plans</b>	3-Recommended Actions
<i>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 Terminus.</i>		DPC, DWR, Local Governments, CVFPB, USACOE
<b>Progress:</b> 1	<b>Enacting Legislation:</b>	
<b>Status Description:</b>		
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 (approved June 2012). The follow-on regional plans now underway 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 USACE 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.		
The DPC, in cooperation with the DSC, DWR, Delta Conservancy, and others, will be implementing a pilot project in 2014-2015 to develop economic development plans consistent with Delta Plan Recommendation DP R3, Plan for the Vitality and Preservation of Legacy Communities. The recommendation states, "Local governments, in cooperation with the Delta Protection Commission and Delta Conservancy, should prepare plans for each community that emphasize its distinctive character, encourage historic preservation, identify opportunities to encourage tourism, serve surrounding lands, or develop other appropriate uses, and reduce flood risks.		
The Delta Plan added land use oversight for Walnut Grove (including the residential area on Grand Island), Locke, Clarksburg, Courtland, and Terminus.		

## Actions Status by Lead Agency

Action #	Action Name	Type
Action Description		Other Responsible Organizations
NTA02	Delta Information Collection	1-Near-Term Actions
<i>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.</i>		DWR, CDFW, DPC, DSC, State Water Board, Regional Boards, and Local Govts
Progress: 4	Enacting Legislation: Public Resources Code section 29759, Water Code Section 85086(a), Water Code 12924, Water Code Sections 13167 and 13181	
Status Description:		
Diversion Data. Water Code section 85086(a) instructed the State Water Board to establish an effective system of Delta watershed diversion data collection and public reporting by December 31, 2010. The State Water Board meets this requirement—it has an online reporting tool for water rights diversion reporting. (See NTA01).		
Groundwater Data. Water Code section 12924 established a program for the collection of groundwater elevation data. DWR has developed the CA Statewide Groundwater Elevation Monitoring Program (CASGEM) to collect groundwater elevations and make the data available online. Monitoring Entities conducted the first round of groundwater elevation monitoring in Fall 2011, and submitted data to DWR by January 1, 2012. As of May 31, 2013 there are 67 monitoring entities covering 177 groundwater basins or sub-basins. DWR has not received data for 40 of these basins. A total of 362 groundwater basins or sub-basins (70%) are not being monitored. DWR completed the 2012 CASGEM Status Report on February 23, 2012, prepared for the Governor and the Legislature as required by the Water Code (§10920 et seq.). The report outlines the background of the CASGEM Program and describes the first two years of implementation.		
Groundwater Quality. The Groundwater Ambient Monitoring & Assessment Program (GAMA) is California's comprehensive groundwater quality monitoring program created by the State Water Board. GAMA collects data by testing the untreated, raw water in different types of wells for naturally-occurring and man-made chemicals. GAMA compiles these test results with existing groundwater quality data from several agencies into a publicly-accessible internet database. The State Water Board is collaborating with the U.S. Geological Survey (USGS) and Lawrence Livermore National Laboratory (LLNL) to implement the Priority Basin Project for GAMA Priority Basins, which are defined as groundwater basins that account for: 95% of all public supply wells, 99% of all municipal groundwater pumping, 90% of agricultural groundwater withdrawals, 90% of all leaking underground storage tank sites, 90% of all pesticide application in the State, and 60% of the land area in California. GeoTracker GAMA is the groundwater information system integrates and displays water quality data on an on-line interactive, searchable map. As of June 2013, the GeoTracker GAMA has collected 125 million data records from different sources such as cleanup sites, well logs, CDPH public supply drinking water quality, water levels from Department of Water Resources, Department of Pesticide Regulation, USGS GAMA Priority Basins, GAMA Domestic Wells, and LLNL Special Studies Projects. Also as of June 2013, the U.S. Geological Survey (USGS) has sampled over 2,300 public supply wells and has developed a statistically unbiased assessment of the quality of California’s drinking water aquifers. For more information, see the California Water Boards 2013 Accomplishments Report (March 2014), which can be accessed at <a href="http://www.waterboards.ca.gov/about_us/performance_report_1213">www.waterboards.ca.gov/about_us/performance_report_1213</a> .		
California Water Quality Monitoring Council (Monitoring Council) and the My Water Quality Web Portals Water Code Sections 13167 and 13181 and the		

## Actions Status by Lead Agency

Action #	Action Name	Type	Other Responsible Organizations
	<hr/>		
	<p>MOU between CalEPA and The Resources Agency 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. The Monitoring Council launched a public website in 2010, the My Water Quality web portal: <a href="http://www.mywaterquality.ca.gov/">http://www.mywaterquality.ca.gov/</a>, which provides interactive maps, information and links to data and reports, all in one place, related to San Francisco estuary health, wetlands health, rivers, lakes, and streams quality, and fish consumption safety.</p>		
	<p>Pulse of the Delta. 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." The Aquatic Science Center 2012 The Pulse of the Delta: Linking Science &amp; Management through Regional Monitoring (2012 Pulse) was released in October 2012. Publication of The Pulse is a project of the Delta Regional Monitoring Program funded by the State Water Board and USEPA. The IEP, USGS, Central Valley Regional Board, CDFW, DWR, and scientists at the UC Berkeley and SF State Romberg Tiburon Center compiled the information. The next Pulse of the Delta will be published when the Delta Regional Monitoring Program coordination is implemented. See also Action 3.5.4, Comprehensive Delta Monitoring.</p>		
	<p>California Environmental Data Exchange Network. The Surface Water Ambient Monitoring Program (SWAMP) database is a subset of the California Environmental Data Exchange Network (CEDEN) database (<a href="http://www.ceden.org">http://www.ceden.org</a>). 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.</p>		
	<p>Data Summit. Consistent with Action 4.3.1 of the Delta Science Plan (Delta Science Program 2013), the Delta Science Program, in collaboration with a number of key partners, is planning to host a data summit in June 2014 to explore and identify needed improvements to cyber infrastructure, data management capacity, and mechanisms to facilitate active data sharing, data mining, and analysis. It is envisioned that information generated through the data summit will inform the Science Action Agenda, support innovations in data integration and management, and develop pathways for enhancing and sustaining current initiatives.</p>		
	<p>Socio-economic Information. Public Resources Code section 29759 required the DPC to adopt an Economic Sustainability Plan (ESP) by July 1, 2011. The ESP 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. The ESP was approved by the DSC and incorporated into the Delta Plan in 2012. The next update to the ESP is due in 2016. The DPC's 2012 Annual Report (February 12, 2013) notes that the DPC will continue to monitor economic data in the Delta region.</p>		
	<p>Agriculture and Evapotranspiration Data. In September 2013, the University of California, Davis Center for Watershed Sciences University of California, Davis, issued its "Comparing Consumptive Agricultural Water Use in the Sacramento-San Joaquin Delta a Proof of Concept Using Remote Sensing, Final Report to the Delta Protection Commission" by Josué Medellín-Azuara and Richard E. Howitt. The DPC had engaged the University of California, Davis, to evaluate use of remote sensing data for gauging evapotranspiration related to agricultural water uses. Research showed that satellite data provided a high degree of detail and results similar to currently accepted estimation methods. The DPC provided this information to the Delta Watermaster to suggest that satellite data be used for the region in order to reduce regulatory reporting burdens on Delta agricultural producers. For more information, see</p>		

## Actions Status by Lead Agency

Action #	Action Name	Type
Action Description	Other Responsible Organizations	
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www.delta.ca.gov/landscapes.htm.		
<p>Performance Measures. Significant progress has been made towards generating performance measures for ecosystem restoration in the Delta. A suite of draft performance measures for floodplain restoration is included in the 2014 ERP Conservation Strategy described above. Several coordinated efforts to generate performance measures for the Delta ecosystem are underway, including: The Delta Plan (in coordination with the DSP and DSC); the California Estuary Monitoring Workgroup for the My Water Quality web portal (<a href="http://www.mywaterquality.ca.gov/eco_health/estuaries/">http://www.mywaterquality.ca.gov/eco_health/estuaries/</a>); the State of the Estuary Report 2015. The 2015 Report will include a coordinated report card for the San Francisco Bay (which has been done previously, including in the most recent 2011 report) and for the first time, the Delta. It will include indicators and trends and in some cases evaluations of trends (i.e., good, fair, poor, or very poor) for Five Attributes: Living Resources, Water Quality &amp; Quantity, Habitat, Ecological Processes, and Stewardship. It will be generated as interactive web content associated with the California Estuaries Portal. For the 2011 State of the San Francisco Bay Report see: <a href="http://www.sfestuary.org/about-the-estuary/sotb/">http://www.sfestuary.org/about-the-estuary/sotb/</a>. A conceptual model for tidal marsh function has been developed under DRERIP (see <a href="http://www.dfg.ca.gov/ERP/conceptual_models.asp">http://www.dfg.ca.gov/ERP/conceptual_models.asp</a>), informing identification of expected outcomes for restoration projects, e.g. FRPA’s Prospect Island, Lower Yolo Ranch.</p>		
<p>See also Action 3.5.4, Comprehensive Delta Monitoring.</p>		

Actions Status by Lead Agency

Action #	Action Name	Type
Action Description		Other Responsible Organizations
Delta Stewardship Council		

## Actions Status by Lead Agency

Action #	Action Name	Type
Action Description	Other Responsible Organizations	

### 6.1.4 Infrastructure Protection Strategies

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

3-Recommended Actions

BTH, CPUC, ERCDC, CVFPB

**Progress:** 2      **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 Delta Plan includes recommendation DP R19, Plan for Delta Energy Facilities: The Energy Commission and Public Utilities Commission should cooperate with the Delta Stewardship Council as described in Water Code section 85307(d) to identify actions that should be incorporated in the Delta Plan by 2017 to address the needs of Delta energy development, storage, and distribution.

The Final 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 policy and recommendation 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 Central Valley Flood Protection Board, and the California Water Commission, shall develop priorities for State investments in Delta levees by January 1, 2015.

- DP R6 Plan for State Highways: The Delta Stewardship Council, as part of the prioritization of State levee investments called for in RR P1, should consult with the California Department of Transportation as provided in Water Code section 85307© to consider the effects of flood hazards and sea level rise on State highways in the Delta.

- 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 infrastructure in the Delta to set aside a reasonable amount of funding to pay for flood protection and disaster prevention. The local share of these funds should be allocated as described above.

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 system wide approach to flood management for the areas currently protected by facilities of the State Plan of Flood Control (SPFC). Regional feasibility studies are now underway



Actions Status by Lead Agency

Action #	Action Name	Type
Action Description	Other Responsible Organizations	
to identify protection strategies for those areas protected by the 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 and does not include an analysis of the costs and benefits of infrastructure protection strategies in these areas.		

## Actions Status by Lead Agency

Action #	Action Name	Type
Action Description	Other Responsible Organizations	
<b>6.3.1</b>	<b>Delta Levee Investment Plan</b>	3-Recommended Actions
<i>Require the Department of Water Resources, in cooperation with local Reclamation Districts and other agencies, to develop a comprehensive plan for Delta levee investments.</i>		Governor and Legislature, Resources, DSC, DWR, CVFPB, Others
<b>Progress:</b> 2	<b>Enacting Legislation:</b> Water Code Section 85306	
<b>Status Description:</b>		
<p>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 non-project levees. The Delta Plan includes the following policy and recommendation:</p> <p>- RR P1 Prioritization of State Investments in Delta Levees and Risk Reduction: The Delta Stewardship Council, in consultation with the DWR, the CVFPB, the DPC, local agencies, and the California Water Commission, shall develop priorities for State investments in Delta levees by January 1, 2015.</p> <p>DSC and DWR will initiate the study in June 2014.</p> <p>- RR R2 Finance Local Flood Management Activities: 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.</p> <p>This district should be authorized to:</p> <p>- Identify and assess all beneficiaries of Delta flood protection facilities.</p> <p>- 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.</p> <p>The Delta Plan added important details. Improvement of non-project levees to the FEMA Hazard Mitigation Plan (HMP) standard can now be funded without justification of the benefits. Improvement to a standard above HMP, such as PL 84-99*, may be funded as befits the benefits to be provided, consistent with the DWR's current practices and any future adopted investment strategy (islands planned for ecosystem restoration are not included.) (RR P1).</p> <p>*The PL 84-99 standard is a minimum requirement established by USACE for levees that participate in its Rehabilitation and Inspection Program (33 United States Code 701n) (69 Stat. 186).</p>		

## Actions Status by Lead Agency

Action #	Action Name	Type
Action Description		Other Responsible Organizations
6.3.2	Levee Bond Fund Priorities	3-Recommended Actions
Prioritize the \$750 million appropriated by Proposition 1E and Proposition 84 funds for the improvement of Delta levees, including in legacy towns.		DWR, CVFPB, CWC
Progress: 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 non-project levees.		
DWR submitted "A Framework for Department of Water Resources Investment in Delta Integrated Flood Management" in February 2011. DWR finalized the Framework in 2014.		
In the Delta Plan, the DSC established a policy that "the Delta Stewardship Council, in consultation with DWR, the CVFPB, DPC, local agencies, 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." DSC and DWR will initiate the study in June 2014.		
According to Delta Plan Chapter 8, page 304, Propositions 84 and 1E have provided substantial public financing toward most recent Delta levee projects. The Delta Levees System Integrity Program receives funding from both Propositions 1E and 84. This program consists of two programs, the Delta Levees Subvention Program and the Special Projects Program. These two programs provide State-matching funds for maintaining and improving Delta levees.		
Delta Plan Table 8-1 summarizes the current balances for general obligation bonds by individual bond act related to water, ecosystem restoration, and flood protection. The statute generally dictates the specific types of projects or programs on which funds can be spent. Table 8-3 “Annual State and Federal Expenditures in California by Program Element (2012-13) shows that the anticipated Risk Reduction/Levee Integrity expenditures are \$54,509,231 (\$8,949,231 from the State and \$45,560,000 from the federal government).		

## Actions Status by Lead Agency

Action #	Action Name	Type
Action Description	Other Responsible Organizations	
<b>6.3.3</b>	<b>Delta Levees Classification Table</b>	3-Recommended Actions
<i>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.</i>		Governor and Legislature, Resources, DWR, CVFPB
<b>Progress:</b> 2	<b>Enacting Legislation:</b>	
<b>Status Description:</b>		
The DVSP recommendations with respect to Action 6.3.3 had been satisfied in the earlier versions of the Delta Plan. The four levee standards and guidance applicable to the Delta were discussed and illustrated in the Final (Sixth) Staff Draft Delta Plan (5/14/12); they were ordered from highest to lowest level of flood protection, although no particular standard was recommended. Prior versions of the Delta Plan mandated that investment priorities be set in accordance with the Levee Classifications based on Land Uses Table. The DSC removed the Delta Levees Classification Table that had been included in earlier drafts. These sections have now been replaced with the levee investment priorities process in RR P1, including near-term priorities. See Action 6.3.1, Delta Levee Investment Plan.		

## Actions Status by Lead Agency

Action #	Action Name	Type
Action Description	Other Responsible Organizations	
<b>6.3.5</b>	<b>Levee Priorities Authority</b>	3-Recommended Actions
<i>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.</i>		Governor and Legislature, DSC, CVFPB
<b>Progress:</b> 2	<b>Enacting Legislation:</b> Water Code Section 85306	
<b>Status Description:</b>		
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 non-project levees. The Delta Plan includes the following policy and recommendation:		
- RR P1, Prioritization of State Investments in Delta Levees and Risk Reduction: The DSC, in consultation with the DWR, the CVFPB, DPC, local agencies, and the California Water Commission, shall develop priorities for State investments in Delta levees by January 1, 2015.		
DSC and DWR will initiate the study in June 2014.		
- RR R2, Finance and Implement Local Flood Management Activities: The Legislature should create a Delta Flood Risk Management Assessment District with fee assessment authority.		
DPC will conduct a feasibility study of a Delta levee assessment district in 2014.		
See also Action 6.3.1, Delta Levee Investment Plan.		
<b>7.2.1</b>	<b>Delta Plan</b>	2-Legal and Procedural Milestones
<i>Develop a legally enforceable Delta Plan.</i>		Governor and Legislature, DSC
<b>Progress:</b> 10	<b>Enacting Legislation:</b> Water Code Section 85300	
<b>Status Description:</b>		
The 2009 water legislation requires the DSC to develop a Delta Plan. The DSC approved the final Delta Plan on May 16, 2013. The Delta Plan includes 14 regulatory policies and 71 recommendations to implement the requirements of the 2009 water legislation and other laws to achieve the Two Co-Equal Goals. 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.		
DSC will update its work plan for implementing the Delta Plan in June 2014.		

## Actions Status by Lead Agency

Action #	Action Name	Type
Action Description		Other Responsible Organizations
7.2.2	Delta Plan Adaptive Management	3-Recommended Actions
Institutionalize adaptive management through updates to the California Delta Ecosystem and Water Plan every five years.		Governor and Legislature, DSC
Progress: 3	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 Delta Plan. 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. The Delta Plan includes example performance measures to evaluate progress and accomplishment in implementing the Delta Plan. The DSC has committed to updating these measures by JDecember 2014. DSC also maintains the CALFED budget and project performance tracking system.		

## Actions Status by Lead Agency

Action #	Action Name	Type
Action Description		Other Responsible Organizations
7.2.3	Adaptive Management Program	3-Recommended Actions
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.		Governor and Legislature, DSC, ISB
Progress: 3	Enacting Legislation: Water Resources Code Section 85280	
Status Description:		
<p>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."</p> <p>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. Delta Plan Appendix A discusses generally the monitoring programs and data collection systems to support the adaptive management process. Monitoring programs and data collection systems were needed to support the adaptive management process (See DVSP Action 7.2.3, page 133).</p> <p>Per Delta Plan Chapter 2, General Recommendation 1 (G R1) the DSC has set a deadline of December 31, 2013 for development of a Delta Science Plan. The Delta Science Plan was completed in December 2013 and addresses data management, synthesis, and scientific exchange and communication strategies to support adaptive management and improve the accessibility of information for decision makers and the public.</p> <p>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.” In 2012, the DSC added engineering expertise to the ISB when filling a vacancy.</p>		

## Actions Status by Lead Agency

Action #	Action Name	Type
Action Description		Other Responsible Organizations
7.4.1	Federal Participation	3-Recommended Actions
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: 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 Delta Plan does not address authorities or commitments for federal action provided by the CALFED Record of Decision.		
The Final Delta Plan 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, specifically seeking Department of Commerce approval of the Delta Plan under the Coastal Zone Management Act, which would establish DSC authority to review federal actions for consistency with the Delta Plan.		
The DSC initiated the Delta Interagency Implementation Committee in April 2014. The Committee includes leadership from the responsible Federal agencies. The DSC has not reported any efforts to seek Department of Commerce approval of the Delta Plan under the Coastal Zone Management Act.		



## Actions Status by Lead Agency

Action #	Action Name	Type
Action Description	Other Responsible Organizations	
7.4.2	Coastal Zone Management Act Consistency	2-Legal and Procedural Milestones
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: 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 Delta Plan 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)."		
There is no further discussion of the CZMA requirements and whether the Delta Plan was developed consistent with those requirements.		
The DSC initiated the Delta Interagency Implementation Committee in April 2014. The Committee includes leadership from the responsible Federal agencies. The DSC has not reported any efforts to seek Department of Commerce approval of the Delta Plan under the Coastal Zone Management Act.		

Actions Status by Lead Agency

Action #	Action Name	Type
Action Description	Other Responsible Organizations	
Department of Fish and Wildlife		

## Actions Status by Lead Agency

Action #	Action Name	Type
Action Description	Other Responsible Organizations	
<b>3.1.1</b>	<b>Floodplain Inundation</b>	3-Recommended Actions
<i>Increase the frequency of floodplain inundation and establish new floodplains.</i>		CDFW, DC, DWR, CVFPB
<b>Progress:</b> 2	<b>Enacting Legislation:</b>	
<b>Status Description:</b>		
Yolo Bypass		
BDCP Conservation Measure 2 (CM2) in the December 2013 public draft of the BDCP Conservation Strategy calls for development of a Yolo Bypass fisheries enhancement plan. As currently written, CM2 proposes a suite of actions including inundating 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; providing adult fish passage through the Yolo Bypass over the Fremont Weir; and realigning Putah Creek. A Yolo Bypass Fishery Enhancement Planning Team was established to develop implementation plans through interagency collaboration and in consultation with local government, landowners, and other stakeholders.		
The NMFS OCAP Biological Opinion Reasonable and Prudent Alternatives (RPAs I.6.1 and I.7) required the Bureau of Reclamation and DWR to prepare an implementation plan for restoration of habitat in the Yolo Bypass, which was completed in September 2012 as the Yolo Bypass Salmonid Habitat Restoration and Fish Passage Implementation Plan ( <a href="http://www.water.ca.gov/fishpassage/docs/yolo2.pdf">http://www.water.ca.gov/fishpassage/docs/yolo2.pdf</a> ). Various technical working groups continue to develop alternatives and further refine criteria.		
Fremont Weir Fish Passage and Increased Floodplain Inundation. Consistent with the Implementation Plan, conceptual level alternatives continue to be developed and refined based on interagency technical guidance and stakeholder input. The alternatives will then be evaluated through recently established prescreening criteria for the NMFS Biological Opinion EIR/EIS. Challenges: loss of agricultural production, potential impacts to federal and state funded restoration sites, loss of public access during flooding, conflicting federal and state easements on private lands.		
Lisbon Weir Improvements and Tule Canal Connectivity. Conceptual designs for improvements will be developed in conjunction with other Biological Opinion-related and BDCP proposed projects. Currently, Lisbon Weir improvements are a common element of the proposed alternatives for the EIR/EIS for Biological Opinion RPAs I.6.1 and I.7. Project level design will initiate as the alternatives continue to be further developed. Challenges: extensive planning and design has not been initiated due to the project being one component of larger bypass-wide planning efforts.		
Lower Putah Creek Re-alignment and Floodplain Restoration. The Yolo Basin Foundation was awarded an ERP grant to develop a fully permitted construction ready design and is conducting environmental compliance and design. Preliminary design criteria to meet necessary fisheries benefits have been established and conceptual channel designs are currently being evaluated, including through hydraulic modeling. Further refinements to channel design and expected benefits, including expected floodplain acreages consistent with the NMFS Biological Opinion, will continue to be evaluated and refined. Challenges: Existing biological and physical constraints have made channel design and subsequent modeling difficult, and securing additional funding.		
The 2014 ERP Conservation Strategy. The 2014 ERP Conservation Strategy identifies the importance of floodplain habitat access and connectivity in the Delta and its watershed. The Conservation Strategy includes two Conservation Priorities related to floodplains in the Delta: 1) Reestablish floodplain inundation		

## Actions Status by Lead Agency

Action #	Action Name	Type
Action Description	Other Responsible Organizations	
and channel floodplain connectivity of sufficient frequency, timing, duration, and magnitude to support the restoration and maintenance of functional natural floodplain, riparian, and riverine habitats, including freely meandering reaches.; and, 2) Manage floodplain habitats to enhance seasonal shallow water benefits for native fish and wildlife, including the Yolo and Sutter bypasses.		
Yolo Bypass Fishery Enhancement Coordination. As noted above, there are numerous fishery enhancement planning efforts being undertaken concurrently in the Yolo Bypass that are being coordinated across numerous federal and state agencies, local governments, NGOs and other stakeholders. Specifically, CDFW was awarded a USFWS Section 6 HCP planning grant to assist with the development of BDCP. One of the many tasks is to provide funding to ensure close coordination between BDCP and OCAP fishery enhancement planning efforts. The agencies also continue efforts to coordinate with other projects and interests in the Yolo Bypass.		
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. It is assumed that the majority of this habitat will be created in the south Delta. To help facilitate the development of restoration locations the Resources Agency established the BDCP South Delta Habitat Working Group in August 2011. The goal of the group was to investigate opportunities for improving habitat in the South Delta that also provided flood management benefits. Concept level planning has resulted in the identification of four south Delta corridors (see BDCP Figure 3.4-20) for potential implementation of floodplain restoration that integrates flood hazard reduction and other economic benefits.		
FloodSAFE. Restoring natural river processes, including floodplain inundation, is an important component of statewide water management planning in the CVFPP and Conservation Strategy (CS). Flood bypass concepts for the Yolo Bypass and San Joaquin River are included in both planning activities. CDFW is coordinating closely with DWR to integrate ecosystem restoration with flood and water management actions and to complete a final draft by June 2014 of a Conservation Strategy that will provide net benefits to species and habitat while increasing permitting efficiency. DWR has funded seven projects through a grant solicitation process focused within the State Plan of Flood Control Area (which includes the Yolo Bypass and part of the Delta) with the goal to provide advanced mitigation for activities planned as a part of the CVFPP. Those seven projects are in various locations, but three are within the Delta or nearby: 1) State of California West Sacramento Floodplain Mitigation Bank (proposal from WSAFCA); 2) Bullock Bend Conservation Bank (for Salmonid habitat) which is in Yolo county within the Colusa basin on the Sacramento River, and 3) Brush Rabbit Flood Refugia, Census & Reintroduction within the San Joaquin National Wildlife Refuge.		

## Actions Status by Lead Agency

Action #	Action Name	Type
Action Description	Other Responsible Organizations	

### 3.1.2 Tidal Habitat Restoration

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

2-Legal and Procedural Milestones

CDFW, DC, DWR, CVFPB

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

#### Status Description:

The agencies are coordinating regional restoration planning efforts, including the Ecosystem Restoration Program (ERP), the Fish Restoration Program (FRP), BDCP, the Delta Plan, the Delta Conservancy's Restoration Network, and the Suisun Marsh Plan. CDFW, NMFS, and USFWS are finalizing the 2014 ERP Conservation Strategy for the Delta (See NTA08, Near-term Restoration Actions).

Ecosystem Restoration Program (ERP). Restoration of intertidal and shallow subtidal areas continues to be a very high priority for the Delta and Suisun Marsh. These projects will generally be focused on areas with elevations that are currently within the intertidal range; more deeply subsided areas are not likely to be targeted for tidal marsh restoration in the near term due to feasibility issues.

ERP projects in the Bay-Delta. To date, ERP has provided funding for 168 projects (totaling \$206 million) in the Bay-Delta, 18 projects of which are ongoing, totaling \$21 million. These 168 ERP projects included acquisition, restoration, and/or enhancement of 23,000 acres of shallow water and marsh habitat, riparian habitat, upland habitat and wildlife friendly agriculture, and lowland floodplains and bypasses, in the Delta and Suisun Marsh.

ERP shallow water and marsh habitat projects in the Bay-Delta. To date, ERP has provided funding for 63 projects specific to restoration of shallow water and marsh habitat in the Bay-Delta, seven of which are ongoing, totaling \$6.5 million. These 63 ERP projects included acquisition, restoration, and/or enhancement of 5,950 acres of shallow water and marsh habitat in the Delta and Suisun Marsh.

Example ERP Tidal Marsh restoration projects:

Suisun Marsh Land Acquisition and Tidal Marsh Restoration. This ERP project is part of a larger effort to acquire up to 500 acres in the northwestern Suisun Marsh area through fee title. When the acquisition occurs, it is anticipated to contribute to the goals of the Suisun Marsh Habitat Management Preservation and Restoration Plan.

Hill Slough Tidal Marsh Restoration Project. This Project, once complete, will restore tidal habitat to approximately 950 acres of diked seasonal and perennial wetlands in Suisun Marsh. The Project will restore brackish tidal marsh and associated upland ecotone at the northern Suisun Marsh to benefit endangered as well as migratory and resident species by re-introducing tidal action to the site, restoring a transition of perennial aquatic habitat in the deepest areas, low intertidal marsh, high intertidal marsh, and lowland alluvial habitat. The outcome will be a self-sustaining marsh ecosystem created through restoration of natural hydrologic and sedimentation processes and reliance on natural abiotic and biological succession processes. This project will contribute to ERP's goal of restoring 5,000-7,000 acres of tidal wetlands in Suisun Marsh. . For current status, see NTA08 Near-term Ecosystem Restoration.

Restoring Ecosystem Integrity in the Northwest Delta: Phase II. Completed a feasibility analysis, adaptive management plan and final designs for the Lindsey

## Actions Status by Lead Agency

Action #	Action Name	Type
Action Description	Other Responsible Organizations	
	<p>Slough Freshwater Tidal Marsh Enhancement Project. Conducted assessments to document conservation values - including cultural resources, wetland delineation, rare plants and other sensitive species. Executed a conservation easement to preserve 147 acres of private property adjacent to CDFWs Calhoun Cut Ecological Reserve and Solano Land Trust's Jepson Prairie Reserve, containing tidal slough, riparian and vernal pool grassland habitat (using DOD funds).</p>	
	<p>Conaway Ranch Agricultural Conservation Easement Acquisition. ERP in partnership with the Wildlife Conservation Board and California Waterfowl Association acquired the 4,000 acre Conaway Ranch Agricultural Conservation Easement in the Yolo Bypass for the protection of aquatic and migratory bird habitats. Additional ERP projects are described in NTA08 Near-term Ecosystem Restoration.</p>	
	<p>See Ecosystem Restoration Program Plan- Year 14 Annual Report (State FYs 2013-2014; Federal FY 2014; available: <a href="https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=77895">https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=77895</a>) and ERP Activities Report Year 14 (available: <a href="https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=77897">https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=77897</a>)</p>	
	<p>Fish Restoration Program Agreement (FRPA). FRPA was signed on October 18, 2010, and addresses specific OCAP habitat restoration requirements of the USFWS and NMFS Biological Opinions (BOs) for State Water Project (SWP) and Central Valley Project (CVP) operations, including the habitat restoration requirements of the CDFW Longfin Smelt Incidental Take Permit (ITP) for SWP Delta Operations. The specific actions and mitigation acreage that will be implemented through FRPA as follows:</p> <ul style="list-style-type: none"> <li>•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)</li> <li>•Participate in the restoration of Battle Creek (NMFS BO RPA Actions 1.2.6)</li> <li>•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)</li> <li>•800 acres and associated subtidal wetland habitat in the mesohaline part of the Delta estuary (Longfin Smelt ITP Condition)</li> </ul>	
	<p>FRPA Milestones to date:</p> <ul style="list-style-type: none"> <li>•\$12 million transferred to the Battle Creek Salmon and Steelhead Restoration Project.</li> <li>•CDFW hired Region and Water Branch Staff Environmental Scientists into FRPA program and a BCP approved six positions in CDFW Region 3 to develop and run the FRPA monitoring program; FRPA monitoring program is in development in consultation with IEP, BDCP, and ERP; staff hiring underway.</li> <li>•FRPA Implementation Strategy for Habitat Restoration and Other Actions for Listed Delta Fish approved March 9, 2012 – includes enhancement plans for Liberty Island and lower Cache Slough.</li> <li>•Cache Slough Complex Conservation Assessment expected to be completed in 2014; Programmatic Stakeholder Assessment and Communication &amp; Engagement Plan completed; Public Outreach Program underway and ongoing.</li> <li>•Overlook Club in Suisun Marsh purchased for restoration in Feb 2013.</li> <li>•Land Acquisition work team has developed feasible restoration units based on many different parameters and working with DWR Real Estate Branch to address significant restrictions on FRPA's ability to acquire land for restoration.</li> <li>•Prospect Island Tidal Restoration Project milestones: <ul style="list-style-type: none"> <li>- Phase 1 hydraulic modeling completed; Phase 2 hydraulic modeling underway.</li> <li>- DRERIP evaluation of Prospect Island design alternatives completed <a href="https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=59671">https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=59671</a>.</li> </ul> </li> </ul>	

## Actions Status by Lead Agency

Action #	Action Name	Type
Action Description	Other Responsible Organizations	
<ul style="list-style-type: none"><li>- Seepage Analysis for Ryer Island in final analysis.</li><li>- Prospect Island Communication and Engagement Plan completed; NOP released and Public scoping meeting completed in 2013.</li><li>- Project permitting underway.</li><li>- Interim land management underway: legal access, vegetation control, water control structure repair, levee repair, resolution and confirmation of property boundaries.</li><li>- Draft EIR in preparation which will evaluate a selection of final restoration alternatives.</li><li>- Ground water monitoring study ongoing.</li><li>- Permits for levee repair submitted, permits for restoration in preparation.</li></ul>		
<p>Management Tools for Landscape-Scale Restoration of Ecological Functions in the Delta. ERP has funded a project which will develop a set of tools facilitating landscape-scale restoration of the Sacramento-San Joaquin Delta ecosystem. The historical perspective will be compared to the present-day Delta to identify opportunities to restore ecological functions, not necessarily by replicating the historical Delta but by recreating viable habitat mosaics with the vision of how they connect at the landscape scale. Conceptual models will be developed to help practitioners identify these landscape level opportunities to develop appropriate metrics to assess individual restoration projects. Project is expected to be complete in spring 2015.</p>		

## Actions Status by Lead Agency

Action #	Action Name	Type
Action Description	Other Responsible Organizations	
<b>3.2.1</b>	<b>Habitat Corridors</b>	3-Recommended Actions
<i>Improve physical habitats along selected corridors by 2015.</i>		CDFW, DC, DWR, CVFPB
<b>Progress:</b> 2	<b>Enacting Legislation:</b>	
<b>Status Description:</b>		
<p>CDFW continues to plan for and promote habitat corridors and contiguous habitats in all of its conservation and restoration activities. Examples of programs include BDCP, FRPA and related FRPA Implementation Plan, and 2014 ERP Conservation Strategy, which guides ERP activities, DWR FloodSAFE Environmental Stewardship Program, and county-level conservation planning.</p> <p>Ecosystem Restoration Program. The 2014 ERP Conservation Strategy describes the Conservation Priorities related to corridors and connectivity. CDFW projects that contribute to this action include Dutch Slough, Lindsey Slough, Hill Slough and Liberty Island, the McCormack Williamson flood corridor, and the Putah Creek re-alignment in the Yolo Bypass (see NTA08, Near-term Restoration Actions and 3.1.2 Tidal Habitat Restoration). Two ERP 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.</p> <p>FloodSAFE. DWR is developing a Conservation Strategy for the CVFPP, based on the Conservation Framework included in the Draft CVFPP. CDFW is participating in the development of this Conservation Strategy to identify areas for restoration or recovery that will improve physical habitats in the selected corridors. DWR conducted an RFP in 2012 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. CDFW is coordinating with DWR on the early stages of development for an NCCP to identify habitat corridor and floodplain improvement opportunities.</p> <p>County Planning. CDFW 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. CDFW 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.</p> <p>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.</p>		



## Actions Status by Lead Agency

Action #	Action Name	Type
Action Description	Other Responsible Organizations	
<b>3.3.2</b>	<b>Invasive Species</b>	3-Recommended Actions
<i>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.</i>		CDFW, DWR, State Water Board, CDFA
<b>Progress: 6</b>	<b>Enacting Legislation:</b>	
<b>Status Description:</b>		
<p>CDFW invasive species management efforts are focused on prevention. Prevention measures conducted by CDFW locally and statewide include: developing and distributing invasive species outreach and education materials; developing a statewide decontamination protocol for watercraft and equipment utilized in aquatic habitats; developing guidance materials and providing training for water managers and recreational users for watercraft inspection and cleaning/decontamination procedures; providing or sponsoring invasive species trainings and workshops; assisting water managers with watercraft inspection programs; coordinating with CDFA to increase watercraft inspections at Border Protection Stations; performing early detection monitoring for quagga and zebra mussels and training water managers to conduct monitoring; and developing and implementing Hazard Analysis and Critical Control Point Plans at each CDFW fish hatchery, including conducting continuous early detection monitoring for invasive species at all hatcheries.</p> <p>Quagga and Zebra Mussels. Since quagga mussels were first discovered in California in 2007, CDFW's ongoing coordination efforts with other state, local, and federal agencies and stakeholder groups to provide education, outreach, and training to the public and other entities, conduct early detection monitoring, and implement watercraft inspection programs, have prevented quagga and zebra mussels from becoming established in the Delta.</p> <p>Ballast Water. CDFW's Office of Spill Prevention and Response (OSPR) coordinates with the State Lands Commission (SLC) under the Marine Invasive Species Program (MISP) to control the introduction of nonnative species from the ballast of ocean-going vessels. The MISP conducts ballast water inspections, research, and biological monitoring to determine the location and geographic ranges of new and existing nonnative species in California's coastal and estuarine waters. Biological monitoring sites within the Bay-Delta include the Ports of Stockton and Sacramento, San Pablo Bay, Suisun Marsh, and San Francisco Bay. MISP submits a report to the California legislature every three years. The most recent (2011) Legislative Report indicated that three new nonnative species had been introduced (likely from other coastal locations in California) to San Francisco Bay since 2007: skeleton shrimp (<i>Caprella simia</i>), an undescribed polychaete worm (<i>Nicolea</i> sp.), and an Asian red algae (<i>Grateloupia lanceolata</i>). The MISP has not detected these species in the Delta.</p> <p>The Interagency Ecological Program includes some monitoring for invasive species. IEP project surveys results, including the status and trends of species are reported in the IEP quarterly newsletter available at: <a href="http://www.water.ca.gov/iep/products/newsletter.cfm">http://www.water.ca.gov/iep/products/newsletter.cfm</a>. The CDFW Wildlife Branch Lands Program actively controls numerous invasive plant species on CDFW lands throughout the state. Within the Delta, CDFW controls invasive plants at Grizzly Wildlife Area, Hill Slough, Peytonia Slough, and Yolo Wildlife Area.</p> <p>Aquatic Plants. Aquatic plants, both native and nonnative, are priority invasive species in the Delta. Some common Delta invasive aquatic plant species include Brazilian waterweed, water hyacinth, South American spongeplant, Eurasian watermilfoil, Carolina fanwort, <i>Ludwigia</i> spp., water pennywort, and coontail. The California Department of Boating and Waterways (CDBW; as of July 1, 2013 a division of the California Department of Parks and Recreation) is authorized by law (Section 64 of the Harbors and Navigation Code) to control Brazilian waterweed, water hyacinth, and South American spongeplant in the</p>		

## Actions Status by Lead Agency

Action #	Action Name	Type	Other Responsible Organizations
	<p>Delta, its tributaries, and Suisun Marsh. In the past, additional weeds could only be controlled by CDBW when they are added to the HNC through the legislative process. Section 64.5 of the Harbors and Navigation Code (AB 763 [Buchanan] 2013) created a scientific-based process in which Delta aquatic weeds can be added to the list of species to be treated by CDBW through a risk assessment performed by CDFW, in-lieu of introducing legislation each time an invasive aquatic weed needs to be treated in the Delta. This process will provide greater coordination between CDFW and CDBW to prioritize and control invasive aquatic plants in the Delta.</p> <p>The 2014 ERP Conservation Strategy contains conservation priorities for Non-Native Invasive Species. The DSC has incorporated actions from the ERP Conservation Strategy into the Delta Plan, along with the supporting text. Including these actions in the Delta Plan has the potential to increase coordination in the control of invasive species in the Delta.</p> <p>The December 2013 Public Draft Bay Delta Conservation Plan includes Conservation Measures 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.</p>		

## Actions Status by Lead Agency

Action #	Action Name	Type
Action Description		Other Responsible Organizations
3.4.1	Instream Flows	2-Legal and Procedural Milestones
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, CDFW
Progress: 4	Enacting Legislation: Water Code Sections 85084.5 and 85087	
Status Description:		
<p>The 2009 water legislation (SB7X-1) directed the State Water Board, in consultation with CDFW, to submit to the Legislature by December 31, 2010 “a prioritized schedule and estimate of costs to complete instream flow studies for the Delta and for high priority rivers and streams in the Delta watershed, not otherwise covered by Section 85086, by 2012, and for all major rivers and streams outside the Sacramento River watershed by 2018. The State Water Board completed its report to the Legislature in December 2010, noting that the 2012 and 2018 deadlines are unrealistic for completing thorough instream flow studies. The report estimated that completing instream flow studies for the 138 streams identified would cost approximately \$140 million (\$32.5 million for the 2012 deadline and \$107 million for the 2018 deadline).Both SBX7-1 and PRC sections 10000-10005 require CDFW to identify and evaluate stream flows and what is needed to protect fish and wildlife resources of the state. ERP’s Proposition 84 budget provides funding for Instream Flow Program (IFP) instream flow studies on Sacramento/San Joaquin River Delta (Delta) tributaries. The flow recommendations for Delta tributaries will be utilized in the State Water Board’s Phase 4 of the update of the Bay-Delta Water Quality Control Plan. CDFW will continue to conduct and provide oversight on new flow studies on Delta tributaries through FY 2020/2021.</p> <p>CDFW staff developed a Sacramento-San Joaquin River Delta tributary priority list to implement instream flow studies and have coordinated this list with the State Water Board, NOAA Fisheries, and the US Fish and Wildlife Service. In 2011, IFP staff identified Butte, Deer, and Mill Creeks as important spring-run Chinook salmon (SRCS) tributaries of the Sacramento River that will benefit from instream flow studies. CDFW staff identified adult passage as limiting SRCS abundance in these streams.</p> <p>Fish passage assessment and hydraulic field data collection began in 2012 on lower Butte Creek. Completion of the study and submission of an instream flow recommendation is anticipated by early 2016. IFP staff began data collection for flow studies on Deer and Mill Creeks in 2014 under ERP’s Proposition 84 funding. IFP staff is working with CDFW Region 1 staff on study design, stakeholder outreach planning, and data collection on Deer and Mill Creeks. IFP staff installed temperature loggers on Mill Creek in spring of 2013 to begin developing a temperature profile over time. Completion of the studies and submission of instream flow recommendations for Deer and Mill Creeks are anticipated by early 2016.</p> <p>Priority Sacramento-San Joaquin Rivers Delta tributaries for which the IFP may develop flow recommendations over the next 10 years under ERP’s Proposition 84 funding include: Battle Creek, Clear Creek, Antelope Creek, Cottonwood Creek, Cow Creek, Bear River, Tuolumne River (current FERC study), Merced River (current FERC study), Middle Fork Feather River, and Stanislaus River (current USFWS study).</p> <p>In 2011, CDFW 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 (SOP) and fact sheets to provide instream flow study design tools and</p>		

## Actions Status by Lead Agency

Action #	Action Name	Type
Action Description		Other Responsible Organizations
<p>guidance. The SOPs will provide assistance for agencies, contractors, NGOs, and scientists to collect defensible, comparable instream flow data that meets CDFW’s needs under mandates in PRC 10000-10005. To date, the IFP QA/QC Program has developed SOPs for: 1) critical riffle analysis; 2) measuring discharge; 3) collecting stream bed topography and water surface elevation data; 4) conducting flow duration analyses; and 5) conducting wetted perimeter analysis. The QA/QC program will be developing SOPs or templates for the following: 1) study plan template; 2) sample design for hydraulic modeling; and 3) habitat suitability criteria.</p> <p>CDFW Biogeographic Data Branch collaborated with the IFP to develop an interactive flow recommendations map to provide agency transparency and deliver public information in a more informative way. Currently, instream flow recommendations are available for 22 streams, located in multiple counties throughout California (6 of these in the Delta watershed). The CDFW Instream Flow Recommendations map can be found on the IFP web page at <a href="http://www.dfg.ca.gov/water/instream_flow_recommendations.html">http://www.dfg.ca.gov/water/instream_flow_recommendations.html</a>.</p> <p>CDFW continues to provide information on the IFP on its “Instream Flow Program” website at <a href="http://www.dfg.ca.gov/water/instream_flow.html">http://www.dfg.ca.gov/water/instream_flow.html</a>). CDFW continues to seek funding through grant programs and other efforts for implementation of the CDFW Instream Flow Program (IFP). The 2011 annual report and a 2013 Instream Flow FAQ sheet can be found on the website. The 2012 and 2013 annual reports have not been published.</p>		

## Actions Status by Lead Agency

Action #	Action Name	Type
Action Description		Other Responsible Organizations
3.4.7	Delta Waterway Geometry	3-Recommended Actions
Reconfigure Delta waterway geometry by 2015 to increase variability in estuarine circulation patterns.		CDFW, DWR, CVFPB
Progress: 1	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.”		
<ul style="list-style-type: none"><li>• Cross Channel gate operations are being managed under the OCAP Biological Opinions to avoid entrainment of Sacramento River salmonids into the central Delta.</li><li>• Two-Gates and the effectiveness of barges as barriers: 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 with the abandonment of the Two Gates Project.</li><li>• DWR is testing a nonphysical barrier at Georgiana Slough. Results are pending.</li></ul>		
Studies of physical improvements at Franks Tract, Three Mile Slough, and other Delta locations to improve water quality and circulation and investigations of strategic levee investments for ecosystems protection, waster quality improvement, and water supply reliability have stopped.		
In March 2014, in response to drought conditions and expected increased salinity intrusion in the Delta, DWR proposed installation of three temporary barriers at Sutter Slough, Steamboat Slough, and False River. The proposed rock barriers would help keep salinity out of the Delta during low flow periods and remain in place until November 2014. On April 18, DWR announced that the barrier installation would be suspended due to some late season rain, which reduced the critical reservoir conditions.		

## Actions Status by Lead Agency

Action #	Action Name	Type
Action Description	Other Responsible Organizations	
<b>NTA03</b>	<b>In-stream Flow Analysis</b>	1-Near-Term Actions
<i>Accelerate completion of in-stream flow analyses for the Delta watershed by the Department of Fish and Game.</i>		CDFW, USFWS, NMFS
<b>Progress:</b> 4	<b>Enacting Legislation:</b> Water Code Section 85084.5	
<b>Status Description:</b>		
The 2009 water legislation (SBX7-1) directed CDFW, in consultation with USFWS and NMFS, to develop and recommend to the State Water Board Sacramento-San Joaquin Rivers Delta tributaries flow criteria and quantifiable biological objectives for aquatic and terrestrial species of concern dependent on the Delta by November 2010. CDFW completed its report "Quantifiable Biological Objectives and Flow Criteria for Aquatic and Terrestrial Species of Concern Dependent on the Delta" on December 3, 2010.		
New instream flow studies on Sacramento-San Joaquin Rivers Delta tributaries began in the fall of 2011 and will extend through 2021. CDFW continues to coordinate with the State Water Board, NOAA Fisheries, and USFWS to maintain and update the Sacramento-San Joaquin River Delta tributaries priority streams list ( <a href="http://www.dfg.ca.gov/water/instream_flow.html">http://www.dfg.ca.gov/water/instream_flow.html</a> ). CDFW is preparing the 2013 Instream Flow Program (IFP) annual report for release in May 2014. The annual report will include an overview of 2013 program activities and a general work plan for 2015.		
IFP staff has completed a work plan for evaluating and implementing the Sacramento-San Joaquin River Delta tributary instream flow studies. The USFWS, under CDFW contract, continues work to complete the Sacramento-San Joaquin Rivers Delta tributary instream flow study on lower Butte Creek by early 2016. In addition, the IFP initiated study design for instream flow and fish passage studies on Deer and Mill Creeks in 2013. IFP staff installed temperature loggers on Mill Creek in spring of 2013 to begin developing a temperature profile over time. See also 3.4.1, Instream Flows.		

## Actions Status by Lead Agency

Action #	Action Name	Type
Action Description	Other Responsible Organizations	

### NTA08 Near-term Ecosystem Restoration

*Advance near-term ecosystem restoration opportunities.*

1-Near-Term Actions

DWR, DC, CDFW, CVFPB

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

#### Status Description:

The 2009 water legislation (SBX7-1) directed CDFW 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), CDFW has finalized the 2014 ERP Conservation Strategy. The 2014 ERP Conservation Strategy helps guide restoration activities in the Delta, as well as the Sacramento and San Joaquin Valleys. The 2014 ERP Conservation Strategy has identified near term habitat restoration and enhancement priorities for the Delta. These projects were identified based on habitat types that fit into upland, intertidal, floodplain, and subsided/deep open water classifications and would make a contribution toward meeting the ERP Goals and Conservation Priorities. 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. In addition, the Suisun Marsh Management Plan was completed in 2014 and is incorporated by reference into the ERP Conservation Strategy. Current restoration efforts in Suisun, including Hill Slough, are part of the Suisun Marsh Plan.

In the last five years, four properties have been acquired for restoration: Prospect Island, Lower Yolo Ranch, Tule Red, and Overlook Club (Club 322). Status of these properties is detailed below. Many of the following near-term ecosystem restoration actions are included in the FRPA Implementation Strategy (see 3.1.2, Tidal Habitat Restoration). In addition, many of these projects have funding provided by ERP and are considered for early implementation under BDCP. Lead agency and FRPA status is in parentheses.

In the Cache Slough Complex:

Prospect Island Tidal Habitat Restoration (FRPA). Status: DRERIP evaluation of original 15 alternatives is complete (see <https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=59671>). Phase 2 Hydraulic modeling of 10 restoration alternatives to aid final selection of design alternatives is underway; ongoing interim land management; levee inspections and repair plan, and invasive plant species analysis report are complete; permits for levee repair submitted; and permits for restoration are in preparation. The public draft EIR is expected to be released in late 2014 to early 2015. Levee repairs are expected to begin in fall 2014; these repairs are required before the site can be opened up to tidal action. Challenges: USACE will not permit breaches of the Sacramento Deep Water Ship Channel, so the restoration design was changed. USACE is obligated to maintain the navigation project. Purchasing for restoration the southern portion of the Island, owned by Port of Sacramento is problematic because of the low valuation of the property. Trespassing and vandalism. Legal access issues with adjoining property owners. Ryer Island levee seepage.

Liberty Island/Cache Slough Enhancement Plan (CDFW). Status: ERP has provided funding for research and monitoring at Liberty Island. Activities provided valuable modeling of Yolo Bypass flood scenarios and vegetation prediction that will assist with conceptualizing and planning future restorations in the Bypass, at Liberty Island and the North Delta. (see <https://sites.google.com/a/uw.edu/breach-iii/>). Land management plan for Liberty Island to be completed in 2014.

## Actions Status by Lead Agency

Action #	Action Name	Type	Other Responsible Organizations
	<hr/>		
	<p>Lindsey Slough/Calhoun Cut Freshwater Tidal Marsh Enhancement (CDFW). Status: ERP has provided funding for planning and research and anticipates providing funding for the construction expected to start in 2014. Feasibility evaluation and 100% designs completed, Mitigated Negative Declaration was released and permits were finalized in the summer of 2013. Challenges: Potential cultural resources impacts; flooding/erosion impacts to adjacent properties.</p>		
	<p>Lower Yolo Ranch Aquatic Habitat Restoration (SFWCA). Status: Restoration to be done by State Water Contractors; CDFW coordinating for project planning and permitting. Draft EIR released April 2013, Available on line at <a href="http://www.sfcwa.org/2013/04/22/draft-eir-lower-yolo-ranch-tidal-restoration-project/">http://www.sfcwa.org/2013/04/22/draft-eir-lower-yolo-ranch-tidal-restoration-project/</a></p>		
	<p>Dutch Slough (DWR). Dutch Slough is an area of about 1180 acres that was leveed in the 1800s for agricultural production, primarily grazing and dairy operations located in the West Delta in northeastern Contra Costa County. Status: ERP provided over \$25 million in funding for the acquisition, permitting and planning phases. Phases 1 and 2, which included planning &amp; permitting, have been completed. Phase 3 is expected to begin in 2014 and will include restoration of natural habitat on two of the three parcels, Emerson (426 acres) and Gilbert (305 acres). Tasks include: raising marsh plain elevations, realigning the Marsh Creek channel to its historic position on Emerson parcel, restoring full tidal exchange to Emerson and Gilbert, and enhancing recreation access. Challenges: The money for an adaptive management plan was not identified up front, nor was post project monitoring. The permitting process has been slow, but recent public airing of issues related to archeology and legacy uses has led to workarounds for most foreseeable exigencies.</p>		
	<p>Little Holland Tract Management and Enhancement (CDFW &amp; USACE/ potential FRPA). Status: This site is open to tidal action and is complete. The land belongs to the USACE; CDFW working collaboratively with USACE on management and habitat enhancement of Little Holland Tract as part of the Cache Slough Complex.</p>		
	<p>In Suisun Marsh:</p> <p>Hill Slough Tidal Marsh Restoration Project (CDFW/potential FRPA). This Project will restore tidal habitat to approximately 950 acres of diked seasonal and perennial wetlands in Suisun Marsh. Status: ERP has provided funding for the planning and permitting phase, and extended the grant an additional year to June 2015. The EIR and Management Plan will be released together as public draft before June 2015. Timing and details of retrofit of PG&amp;E towers to coordinate with raising elevation of Grizzly Island Road to accommodate tides and flooding are still being developed. The infrastructure phase and associated funding are pivotal to the restoration. Actual inundation and tidal marsh evolution phases will be relatively straightforward by comparison as the existing hydro regime is muted tidal and base elevations favor a relatively rapid marsh expansion trajectory. See: <a href="http://dfg.ca.gov/ERP/erp_proj_hill_slough.asp">http://dfg.ca.gov/ERP/erp_proj_hill_slough.asp</a> Challenges: Retrofit of PG&amp;E towers and raising elevation of Grizzly Island Road to accommodate tides and flooding. Lack of funds to complete road-raising, which is a pre-requisite for tidal inundation; grade and fill is also required for the levees and marsh plain, water control and public use features. Thus is likely the project will have to be phased into road and non-road portions.</p>		
	<p>Meins Landing Tidal Marsh Restoration (DWR/potential FRPA). Status: In planning and conceptual design phase. Challenge: Maintaining access for repair and maintenance of existing gas pipeline.</p>		



## Actions Status by Lead Agency

Action #	Action Name	Type
Action Description		Other Responsible Organizations
<p>Rush Ranch (Solano Land Trust). Status: In planning and design. Initial Study and Mitigated Negative Declaration will begin in 2014. Developing a system-wide management plan for invasive weed species; permitting in progress. Challenges: working through difficulties of permitting tidal marsh restoration in Solano County due to constraints in local ordinances; control of invasive non-native perennial pepperweed (<i>Lepidium latifolium</i>) and general weed management solutions that avoid impacts to listed native plants.</p>		
<p>Tule Red Tidal Marsh Restoration (SFWCA). The Tule Red Restoration Project is a public-private partnership effort to restore about 350 acres of tidal wetlands in the Suisun Marsh that will meet restoration requirements under the OCAP Biological Opinions and the ITP for the FRPA. Construction is planned for 2014. Project description and FAST consultation in progress.</p>		
<p>Overlook Club / Property 322 Tidal Marsh Restoration (DWR, FRPA). The 245 acre property was purchased in February 2013. Restoration of the property is planned for 2016 and will meet restoration requirements under the OCAP Biological Opinions and the ITP for the FRP and the Suisun Marsh Habitat Management, Preservation, and Restoration Plan. DWR is currently developing models and identifying opportunities to optimize habitat value for native fish and wildlife.</p>		
<p>Blacklock Restoration Project (DWR). Restoration is complete. ERP has provided funding for implementation and post-construction monitoring for mercury. <a href="http://www.water.ca.gov/suisun/docs/Blacklock%20Restoration%20Plan_Final_062807.pdf">Http://www.water.ca.gov/suisun/docs/Blacklock%20Restoration%20Plan_Final_062807.pdf</a></p>		
<p>Other ongoing restoration projects:</p> <p>Fremont Weir Fish Passage Enhancement, Tule Canal Fish Passage Enhancement, Lisbon Weir Fish Passage Enhancement, and Putah Creek Restoration and Enhancement (potential FRPA). See project descriptions in 3.1.1 Floodplain Inundation</p>		
<p>McCormack-Williamson Tract and Staten Island. McCormack-Williamson Tract and Staten Island are part of a long-term coordination effort with DWR. Status: 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. Project implementation will restore and enhance approximately 1,650 acres of various habitat types, including floodplain intertidal marsh, riparian, and scrub-shrub. ERP has awarded over \$30 million to The Nature Conservancy for implementation of this project. FRPA may provide funding for this project, if agencies approve credits under OCAP for delta smelt food web support. DWR is providing most of the construction funding. Some design and permitting is still underway. Design and permitting continue, and construction is expected to start in 2015-2016. ERP funding will support fluvio-geomorphic and biological monitoring beginning in 2015-2016, when construction is complete.</p>		
<p>Delta Working Landscapes. ERP funded project. The project offers an innovative program of farm habitat improvement and environmentally friendly agriculture practices that will benefit fish and wildlife, reduce erosion and sediment runoff, and improve water quality. These pilot programs are intended to serve as a catalyst for adoption by other farmers on a larger scale throughout the Delta. Status: Six farmers have allowed Ducks Unlimited to convert 311.5 acres of agricultural lands to seasonal managed wetlands for waterfowl use. Another six farmers allowed for native planting on 6.5 miles of irrigation ditches and landside levees to minimize erosion, sediment runoff and to improve water quality.</p>		

## Actions Status by Lead Agency

Action #	Action Name	Type	Other Responsible Organizations
<hr/>			
<p>Working Waterways Program. ERP funded project. This program will develop, install, and maintain resource conservation, habitat, and ecosystem-function improvements; monitor bird use of re-vegetation sites; complete an opportunity and suitability analysis for future project site selection, and develop local and regional agency and organization structural support systems for ongoing and expanded conservation projects. Status: Project is expected to be complete end of 2014.</p>			
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Actions Status by Lead Agency

Action #	Action Name	Type
Action Description	Other Responsible Organizations	
Department of Food and Agriculture		

## Actions Status by Lead Agency

Action #	Action Name	Type
Action Description		Other Responsible Organizations

### 2.2.1 Delta Agriculture Support

3-Recommended Actions

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

CDFA, DPC, DC, USDA

**Progress:** 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. 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 report examined the potential for agritourism, crop changes, biofuels, and ecotourism to expand the local agricultural economy. (See also Action 2.2.3, Delta Agricultural Markets.)

Conservation Partners. Conservation Partners is a partnership between the USDA's NRCS, the National Fish and Wildlife Foundation (NFWF) and other regional partners. The purpose of this program is to provide grants for technical assistance to farmers, ranchers, foresters and other private landowners to optimize wildlife habitat conservation on private lands. Conservation Partners looks to increase the effectiveness of Farm Bill assistance funded through programs such as Wildlife Habitat Incentives Program (WHIP), Environmental Quality Incentives Program (EQIP), Conservation Reserve Program (CRP) and others through technical assistance to private landowners in targeted Program Priority Areas (PPAs).

Bay Delta is a Priority Area. In 2011, the California Bay Delta region became one of the twelve conservation initiatives nationally designated by USDA's Natural Resources Conservation Service (NRCS) as a targeted PPA. Funding continues for this priority area in 2014. As such, the region is eligible for accelerated assistance and funding to agricultural producers who seek to voluntarily restore and enhance the natural resources through water conservation, water quality work, and habitat restoration.

USDA Provides Funds. In January 2013 the USDA's NRCS in California announced that \$1.5M is available to improve on-farm water resources in San Joaquin County. This funding is anticipated to help eligible farmers implement water quality and irrigation efficiency practices in selected San Joaquin County watersheds. This funding will also assist growers to reduce water losses on-farm, and to reduce nutrient, sediment and chemical loads at the edge of fields. Other continuing funding for 2014 under the Environmental Quality Incentive Program (EQIP) includes: Cache Slough Complex (\$750,000); East San Joaquin (\$5 M); French Camp Slough (\$1.5 M); and Waterbirds in various Sacramento Valley locations (\$650,000). We fund this which was reauthorized in the new Farm Bill. USDA is now taking applications (through June 6) for the new Farm Bill ACEP-ALE program, which combines the conservation purposes of NRCS' former Farm and Ranch Lands Protection Program, Grassland Reserve Program, and Wetlands Reserve Program ([www.ca.nrcs.usda.gov/programs](http://www.ca.nrcs.usda.gov/programs)). Program funds are provided to eligible entities to purchase conservation easements that protect the agricultural use and conservation values of privately owned land—Cropland, rangeland, grassland, pastureland and nonindustrial private forestland are all eligible.

Another new program under the new Farm Bill is the Regional Conservation Partnership Program (RCPP), to provide conservation assistance to producers and landowners. NRCS provides assistance to producers through partnership agreements and through program contracts or easement agreements. RCPP combines the authorities of four former conservation programs—including the Agricultural Water Enhancement Program and the Cooperative Conservation

## Actions Status by Lead Agency

Action #	Action Name	Type
Action Description	Other Responsible Organizations	
Partnership Initiative, both of which were popular in California.		
USDA Farmers’ Market Program. The USDA’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 on a five-acre site in Isleton 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. 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.		
California Delta Road Sign Project. DPC and other Agencies are implementing 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 Lead Agency

Action #	Action Name	Type
Action Description	Other Responsible Organizations	

### 2.2.2 Agricultural Sustainability Research

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

3-Recommended Actions

CDFA, DPC, USDA

**Progress:** 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 Sustainability Priorities. CDFA's "California Agricultural Vision: Strategies For Sustainability" (December 2010) identified 12 key strategies that continue to guide the planning, design and implementation of all CDFA projects and programs:

1. Improve Access to Safe, Healthy Food for All Californians
2. Ease the Burden of Regulation on Agriculture While Maintaining Health, Safety and Environmental Standards
3. Secure an Adequate Supply of Water for Agricultural Purposes
4. Assure a Strong Labor Force through Fairness to Agricultural Workers and Employers
5. Effectively Detect, Exclude and Control Invasive Species
6. Adopt a Policy of Conserving Agricultural Land and Water Resources
7. Expand Environmental Stewardship on Farms and Ranches
8. Promote Renewable Energy & Substitutes for Fossil-Based Inputs
9. Assure Agricultural Adaptation to Climate Change
10. Promote Robust Regional Markets for All California Producers
11. Cultivate the Next Generation of Farmers and Ranchers
12. Promote Agricultural Research that Anticipates 21st Century Challenges

CDFA's Marketing Objectives. In January 2013, the CDFA released its "CDFA Strategic Plan: 2013-2018." Goal One is to promote and protect the diverse local and global marketability of the California agricultural brand, which represents superior quality, value, and safety. The strategies and objectives for Goal One include:

- A. Strengthen CDFA's public outreach and awareness efforts for programs and activities that assist in the creation of new and the promotion of existing markets.
- B. Partner with the University of California, Davis' Agriculture and Natural Resources Small Farm Program, Buy California Marketing Agreement, and organic food entities to promote California specialty crop products.
- C. Open new markets, retain existing markets, and prevent disruption through data collection.'
- D. Optimize local and global partnerships to promote California projects through education and cooperation.
- E. Provide quarterly and annual reports online summarizing CDFA program updates, accomplishments and pertinent achievements.

UC-ANR Report. The State Board of Food and Agriculture has asked the Agriculture & Natural Resources Division of the University of California (UC-ANR) to

## Actions Status by Lead Agency

Action #	Action Name	Type
Action Description	Other Responsible Organizations	
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. DVF has been unable to determine if this report was published. Delta research publications by the Agriculture & Natural Resources Division of the University of California can be accessed at <a href="http://ucanr.edu/sites/deltacrops/">http://ucanr.edu/sites/deltacrops/</a>		
On February 4, 2014, Agriculture Secretary Tom Vilsack announced that the USDA will make \$20 million available for agricultural water conservation efforts throughout California to combat the effects of drought and to help agricultural operators use water more efficiently, stabilize fallowed cropland, and protect their livelihoods for the future. Funds are available statewide to install a number of conservation practices including irrigation efficiency, cover crops, rehabilitation of existing spring developments, protection of grazing lands, and other supporting components.		
In May 2014 USDA Secretary Vilsak said, "USDA has undertaken a multipronged, multiyear approach to protect producers from the negative impacts of climate change. Our regional Climate Hubs collect data, conduct research, and develop practical, science-based conservation tools and techniques tailored specifically to the differing needs of each region of the country. We support cutting edge research by our land-grant university partners, including \$6 million to ten schools to study the effects of climate on agriculture and an additional \$6 million to develop tools to improve water resource quantity and quality. This research will help farmers, ranchers and forest landowners deal with the complex consequences of climate change in the short term." UC Davis is a "sub-hub" in the program. <a href="http://www.usda.gov/climatechange">www.usda.gov/climatechange</a> .		

## Actions Status by Lead Agency

Action #	Action Name	Type
Action Description	Other Responsible Organizations	
<b>2.2.3</b>	<b>Delta Agricultural Markets</b>	3-Recommended Actions
<i>Establish new markets for innovative agricultural products and enterprises in the Delta.</i>		CDFA, DPC, USDA
<b>Progress:</b> 1	<b>Enacting Legislation:</b> Water Code Section 85301(c)(2)	
<b>Status Description:</b>		
<p>The 2009 water legislation (SBX7-1), 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.</p> <p>CDFA Policy Alternatives. In March 2011, the CDFA presented to the DPC and the DSC its report “Evaluations of Policy Alternatives to Benefit Agriculture in the Sacramento-San Joaquin Delta of California” written and researched by Daniel A. Sumner and John Thomas Rosen-Molina University of the California Agricultural Issues Center. The report examined the potential for agritourism, crop changes, biofuels, and ecotourism to expand the local agricultural economy. The report found, among other conclusions, that additional public funds to support local marketing were likely to provide only limited additional revenue for Delta agriculture. Most Delta crops are not suited for local food markets and unless longer term environmental and infrastructure concerns are addressed, investments in permanent tree and vine crops or in local marketing infrastructure are unlikely to be economically feasible. Where there are regulatory barriers to production for local markets, local authorities should investigate rules to assure that untoward impediments that restrict growth of these markets are removed.</p> <p>ESP Agricultural Recommendations. The DPC’s March 2011 “Economic Sustainability Plan” (ESP) included important baseline information to protect and enhance Delta agricultural activity and productivity. ESP recommendations included:</p> <ol style="list-style-type: none"> <li>1. Maintain and enhance the value of Delta agriculture. The potential of other industries to replace any loss in economic output from Delta agriculture is limited.</li> <li>2. Limit the loss of productive farmland to urbanization, habitat, and flooding. Continuing shifts of Delta agriculture to higher-valued crops and more value-added activities will compensate if land loss is not too great.</li> <li>3. Protect Delta water quality and water supplies for agriculture.</li> <li>4. Support growth in agritourism. Agritourism is currently a very small contributor to the Delta’s agricultural value, but is fast growing. Local area plans should support agritourism where appropriate.</li> <li>5. Support local value-added processing of Delta crops. Regulations from local, state and federal agencies such as FEMA that inhibit investment in value-added processing should be examined and streamlined where possible.</li> </ol> <p>In 2013, USDA provided \$18 million in marketing grants through CDFA for 65 research, marketing, and pest management projects. None of these projects specifically targets marketing or research for Delta agriculture.</p>		



Actions Status by Lead Agency

Action #	Action Name	Type
Action Description	Other Responsible Organizations	
Department of Transportation		

## Actions Status by Lead Agency

Action #	Action Name	Type
Action Description		Other Responsible Organizations
6.1.3	Highway Protection Strategies	3-Recommended Actions
Conduct a comprehensive analysis of the costs and benefits of highway protection strategies, and adopt a policy based on its findings by 2012.		Caltrans, CVFPB
Progress: 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 provided comments to the DSC for the Delta Plan.		
Caltrans Assessment Reports. Caltrans has completed the following statewide assessment and guidance reports:		
<ul style="list-style-type: none"><li>- "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.</li><li>- "Guidance on Incorporating Sea Level Rise," which analyzed the costs and benefits of highway protection strategies (May 2011), which sets forth the methodologies to be followed to determine and justify whether and to what extent mitigation for sea-level rise is applicable to specific projects.</li><li>- "Caltrans Activities to Address Climate Change Reducing Greenhouse Gas Emissions and Adapting to Impacts" (April 2013), which provides an overview of Caltrans activities to reduce GHG emissions and adapt the state's transportation system for the impacts of climate change. The report says that as of 2009, approximately 1,900 miles of California's roadways were at risk of a 100-year flood event; projected sea level rise of 55 inches would increase the roadway at risk to approximately 3,500 miles.</li></ul>		
State Route 12. In November 2012 Caltrans published its "SR-12 Comprehensive Evaluation and Corridor Management Plan (Comprehensive Evaluation)."The Comprehensive Evaluation found that nearly the entire corridor is subject to the threat of natural impacts including sea-level rise and the area critically depends on its more than 1,000 miles of levees for protection. Projected impacts of sea level rise would inundate Delta areas west of Rio Vista including Suisun City, Fairfield, and segments of SR-12 between Rio Vista and the I-5 interchange and access to the Travis Air Force Base. Also, because water courses in the area are subject to tidal conditions, sea-level rise could exacerbate flood hazards. Sea-level rise, unless mitigated, is also expected to inundate the Delta areas of Sacramento County and San Joaquin County.		
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. No CMP for SR-16- has been issued.		
State Route 4. The "Corridor System Management Plan for State Route (SR) 4" (October 25, 2010) did not include a discussion of sea level rise.		
DVF staff have not identified any subsequent actions or reports related to protecting Delta transportation infrastructure.		

Actions Status by Lead Agency

Action #	Action Name	Type
Action Description		Other Responsible Organizations
Department of Water Resources		

## Actions Status by Lead Agency

Action #	Action Name	Type
Action Description		Other Responsible Organizations
3.2.3	Flood Conveyance Capacity Expansion	3-Recommended Actions
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, CVFPB
Progress: 2	Enacting Legislation: Water Code Section 85306	
Status Description:		
In June 2012, the Central Valley Flood Protection Board approved the Central Valley Flood Protection Plan (CVFPP), which identifies flood conveyance capacity expansion options in the North Delta and South Delta. The Plan provides an overall framework for flood management. DWR is now conducting regional studies, which will examine flood bypass opportunities on the San Joaquin River. On May 1, 2013, DWR issued letters of commitment to fund six regional flood management studies, including three on the San Joaquin River. When the regional plans are complete, DWR will incorporate feasible components of the regional plans in the 2017 CVFPP Update that are consistent with the State Systemwide Investment Approach as defined in 2012 CVFPP. For more information visit <a href="http://www.water.ca.gov/cvfmp/regionalplan/">http://www.water.ca.gov/cvfmp/regionalplan/</a> .		
Paradise Cut Flood Bypass Expansion Project. The South Delta Water Agency, the San Joaquin Area Flood Control Agency, and other local partners are pursuing a project to enlarge the existing Paradise Cut Bypass. These agencies are working with DWR and local landowners to expand the Paradise Cut Bypass to route flood flows away from urban areas in Lathrop and Stockton along the San Joaquin River and allow for a greater amount of flow to enter the Cut during high flow times. The project includes necessary dredging and levee work downstream of the Cut to safely pass the additional flow into the deeper Delta channels at acceptable or no additional risk to lands of that area. The project would remove a bottleneck in the system and create an opportunity to restore the ecosystem in a heavily altered reach of the San Joaquin River. The project will include overflow and tidal habitat where feasible in coordination with fishery agencies. The project is expected to be included in the next draft of the “Lower San Joaquin and Delta South Regional Flood Management Plan Draft Document,” which was released for Public Review/Comment in January 2014. Significant funding has been made possible by grants from DWR.		
Federal Evaluation of the Paradise Cut Project. The USACE conducted a value engineering (VE) study of flood protection options for the Delta. Based on this evaluation, USACE concluded that the Paradise Cut component was not feasible to carry forward for further analysis due to the high cost of construction, the unknown extent and cost for mitigation improvements required downstream, and insufficient benefits for the lower San Joaquin River Delta front areas. Therefore, funding for the Federal Paradise Cut project will not be coming from the US Army Corps of Engineers budget for 2014.		
California’s Flood Future. In November 2013, the Resources Agency, USACE, and the DWR Flood Plain Management Services Program released “California’s Flood Future: Recommendations for Managing the State’s Flood Risk.” Attachment H, “Flood Management in the Context of Integrated Water Management,” lists the Lower San Joaquin River Flood Bypass as a planned integrated water management project for San Joaquin County with an estimated cost of \$6,125,000. The project’s goal is to “increase flood conveyance capacity through a constrained reach of the San Joaquin River floodway by acquiring easements and fee title to expand Paradise Cut Bypass. The project will also provide floodplain and riparian habitat for sensitive species including riparian brush rabbit, giant garter snake, Sacramento splittail and juvenile Chinook salmon. The project would reduce flood stage in the mainstem San Joaquin River between Vernalis and Stockton and reduce the likelihood of levee failure on the San Joaquin River in Lathrop, Manteca, and Stockton areas."		

## Actions Status by Lead Agency

Action #	Action Name	Type
Action Description	Other Responsible Organizations	
<b>3.3.1</b>	<b>Fish Entrainment</b>	3-Recommended Actions
<i>Reduce fish kills in Delta pumps by instituting diversion management measures by 2009, implementing near-term conveyance improvements by 2015, and relocating diversions.</i>		DWR, Reclamation, Others?
<b>Progress: 2</b>	<b>Enacting Legislation:</b>	
<b>Status Description:</b>		
<p>The courts have implemented requirements for SWP and CVP diversions to reduce impacts to listed species. DWR and Reclamation are implementing those measures as outlined in NOAA's National Marine Fisheries Service (NMFS) Biological Opinion and subsequent stipulation agreements. In compliance with the requirements of the NMFS Opinion, DWR has tested non-physical barriers at the head of Old River and Georgiana Slough to reduce entrainment. Initial results of the field evaluations showed reduced entrainment, but further analysis is ongoing to evaluate potential increases in predation and barrier performance. DWR is evaluating the feasibility of other engineering solutions to reduce entrainment of salmonids into the interior Delta. The final report for the Release Site Predation study was completed in 2010 and included specific recommendations to increase survival of salvaged fish. In related work, DWR is studying predation near the pumps to determine reduction targets and guide future management actions. In 2012, the Department also undertook juvenile steelhead and salmon studies using acoustic telemetry to study route selection probabilities and survival under different flow scenarios in the San Joaquin River and South Delta.</p> <p>The Biological Opinion includes diversion management actions such as Delta Cross Channel (DCC) gate closures and export restrictions for OMR management is the primary way that entrainment is being managed. Through these Reasonable and Prudent Alternatives (RPAs), exports are managed to minimize entrainment and alteration of migratory pathways. In support of DCC gate closures, the Bureau of Reclamation released an Environmental Assessment and a Finding of No Significant Impact for proposed 10-day closures during the first half of October, 2012-2016. A DCC closure did not occur in 2013 during the Mokelumne River pulse flow due to water quality issues in the Delta associated with low flows.</p> <p>Other RPA actions not directly related to entrainment reduction measures include: (1) initiating efforts to modernize and build additional salvage release sites to reduce predation and increase salvaged fish survival, (2) Initiating design and construction of a fish science laboratory at the SWP John E. Skinner Delta Fish Protective Facility (SDFPF) to support fish research activities related to SWP operations and compliance, ( 3) initiating real-time coded wire tag reading and reporting at the SWP and CVP salvage facilities to support delta water operations management. Further actions are considered in the BDCP process.</p> <p>Beginning in fall 2009 the Lower Mokelumne River Partnership implemented three key management actions designed to improve survival and returns of fallrun Chinook salmon to the Mokelumne River, including 1) moving the release location for Mokelumne River Fish Hatchery Chinook production, 2) initiating fall pulse/attraction flows, and 3) working with USBR to initiate temporary closures of the Delta Cross Channel. Based on four years of data, it appears that the combined effects of the key management actions have achieved the intended goals. Based on these initial results, EBMUD is working with its partners (CDFW, USFWS, USBR) to develop a 5-year study plan to further evaluate the effectiveness of the management actions and identify potential operational constraints.</p>		

## Actions Status by Lead Agency

Action #	Action Name	Type
Action Description	Other Responsible Organizations	
<p>Monitoring and Salvage.</p> <p>The Interagency Ecological Program (IEP) Scientific Advisory Committee (SAC) released its “Review of the IEP Delta Juvenile Fishes Monitoring Program (DJFMP) and Delta Juvenile Salmonid Survival Studies: Summary Report” on June 20, 2013. This review was conducted to receive technical and scientific feedback to determine if the DJFMP is meeting present objectives, robust enough to answer future questions, and effectively conducting research and monitoring while meeting key management needs.</p> <p>The U.S. Fish and Wildlife Service on Feb. 5, 2014 announced it has begun focused drought-related surveys for delta smelt as part of the federal response to California’s severe drought. The surveys will provide real-time information about the location of delta smelt and details if the smelt move closer to water diversions in the southern Delta. The surveys will be conducted at Jersey Point on the San Joaquin River with assistance from the Bureau of Reclamation. If there is substantial rain that increases Delta flows and turbidity of Delta waterways, delta smelt could move closer to the water project diversions, increasing the risk of entrainment.</p> <p>In the IEP Newsletter released April 25, 2014, DFW reported the 2013 results of the “20 mm Survey” which monitors the distribution and relative abundance of larval and juvenile Delta Smelt reaching 20 mm in the upper San Francisco Estuary. The survey began in 1995 and supplies near real-time catch data to water and fisheries managers as part of an adaptive management strategy to limit the risk of Delta Smelt entrainment during water exports. The 2013 index was a decrease from 2012, but still shows an upward trend since the 2007 drop-off and is similar to the indices from the early years (2001-2004).</p> <p>For the Water Year 2012, fish salvage decreased at both the Skinner Delta Fish Protective Facility and the CVP’s Tracy Fish Collection Facility (TFCF). TFCF salvage was 475,082, a marked decrease from the previous year and below the previous record low of 1,318,613 set in 2010. During the 2011 Water Year, annual fish salvage of all fish species combined at the TFCF was high at 8,724,498. Annual salvage at the SDFPF in 2012 was 1,607,286, nearly a 50% reduction from the number salvaged in 2011 (3,092,553). As of the end of June 2012, the total year-to-date fish salvage for Delta Smelt was 2,353.5. As of June 2013, this number decreased to 1,914.5.</p> <p>Fish salvage numbers continue to decline. According to the March 2014 the IEP’s “Science Highlights-Quarterly Directors Update” reported on winter fish salvage at the CVP &amp; SWP Pumps. Year-to date, as of March 6, 2014, no Delta Smelt and only 16 juvenile Longfin Smelt have been salvaged. Salmon salvage has also been low: only 12 winter-run sized wild juvenile salmon and 95 steelhead have been observed. This is a marked decrease as of March 6, 2013 when 165.5 Delta Smelt, 2 juvenile Longfin Smelt and 297 Salmon were salvaged.</p>		

## Actions Status by Lead Agency

Action #	Action Name	Type
Action Description	Other Responsible Organizations	
<b>3.5.2</b>	<b>Drinking Water Intake Relocation</b>	3-Recommended Actions
<i>Relocate as many Delta drinking water intakes as feasible away from sensitive habitats and to channels where water quality is higher.</i>		DWR and local water agencies
<b>Progress:</b> 2	<b>Enacting Legislation:</b>	
<b>Status Description:</b>		
Contra Costa Water District. CCWD completed its Alternate Intake Project in July 2010 (Near-term Action #5).		
City of Stockton Water Project. 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 has been postponed until late 2014 to allow time to coordinate water quality analysis and modeling with the ongoing BDCP analysis.		

## Actions Status by Lead Agency

Action #	Action Name	Type
Action Description	Other Responsible Organizations	

### 4.1.1 Statewide Water Use Efficiency

*Improve statewide water use efficiency and conservation.*

3-Recommended Actions

DWR, State Water Board, CUWCC, AWMC, Others

**Progress:** 4      **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. The bill also requires that DWR, in consultation with other state agencies, develop a single standardized water use reporting form, which would be used by both urban and agricultural water agencies.

**Urban Water Conservation.** The legislation sets an overall goal of reducing per capita urban water use by 20% by December 31, 2020. The state shall make incremental progress towards this goal by reducing per capita water use by at least 10% by December 31, 2015. Each urban retail water supplier shall develop water use targets and an interim water use target by July 1, 2011 and include those targets in its 2010 UWMP (due July 2011). Effective 2016, urban retail water suppliers who do not meet the water conservation requirements established by this bill are not eligible for state water grants or loans.

**Agricultural Water Conservation.** Agricultural water suppliers shall prepare and adopt agricultural water management plans by December 31, 2012, and update those plans by December 31, 2015, and every 5 years thereafter. On or before July 31, 2012, agricultural water suppliers shall measure the volume of water delivered to customers (DWR shall adopt regulations that provide for a range of options that agricultural water suppliers may use to comply with the measurement requirement); adopt a pricing structure for water customers based at least in part on quantity delivered; and implement additional efficient management practices. Effective 2013, agricultural water suppliers who do not meet the water management planning requirements established by this bill are not eligible for state water grants or loans.

DWR developed work plans for the 18 actions in the legislation for which DWR is assigned as the lead agency. Seven of the 8 urban actions are complete or ongoing. The revised funding guidelines will be initiated in 2015. Four of the 7 agricultural actions are complete; the remaining 3 will be initiated in 2013. The Reports to the Legislature on Efficient Water Management Practices and the status of Ag Water Management Plans, both due in December 2013, have not been completed. Two of the 3 other activities, including development of the standardized water use reporting form and regional water management targets, are apparently underway, although little progress is reported. To meet these requirements, 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 a general advice in the implementation of the SB X7-7 requirements.

The tracking and reporting on this legislative direction serves as a good example for other programs. [www.water.ca.gov/wateruseefficiency/sb7/projects.cfm](http://www.water.ca.gov/wateruseefficiency/sb7/projects.cfm)

On April 25, 2014, Governor Brown issued an executive order to redouble state drought actions. The order calls on Californians and California businesses to take specific actions to avoid wasting water, including limiting lawn watering and car washing; recommends that schools, parks and golf courses limit the use of potable water for irrigation; and asks that hotels and restaurants give customers options to conserve water by only serving water upon request and other



## Actions Status by Lead Agency

Action #	Action Name	Type
Action Description		Other Responsible Organizations
measures. The order also prevents homeowner associations from fining residents that limit their lawn watering and take other conservation measures.		
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	2-Legal and Procedural Milestones
Reduce urban per-capita water demand through specific recommended actions.		DWR, CUWCC, Others
Progress: 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% reduction.		
In October 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).		
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. The Commercial, Institutional and Industrial (CII) Task Force met 13 times to develop water use Best Management Practices for the CII sector and a report to the Legislature ( <a href="http://www.cuwcc.org/2column.aspx?id=16620">http://www.cuwcc.org/2column.aspx?id=16620</a> ).		
Updated Urban Water Management Plans were due to DWR from water providers by July 2011. DWR submitted its first urban water management report to the Legislature on June 11, 2012. This report summarized the evaluation of 381 UWMPs submitted (out of 448 urban suppliers known to DWR). Fifteen water suppliers have a five-year baseline water use under 100 gallons per capita per day (gpcd). DWR’s analysis of 342 of the UWMPs showed a statewide target water use reduction of 16.2% to 166 gpcd by 2020. As of May 2014, 408 UWMPs have been submitted to DWR. Of these 409, 360 have identified water use baselines and targets. The 2012 DWR report noted that a second report would be submitted when a majority of the UWMPs have been reviewed to provide a summary of urban water use and conservation.		
Assembly Bill AB 1420 (2007) (CWC §10631.7) directed DWR to form an Independent Technical Panel (ITP) to provide recommendations to DWR and the Legislature on new demand management measures, technologies and approaches to water use efficiency. DWR convened the ITP on May 2, 2013 to discuss the ITP charter and meeting schedule with the goal of submitting the ITP recommendations to the Legislature by the end of 2014. The ITP has met 14 times.		
See also 4.1.1 for related activities.		

## Actions Status by Lead Agency

Action #	Action Name	Type
Action Description	Other Responsible Organizations	
<b>4.1.3</b>	<b>Agricultural Water Efficiency</b>	3-Recommended Actions
<i>Ensure the most efficient use of water in agriculture.</i>		DWR, AWMC, CDFA, Reclamation, USDA, Others
<b>Progress:</b> 4	<b>Enacting Legislation:</b>	
<b>Status Description:</b>		
<p>In July 2011, DWR prepared, and the Office of Administrative Law (OAL) approved, an emergency agricultural water measurement regulation. On July 11, 2012, OAL approved the permanent Agricultural Water Measurement Regulation (Title 23, Division 2 of the California Code of Regulations, Chapter 5.1, Sections 597, 597.1, 597.2, 597.3, and 597.4) along with the Aggregated Farm-Gate Delivery Reporting Form. The Regulation became effective July 11, 2012. To comply with provisions of the statute, agriculture water suppliers must submit an Agricultural Water Management Plan (AWMP) by December 31, 2012, again on December 31, 2015, and every five years thereafter. DWR has completed a guidebook and template for preparing Agricultural Water Management Plans. As of May 2014, DWR has received 26 AWMPs.</p> <p>The Agricultural Water Management Council, a voluntary organization formed in the 1990s to develop best management practices has disbanded. DWR will continue to work with agriculture interests and others through the Agriculture Stakeholder Committee to update the efficient water management practices based on information in the AWMPs.</p> <p>In May 2013, DWR announced its final proposed Proposition 50 grants for agricultural water management, including \$10.6 million for implementation and \$4.2 million for research, pilot programs, training, outreach, and technical assistance.</p> <p><a href="http://www.water.ca.gov/wateruseefficiency/">www.water.ca.gov/wateruseefficiency/</a></p>		

## Actions Status by Lead Agency

Action #	Action Name	Type
Action Description	Other Responsible Organizations	
<b>4.2.5</b>	<b>Water Shortage Contingency Plans</b>	3-Recommended Actions
<i>Require that all water purveyors develop an integrated contingency plan by 2015 in case of Delta water supply curtailments or drought.</i>		Governor and Legislature, State Water Board, DWR
<b>Progress:</b> 4	<b>Enacting Legislation:</b> Water Code Section 85021	
<b>Status Description:</b>		
<p>Drought response. The severe drought of 2014 has redirected resources to drought response. On April 25, 2014, Governor Brown issued an executive order to redouble state drought actions. In the order, Governor Brown directed DWR and the State Water Board to expedite approvals of voluntary water transfers to assist farmers. He also directed the CDFW to accelerate monitoring of drought impacts on winter-run Chinook salmon in the Sacramento River and its tributaries, and to execute habitat restoration projects that will help fish survive the on-going drought. To respond to the increased threat of wildfire season, the order streamlines contracting rules for OES and CALFIRE for equipment purchases and enables landowners to quickly clear brush and dead, dying, or diseased trees that increase fire danger.</p> <p>Drought Task Force. In December 2013, the Governor formed a Drought Task Force to closely manage precious water supplies, to expand water conservation wherever possible, and to quickly respond to emerging drought impacts throughout the state.</p> <p>Water Conservation Bill. The Water Conservation Bill of 2009 (SB7X-7) 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.</p> <p>California Water Plan. DWR completed the first statewide drought contingency plan in November 2010 as part of the California Water Plan. DWR has updated the drought contingency plan as part of Water Plan Update 2013 to ensure that it covers preparing for, responding to, and recovering from a drought, including documenting activities and lessons learned from prior droughts including the six-year event of 1987-92 and the more recent 2007-09 drought. An important focus of the updated contingency plan is an emphasis on drought preparedness. The plan identifies important gaps related to preparedness – besides the lack of funding for operational-scale preparedness and response actions – such as absence of skillful seasonal to inter-annual drought forecasting ability, limited understanding of statewide groundwater storage conditions, and lack of effective tools for helping vulnerable small water systems in rural areas.</p> <p>California Water Action Plan. On January 27, 2014, the Governor’s Administration released the final California Water Action Plan. It outlines California’s near- and long- term water priorities and includes 2014-15 budget proposals and implementation efforts. Key actions identified in the Plan include:</p> <ul style="list-style-type: none"> <li>-Make conservation a California way of life.</li> <li>-Increase regional self-reliance and integrated water management across all levels of government.</li> <li>-Achieve the co-equal goals for the Delta.</li> <li>-Protect and restore important ecosystems.</li> </ul>		

## Actions Status by Lead Agency

Action #	Action Name	Type
Action Description	Other Responsible Organizations	
<ul style="list-style-type: none"><li>-Manage and prepare for dry periods.</li><li>-Expand water storage capacity and improve groundwater management.</li><li>-Provide safe water for all communities.</li><li>-Increase flood protection.</li><li>-Increase operational and regulatory efficiency.</li><li>-Identify sustainable and integrated financing opportunities.</li></ul>		
<p>The Governor’s proposed 2014-15 budget recommends \$618.7 million in funding for Action Plan initiatives in water efficiency, wetland and watershed restoration, groundwater management, conservation, flood control, and integrated water management.</p>		

## Actions Status by Lead Agency

Action #	Action Name	Type
Action Description	Other Responsible Organizations	
<b>4.2.6</b>	<b>Integrated Water Management</b>	3-Recommended Actions
<i>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.</i>		Governor and Legislature, State Water Board, DWR
<b>Progress:</b> 3	<b>Enacting Legislation:</b> Water Code Section 85021	
<b>Status Description:</b>		
<p>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.”</p> <p>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, which includes three initiatives: increase commitment to Integrated Water Management; strengthen agency alignment; and invest in innovation and infrastructure. The Update also includes references to and coordination with 23 related plans and programs, such as the State Wildlife Plan, CPUC Water Action Plan, FloodSafe Strategic Plan, Delta Vision Strategic Plan, and Delta 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. DWR is preparing a strategic plan for the IRWM program. <a href="http://www.water.ca.gov/irwm/stratplan/">www.water.ca.gov/irwm/stratplan/</a></p> <p>The IRWM Grant Program manages General Obligation Bond funds from various sources, including the following fund: Proposition 84, the Safe Drinking Water, Water Quality and Supply, Flood Control, River and Coastal Protection Bond Act of 2006, which was passed by California voters in November 2006. Proposition 84 amended the PRC to add among other articles, Section 75026 et seq., authorizing the Legislature to appropriate \$1,000,000,000 for IRWM projects that assist local public agencies to meet the long term water needs of the State including the delivery of safe drinking water and the protection of water quality and the environment.</p> <p>Of that \$1,000,000,000, a total of \$900,000,000, referred to as “regional funding,” was allocated to 11 hydrologic regions and sub-regions or “funding areas.” The remaining \$100,000,000, referred to as “inter-regional funding”, was allocated to address multi-regional needs or issues of Statewide significance. Proposition 84 authorizes DWR to either expend the inter-regional funds directly or by grant to other organizations.</p> <p>DWR awarded \$9 million for additional IRWM planning grants in November 2012. Local Groundwater Assistance Grants were awarded in summer 2013 (\$4.7 million). Round 2 Stormwater Flood Management Grants were awarded in July 2013 (\$92 million). On February 4, 2014, DWR awarded approximately \$131 million and tentatively awarded an additional \$21.8 million in grant funds to 21 proposals, for a total of \$152,851,040. The tentative award of \$21.8 million in funding is subject to appropriation through the State's budget process.</p>		

## Actions Status by Lead Agency

Action #	Action Name	Type
Action Description	Other Responsible Organizations	
<p>In 2013, Governor Brown directed state agencies to improve and streamline processes for improving water transfers. In 2014, the Governor's Administration and the Legislation have set a priority for establishing new and improved management tools and local authorities to address groundwater management.</p> <p>Groundwater Workplan. As part of ongoing efforts to improve and integrate planning, the regional water boards, led by the State Water Board, are developing a workplan that aligns current groundwater protection efforts, ongoing actions of other entities with groundwater management responsibilities, and potential actions that the regional water boards and others could pursue. A goal of the workplan is to promote collaboration and cooperation among local, regional, and State agencies and other stakeholders to help promote more effective groundwater management that supports beneficial uses over the long-term.</p> <p>A discussion draft of the Groundwater Workplan Concept Paper (Groundwater Workplan) was released October 4, 2013. This concept paper proposes a framework under which the Water Boards' groundwater activities would be organized. Whether implemented at the local, regional, or State level, the Water Boards conclude that an effective groundwater management program generally requires five key elements to be in place: thresholds, monitoring and assessment, governance, funding, and enforcement.</p>		
5.1.3	Storage and Conveyance Construction	3-Recommended Actions
<i>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.</i>		Resources, DWR, Reclamation
Progress: 1	Enacting Legislation:	
Status Description:		
<p>Construction to expand Los Vaqueros Reservoir from 100,000 acre-feet to 160,000 acre-feet was initiated in April 2011. CCWD celebrated the completion of the dam construction and reopening of the north side of the watershed to the public in July 2012. Fishing facilities at the south side of the Los Vaqueros Reservoir reopened to the public in October 2012. The project cost \$120 million. As of October 2012 the reservoir had filled to 100,000 acre-feet, the capacity of the original reservoir. The additional water storage will help ensure high-quality water deliveries to customers, reliability during drought, and protections for Delta fisheries and the environment.</p> <p>Construction of other storage projects is pending completion of feasibility studies, environmental documentation, and permitting, which are underway. DWR estimates that storage studies would continue through 2015. If the 2014 water bond is passed, water storage projects would be eligible for state bond funds to pay for the public benefits provided by new storage facilities. The California Water Commission is developing the funding guidelines.</p> <p>See also 5.1.2., Storage and Conveyance Recommendations.</p>		

## Actions Status by Lead Agency

Action #	Action Name	Type
Action Description	Other Responsible Organizations	
5.2.1	Reservoir Operations	3-Recommended Actions
Change the operating rules of existing reservoirs to incorporate and reflect modern forecasting capabilities.		DWR, Reclamation, Army Corps
Progress: 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 (2008), DWR, in coordination 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 optimize existing facilities and groundwater storage while achieving multiple objectives of improved water supply reliability, flood risk reduction, and ecosystem restoration.		
The Plan of Study was completed in June 2011. The Strategy Formulation and Refinement Report was completed in February 2014. Based on these reports, DWR will be assessing potential benefits of integrating SWP and CVP operations, and reoperating Shasta, Oroville, and New Exchequer reservoirs for flood operations and conjunctive use with groundwater basins, with and without new Delta conveyance. DWR expects to complete preliminary assessments by June 2015 and a Reconnaissance Study by December 2016.		

## Actions Status by Lead Agency

Action #	Action Name	Type
Action Description		Other Responsible Organizations
5.2.2	San Joaquin Flood Bypass	3-Recommended Actions
Require the Department of Water Resources to immediately create a flood bypass along the lower San Joaquin River.		Governor and Legislature, Resources, DWR, CVFPB
Progress: 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 Central Valley Flood Protection Board (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."		
In June 2012, the CVFPB approved the Central Valley Flood Protection Plan (CVFPP), which identifies flood conveyance capacity expansion options in the north Delta and South Delta. The Plan provides an overall framework for flood management. DWR is now conducting regional studies, which will examine flood bypass opportunities on the San Joaquin River. On May 1, 2013, DWR issued letters of commitment to fund six regional flood management studies, including three on the San Joaquin River. When the regional plans are completed in 2015, DWR will incorporate feasible components of the regional plans in the 2017 CVFPP Update that are consistent with the State Systemwide Investment Approach as defined in 2012 CVFPP.		
Mapping. Draft Regional Flood Atlases were released for the six regions on June 13, 2013. These atlases show flood risk characteristics and hazards for each region, as well as Local Maintaining Agencies, flood control facilities, general land use, managed environmental lands, and more. Each atlas was compiled from existing data to share understanding and to facilitate discussions about the current state of flood risks. DWR has updated the Best Available Maps to display the latest floodplains in a web viewer located at <a href="http://gis.bam.water.ca.gov/bam">http://gis.bam.water.ca.gov/bam</a> . With this viewer, DWR has expanded the floodplains to cover all counties in the State and to include 500-year floodplains. The 100-, 200-, and 500-year floodplains can be selected for display using this viewer. The web viewer allows users to view a particular area, identify their potential flood hazards, and print a floodplain map.		
Basin-Wide Feasibility Studies. As part of the CVFPP, DWR is conducting two Basin-Wide Feasibility Studies, one in the Sacramento River Basin and one in the San Joaquin River Basin, to evaluate the feasibility of different alternatives for improving the flood management system. These studies will evaluate features identified in the regional studies and additional system-wide features to inform the 2017 update of the CVFPP and FloodSAFE Financing Plan.		
Paradise Cut Flood Bypass Expansion Project. The South Delta Water Agency is working with DWR and local landowners to expand the Paradise Cut Bypass to route flood flows away from urban areas in Lathrop and Stockton along the San Joaquin River and allow for a greater amount of flow to enter the Cut during high flow times. The project includes necessary dredging and levee work downstream of the Cut to safely pass the additional flow into the deeper Delta channels at acceptable or no additional risk to lands of that area. The project will include overflow and tidal habitat where feasible in coordination with fishery agencies.		
See also Action 3.2.3, Flood Conveyance Capacity Expansion, for further information on the status of the Paradise Cut Bypass.		



## Actions Status by Lead Agency

Action #	Action Name	Type
Action Description	Other Responsible Organizations	
<b>6.2.4</b>	<b>Delta Land Use Consortium</b>	3-Recommended Actions
<i>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.</i>		DWR, Local Agencies
<b>Progress: 2</b>	<b>Enacting Legislation:</b>	
<b>Status Description:</b>		
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 Lead Agency

Action #	Action Name	Type
Action Description	Other Responsible Organizations	

### 6.3.4 Levee Subventions Program

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

3-Recommended Actions

DWR, CVFPB

**Progress:** 4      **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 non-project 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.

DWR requires water districts to submit an application each year to participate in the Subventions Program and reviews those applications for significant changes of land use or economic conditions. At the Central Valley Flood Protection Board's November 22, 2013 meeting, the 2013-14 applications were reviewed and no significant changes of land use or economic conditions from previous years were found. The Board also noted that "as the economy continues to improve and the Districts gain greater financial stability, a closer look into the ability to pay may be warranted."

DWR staff, on behalf of CVFPB, initiates and manages work agreements to fund levee maintenance and rehabilitation. DWR received 67 applications totaling \$53.6 million for participation in the FY 2013-14 Subventions Program. The allocated fund is \$12 million. Staff reviewed the applications to develop the FY 2013-14 funding plan approved by CVFPB.

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 California Legislature under SB 34, SB 1065, and AB 360 established the program. 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 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.

In February 2014, DWR released draft guidelines and a draft Project Solicitation Package for multi-benefit projects totaling \$75 million. The focus of this funding is to: increase export water supply reliability from the Delta for the State and Federal water projects; provide long-term ecosystem enhancements; and provide improvements to levee system integrity. DWR expects to release the final PSP in Summer 2014.

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

## Actions Status by Lead Agency

Action #	Action Name	Type
Action Description	Other Responsible Organizations	
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.		
NTA04	Middle River Two Barrier Project	1-Near-Term Actions
Conduct a Middle River Corridor Two Barrier pilot project.		DWR, CDFW, Central Valley Regional Board, SLC, Reclamation
Progress: 2	Enacting Legislation: Water Code Sections 85085 and 85350	
Status Description:		
The 2009 water legislation (SBX7-1) directed CDFW to coordinate with the State Water 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. These studies are not assessing the effectiveness of flow control structures since none are in place or planned to be constructed.		

## Actions Status by Lead Agency

Action #	Action Name	Type
Action Description	Other Responsible Organizations	
<b>NTA06</b>	<b>Three Mile Slough Barrier</b>	1-Near-Term Actions
<i>Evaluate the effectiveness of a Three Mile Slough Barrier project.</i>		DWR, Reclamation, CDFW
<b>Progress:</b> 2	<b>Enacting Legislation:</b> Water Code Section 85085(b)	
<b>Status Description:</b>		
<p>The 2009 water legislation (SBX7-1) directed CDFW 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.</p> <p>In March 2014, in response to drought conditions and expected increased salinity intrusion in the Delta, DWR proposed installation of three temporary barriers at Sutter Slough, Steamboat Slough, and False River. The proposed rock barriers would help keep salinity out of the Delta during low flow periods and remain in place until November 2014. On April 18, DWR announced that the barrier installation would be suspended due to some late season rain, which reduced the critical reservoir conditions.</p>		
<b>NTA07</b>	<b>Clifton Court Fish Screen Demonstration</b>	1-Near-Term Actions
<i>Construct a demonstration fish protection screen at Clifton Court Forebay.</i>		DWR, CDFW
<b>Progress:</b> 2	<b>Enacting Legislation:</b>	
<b>Status Description:</b>		
<p>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. 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). The final report has not been released.</p>		

## Actions Status by Lead Agency

Action #	Action Name	Type
Action Description		Other Responsible Organizations
NTA09	Emergency Response Materials	1-Near-Term Actions
Stockpile rock and other emergency response materials.		DWR
Progress: 4	Enacting Legislation: Water Code Section 83002.7	
Status Description:		
DWR continues to plan and implement efforts to increase emergency response material stockpiles, transfer stations, and contract resources for Delta emergencies. Delta stockpiles of sandbags, plastic, twine, stakes, roll-off containers, and rock have increased. To date, DWR has stockpiled 485,000 sandbags, 9.5-miles of plastic, 2,800-rolls of twine, 72,000 stakes, 250,000 buttons, 12 roll-off containers, 225,000-tons of rock.		
The Delta Flood Emergency Facilities Improvement Project (FIP) is a component of the Delta Flood Emergency Preparedness, Response, and Recovery Program (DFEPRRP). DWR is the lead agency. The project’s goal is to ensure that State agencies have the appropriate infrastructure and supplies in the Delta to respond to and recover quickly and effectively from major flood or earthquake disasters in the Sacramento-San Joaquin River Delta. The FIP is identifying, evaluating, selecting, acquiring, and improving barge loading sites—which can also serve as Incident Command Posts (ICPs)—and storage locations for flood fight materials and supplies at strategic locations in the Delta region.		
The project will: (1) establish two new material storage and transfer facility sites, one at West Weber Avenue in Stockton and another at Brannan Island State Park; (2) modify an existing material storage facility at Rio Vista; (3) establish new flood fight material and supply facilities at all three locations; and (4) make site preparations to support Incident Command Posts at Stockton’s West Weber Avenue and Brannan Island State Recreation Area. In addition to the 223,000 tons of quarry rock stockpiled by DWR at Rio Vista and within the Port of Stockton, DWR will also stockpile up to 40,000 tons of flood fight material each at Stockton's West Weber Avenue and at Brannan Island, and 20,000 tons of sand in Rio Vista for an additional 100,000 tons.		
DWR finalized the “Facility Improvement Project - Initial Study and Mitigated Negative Declaration” in July 2013. The Notice of Determination for the DFEPRRP authorizes the project to move forward by actively pursuing property in the Delta for the following emergency response facilities:		
-A memorandum of understanding or agreement (MOU/MOA) for lease of the Central Valley Flood Protection Board property located at the City of Rio Vista,		
-An MOU/MOA or lease of Department of Parks and Recreation property located on Brannan Island State Recreational Area at Brannan Island, and		
-Purchase of private property at West Weber Avenue in the City of Stockton.		
Land leases or purchases are expected in 2014 with construction completed in 2015. DWR is also developing emergency contract agreements for construction services. Specifications will be complete in 2014 with contracts in place in 2015.		

Actions Status by Lead Agency

Action #	Action Name	Type
Action Description	Other Responsible Organizations	
Emergency Management Agency		

## Actions Status by Lead Agency

Action #	Action Name	Type
Action Description		Other Responsible Organizations
6.1.1	Delta Emergency Response Plan	2-Legal and Procedural Milestones
Complete a Delta-wide regional emergency response plan by 2010 that establishes legally binding regional coordination.		Cal EMA, DPC, DWR, and Local Governments
Progress: 3	Enacting Legislation: Water Code Section 12994.5 and Water Code Section 85305	
Status Description:		
Cal EMA was renamed the California Governor’s Office of Emergency Services or Cal OES (effective July 1, 2013).		
Multi-Hazard Coordination Task Force. SB 27, the Sacramento – San Joaquin Delta Emergency Preparedness Act of 2008 (Water Code Section 12994.5), directed Cal-EMA (now OES) to form the SB 27 Task Force, which includes DPC, DWR, and a representative of each of the five Delta counties, to prepare a Multi-Hazard Plan for the Delta. The “Sacramento-San Joaquin Delta Multi-Hazard Coordination Task Force Report (SB 27 Task Force Report)” was approved for release on May 9, 2012. Its scope includes all of the activities of Actions 6.1.1, 6.1.2, 6.1.3, 6.1.4, and 6.1.5. As required, the SB 27 Task Force Report covers the following three topics:		
(1) Makes recommendations to Cal EMA 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) Coordinates the development of a draft emergency preparedness and response strategy for the Delta region, for submission to the Secretary of Cal EMA. Where possible, the strategy utilizes existing interagency plans and planning processes of the involved jurisdictions and agencies that are members of the DPC.		
(3) Develops and conducts an all-hazard emergency response exercise in the Delta, designed to test regional coordination protocols already in place.		
Per Section 12994.5(d), the SB 27 Task Force ceased to exist on the date that the report was submitted. The main elements of the SB27 Task Force Report were incorporated into the Delta Plan. As part of the Delta Plan, the DSC recommended formation of a regional emergency response organization for the Delta. The work of the task force has continued through quarterly meetings of the Delta Working Group, which includes federal, state, and county emergency managers, reclamation districts, DSC, DPC, and other emergency managers.		
State of California Multi-Hazard Mitigation Plan. The State Hazard Mitigation Plan (SHMP), represents the state’s primary hazard mitigation guidance document, and provides an updated and comprehensive description of California’s historical and current hazard analysis, mitigation strategies, goals and objectives. The “2013 Enhanced State Mitigation Plan” was approved by FEMA on September 30th, 2013. Prior to 2013, the last update to the SHMP was in 2010. This updated version provides a comprehensive description of California’s historical and current hazard analysis, mitigation strategies, goals and objectives. The State of California is required to review and revise its SHMP and resubmit for Federal Emergency Management Agency (FEMA) approval at least once every 3 years to ensure continued funding eligibility for certain FEMA hazard mitigation assistance programs: Hazard Mitigation Grant Program (HMGP); Pre-Disaster Mitigation Assistance (PDM); Repetitive Flood Claim Program; as well as the Fire Management Assistance Grant Program and Public Assistance grants. In addition, the approval of the SHMP allows the state to be eligible for the reduced cost share (90/10) for grants awarded under the Flood Mitigation Assistance/Severe Repetitive Loss grant program.		

## Actions Status by Lead Agency

Action #	Action Name	Type
Action Description	Other Responsible Organizations	
<p>Northern California Catastrophic Flood Response Plan. OES and FEMA are leading the effort to develop the Northern California Catastrophic Flood Response Plan (NCCFRP). The base plan is 80% complete. The full plan is expected to be approved by December 2014. Cal OES is the lead agency, with cooperation and support from FEMA, DWR, NWS/NOAA, USGS, local agencies, special districts, operational areas, State Agencies, Federal Departments, Tribal Government, NGOs, and Private Entities. More than 300 people and 70 agencies are involved in giving input and support to the NCCFRP Plan. The focus of the NCCFRP Plan is the Delta region. A catastrophic flooding incident affecting the Central Valley/northern CA would affect the locals and the entire State, potentially causing population displacement and evacuations, as well as agricultural/economic impacts. The NCCFRP outlines the joint response of all levels of government to an atmospheric river storm affecting the Central Valley/northern CA. The Plan is being modeled using the guidance of FEMA’s “CPG 101” and Cal OES/FEMA CA “Catastrophic Incident Base Plan: Concept of Operations,” as well as considering formats and information from previously developed catastrophic plans and local plans.</p>		
<p>Statewide Flood Management Planning (SFMP). The SFMP program is led by DWR through the FloodSAFE Initiative and the Division of Statewide Integrated Water Management (IWM). The program works in collaboration with Cal OES and local, State, and Federal agencies and tribal entities throughout California to make recommendations to guide flood management policies and investments in the coming decades. DWR released the final version of “California's Flood Future: Recommendations for Managing the State's Flood Risk” during California Flood Preparedness Week, Nov. 4- 9, 2013. The final version of the report incorporates comments from agencies, stakeholders and the public received earlier this year.</p>		
<p>Emergency Communications Planning. DPC received a \$5 million DWR grant to plan and implement improved Delta emergency communications and coordination among the five counties, state, and federal response planners. No new grants have been awarded since 2012.</p>		



## Actions Status by Lead Agency

Action #	Action Name	Type
Action Description	Other Responsible Organizations	
<b>6.1.2</b>	<b>Emergency Management Actions</b>	2-Legal and Procedural Milestones
<i>Immediately begin a comprehensive series of emergency management and preparation actions.</i>		Cal EMA, DPC, DWR, and Local Governments
<b>Progress:</b> 3	<b>Enacting Legislation:</b> Water Code Sections 12994.5 and 85305	
<b>Status Description:</b>		
Cal EMA was renamed the California Governor's Office of Emergency Services or Cal OES (effective July 1, 2013).		
Delta Vision Strategic Plan Action 6.1.2 proscribes 14 recommended Delta emergency management activities to be undertaken by DWR, Cal EMA (now OES), the Delta counties' Flood Response Group, the Army Corps, DOD, FEMA, and the Coast Guard.		
SB27 Task Force Report. The Sacramento-San Joaquin Delta Multi-Hazard Coordination Task Force Report (Task Force Report) was approved for release on May 9, 2012. Its scope includes all of the activities in Actions 6.1.1, 6.1.2, 6.1.3, 6.1.4, and 6.1.5.		
The 2013 Enhanced State Mitigation Plan was approved by FEMA on September 30th, 2013. The updated plan has been strengthened through formal reorganization of Cal EMA as part of the California Governor's office. The benefit of this reorganization is that it creates a stronger relationship between Cal OES and the executive power of the Governor, giving Cal OES clearer authority to act on the Governor's behalf during emergencies and lends the strength of Governor's office to implementation of mitigation initiatives by Cal OES. For further information see Action 6.1.1.		
Golden Guardian Emergency Exercises. 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. Detailed information is restricted to those with security clearances for the exercise. The Golden Guardian 2013 Exercise Series theme was a major earthquake in the San Francisco Bay Area.		
Emergency Resources. DWR continues to plan and implement efforts to increase emergency response material stockpiles, transfer stations, and contract resources for Delta emergencies. Delta stockpiles of sandbags, plastic, twine, stakes, roll-off containers, and rock have increased. To date, DWR has stockpiled 485,000 sandbags, 9.5-miles of plastic, 2,800-rolls of twine, 72,000 stakes, 250,000 buttons, 12 roll-off containers, 225,000-tons of rock. DWR has completed the environmental review for construction of three transfer facilities at Rio Vista, Brannan Island, and the Port of Stockton. Land leases or purchases are underway with construction completed in 2015. DWR is also developing emergency contract agreements for construction services. Specifications will be complete in 2013 with contracts in place in 2014.		
Delta Knowledge Improvement Program (DKIP). The DKIP is the current mechanism to fund specific studies to fill the data gaps identified in the 2008 Delta Risk Management Strategy (DRMS) project. The data gaps and information needs fall under the following categories: Delta Levees, Hazards, Delta Environment and Landscape, Hydrodynamics and Water Operations, Water Quality, Delta Assets & Infrastructure, and Delta Ecosystem. It is intended that the studies and investigations funded could better characterize the risks and consequences of levee failure in the Delta Region.		

## Actions Status by Lead Agency

Action #	Action Name	Type
Action Description	Other Responsible Organizations	

### Projects in Progress:

- 100-Year Hydrology Modernization: This project will analyze the data from the historic water level data records collected at gauges located throughout the Delta.
- Habitat Projects Database: The project is developing a database of completed and in progress habitat restoration projects in the Delta.
- Methyl Mercury Study: This project monitors mercury and methyl mercury over a 5 year period at the Mayberry Wetland project on Twitchell Island.
- South Delta Bathymetry: The Delta Knowledge Improvement Program provides funding to conduct underwater bathymetric surveys of certain South Delta Channels and Canals.
- Carbon Flux Quantification in a Flooded Wetland: A research project at the existing Twitchell Island wetland site to model the greenhouse gas fluxes in wetlands on peat soils and other studies.
- Subsidence Mitigation through Rice Cultivation: A research project to determine whether growing rice is economically feasible in the Delta, reverses subsidence, and whether it can be grown without deleterious effects to the environment.

### Completed Projects:

- Assessment of HMP and PL 84-99 Levees: This project completed a Delta-wide assessment of the levee system in accordance with a request from the Delta Stewardship Council. A copy of the data is available at the DSC website <http://deltacouncil.ca.gov/delta-maps>
- Geodetic Survey: This project re-observed the network (125 stations) to the National Geodetic Survey standard and performed leveling surveys from network benchmarks to reference benchmarks at approximately 60 tide gage stations in the Delta and Suisun Marsh.
- Photogrammetry: This project modernized the historic 1975 Aerial film coverage of the Delta.

Northern California Catastrophic Flood Response Plan (NCCFRP). OES and FEMA are leading the effort to develop the Northern California Catastrophic Flood Response Plan. The base plan is 80% complete. The full plan is expected to be approved by December 2014. See Action 6.1.1 for additional information.

FEMA Mitigation Grant Programs. FEMA administers three grant programs that provide funding to reduce disaster losses from future disaster damages through various mitigation activities:

- 1.The Hazard Mitigation Grant Program (HMGP) is available following a Presidential disaster declaration. HMGP funds must be used to reduce or eliminate losses from future disasters. For more information see [www.fema.gov/fima/hgmp](http://www.fema.gov/fima/hgmp) HMGP
- 2.The Flood Mitigation Assistance program provides funding to States and communities for measures that reduce or eliminate the long-term risk of flood damage to buildings, manufactured homes and other structures insurable under the National Flood Insurance Program (NFIP). More information is available at [www.fema.gov/fima/fma](http://www.fema.gov/fima/fma)
- 3.The Pre-Disaster Mitigation (PDM) Program assists States, Indian Tribal governments, and local governments with cost-effective hazard mitigation activities that complement a comprehensive mitigation program. For information go to [www.fema.gov/fima/pdm](http://www.fema.gov/fima/pdm)

In December 2013 DWR released its "Recommended Funding Amounts for Flood Emergency Response Projects – Delta Region." The following lead agencies were recommended for funding:

## Actions Status by Lead Agency

Action #	Action Name	Type
Action Description		Other Responsible Organizations
San Joaquin County - Emergency Response (ER) Training and Mapping (\$1,630,000)		
Yolo County - ER Training and Mapping (\$1,173,000)		
Contra Costa County - ER Training, Mapping and ALERT 2 Upgrades (\$570,000)		
Sacramento County OES - ER Training, Mapping and ALERT 2 Upgrades (\$927,000)		
Solano County - ER Training, Mapping and ALERT 2 Upgrades (\$450,000)		
San Joaquin County Flood Control & Water Conservation District 7 ALERT 2 Upgrades (\$250,000)		

## Actions Status by Lead Agency

Action #	Action Name	Type
Action Description	Other Responsible Organizations	
<b>NTA10</b>	<b>Emergency Response Capacity Improvement</b>	1-Near-Term Actions
<i>Assess and improve state capacity to respond to catastrophic events in the Delta.</i>		Cal EMA, DPC, BTH, CDFW, DWR
<b>Progress:</b> 2	<b>Enacting Legislation:</b> Water Code Section 85305(a)	
<b>Status Description:</b>		
Cal EMA was renamed the California Governor's Office of Emergency Services or Cal OES (effective July 1, 2013).		
<p>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). The reports describe recommended actions to improve the State's capacity to respond to catastrophic events in the Delta. The recommendations have largely been incorporated into the Delta Plan.</p> <p>The 2013 Enhanced State Mitigation Plan was approved by FEMA on September 30th, 2013. The updated plan has been strengthened through formal reorganization of Cal EMA as part of the California Governor's office. The benefit of this reorganization is that it creates a stronger relationship between Cal OES and the executive power of the Governor, giving Cal OES clearer authority to act on the Governor's behalf during emergencies and lends the strength of Governor's office to implementation of mitigation initiatives by Cal OES. For further information see Action 6.1.1.</p> <p>Emergency Resources. DWR continues to plan and implement efforts to increase emergency response material stockpiles, transfer stations, and contract resources for Delta emergencies. Delta stockpiles of sandbags, plastic, twine, stakes, roll-off containers, and rock have increased. To date, DWR has stockpiled 485,000 sandbags, 9.5-miles of plastic, 2,800-rolls of twine, 72,000 stakes, 250,000 buttons, 12 roll-off containers, 225,000-tons of rock. DWR has completed the environmental review for construction of three transfer facilities at Rio Vista, Brannan Island, and the Port of Stockton. Land leases or purchases are underway with construction completed in 2015. DWR is also developing emergency contract agreements for construction services. Specifications will be complete in 2013 with contracts in place in 2014. See also NTA09 and Action 6.1.2.</p> <p>Northern California Catastrophic Flood Response Plan (NCCFRP). OES and FEMA are leading the effort to develop the Northern California Catastrophic Flood Response Plan. The base plan is 80% complete. The full plan is expected to be approved by December 2014. See Action 6.1.1 for additional information.</p> <p>Emergency Communications Planning. DPC received a \$5 million DWR grant to plan and implement improved Delta emergency communications and coordination among the five counties, state and federal response planners.</p> <p>In March 2014 DWR released an initial draft of its Delta Flood Emergency Preparedness, Response and Recovery Plan (Plan). The Plan notes that under "extraordinary emergency response conditions," such as a multiple island failure in the Delta, a Department Operations Center (DOC) would be deployed. The DOC would perform external state and federal agency coordination, as well as internally direct resources of DWR to ensure the Flood Operations Center directly responsible for day-to-day Delta flood fighting operations receives necessary personnel and equipment. Cross-checks of the Plan's new Emergency Response Tool are being conducted to confirm its ability to predict response and recovery timeframes under severe emergencies, including multiple island</p>		

Actions Status by Lead Agency

Action #	Action Name	Type
Action Description	Other Responsible Organizations	
failures.		
See Actions 6.1.1, Delta Emergency Response Plan, and 6.1.2, Emergency Management Actions, for further information.		

## Actions Status by Lead Agency

Action #	Action Name	Type
Action Description		Other Responsible Organizations
Governor		
1.1.2	Administrative Co-Equal Goals	3-Recommended Actions
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: 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 State of the State speeches in 2012, 2013, and 2014, Governor Brown addressed California’s water challenges. In 2012, he noted the importance of the Delta and the Two Co-Equal Goals: “We know more now and are committed to the dual goals of restoring the Delta ecosystem and ensuring a reliable water supply.” In 2013, the Governor recommitted to addressing Delta conveyance issues and advancing the BDCP.		
In May 2013, Governor Brown directed the Natural Resource Agency, the Environmental Protection Agency, and the Department of Food and Agriculture to put together a multi-agency working group and identify key actions for the next one to five years that address urgent needs and provide the foundation for sustainable management of California’s water resources. The January 2014 California Water Action Plan is the resulting agenda for water management and ecosystem restoration. The 2014 State budget includes about \$600 million to fund activities in the Water Action Plan. The Action Plan includes direction to State agencies: “The administration directs all of its relevant agencies to fully participate in the Implementation Committee established by the Delta Stewardship Council and to work with the Delta Science Program, the Interagency Ecological Program, and others to implement the Delta Science Plan to enhance water and natural resource policy and management decisions.” The Implementation Committee met for the first time on April 9, 2014.		
In his State of the State address on January 22, 2014, Governor Brown acknowledged the drought the state is facing and the need for water conservation, the need for regulators to balance water rules and enable voluntary transfers of water and prepare for forest fires. He also called on all Californians to voluntarily reduce their water usage by 20 percent and acknowledged the need to include water recycling, expanded storage and groundwater management, restoration of wetlands and watersheds, and continued progress on the BDCP. The Governor has accelerated the expenditure of \$200 million of water bond funds for drought relief actions.		

## Actions Status by Lead Agency

Action #	Action Name	Type
Action Description	Other Responsible Organizations	
Legislature		
1.1.1	Statutory Co-equal Goals	2-Legal and Procedural Milestones
Write the co-equal goals into the California Constitution or into statute.		Governor and Legislature
Progress: 10	Enacting Legislation: Public Resources Code Section 29702, Water Code Sections 85054, 85020, 85021, 85022(c), and 85023	
Status Description:		
Enacting legislation complete. State law 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)		

## Actions Status by Lead Agency

Action #	Action Name	Type
Action Description		Other Responsible Organizations
1.1.3	Requiring Achievement of Co-Equal Goals	3-Recommended Actions
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: 1	Enacting Legislation: Division 26.7, Section 79700	
Status Description:		
The Legislature and the Governor’s Administration have not taken action, beyond the passage of the 2009 water legislation, to require achievement of the Two Co-Equal Goals in bonds, operational agreements, contracts, and water rights permits. The 2013 Delta Plan establishes a long-term vision that the Two Co-Equal Goals will be the foundation of all State water management policies and no water rights decisions or water contracts that impact the Delta shall be made without consideration of the coequal goals (Delta Plan page 22). The Plan directs the State Water Board to adopt and implement updated flow objectives for the Delta to achieve the Two Co-Equal Goals of ecosystem protection and a reliable water supply by June 2, 2014.		
As a direct result, in December 2012, the State Water Board released its proposed update to the current Water Quality Control Plan for the San Francisco Bay-Sacramento-San Joaquin Delta Estuary (Update). The update identifies the beneficial uses of water in the Delta, water quality objectives to protect those uses, and a program of implementation to achieve those objectives. The Update is intended to implement the Two Co-Equal Goals of ecosystem protection and a reliable water supply.		
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.		
The proposed water bond (SBX7-2) funds both co-equal goals: ecosystem restoration and water supply reliability activities. The bond measure is scheduled for the November 2014 ballot. The Water Bond, as written, provides for \$11.14 B total including:		
- \$455 M for a variety of drought relief and safe drinking water projects		
- \$1 B for groundwater protection and water quality		
- \$2.65 B for IRWM funding; water recycling; water use efficiency		
- \$2.25 B for Delta sustainability and ecosystem restoration		
- \$3 B for surface and groundwater storage by continuous appropriation		
- \$1.785 B for earmarked allocations		
There are a number of bills pending in the California legislature that propose alternative bond measures:		
- AB 1331 (Rendon), \$5.8 B		
- AB 1445 (Logue), \$8 B		
- AB 2043 (Bigelow & Conway), \$7.935 B		



## Actions Status by Lead Agency

Action #	Action Name	Type
Action Description	Other Responsible Organizations	
<div>-AB 2554 (Rendon), \$8.5 B</div> <div>-AB 2686 (Perea, Bigelow, Gray &amp; Salas), \$9.25 B</div> <div>-SB 40 (Pavley), SPOT BILL</div> <div>-SB 848 (Wolk), \$6.825 B</div> <div>-SB 927 (Cannella &amp; Vidak), \$9.217 B</div> <div>-SB 1080 (Fuller), SPOT BILL</div> <div>-SB 1250 (Hueso), \$9.45 B</div> <div>-SB 1370 (Galgiani), \$6.26</div>		
<b>2.4.1</b>	<b>Delta Investment Fund</b>	2-Legal and Procedural Milestones
<i>Initiate the Delta Investment Fund with state funding.</i>		Governor and Legislature
<b>Progress:</b> 10	<b>Enacting Legislation:</b> Public Resources Code Section 29778.5	
<b>Status Description:</b>		
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 has not provided any funds for 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 from various foundations and the Department of Fish and Wildlife 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.		
<b>2.4.2</b>	<b>Delta Investment Fund Structure</b>	2-Legal and Procedural Milestones
<i>Structure the Delta Investment Fund so that it can accept revenues from federal, state, local, and private sources.</i>		Governor and Legislature
<b>Progress:</b> 10	<b>Enacting Legislation:</b> Public Resources Code Section 29778.5	
<b>Status Description:</b>		
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.		

## Actions Status by Lead Agency

Action #	Action Name	Type
Action Description	Other Responsible Organizations	
<b>4.2.1</b>	<b>Water Recycling</b>	3-Recommended Actions
<i>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.</i>		Governor and Legislature
<b>Progress: 2</b>	<b>Enacting Legislation:</b>	
<b>Status Description:</b>		
<p>Water Recycling Act of 1991. This Act included Water Code §13577, which established a statewide goal to recycle a total of 700,000 acre-feet (AF) of water per year by the year 2000, and 1,000,000 acre-feet of water per year by the year 2010. According to the CA Water Plan 2013 Update, these goals were not met. Efforts to amend the recycling goals have not been successful. In 2009 AB 410 (De La Torre) would have modified and established recycling targets of 700,000 AF by 2000, 1,000,000 AF by 2010, 1,525,000 AF by 2020, and 2,525,000 AF by 2030. In 2011-2012, AB 2398 (Hueso) would have established a statewide goal of 1.5 million AF by 2020 and 2.5 million AF by 2030.</p> <p>Recycled Water Policy. The State Water Board modified its Recycled Water Policy on January 22, 2013, under Resolution No. 2013-0003. The Board adopted the following goals for California:</p> <ul style="list-style-type: none"> <li>-Increase the use of recycled water over 2002 levels by at least one million acre feet per year (afy) by 2020 and by at least two million afy by 2030.</li> <li>-Increase the use of stormwater over use in 2007 by at least 500,000 afy by 2020 and by at least one million afy by 2030.</li> <li>-Increase the amount of water conserved in urban and industrial uses by comparison to 2007 by at least 20 percent by 2020.</li> <li>-Included in these goals is the substitution of as much recycled water for potable water as possible by 2030.</li> </ul> <p>CA Water Plan. The 2009 water legislation, SB7X-7, [Water Code §10608.50(b)] directed DWR, in consultation with the State Water Board, to propose new statewide targets for regional water resources management practices as part of the State Water Plan, including, but not limited to, recycled water, brackish groundwater desalination, and infiltration and direct use of urban stormwater runoff no later than January 1, 2011. The Public Review Draft California Water Plan Update 2013 recommends revised recycled water goals of one million acre-feet by 2020 and 1.3 million acre-feet by 2030.</p> <p>As part of the Obama Administration's continued effort to bring relief to California communities suffering from the historic drought, Secretary of the Interior Sally Jewell announced on May 15, 2014 that the Bureau of Reclamation will invest \$20 million in nine California water reclamation and reuse projects. WaterSMART is the U.S. Department of the Interior's sustainable water initiative that directs all relevant federal and state agencies to use the best available science to improve water conservation and help water resource managers identify strategies to narrow the gap between supply and demand. See <a href="http://www.usbr.gov/WaterSMART/title/">www.usbr.gov/WaterSMART/title/</a>.</p>		

## Actions Status by Lead Agency

Action #	Action Name	Type
Action Description	Other Responsible Organizations	
<b>4.2.2</b>	<b>Desalination</b>	3-Recommended Actions
<i>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.</i>		Governor and Legislature
<b>Progress:</b> 1	<b>Enacting Legislation:</b>	
<b>Status Description:</b>		
<p>The 2009 water legislation, SB7X-7, [Water Code §10608.50(b)] directed DWR, in consultation with the State Water Board, to propose new statewide targets for regional water resources management practices as part of the State Water Plan, including, but not limited to, recycled water, brackish groundwater desalination, and infiltration and direct use of urban stormwater runoff no later than January 1, 2011. The State Water Board modified its Recycled Water Policy on January 22, 2013, under Resolution No. 2013-0003. The Board adopted goals for recycled water use and stormwater use, but not for desalination (see Action 4.2.1, Water Recycling)</p> <p>The California Water Plan Update 2013 makes several recommendations to facilitate greater use of desalination in California. These include: ensuring a well-defined, streamlined permitting process; considering cost, climate change, and environmental impacts in planning and evaluation; and continued research to develop emerging desalination technologies.</p> <p>The 2009 Water Plan Update estimated the following capacities in California desalination by 2025:  26 plants with a capacity of 84,000 acre-feet per year (afy) in operation; 7 plants with a capacity of 81,000 afy in design or construction; 16 plants with a capacity of 314,000 afy planned or projected.  For a total of 49 plants with a capacity of 479,000 afy. The 2013 Water Plan Update does not include a similar forecast or set desalination targets..</p>		

## Actions Status by Lead Agency

Action #	Action Name	Type
Action Description	Other Responsible Organizations	
<b>4.2.3</b>	<b>Urban Stormwater Goals</b>	3-Recommended Actions
<i>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.</i>		Governor and Legislature, State Water Board
<b>Progress: 2</b>	<b>Enacting Legislation:</b>	
<b>Status Description:</b>		
<p>Recycled Water Policy. The 2009 water legislation, SB7X-7, [Water Code §10608.50(b)] directed DWR, in consultation with the State Water Board, to propose new statewide targets for regional water resources management practices as part of the State Water Plan, including, but not limited to, recycled water, brackish groundwater desalination, and infiltration and direct use of urban stormwater runoff no later than January 1, 2011. The State Water Board modified its Recycled Water Policy on January 22, 2013, under Resolution No. 2013-0003.. The Board adopted the following goals for California:</p> <ul style="list-style-type: none"> <li>-Increase the use of recycled water over 2002 levels by at least one million acre feet per year (afy) by 2020 and by at least two million afy by 2030.</li> <li>-Increase the use of stormwater over use in 2007 by at least 500,000 afy by 2020 and by at least one million afy by 2030.</li> <li>-Increase the amount of water conserved in urban and industrial uses by comparison to 2007 by at least 20 percent by 2020.</li> </ul> <p>Low-impact Development. In 2009, the Legislature passed SB 790 (Pavley), which authorized 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 storm water runoff and for projects designed to implement specified storm water resource plans. The bill authorized a city, county, or special district to develop, jointly or individually, storm water resource plans. The bill also authorized a regional water management group to coordinate its planning activities to address or incorporate into its plan any storm water resource planning that is undertaken pursuant to the bill's provisions.</p> <p>Stormwater Permits. The State Water Board and Regional Boards issue permits to medium and large metropolitan areas (Phase 1, 100,000 people and larger), smaller communities (Phase 2, less than 100,000 people, industrial facilities, and Caltrans facilities. These permits require stormwater management plans, primarily to address water quality issues. Management measures also include storage and retention of stormwater. The State Water Board is preparing a Stormwater Strategic Plan (expected completion September 2014) to improve stormwater program activities, improve efficiency, and achieve multiple benefits, including watershed management and water supply.</p>		

## Actions Status by Lead Agency

Action #	Action Name	Type
Action Description	Other Responsible Organizations	
<b>5.1.2</b>	<b>Storage and Conveyance Recommendations</b>	2-Legal and Procedural Milestones
<i>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.</i>		Governor and Legislature, Resources, DWR, CDFW, Reclamation, Others
<b>Progress:</b> 1	<b>Enacting Legislation:</b>	
<b>Status Description:</b>		
No specific water storage action plan has been developed or presented to the Delta Stewardship Council. State funding and staffing for storage investigations has declined substantially. The Governor and the Secretary of the Department of the Interior proposed the size and location of new conveyance facilities in July 2012 and the Natural Resources Agency released the public draft BDCP and EIR/EIS in December 2013.		
California Water Action Plan. The 2014 Action Plan identifies the following actions related to surface and groundwater storage:		
-Support Storage Funding. Support funding partnerships for storage projects and work with the Legislature to make funding available to share in the cost of storage projects if funding partners step forward. The state will facilitate among willing local partners and stakeholders the development of financeable, multi-benefit storage projects.		
-Support Distributed Groundwater Storage. The administration will support a comprehensive approach to local and regional groundwater management by funding distributed groundwater storage projects that are identified in groundwater management plans and removing barriers to implementation.		
BDCP and Storage. 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 with no additional direction to DWR. The November 2013 BDCP EIR/EIS Public Draft, Appendix 1B "Water Storage", provides an overview of the potential for additional water storage, including groundwater storage, large system storage (i.e. CALFED storage), and regional/local storage. The BDCP also asserts that water storage was neither a legally required component of the BDCP nor a project that must be addressed in the cumulative impact analyses for the EIR/EIS for the BDCP.		
CALFED Storage Investigations. The CALFED Record of Decision (2000) identified five potential surface storage reservoirs that resulted from screening of 52 potential new or expanded reservoirs. 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. The Final Staff Draft Delta Plan recommended that DWR complete the storage investigations for proposed offstream storage facilities by December 31, 2012.		
At the Delta Stewardship Council's April 24, 2014 meeting the US Bureau of Reclamation provided a CALFED Storage Program update as follows:		
-North-of Delta Offstream Storage (Sites): Administrative Draft EIR/EIS and Engineering Report, May 2014. Draft Feasibility Study (FS) and Draft EIS/EIR to		

## Actions Status by Lead Agency

Action #	Action Name	Type	Other Responsible Organizations
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be determined.			
-Shasta Lake Enlargement: Draft FS – Released February 2012; Draft EIS – Released June 2013; Final FS and EIS – expected December 2014.			
-Los Vaqueros Expansion: Expansion to 160,000 AF completed in 2011. Evaluation of expansion to 275,000 AF underway. Final EIS/EIR (for both alternatives) – released March 2010. Draft FS – to be determined.			
-Temperance Flat: Draft FS – Released January 2014; Draft EIS/EIR – Expected August 2014; Final FS and EIS/EIR – expected July 2015.			
2014 Water Bond. The proposed water bond (SBX7-2) would provide funding for the public benefits associated with storage projects. The water bond has been postponed until the November 4, 2014 ballot, as a legislatively-referred bond act. The California Legislature is considering several alternate bond proposals (see Action 1.1.3).			
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## Actions Status by Lead Agency

Action #	Action Name	Type
Action Description	Other Responsible Organizations	
<b>5.2.3</b>	<b>Infiltration Planning in Watersheds</b>	3-Recommended Actions
<i>Request that the Department of Water Resources encourage greater infiltration as part of watershed management planning.</i>		Governor and Legislature, Resources, DWR
<b>Progress:</b> 2	<b>Enacting Legislation:</b>	
<b>Status Description:</b>		
There was no direction given by the Legislature in the 2009 water legislation specifically addressing watershed management planning and increased infiltration.		
Water Plan Update 2013. DWR's "California Water Plan Update 2013, Chapter 27, Watershed Management," (Public Review Draft) includes the following Strategic Practices Recommendations:		
3. Increase precipitation infiltration into the soil to reduce surface runoff to a level that is typical of natural runoff retention patterns. This goal is often achieved by reducing impervious surfaces within a watershed. Retain intact floodplain and other wetlands to the extent possible, to maintain or increase residence time of water in the watershed.		
8. Design drainage and storm water runoff controls to maximize infiltration into local aquifers, and minimize immediate downstream discharges during runoff.		
13. Protect soil resources and restore the functions of drastically disturbed soils, to slow runoff and increase rainfall infiltration.		
<a href="http://www.waterplan.water.ca.gov/cwpu2013/prd/index.cfm">http://www.waterplan.water.ca.gov/cwpu2013/prd/index.cfm</a>		
Water Plan 2009. DWR's "California Water Plan Update 2009" contained 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.		
IRWM Grant Guidelines. In November 2012, DWR and Resources released the final version of the "Integrated Regional Water Management (IRWM) Grant Program Guidelines Under Propositions 84 and 1E." The guidelines note that as per Water Code Section 10544, grant preference will be given to proposals that address statewide priorities including techniques that store and infiltrate runoff while protecting groundwater. DWR is updating these guidelines in 2014 to support expedited grants for drought relief actions (\$200 million). <a href="http://www.water.ca.gov/irwm/grants/guidelines.cf">Http://www.water.ca.gov/irwm/grants/guidelines.cf</a>		

## Actions Status by Lead Agency

Action #	Action Name	Type
Action Description		Other Responsible Organizations
<b>7.1.1</b>	<b>Delta Stewardship Council</b>	2-Legal and Procedural Milestones
<i>Establish a California Delta Stewardship Council to replace the Bay-Delta Authority and take over CALFED programs.</i>		Governor and Legislature
<b>Progress:</b> 10	<b>Enacting Legislation:</b> Water Code Sections 85034(c) and 85280(c)	
<b>Status Description:</b>		
The 2009 water legislation established the DSC as an independent State agency with a proposed 2011-2012 budget of \$43,972,000. 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 has been duly established as an independent State agency (Delta Plan Chapter 2, Table 2-1). The DSC assumed the duties and responsibility of the previous CALFED Bay-Delta Authority, as mandated by the 2009 water legislation.		
The Delta Plan (Appendix C: “Administrative Performance Measures”) proposed establishing the “Delta Plan Interagency Implementation Committee” (DPIIC), with completion of a report on performance measures due by December 31, 2014. The DSC convened the DPIIC for its first meeting on April 9, 2014. The DPIIC is comprised of the representatives of the federal, state, and local agencies with management or regulatory authority over the lands, waters, and resources of the Delta ecosystem. The committee will meet at least twice annually to fulfill the legislature’s directive that “each agency shall coordinate its actions pursuant to the Delta Plan with the Council and other relevant agencies” (Water Code Section 85204).		
<b>7.1.2</b>	<b>Delta Conservancy</b>	2-Legal and Procedural Milestones
<i>Establish a California Delta Conservancy as early as possible in the 2009 legislative session.</i>		Governor and Legislature
<b>Progress:</b> 10	<b>Enacting Legislation:</b> Public Resources Code Sections 32320 and 32322	
<b>Status Description:</b>		
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 2012 Delta Conservancy Strategic Plan was adopted in March 2012.		
All DVSP recommendations have been met, except that Conservancy board members elect the Chair. The Chair is not appointed by the Governor as recommended.		



## Actions Status by Lead Agency

Action #	Action Name	Type
Action Description		Other Responsible Organizations
7.1.3	Delta Protection Commission	2-Legal and Procedural Milestones
Strengthen the Delta Protection Commission through legislation.		Governor and Legislature
Progress: 10	Enacting Legislation: Public Resources Code Sections 29735	
Status Description:		
The Legislature made the following changes to the DPC governance and authority:		
<ul style="list-style-type: none"><li>- 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.</li><li>- Tasked the DPC with issuing recommendations to the Stewardship Council on "methods of preserving the Delta."</li><li>- Reduced the terms of office of DPC members from 4 years to 2 years.</li><li>- Reduced DPC size from 23 members to 15 members.</li><li>- Instructed the DPC to develop an economic sustainability plan for the Delta.</li><li>- Gave the DPC authority to facilitate implementation of joint habitat restoration and enhancement plans.</li></ul>		
The DVSP recommended that the Legislature require the DPC to modify all of its plans and policies, including its Resource Management Plan to be consistent with the Delta Plan. Further, the DVSP recommended that the DPC authority be modified to review and certify all local city and county general plans for consistency with the DPC Resource Management Plan and the Delta Plan. The Legislature did not make these changes to the role and authority of the DPC. The DPC will be updating the Resource Management Plan in 2014-2015.		
7.1.4	Delta Science and Engineering Program	3-Recommended Actions
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: 10	Enacting Legislation: Water Resources Code Section 85280	
Status Description:		
TThe 2009 water legislation (SBX7-1) established the Delta Independent Science Board (ISB), whose members are to be appointed by the DSC. The DSC appointed ten Delta ISB members on May 27, 2010 for five-year terms. The DSC developed and approved a "Charge to the Delta ISB" on August 26, 2010. In 2012, the DSC added engineering expertise to the ISB when filling a vacancy. The Delta ISB replaces the previous CALFED Independent Science Board. The ISB has been reviewing and commenting on the Delta Plan and other Delta planning processes.		

## Actions Status by Lead Agency

Action #	Action Name	Type
Action Description	Other Responsible Organizations	
<b>7.3.1</b>	<b>Financing Principles</b>	3-Recommended Actions
<i>Enact a series of principles regarding design of financing into legislation authorizing the Delta Stewardship Council.</i>		Governor and Legislature
<b>Progress:</b>	0	<b>Enacting Legislation:</b> Water Resources Code Section 85350
<b>Status Description:</b>		
The 2009 water legislation (SBX7-1) authorizing the DSC did not include financing principles. The proposed 2014 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.		
Chapter 8 of the Delta Plan proposes to develop a funding and finance plan after completing the Delta Plan. The chapter suggests five funding principles, discusses potential user fees, identifies five near-term funding needs, but does not provide any estimated costs. Appendix O provides general information with respect to financing.		
The BDCP includes 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.		
<b>7.3.2</b>	<b>Delta Governance Funding</b>	3-Recommended Actions
<i>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.</i>		Governor and Legislature, DSC
<b>Progress:</b>	0	<b>Enacting Legislation:</b>
<b>Status Description:</b>		
Other than the Water Bond (SBX7-2), no apparent direction has been provided on funding the work of the DSC, DC, DPC, and other agencies. Chapter 8 of the Delta Plan proposes to develop a funding and finance plan after completing the Delta Plan. The chapter suggests five funding principles, discusses potential user fees, identifies five near-term funding needs, including some of the agency science and oversight, but provides limited information on estimated costs. Appendix O provides general information with respect to financing.		

## Actions Status by Lead Agency

Action #	Action Name	Type
Action Description	Other Responsible Organizations	
<b>7.3.3</b>	<b>New Funding Sources</b>	3-Recommended Actions
<i>Find new revenue sources beyond the traditional bond funds or public allocations.</i>		Governor and Legislature, DSC, Others?
<b>Progress:</b> 0	<b>Enacting Legislation:</b>	
<b>Status Description:</b>		
The legislature has not identified new sources of funds beyond bond funds or general fund allocations.		
2014 Water Bond. The proposed water bond (SBX7-2) would provide funding for the public benefits associated with storage projects. The water bond has been postponed until the November 4, 2014 ballot, as a legislatively-referred bond act. The California Legislature is considering several alternate bond proposals (see Action 1.1.3).		

## Actions Status by Lead Agency

Action #	Action Name	Type
Action Description		Other Responsible Organizations
Natural Resources Agency		
2.1.2	Delta Recreation Area	3-Recommended Actions
Expand by 2010 the State Recreation Area network in the Delta, combining existing and newly designated areas.		Resources, CDPR
Progress: 3	Enacting Legislation: Water Code Section 85301(c)(1)	
Status Description:		
The 2009 water legislation directed the California Department of Parks and Recreation (CDPR) to prepare and submit a proposal to the Delta Protection Commission (DPC) for expanding the Delta network of State recreation areas, combining existing and newly designated areas, and including any plans or concepts included in the Central Valley Vision Implementation Plan (CVVIP), a “catalog of potential initiatives,” for Central Valley parks and recreation including the Delta. In April 2011, CDPR published its "Recreation Proposal for the Sacramento-San Joaquin Delta and Suisun Marsh” (Recreation Proposal). 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 incorporated into the DPC Economic Sustainability Plan and the Delta Plan. The Delta Plan includes seven recommendations regarding recreation in the Delta, including a recommendation to the CDPR to expand the recreation area in the Delta as funds become available. Other recommendations include direction to the DPC, the Delta Conservancy, CDFW, Boating and Waterways, cities, counties, water management agencies, and ecosystem restoration agencies to expand access, investment, opportunities, and cooperation. The Recreation Proposal can be found at <a href="http://www.parks.ca.gov/pages/795/files/delta%20rec%20proposal_08_02_11.pdf">www.parks.ca.gov/pages/795/files/delta%20rec%20proposal_08_02_11.pdf</a> .		
State budget constraints have continued, resulting in additional closures or hours curtailment for state parks in the Delta.		

## Actions Status by Lead Agency

Action #	Action Name	Type
Action Description		Other Responsible Organizations
5.1.1	Dual Conveyance Feasibility	2-Legal and Procedural Milestones
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: 2	Enacting Legislation: Water Code Sections 85020(f), 85304, and 85320(b)(2)(B)	
Status Description:		
<p>The 2009 water legislation directed that the BDCP 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.</p> <p>The 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. It 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.</p> <p>Public Draft BDCP Plan and EIR/EIS Released. The public draft BDCP Plan and EIR/EIS were released December 9, 2013 by the Resources Agency, launching a formal public review period on the state’s plan to shore up the water delivery system and natural habitat in the Sacramento-San Joaquin Delta. Public comments are due June 13, 2014. The 9,000-page Bay Delta Conservation Plan and the 25,000-page EIR/EIS reflect revisions since the informal release of administrative review drafts in the spring and summer of 2013, such as:</p> <ul style="list-style-type: none"><li>- Changes to the alignment of the proposed water conveyance tunnels under CM1 to reduce disruption to north Delta communities and reduce the project’s permanent footprint.</li><li>- More detail about the plan’s critical adaptive management process, which would use research, monitoring, and adjustment of actions to ensure that environmental measures truly contribute to the recovery of covered species.</li><li>- Refinement and revision of how the plan would be governed.</li><li>- A description of the tools and sources of funding potentially available to support the adaptive management process if additional Delta flows and water supply are needed.</li><li>- Additional design criteria and operational constraints for the proposed north Delta intakes, including fish studies that would influence facility design.</li><li>- Addition of further measures to protect the greater sandhill crane, giant garter snake, and saltmarsh harvest mouse.</li></ul> <p>Plan Includes Dual Conveyance. Chapter 3.4 of the BDCP Plan describes Conservation Measure 1 (CM1), which includes construction and operation of a north of Delta diversion up to 9,000 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. Chapter 5 is the Effects Analysis of the proposed conservation measures, including CM1. Chapter 9 describes several dual conveyance alternatives with varying diversion and conveyance capacity from the Sacramento River to the south Delta pumping plants (3,000 to 15,000 cfs).</p>		

## Actions Status by Lead Agency

Action #	Action Name	Type	Other Responsible Organizations
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Science Panel Review. At the end of March 2014 the Delta Stewardship Council's Independent Science Review Panel completed the Phase 3 Review of the Bay Delta Conservation Plan Effects Analysis (Chapter 5). In May 2014, the Panel completed its review of the BDCP Draft EIR/EIS.			
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## Actions Status by Lead Agency

Action #	Action Name	Type
Action Description		Other Responsible Organizations
<b>Office of Planning and Research</b>		
<b>2.3.2</b>	<b>Delta Enterprise Zones</b>	3-Recommended Actions
<i>Establish special enterprise zones at the major “gateways” to the Delta as part of the economic development plan.</i>		OPR, Local Governments, Legislature and Governor
<b>Progress:</b> 4	<b>Enacting Legislation:</b>	
<b>Status Description:</b>		
<p>The Delta Plan notes that DPC and California State Parks foresee opportunities to improve and increase recreation and tourism in the Delta. Both agencies recommend improvements of “gateways” to the region on the Delta’s urban edges, and “base camps” inside the Delta at destinations such as resorts, Legacy Communities, or parks that are focal points for visitors.</p> <p>Enterprise zones were initially targeted for elimination in the 2011-12 state budget, but all 42 existing zones survived the cuts. The Brown administration asked for a change in the rules for claiming tax credits; companies would be limited to applying within one year of hiring an eligible employee, instead of the current four.</p> <p>Much of the Delta is already in Enterprise Zones, with enterprise zones for San Joaquin County, Sacramento, and Pittsburg. The San Joaquin County Enterprise Zone is the largest in the state, covering Stockton, Lodi, Tracy, Lathrop, and Manteca. The zone encompasses approximately 656 square miles with over 55 square miles of commercial and industrial properties. More than 98% of existing commercial/industrial locations are in the zonal boundaries. The designation was due to expire in 2013 but was extended to 2023. More than 1,016 San Joaquin County businesses received approved Hiring Tax Credit Vouchers, with 11,090 new employees hired. (San Joaquin Partnership &amp; Business Council, Inc. March 28, 2013.)</p> <p>The new Sacramento Enterprise Zone received its final designation January 12, 2012, and has an expiration date of 2024. On April 10, 2012, Housing and Community Development issued a final Enterprise Zone designation to Pittsburg, adjacent to the Delta, with an expiration date of 2027.</p> <p>As part of his 2013 Economic Development Initiative, on July 11, 2013, Governor Edmund G. Brown Jr. signed legislation which resulted in the repeal of the Enterprise Zone Act and the dissolution of Enterprise Zones as of January 1, 2014. On March 21, 2014, John Nunn, Jr., Enterprise Zone Program Manager, announced that AB 106 has given zones the opportunity to earn the hiring tax credit for qualified hires made through December 31, 2013. Vouchers may be applied for and issued until December 31, 2014. This is the only State Enterprise Zone benefit that remains available after the repeal of the program on December 31, 2013.</p>		

Actions Status by Lead Agency

Action #	Action Name	Type
Action Description		Other Responsible Organizations
State Water Board		



## Actions Status by Lead Agency

Action #	Action Name	Type
Action Description		Other Responsible Organizations
3.2.2	Fish Migration Flows	2-Legal and Procedural Milestones
Provide adequate flows at the right times to support fish migrations, and reduce conflicts between conveyance and migration, by 2012.		State Water Board, DWR, Reclamation
Progress: 2	Enacting Legislation: Water Code Sections 85084.5 and 85086	
Status Description:		
Flow Criteria Report. The 2009 water legislation directed the State Water 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. Accordingly, in 2010, the State Water Board prepared a report titled “Development of Flow Criteria for the Sacramento-San Joaquin Delta Ecosystem” (Flow Criteria Report). The “Flow Criteria Report” includes 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 report was a joint effort of the State Water Board, the Department of Fish and Game, the Department of Water Resources, and related federal agencies.		
The “Flow Criteria Report” describes the flows that would be needed in the Delta ecosystem if fishery protection were the sole purpose for which its waters were put to beneficial use. In keeping with the narrow focus of the legislation, this report only presents a technical assessment of flow and operational requirements to provide fishery protection under existing conditions. It does not consider or balance competing uses for water such as hydropower, recreational, municipal and industrial, and agricultural supply. It also does not discuss other non-flow factors, such as habitat restoration, predation, entrainment, and pollution. It includes the 3.4.2 recommendations on increased diversion during wet periods, the 3.4.3 recommendation on increased spring outflow, and the 3.4.4 recommendation on fall outflow variability.		
Instream Flow Studies. The 2009 water legislation also directed the State Water Board to complete instream flow studies for two other categories of rivers and streams, by two specific deadlines:		
1) High priority rivers and streams in the Delta watershed that were not covered in the “Flow Criteria Report” by 2012; and		
2) All major rivers and streams outside the Sacramento River watershed by 2018.		
As a result of this legislative objective, the State Water Board first released its “Instream Flow Studies for the Protection of Public Trust Resources: A Prioritized Schedule and Estimate of Costs (December 2010)”.		
CDFW’s Quantifiable Biological Objectives and Flow Criteria. The 2009 water legislation (SBX7-1) also directed CDFW, in consultation with USFWS and NMFS, to develop and recommend to the State Water Board Delta flow criteria and quantifiable biological objectives for aquatic and terrestrial species of concern dependent on the Delta by November 2010. In response, CDFW completed its report “Quantifiable Biological Objectives and Flow Criteria for Aquatic and Terrestrial Species of Concern Dependent on the Delta” (CDFW QBO Report) on December 3, 2010.		
All three reports were submitted to, and subsequently approved by, the Delta Stewardship Council by December 2010, thereby meeting the statutory deadlines.		

## Actions Status by Lead Agency

Action #	Action Name	Type
Action Description	Other Responsible Organizations	
<p>Bay-Delta Plan Update. In 2006 the State Water Board adopted the “San Francisco Bay/Sacramento-San Joaquin Delta Estuary Water Quality Control Plan” (the Bay-Delta Plan). The State Water Board initiated its “Bay-Delta Plan Update” process in 2012. The “Flow Criteria Report,” “Instream Flow Studies,” and “CDFW QBO Report” will inform this four-phase update, which shall include proposed increases in flows that are tributary to the Delta and improve water quality in the southern Delta.</p> <p>Phase 1, initiated in 2012, updates flow objectives to protect fish and wildlife in the San Joaquin River and its salmon-bearing tributaries, and update salinity objectives to protect agriculture in the southern Delta. The State Water Board originally expected to make a decision on Phase 1 in August 2013. It was anticipated that the revised draft Substitute Environmental Document (SED) for Phase 1 of the update to the Bay-Delta Water Quality Control Plan would be released in April 2014. However, due to the increased work effort to deal with drought issues, the release has been delayed. The Delta Stewardship Council has recommended that the State Water Board implement flow objectives for the Delta by June 2014.</p> <p>Phase 2 has begun. It addresses the remainder of the Bay-Delta Plan, including Delta outflow and export objectives, and other measures needed to protect Delta fish migration. On February 10-11, 2014, the State Water Board held a Delta Science Program Workshop on “Delta Outflows and Related Stressors.” On April 16-17, 2014 the State Water Board held a Delta Science Program “Workshop on Interior Delta Flows and Related Stressors.” The purpose of these workshops was to identify the best available science to inform the State Water Board decisions. For the actual presentations see <a href="http://deltacouncil.ca.gov/workshop-delta-outflows-and-related-stressors-presentations">http://deltacouncil.ca.gov/workshop-delta-outflows-and-related-stressors-presentations</a>. Phase 2 will focus on the following issues: (1) Delta outflow objectives, (2) export/inflow objectives, (3) Delta Cross Channel Gate closure objectives, (4) Suisun Marsh objectives; (5) potential new reverse flow objectives for Old and Middle Rivers; (6) potential new floodplain habitat flow objectives; (7) potential changes to the monitoring and special studies program, and (8) other potential changes to the program of implementation. The State Water Board expects to make a decision regarding Phase 2 in 2014.</p> <p>Increased Instream Flows for Fish. During a four-month period (April-July) in 2013, the State Water Board expedited the approval of 14 temporary water transfers involving 46 water rights. The transfers totaled 277,283 acre-feet of water and increased instream flows in the Sacramento-San Joaquin Delta from July 1 through September 30, 2013. The transferred water provided an alternative water supply for wildlife enhancement during times when water was otherwise unavailable.</p> <p>Also in 2013, the State Water Board approved long-term changes to the U.S. Bureau of Reclamation’s water rights at the Solano and Friant projects to dedicate additional instream flows for fish. In June 2013, the State Water Board approved re-operation of the Solano Project at Lake Berryessa to increase stream flows with the purpose of protecting fish-rearing habitat in lower Putah Creek. In October 2013, changes were approved for the Friant Project at Millerton Lake, located on the San Joaquin River. The changes allow water to be released from Friant Dam to the river channel to support fish and wildlife, and then to be diverted for other uses farther downstream.</p> <p>For more information, see the California Water Boards 2013 Accomplishments Report (March 2014) <a href="http://www.waterboards.ca.gov/publications_forms/publications/general/docs/accomplishments_report2013.pdf">http://www.waterboards.ca.gov/publications_forms/publications/general/docs/accomplishments_report2013.pdf</a></p> <p>For more information on water transfers: <a href="http://www.waterboards.ca.gov/waterrights/water_issues/programs/water_transfers/">http://www.waterboards.ca.gov/waterrights/water_issues/programs/water_transfers/</a></p>		

## Actions Status by Lead Agency

Action #      Action Name

Type

Action Description

Other Responsible Organizations

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For more information on instream flow dedication:

[http://www.waterboards.ca.gov/waterrights/water\\_issues/programs/applications/instream\\_flow\\_dedication/](http://www.waterboards.ca.gov/waterrights/water_issues/programs/applications/instream_flow_dedication/)

See also Action 3.4.1, for further information on Instream Flows.

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## Actions Status by Lead Agency

Action #	Action Name	Type
Action Description		Other Responsible Organizations
3.4.2	Wet Period Diversions	2-Legal and Procedural Milestones
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 Water Board, CDFW, DWR, Fed. Agencies
Progress: 2	Enacting Legislation: Water Code Section 85086(c)(1)	
Status Description:		
The State Water Board is considering actions to increase diversions during wet periods as part of the “Bay-Delta Plan Update.” See Action 3.2.2.		
Increased Transparency. The State Water Board released its fifth Web-based Performance Report in September 2013. To improve transparency and accountability, a key policy priority for the Water Boards, the Performance Report is designed to provide information on the Water Boards’ efforts to protect and allocate the state’s waters for beneficial uses.		
Target Setting Policy. The State Water Board began implementing a systematic target setting approach for three of its programs beginning in 2011. Using this new method, performance targets are based on available resources, cost factors, and key workload outputs. This target setting approach is now used to set targets for the NPDES Wastewater, Stormwater, Waste Discharge to Land, and Land Disposal programs. A description of this target setting approach is contained in the Board’s 2012 Resource Alignment Report.		
<a href="http://www.waterboards.ca.gov/about_us/performance_report_1213/targets/71131_targets_sb.shtml">http://www.waterboards.ca.gov/about_us/performance_report_1213/targets/71131_targets_sb.shtml</a>		
The State Water Board is also addressing instream flows in other regions of the state, such as the North Coast:		
Streams Policy Adopted. The State Water Board adopted the “Policy for Maintaining Instream Flows in Northern California Coastal Streams” (Streams Policy) on October 22, 2013, effective February 4, 2014. (It is also known as the “North Coast Instream Flow Policy”). It applies to applications to appropriate water, water right registrations, and water right petitions for purposes of maintaining instream flows in northern California coastal streams. It prescribes protective measures regarding the season of diversion, minimum bypass flow, and maximum cumulative diversion. The “Streams Policy” establishes five principles that will be applied in the administration of water rights. The geographic scope of the policy extends to five counties—Marin, Sonoma, and portions of Napa, Mendocino, and Humboldt counties— and encompasses (1) coastal streams from the Mattole River (originating in Humboldt County) to San Francisco, and (2) coastal streams entering northern San Pablo Bay. On February 18, 2014, the State Water Board filed a Notice of Decision, with respect to the policy, with the Secretary for Natural Resources.		

## Actions Status by Lead Agency

Action #	Action Name	Type
Action Description	Other Responsible Organizations	
3.4.3	Delta Outflow	2-Legal and Procedural Milestones
Adopt new State Water Resources Control Board requirements by 2012 to increase spring Delta outflow. Commence implementation no later than 2015.		State Water Board
Progress: 2	Enacting Legislation: Water Code Section 85086(c)(1)	
Status Description:		
The 2009 water legislation (SBX7-1) directed the State Water Board to prepare a report on Delta flow criteria. The State Water Board completed the report in August 2010.		
As described more fully in Actions 3.2.2 and 3.4.5, the State Water Board is developing and implementing updates to the Bay-Delta Plan including flow objectives for priority tributaries to the Delta. The update will be completed in four phases. Phase 2 will include updates of increased Delta spring outflow objectives. The State Water Board expects to establish the new Delta flow objectives in 2014 and commence implementation thereafter.		
More information is available at: <a href="http://www.waterboards.ca.gov/waterrights/water_issues/programs/bay_delta/comp_review.shtml">http://www.waterboards.ca.gov/waterrights/water_issues/programs/bay_delta/comp_review.shtml</a>		
For more information on water transfers: <a href="http://www.waterboards.ca.gov/waterrights/water_issues/programs/water_transfers/">http://www.waterboards.ca.gov/waterrights/water_issues/programs/water_transfers/</a>		
For more information on instream flow dedication: <a href="http://www.waterboards.ca.gov/waterrights/water_issues/programs/applications/instream_flow_dedication/">http://www.waterboards.ca.gov/waterrights/water_issues/programs/applications/instream_flow_dedication/</a>		

## Actions Status by Lead Agency

Action #	Action Name	Type
Action Description	Other Responsible Organizations	

### 3.4.4 Fall Delta Outflow

3-Recommended Actions

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

State Water Board

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

#### Status Description:

The 2009 water legislation (SBX7-1) directed the State Water Board to prepare a report on Delta flow criteria. The State Water Board completed the report in August 2010.

As described more fully in Actions 3.2.2 and 3.4.5, the State Water Board is developing and implementing updates to the Bay-Delta Water Quality Control Plan (Bay-Delta Plan) including flow objectives for priority tributaries to the Delta. The update will be completed in four phases. Phase 2 will include review of Delta fall outflow variability standards.

More information is available at: [http://www.waterboards.ca.gov/waterrights/water\\_issues/programs/bay\\_delta/comp\\_review.shtml](http://www.waterboards.ca.gov/waterrights/water_issues/programs/bay_delta/comp_review.shtml)

Fall Low Salinity Habitat (FLaSH). On July 9, 2012 the U.S. Department of the Interior and the U.S. Geological Survey in conjunction with the Bureau of Reclamation and Interagency Ecological Program (IEP) released a draft of the "Synthesis of Studies in the Fall Low Salinity Zone of the San Francisco Estuary with respect to Fall Low Salinity Habitat" (FLaSH). On September 12, 2012 an Independent Science Review Panel convened by the Delta Stewardship Council released its own "Study Synthesis – Year One of the Delta Fall Outflow Adaptive Management Plan." It contains a review of the draft FLaSH report and the draft 2012 "Fall Outflow Adaptive Management Plan for Delta Smelt Protection and Water Supply Reliability." The FLaSH studies investigated the health of delta smelt related to the position of Fall Low Salinity Habitat.

On February 10-11, 2014, at the Delta Science Program Workshop on "Delta Outflows and Related Stressors," Steven D. Culberson, USFWS, presented an update on the fall low salinity FLaSH program. Michael MacWilliams, Ph.D., presented results of his research on "The Relationship Between the Low Salinity Zone and Delta Outflow." For other presentations see <http://deltacouncil.ca.gov/workshop-delta-outflows-and-related-stressors-presentations>.

## Actions Status by Lead Agency

Action #	Action Name	Type
Action Description		Other Responsible Organizations
3.4.5	San Joaquin River Flow Objectives	2-Legal and Procedural Milestones
<i>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.</i>		State Water Board
Progress: 2	Enacting Legislation: Water Code Section 85086(c)(1)	
Status Description:		
The 2009 water legislation (SBX7-1) directed the State Water Board to prepare a report on Delta flow criteria. Please see Actions 3.2.2 and 3.4.2 for additional information.		
Bay-Delta Plan. As described more fully in Action 3.2.2, the State Water Board is developing and implementing updates to the “San Francisco Bay/Sacramento-San Joaquin Delta Estuary Water Quality Control Plan” (the Bay-Delta Plan) including flow objectives for San Joaquin River. Proposed changes to the “Bay-Delta Plan” include revised February through June Lower San Joaquin River (LSJR) flow objective applicable to the salmon bearing tributaries to the LSJR (the LSJR, Merced, Tuolumne, and Stanislaus rivers) and an associated program of implementation to support and maintain the natural production of viable native LSJR watershed fish populations migrating through the Delta; and revised numeric southern Delta salinity objectives and an associated program of implementation to protect agricultural beneficial uses in the southern Delta.		
Report on Scientific Basis. The “Technical Report On The Scientific Basis For Alternative San Joaquin River Flow And Southern Delta Salinity Objectives” was released by the State Water Board in February 2012 and updated in December 2012. The report includes the 3.4.5 recommendations on increased spring flows. The finding of the report will inform the updates to the Bay-Delta Plan.		
Draft SED. As discussed in Action 3.2.2, on December 31, 2012, the State Water Board released for public review and comment, a draft Substitute Environmental Document (SED) for the updates to the Bay-Delta Plan. The SED supports potential changes to San Joaquin River flow and southern Delta water quality objectives and a program of implementation to be included in the Bay-Delta Plan. The proposal is intended to balance water needs for fishery protection with diversions and exports for municipal supply, agriculture, and hydropower uses as per the recommendations of Action 3.4.5.		
The State Water Board anticipated that the revised draft SED for Phase 1 of the update to the Bay-Delta Water Quality Control Plan would be released in April 2014. However, due to the increased work effort to deal with drought issues, the release has been delayed. The Delta Stewardship Council has recommended that the State Water Board implement flow objectives for the Delta by June 2014. More information is available at: <a href="http://www.waterboards.ca.gov/waterrights/water_issues/programs/bay_delta/bay_delta_plan/water_quality_control_planning/2012_sed/">http://www.waterboards.ca.gov/waterrights/water_issues/programs/bay_delta/bay_delta_plan/water_quality_control_planning/2012_sed/</a>		
The San Joaquin River (SJR) Real-Time Water Quality Program addresses contaminants entering the lower SJR. The main objective of the project is to facilitate the control and timing of wetland and agricultural drainage to coincide with periods when dilution flow is sufficient to meet Vernalis salinity objectives. By increasing the frequency of meeting Vernalis EC objectives, the project may reduce the number and/or magnitude of high quality releases (e.g., releases of Stanislaus River flows from New Melones Reservoir) made specifically for meeting Vernalis EC objectives. The water saved can be used later		

## Actions Status by Lead Agency

Action #	Action Name	Type
Action Description	Other Responsible Organizations	
<p>to increase SJR basin streamflow during critical periods for anadromous fish restoration efforts. The program uses telemetered stream stage and salinity data and computer models to simulate and forecast water quality conditions along the lower San Joaquin River. San Joaquin River real-time water quality forecasts are developed on a weekly basis. Flow and electrical conductivity data from several surface water stations in the lower SJR basin are collected each week and processed through the SJRIODAY forecasting model. The model forecasts flows and electrical conductivity at Vernalis, Maze Road Bridge, and Crows Landing over a two-week period. Weekly results can be accessed at <a href="http://www.water.ca.gov/waterquality/sjr_realtime/webresults042814.htm">http://www.water.ca.gov/waterquality/sjr_realtime/webresults042814.htm</a>.</p> <p>Cooperating agencies for the Real-Time program include the DWR South Central Region Office, Reclamation, and USGS. DWR operates and maintains several surface water monitoring stations in the San Joaquin Valley. The SJR Real-time project utilizes flow, electrical conductivity, and temperature data from 8 monitoring stations.</p>		
<b>3.4.6</b>	<b>San Joaquin Fall Pulse Flows</b>	3-Recommended Actions
<i>Provide short-duration San Joaquin River pulse flows in the fall starting by 2015.</i>		State Water Board
<b>Progress:</b> 2	<b>Enacting Legislation:</b> Water Code Section 85086(c)(1)	
<b>Status Description:</b>		
<p>The 2009 water legislation (SBX7-1) directed the State Water Board to prepare a report on Delta flow criteria. The State Water Board completed the report in August 2010.</p> <p>As described more fully in Action 3.2.2 and 3.4.5, the State Water Board is developing and implementing updates to the Bay-Delta Water Quality Control Plan (Bay-Delta Plan) including flow objectives for the San Joaquin River. However, this update to the Bay-Delta Plan does not include changes to the current requirements and operations for fall San Joaquin River pulse flows.</p> <p>Additional information is available at: <a href="http://www.waterboards.ca.gov/waterrights/water_issues/programs/bay_delta/bay_delta_plan/water_quality_control_planning/index.shtml">http://www.waterboards.ca.gov/waterrights/water_issues/programs/bay_delta/bay_delta_plan/water_quality_control_planning/index.shtml</a></p>		



## Actions Status by Lead Agency

Action #	Action Name	Type
Action Description		Other Responsible Organizations
4.2.4	Diversion Data Collection	3-Recommended Actions
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 Water Board, DWR
Progress: 4	Enacting Legislation: Water Code Section 5101 and 5107	
Status Description:		
Water Rights Reporting. The 2009 water legislation included water rights enforcement provisions (SB7X-8), which modified the reporting requirements for surface water diversions, eliminated many exemptions, and added civil and criminal penalties, which had been previously lacking. As the result of this legislation, most diverters in the Delta were required to report diversions for the first time. The law requires any diverter who diverts water after December 31, 1965 to report by July 1 their diversions from the previous year. 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 Water Board may impose penalties of \$1,000 and \$500 per day for failure to submit reports. The legislation also continuously appropriated \$3.75M annually from the Water Rights Fund for 25 enforcement personnel at the State Water Board.		
Mandatory Electronic Filing. The California Code of Regulations (CCR) Title 23, Chapter 2.7, Sections 907 to 930 identifies requirements for the mandatory electronic filing of reports on the State Water Board's internet website. Reports subject to mandatory electronic filing include: Supplemental Statements of Water Diversion and Use, Water Right Progress Reports by Permittees, Reports of Licensees, Notices of Groundwater Extraction and Diversion, and reports filed by watermasters. The State Water Board has established various online water rights reporting systems (Also see Action 7.1.5). One of these systems is the eWRIMS system.		
eWRIMS. The State Water Board maintains 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. eWRIMS consists of both a tabular database and an integrated geographic information system (GIS). Users can search and display eWRIMS data by several criteria, including the water right owner's name, watershed, stream system, and county.		
eWRIMS Web Mapping Application (GIS). The eWRIMS Web Mapping Application provides the spatial location of water rights throughout California. Using a Geographic Information System (GIS), water rights holders can search search for the location of water rights by visually displaying the location of point(s) of diversion on a map or aerial photograph. If they find water rights using this method, they can use the eWRIMS Database System (above) to search for information about the water rights.		
Groundwater Monitoring and Reporting. The 2009 water legislation also included requirements for DWR to establish a groundwater elevation monitoring and reporting program by January 1, 2012 (SB7X-6). DWR developed the California Statewide Groundwater Elevation Monitoring (CASGEM) program in order to establish permanent, locally-managed monitoring programs for all 515 alluvial groundwater basins in California and to make this data readily and widely available to the public. DWR's role is to coordinate the CASGEM program, to work cooperatively with local entities, and to maintain the collected		

## Actions Status by Lead Agency

Action #	Action Name	Type
Action Description	Other Responsible Organizations	
<p>elevation data in a public database, which is now available online at <a href="http://www.water.ca.gov/groundwater/casgem/online_system.cfm">http://www.water.ca.gov/groundwater/casgem/online_system.cfm</a>. The April 2014 DWR report, “Public Update for Drought Response, Groundwater Basins with Potential Shortages and Gaps in Monitoring” notes the following about groundwater monitoring: (1) of California’s 515 alluvial groundwater basins, 169 are fully or partially monitored under the California Statewide Groundwater Elevation Monitoring (CASGEM) Program; (2) forty of the 126 High and Medium priority basins are not monitored under CASGEM. There are significant CASGEM groundwater monitoring data gaps in the Sacramento, San Joaquin River, Tulare Lake, Central Coast, and South Lahontan hydrologic regions; and (3) although there are 4,122 CASGEM wells and 39,429 Voluntary wells in the Water Data Library groundwater level database, gaps in groundwater monitoring persist.</p> <p>Delta Watermaster. On July 7, 2010, the State Water Board appointed Craig M. Wilson as California’s first Delta Watermaster for a four-year term. The Delta Watermaster is empowered to take enforcement against unlawful diversions in the Delta and to submit reports on specified water issues. The Delta Watermaster works with Delta diverters to increase compliance with new reporting requirements. As of April 2014, 359 of the 360 (99%) of the diverters required to report have filed the required reports on diversion. Statements of monthly diversion and use for 2012 were due for the first time by July 1, 2013.</p> <p>See also Action 7.1.5, Water Diversion Compliance and Near-term Action NTA01, Water Diversion Information.</p>		

## Actions Status by Lead Agency

Action #	Action Name	Type
Action Description	Other Responsible Organizations	

### 7.1.5 Water Diversion Compliance

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

3-Recommended Actions

State Water Board, DWR

**Progress:** 4      **Enacting Legislation:** Water Code Sections 85086, 85230, and 5100

#### Status Description:

The 2009 water legislation included water rights enforcement (SBX7-8), which modified the reporting requirements for surface water diversions and added civil and criminal penalties, which had been previously lacking. The law requires any diverter who diverts water after December 31, 1965 to report each July 1 their diversions from the previous year. There are some limited exceptions. Diversers must monitor their diversions on a monthly basis effective January 1, 2012. The penalty for willful misstatements is \$1,000 and/or 6 months in jail. The State Water 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 Water Board. As the result of this legislation, most diversers in the Delta were added to this reporting program for the first time in 2012.

Enhanced Staffing. Since 2009, the State Water Board 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.

The actions by the Legislature and State Water Board make significant steps to address the DVSP recommendations regarding reporting, penalties, and additional staffing. The DVSP also noted that “the information about current diversions and use in the current water system is inadequate to the task of managing the co-equal values.” The DVSP recommended development of a more robust monitoring and management system for stream flows, surface water diversions, and groundwater pumping by the State Water Board, DWR, and others. This system envisions real-time information management and decision making to “provide a better foundation for changes in water diversion timing,” as well as efforts to improve regional self-sufficiency. Additional information is needed to understand the progress of these recommended improvements.

On September 19, 2012 Delta Watermaster, Craig Wilson, issued his report: Improving Water Right Enforcement Authority. The report argues that the State Water Board’s weak enforcement authority for water rights is inconsistent with its broad enforcement authority over water quality matters. The Watermaster recommends that additional water right administrative and enforcement authority be provided to the State Water Board. The current process for enforcing the constitutional prohibition against the waste or unreasonable use of water is unnecessarily convoluted. He recommends that administrative civil liabilities be added for, among other things, violations of diversion reporting and monitoring requirements.

Online Water Diversion Reporting Compliance Improved. In 2013, the State Water Board increased enforcement efforts that resulted in improved online reporting of water diversions. During 2013, 31 Draft ACLs, 285 Draft CDOs, and 24 Final CDOs were issued to diversers for failure to file these reports. Enforcement actions have increased compliance, providing a better understanding of the total amount of water used in the State. Between 2011 and 2012 (the most current data available), reporting compliance increased for water right permits (from 76 percent to 86 percent), licenses (from 62 percent to 70 percent), and statements of water diversion and use (from 87 percent to 95 percent).

## Actions Status by Lead Agency

Action #	Action Name	Type
Action Description	Other Responsible Organizations	
For more information, see the California Water Boards 2013 Accomplishments Report (March 2014), which can be accessed at <a href="http://www.waterboards.ca.gov/about_us/performance_report_1213">http://www.waterboards.ca.gov/about_us/performance_report_1213</a> and <a href="http://www.waterboards.ca.gov/waterrights/water_issues/programs/enforcement">http://www.waterboards.ca.gov/waterrights/water_issues/programs/enforcement</a>		
See also Action 4.2.4, Diversion Data Collection, and Near-term Action NTA01, Water Diversion Information.		

## Actions Status by Lead Agency

Action #	Action Name	Type
Action Description	Other Responsible Organizations	

### NTA01 Water Diversion Information

*Obtain needed information on water diversion and use.*

1-Near-Term Actions

State Water Board, DWR

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

#### Status Description:

Water Rights Reporting.

The 2009 water legislation included water rights enforcement provisions (SBX7-8), which modified the reporting requirements for surface water diversions, eliminated many exemptions, and added civil and criminal penalties, which had been previously lacking. As the result of this legislation, most diverters in the Delta were required to report diversions for the first time. 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. Diversers 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 Water Board may impose penalties of \$1,000 and \$500 per day for failure to submit reports. The legislation also continuously appropriated \$3.75M annually from the Water Rights Fund for 25 enforcement personnel at the State Water Board. The State Water Board has established an online water rights reporting system (see Action 4.2.4).

Delta Watermaster.

On July 7, 2010, the State Water Board appointed Craig M. Wilson as California's first Delta Watermaster for a four-year term. The Delta Watermaster is empowered to take enforcement against unlawful diversions in the Delta and to submit reports on specified water issues. As of May 2014, there are 2,840 water rights and claims in the legal Delta. The Delta Watermaster works with Delta diverters to increase compliance with new reporting requirements. As of April 2013, 359 of the 360 (99%) of the diverters required to report have filed the required reports on diversion.

On September 19, 2012 Delta Watermaster, Craig Wilson, issued "Improving Water Right Enforcement Authority." The report argued that the State Water Board's weak enforcement authority for water rights is inconsistent with its broad enforcement authority over water quality matters. The Watermaster recommended that additional water right administrative and enforcement authority be provided to the State Water Board. The current process for enforcing the constitutional prohibition against the waste or unreasonable use of water is unnecessarily convoluted. He recommended that administrative civil liabilities be added for, among other things, violations of diversion reporting and monitoring requirements. On October 8, 2013, the Delta Watermaster, presented "California's Area Of Origin Laws: A Report to the State Water Resources Control Board and the Delta Stewardship Council."

Groundwater Monitoring and Reporting.

The 2009 water legislation also included requirements for DWR to establish a groundwater elevation monitoring and reporting program by January 1, 2012 (SB7X-6). DWR developed the California Statewide Groundwater Elevation Monitoring (CASGEM) program. As of January 1, 2014, 71 organizations have been designated groundwater monitoring entities. As of April 2014, 169 of the state's 515 groundwater basins are monitored under the CASGEM program. DWR's role is to coordinate the CASGEM program, to work cooperatively with local entities, and to maintain the collected elevation data in a public database, which is now available online at [http://www.water.ca.gov/groundwater/casgem/online\\_system.cfm](http://www.water.ca.gov/groundwater/casgem/online_system.cfm).

Enforcement.

## Actions Status by Lead Agency

Action #	Action Name	Type
Action Description	Other Responsible Organizations	
<p>Since 2009, the State Water Board has hired 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.</p> <p>The Division of Water Rights currently tracks eight categories of work product activities: Permitting, Licensing, Petitions, Transfers, Monitoring and Reporting, Enforcement, Water Quality Certifications, and Adjudicatory. The State Water Board Division of Water Rights provides monthly and annual reporting of enforcement actions at <a href="http://www.waterboards.ca.gov/waterrights/publications_forms/available_documents/progress_reports/">http://www.waterboards.ca.gov/waterrights/publications_forms/available_documents/progress_reports/</a></p> <p>These actions by the Legislature and State Water Board make significant steps to address the DVSP recommendations regarding reporting, penalties, and additional staffing. The DVSP also noted that “the information about current diversions and use in the current water system is inadequate to the task of managing the co-equal values.” The DVSP recommended development of a more robust monitoring and management system for stream flows, surface water diversions, and groundwater pumping by the State Water Board, DWR, and others. This system envisions real-time information management and decisionmaking to “provide a better foundation for changes in water diversion timing,” as well as efforts to improve regional self-sufficiency. Additional information is needed to understand the progress of these recommended improvements.</p> <p>See also Action 4.2.4, Diversion Data Collection, and Action 7.1.5, Water Diversion Compliance.</p>		