



## TRIBAL GOVERNMENT CONSULTATION ON PROPOSITION 1 WATER BOND

June 9, 2015

8:30am – 5:00pm

Cal/EPA Byron Sher Auditorium  
1001 I Street, 2<sup>nd</sup> Floor  
Sacramento, CA 95814

### AGENDA

<b>8:30 am - 9:00 am</b>	REGISTRATION
<b>9:00 am - 9:15 am</b>	INTRODUCTIONS AND AGENDA OVERVIEW <b>Anecita Agustinez</b> , Tribal Policy Advisor, Department of Water Resources <b>Gita Kapahi</b> , Tribal Liaison, State Water Resources Control Board
<b>9:15 am - 9:45 am</b>	WELCOME AND OPENING REMARKS <b>John Laird</b> , California Secretary for Natural Resources <b>Mark Cowin</b> , Director, Department of Water Resources
<b>9:45 am - 9:55 am</b>	PROPOSITION 1 OVERVIEW <b>Gordon Burns</b> , Undersecretary for Environmental Protection, California Environmental Protection Agency
<b>9:55 am - 10:05 am</b>	GOVERNOR’S OFFICE OF THE TRIBAL ADVISOR <b>Cynthia Gomez</b> , Governor’s Office Tribal Advisor
<b>10:05 am - 12:00 pm</b>	PANEL OF AGENCIES <ul style="list-style-type: none"> <li>• Officials from State agencies and departments will discuss the relationship of Proposition 1 Water Bond to the Governor’s Water Action Plan.</li> <li>• Officials will discuss the multi-agency alignment under the Governor’s Water Action Plan to achieve better water reliability, restoration, and resilient outcomes.</li> </ul>
<b>10:45 am - 11:00 am</b> Break	<b>Felicia Marcus</b> , Chair, State Water Resources Control Board <b>Gary Bardini</b> , Deputy Director, and <b>Kamyar Guivetchi</b> , Manager, Statewide Integrated Water Management, Department of Water Resources <b>Kevin Hunting</b> , Chief Deputy Director, California Department of Fish and Wildlife <b>Paula Daniels</b> , Member, California Water Commission <b>Cat Kuhlman</b> , Executive Director/Deputy Secretary for Oceans and Coastal Policy, Ocean Protection Council <b>William Edgar</b> , President, Central Valley Flood Protection Board <b>Emma Suarez</b> , Vice President, Central Valley Flood Protection Board

<b>12:00 am - 12:10 pm</b>	OVERVIEW OF THE AFTERNOON SESSION Center for Collaborative Policy (CCP)
<b>12:10 am - 1:30 pm</b>	LUNCH (ON YOUR OWN)
<b>1:30 pm - 2:45 pm</b>	<p>PROPOSITION 1 GRANT INFORMATION:</p> <ul style="list-style-type: none"> <li>• Officials from State agencies and departments will discuss grant programs, eligible projects, and funding opportunities for Tribal Governments.</li> <li>• State officials will provide an update on current regulations and grant program solicitation schedules for awarding water bond funds.</li> <li>• Each agency and department will discuss how tribal concerns regarding funding eligibility are being considered as each agency prepares its funding opportunities.</li> </ul> <p><b>Helen Birss</b>, Chief, Wetlands Restoration Branch, California Department of Fish and Wildlife  <b>Cat Kuhlman</b>, Executive Director/Deputy Secretary for Oceans and Coastal Policy, Ocean Protection Council  <b>Amy Vierra</b>, Deputy Director, Ocean Protection Council, Ocean Protection Council  <b>Dave Gutierrez</b>, Chief, Division of Safety of Dams, Department of Water Resources  <b>Tracie Billington</b>, Chief, Financial Assistance Branch, Department of Water Resources  <b>Paula Landis</b>, Executive Officer, California Water Commission  <b>Leslie Laudon</b>, Assistant Deputy Director, Division of Financial Assistance, State Water Resources Control Board</p>
<b>2:45 pm - 3:30 pm</b>	REVIEW AND OPEN DISCUSSION <b>Anecita Agustinez</b> , Tribal Policy Advisor, Department of Water Resources
<b>3:30 pm</b>	CLOSING <b>Gita Kapahi</b> , Director of the Office of Public Participation, Tribal Liaison, State Water Resources Control Board
<b>3:30 pm - 5:00 pm</b>	HOSTED RECEPTION IMMEDIATELY FOLLOWING <i>Please enjoy light refreshments and an opportunity for networking in the mezzanine.</i>



# TRIBAL GOVERNMENT CONSULTATION ON PROPOSITION 1

## WATER BOND

June 10, 2015

8:30am - 3:30pm

Cal/EPA Byron Sher Auditorium

1001 I Street, 2<sup>nd</sup> Floor

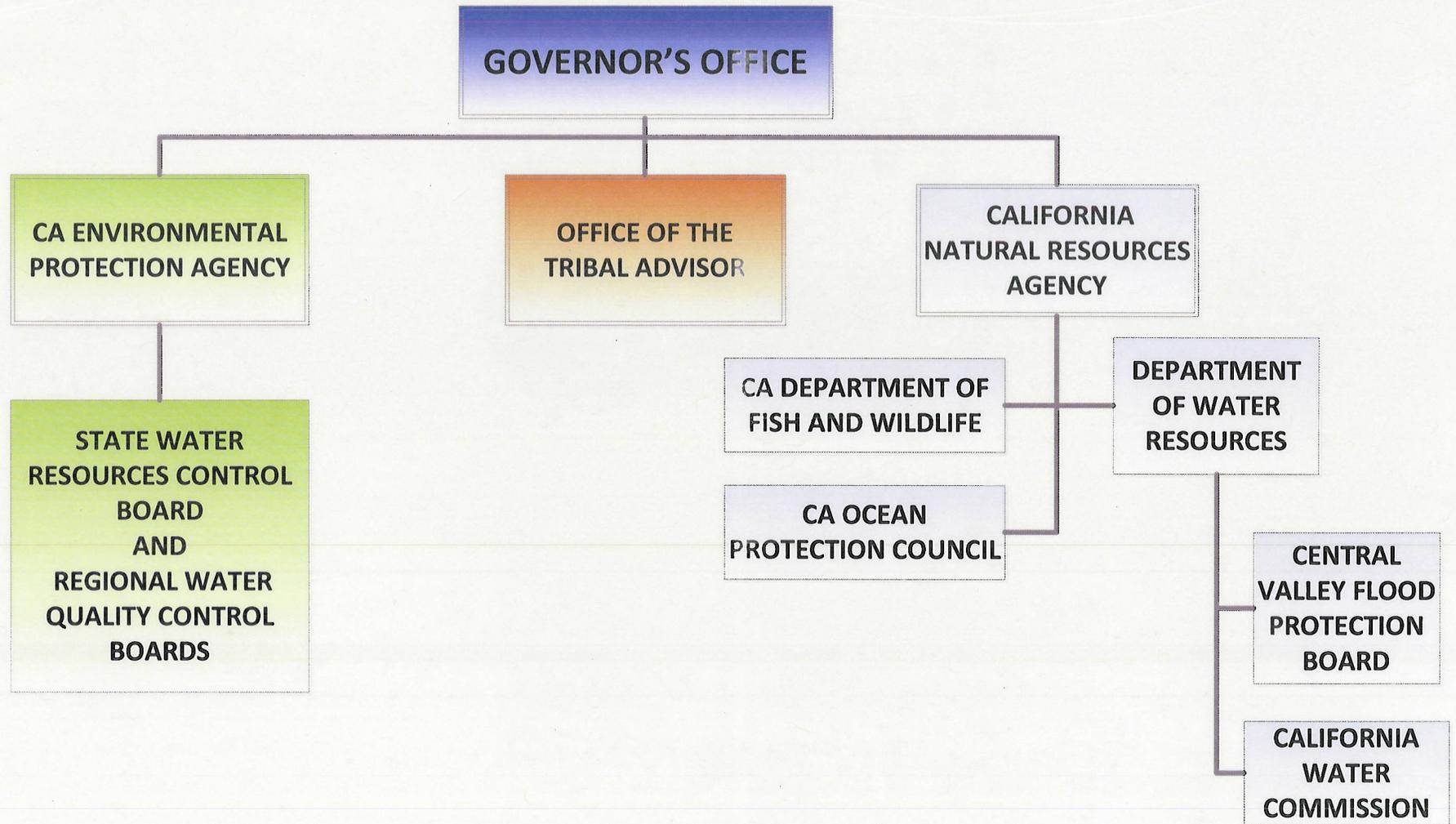
Sacramento, CA 95814

## AGENDA

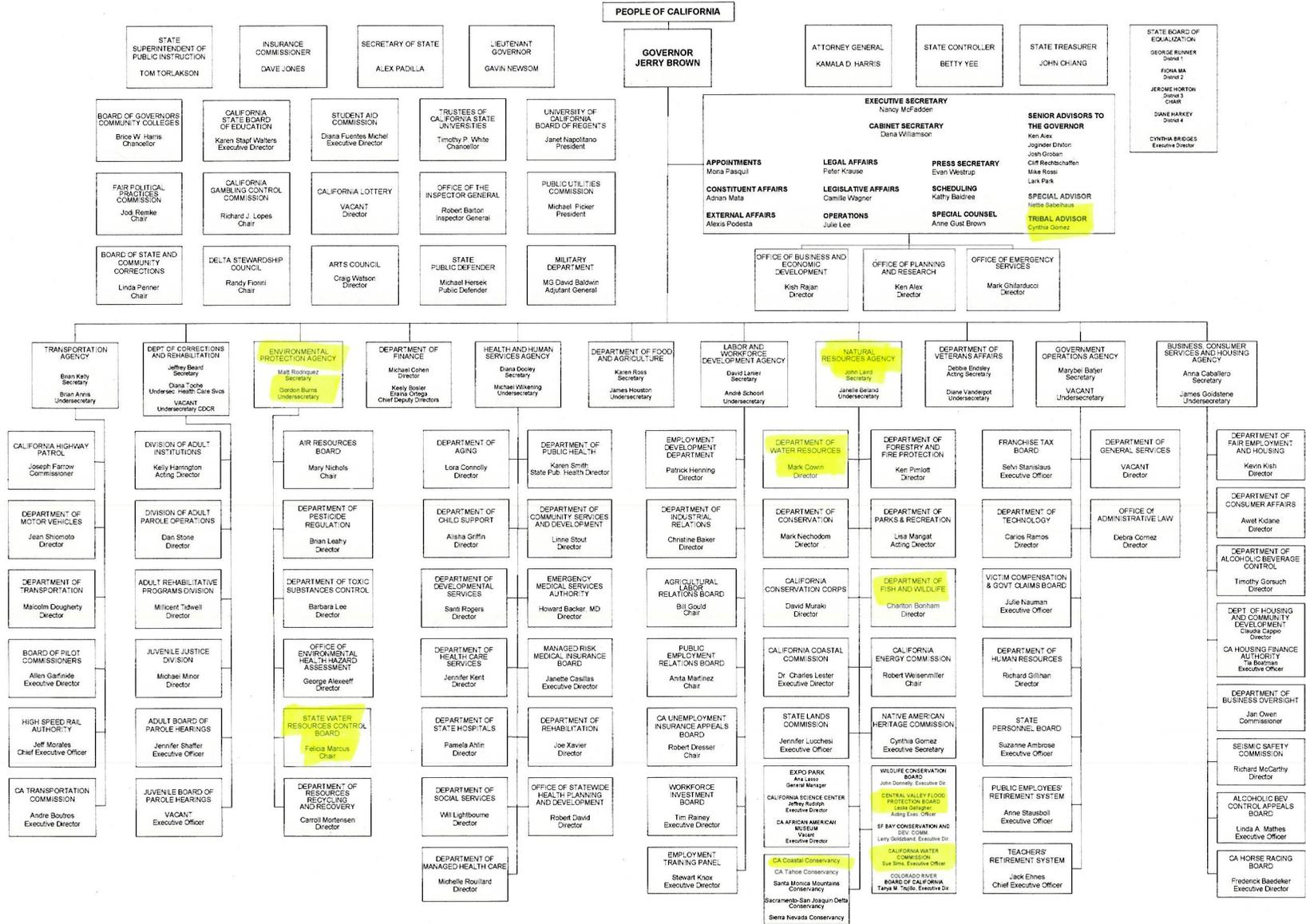
8:30 am - 9:00 am	REGISTRATION
9:00 am - 9:15 am	WELCOME AND OUTLINE AGENDA FOR DAY 2 <b>Steven Ingram</b> , Senior Staff Counsel, Tribal Liaison, CA Department of Fish and Wildlife
9:15 am - 9:45 am	CHAPTER 6 WATERSHED PROTECTION AND RESTORATION <i>CA Department of Fish and Wildlife</i> <b>Helen Birss</b> , Chief, Wetlands Restoration Branch
9:45 am - 10:05 am	CHAPTER 6 WATERSHED PROTECTION AND RESTORATION <i>CA Ocean Protection Council</i> <b>Amy Vierra</b> , Deputy Director
10:05 am - 10:35 am	CHAPTER 8 WATER STORAGE INVESTMENT PROGRAM <i>California Water Commission</i> <b>Rachel Ballanti</b> , Assistant Executive Officer
10:35 am - 10:50 am	BREAK
10:50 am - 11:20 am	CHAPTER 5 CLEAN, SAFE, AND RELIABLE DRINKING WATER <i>State Water Resources Control Board</i> <b>Dat Tran</b> , P.E., Chief, Drinking Water Technical Assistance Program
11:20 am - 12:00 pm	CHAPTER 7 REGIONAL WATER RELIABILITY Regional Water Security, Climate, and Drought Preparedness <ul style="list-style-type: none"> <li>• Integrated Regional Water Management <i>Department of Water Resources</i> <b>Tracie Billington</b>, Chief, Financial Assistance Branch <b>Joseph Yun</b>, Chief, Planning Section</li> <li>• Multibenefit Stormwater <i>State Water Resources Control Board</i> <b>Joe Karkoski</b>, Supervising Water Resource Control Engineer, Division of Financial Assistance, Bond Section</li> <li>• Water Conservation and Water Use Efficiency <i>Department of Water Resources</i> <b>Diana Brooks</b>, Chief, Water Use and Efficiency Branch <b>Fethi Benjema</b>, Chief, Agricultural Water Use Efficiency Grant Office <b>Peter Brostrom</b>, Chief, Water Use Efficiency Section</li> </ul>

<b>12:00 pm - 1:30 pm</b>	LUNCH (ON YOUR OWN)
<b>1:30 pm - 1:50 pm</b>	CHAPTER 9 WATER RECYCLING <i>State Water Resources Control Board</i> <ul style="list-style-type: none"> <li>• Water Recycling</li> </ul> <b>Dan Newton</b> , Water Resource Control Engineer, Division of Financial Assistance, Water Recycling Funding Program
<b>1:50 pm - 2:10 pm</b>	CHAPTER 9 WATER RECYCLING <i>Department of Water Resources</i> <ul style="list-style-type: none"> <li>• Water Desalination</li> </ul> <b>Diana Brooks</b> , Chief, Water Use and Efficiency Branch <b>Richard Mills</b> , Chief, Recycling and Water Desalination
<b>2:10 pm - 2:25 pm</b>	CHAPTER 10 GROUNDWATER SUSTAINABILITY <i>State Water Resources Control Board</i> Groundwater Sustainability <b>Robert Reeves</b> , Senior Engineering Geologist, Division of Financial Assistance, Project Development
<b>2:25 pm - 2:50 pm</b>	CHAPTER 10 GROUNDWATER SUSTAINABILITY <i>Department of Water Resources</i> Groundwater Planning <b>Dave Gutierrez</b> , Chief, Division of Safety of Dams <b>Tracie Billington</b> , Chief, Financial Assistance Branch <b>Laura McLean</b> , Senior Engineering Geologist, Financial Assistance Branch
<b>2:50 pm - 3:00 pm</b>	CHAPTER 11 FLOOD MANAGEMENT <i>Department of Water Resources</i> <b>David Martasian</b> , Chief, Environmental Support Section, Flood Projects Office
<b>3:00 pm - 3:30 pm</b>	OPEN DISCUSSION AND CLOSING <b>Gita Kapahi</b> , , Tribal Liaison, State Water Resources Control Board

# State Government Organization Chart



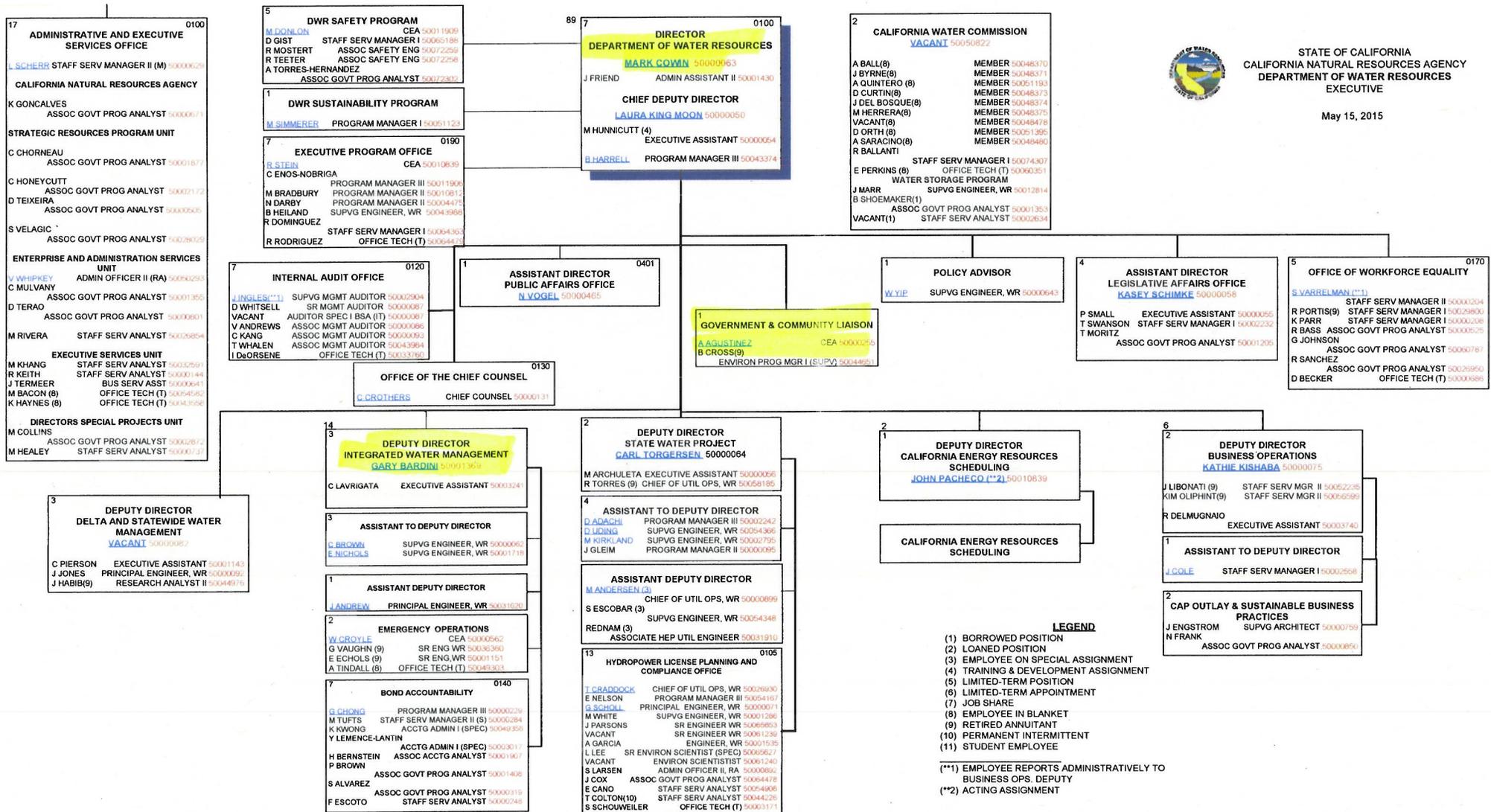
# CALIFORNIA STATE GOVERNMENT – THE EXECUTIVE BRANCH





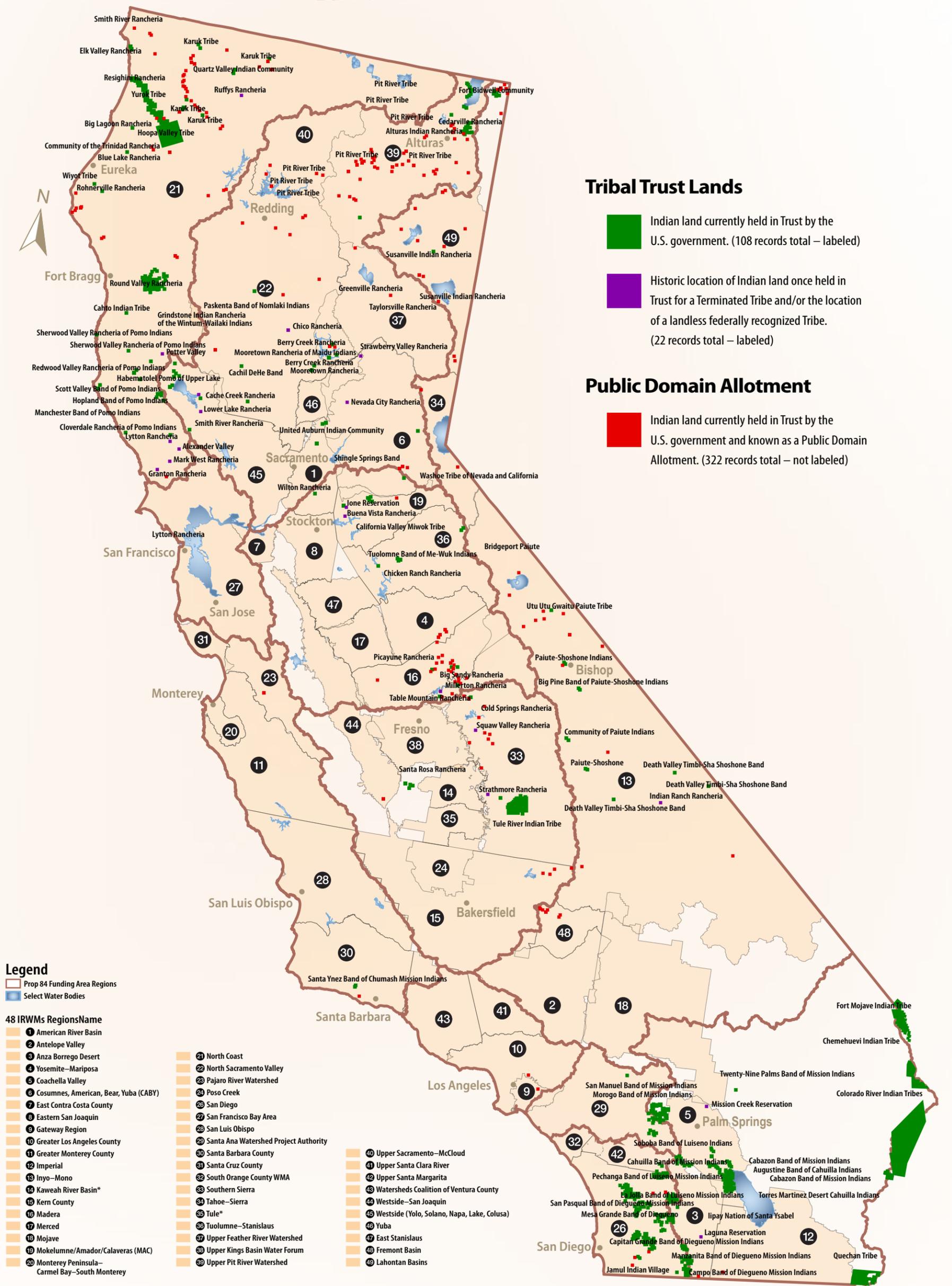
STATE OF CALIFORNIA  
CALIFORNIA NATURAL RESOURCES AGENCY  
DEPARTMENT OF WATER RESOURCES  
EXECUTIVE

May 15, 2015



- LEGEND**
- (1) BORROWED POSITION
  - (2) LOANED POSITION
  - (3) EMPLOYEE ON SPECIAL ASSIGNMENT
  - (4) TRAINING & DEVELOPMENT ASSIGNMENT
  - (5) LIMITED-TERM POSITION
  - (6) LIMITED-TERM APPOINTMENT
  - (7) JOB SHARE
  - (8) EMPLOYEE IN BLANKET
  - (9) RETIRED ANNUITANT
  - (10) PERMANENT INTERMITTENT
  - (11) STUDENT EMPLOYEE
- (\*\*) EMPLOYEE REPORTS ADMINISTRATIVELY TO BUSINESS OPS. DEPUTY  
(\*\*) ACTING ASSIGNMENT

# Integrated Regional Water Management— 48 IRWM Regions and California Indian Trust Lands



1) Numbers shown are for reference purposes and correspond to internal DWR RAP submittal identifications.  
 2) Region boundaries shown are those submitted by each applicant as part of the RAP submittal.  
 —RAP 2009 = ID No's 1–46; —RAP 2011 = ID No's 47–49.  
 3) \*Denotes Region is conditionally approved.  
 4) ID No. 25 (Sacramento Valley) is no longer participating in the IRWM Grant Program and is no longer shown.  
 5) IRWM Region contact information is available at: [www.water.ca.gov/grants/fundraisingarea.cfm](http://www.water.ca.gov/grants/fundraisingarea.cfm)  
 6) The information provided is accurate as of January 2014.





California Department of Water Resources

# Groundwater Sustainability Program

## **Draft *Strategic Plan***



March 9, 2015

# Groundwater Sustainability Program *Strategic Plan*

**DWR Mission**  
*To manage the water resources of California in cooperation with other agencies, to benefit the State's people, and to protect, restore, and enhance the natural and human environments.*

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## Acronyms

SGMA	Sustainable Groundwater Management Act
SGWM	Sustainable Groundwater Water Management
BMPs	Best Management Practices
CASGEM	California Statewide Groundwater Elevation Monitoring
DWR	California Department of Water Resources
SWRCB	State Water Resources Control Board
CWC	California Water Code
GSA(s)	Groundwater Sustainability Agency or Agencies
GSP(s)	Groundwater Sustainability Plan or Plans



After decades of debate, California lawmakers adopted far-reaching new laws to bring the State's critically important groundwater basins into a sustainable regime of pumping and recharge. This change in water management – the most important in several generations – promises profound payoff. Groundwater on average makes up over a third of California's water supply, and it serves as a critically important savings account in dry years.

We have formally managed surface water supplies for a century. However, unrestrained groundwater use has been the rule except in areas where the courts have intervened. In some parts of California, groundwater has been pumped destructively at high levels for decades. California endured a third year of drought in 2014, and groundwater levels reached all time historic lows in most areas of the State.

While local leadership has had good success in a number of areas, on the whole, our collective management of groundwater resources is simply not working.

Governor Brown worked with the California Legislature and other stakeholders to craft the Sustainable Groundwater Management Act (SGMA). The SGMA establishes a new structure for managing California's groundwater. Developing the SGMA was not without controversy, with some interests concerned about creation of a new regulatory bureaucracy and a fear that the State would be eager to exert control over local groundwater basins. The SGMA essentially says our best chance of achieving sustainable, dependable groundwater supplies is for each basin to be managed at the local level. Local leaders will decide how best to organize and take charge through the establishment of Groundwater Sustainability Agencies. The Department of Water Resources' (DWR) primary role will be to provide guidance and technical support to local agencies. The State Water Resources Control Board will only step in on an interim basis when, but only when, local agencies fail to exercise their responsibilities set forth in the legislation. DWR recognizes that every groundwater basin is different and that solutions must be tailored by region. DWR and other State agencies are ready to provide assistance, and the water bond passed in November 2014 includes \$100 million for local and regional groundwater planning and projects.

As we consider what it will take to manage our groundwater sustainably, we need to acknowledge all water resources are interconnected. The Governor's five-year *California Water Action Plan*, released in January 2014, describes this broader view of what we need to meet the demands of the future. It spells out the challenges and the decisive actions needed now to put California on the path to more sustainable water resources: make conservation a way of life, ensure that each region does all it can to put its own water resources to efficient use, protect and restore important ecosystems, and expand water storage capacity. Sustainable groundwater management is an essential pillar of the plan.

Getting to sustainable water management will take decades, and we need to start now. This will not be easy, but many local leaders have told me they are ready to step up. We need to begin managing our groundwater so it is available for future generations while we balance the immediate needs of our economy.

**Mark W. Cowin**

*Director*

*California Department of Water Resources*

# Navigating the Strategic Plan

## Groundwater in California

Groundwater is a critical and integral component of California’s overall water supply, serving residents, businesses, farms, industries, and the environment. Unlike surface water, groundwater has not been regulated on a statewide basis. Except in specific adjudicated basins, a landowner may extract an unlimited amount of groundwater if put to a reasonable and beneficial use without seeking permission to use the water. In certain parts of the state, long-term groundwater use has had serious impacts including:

- Alarming declines in groundwater levels and storage
- Degradation in water quality
- Irreversible land subsidence
- Ecosystem impacts associated with streamflow depletion and the reduced connection between groundwater and surface water systems.

The current drought has increased Californians’ awareness of groundwater management issues. Approximately thirty million Californians (about 75 percent) depend on groundwater for a portion of their water supply. On average, groundwater provides about 40 percent of total annual agricultural and urban water uses. Some areas are 100 percent dependent on groundwater for their supply.

The **Groundwater Sustainability Program Strategic Plan** (*Strategic Plan*) describes the Department of Water Resources’ roles and responsibilities under the Sustainable Groundwater Management Act (SGMA) and outlines related actions from the *California Water Action Plan* (CWAP).

This *Strategic Plan* aims to document the California Department of Water Resources’ (DWR) strategy in helping to implement groundwater sustainability; share information with those who have interests in or management responsibilities for groundwater; and describe the structure through which DWR implements specific actions in coordination with stakeholders and partners.

DWR and the State Water Resources Control Board (SWRCB) are the two State agencies charged with helping to implement recent groundwater legislation. DWR’s principal role is to provide guidance and support to local agencies across California to help them achieve a more sustainable future in water management. Several actions must be completed by specific dates set forth in the SGMA to accomplish this. This *Strategic Plan* does the following:

- Describes **current groundwater conditions** in the state, demonstrating the unsustainable nature of current management practices and framing the critical need for action
- Identifies **legislation and other drivers of policy**, including the SGMA, the *California Water Action Plan* and Proposition 1 (Water Bond)
- Identifies **success factors** in addressing the key challenges facing groundwater management in California
- Describes the **goals and objectives** that guide strategic concepts necessary for program implementation and the DWR actions to address the goals and objectives
- Presents an initial plan for DWR **communication and outreach** with partnering agencies, regional and local agencies, stakeholders, and the public.



# Current Groundwater Conditions

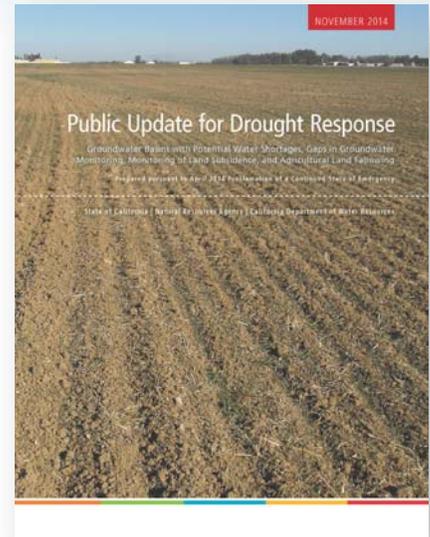
In November 2014, DWR published *Public Update for Drought Response; Groundwater Basins with Potential Water Shortages, Gaps in Groundwater Monitoring, Monitoring of Land Subsidence, and Agricultural Land Fallowing*. As part of the *Water Plan Update 2013*, DWR released *California's Groundwater Update 2013*.

These reports outline the decline of groundwater levels in some areas and the resulting issues and impacts. **Figure 1** illustrates the changes in groundwater levels from Spring 2010 to 2014 by showing numerous wells throughout California that have experienced declines in excess of 10 feet during this four-year period. The collective view of this information identifies areas that are experiencing local and regional declines in groundwater levels. Recent increases in groundwater pumping have resulted in renewed land subsidence in some areas and initiated new areas of land subsidence in others. **Figure 2** summarizes recent, historical, and the estimated potential for future land subsidence in California.

Severe drought in 2014 resulted in a lack of adequate surface water supplies, forcing many water users to increase groundwater pumping. This has resulted in further decline in groundwater levels and storage in the Central Valley from the 2010 levels shown in **Figure 3**.

Factors in recent groundwater level declines in many basins include:

- Chronic long-term pumping of groundwater in excess of the **safe yield** of the groundwater basin. Population growth, expansion of agricultural practices, allocation of water to environmental resources and restrictions to protect threatened species all have contributed to either increased water demand or decreased availability of surface water supplies in California. In response, many water users pump groundwater to offset the reduction in surface water supply.
- Short-term increase in groundwater pumping in drought years. Drought conditions in the last three years have exacerbated the groundwater conditions in many basins as more people use groundwater to meet their needs.
- Changes in irrigated land use. During the last two decades, more agricultural lands have been converted from annual crops to permanent crops, such as vine, nuts, and fruit trees, resulting in water demand hardening. Permanent crops require irrigation during the drought, while in the past many acres of annual crops were left idle through drought years.
- Climate change, resulting in reduced snowpack, will exacerbate the water supply and demand imbalance.

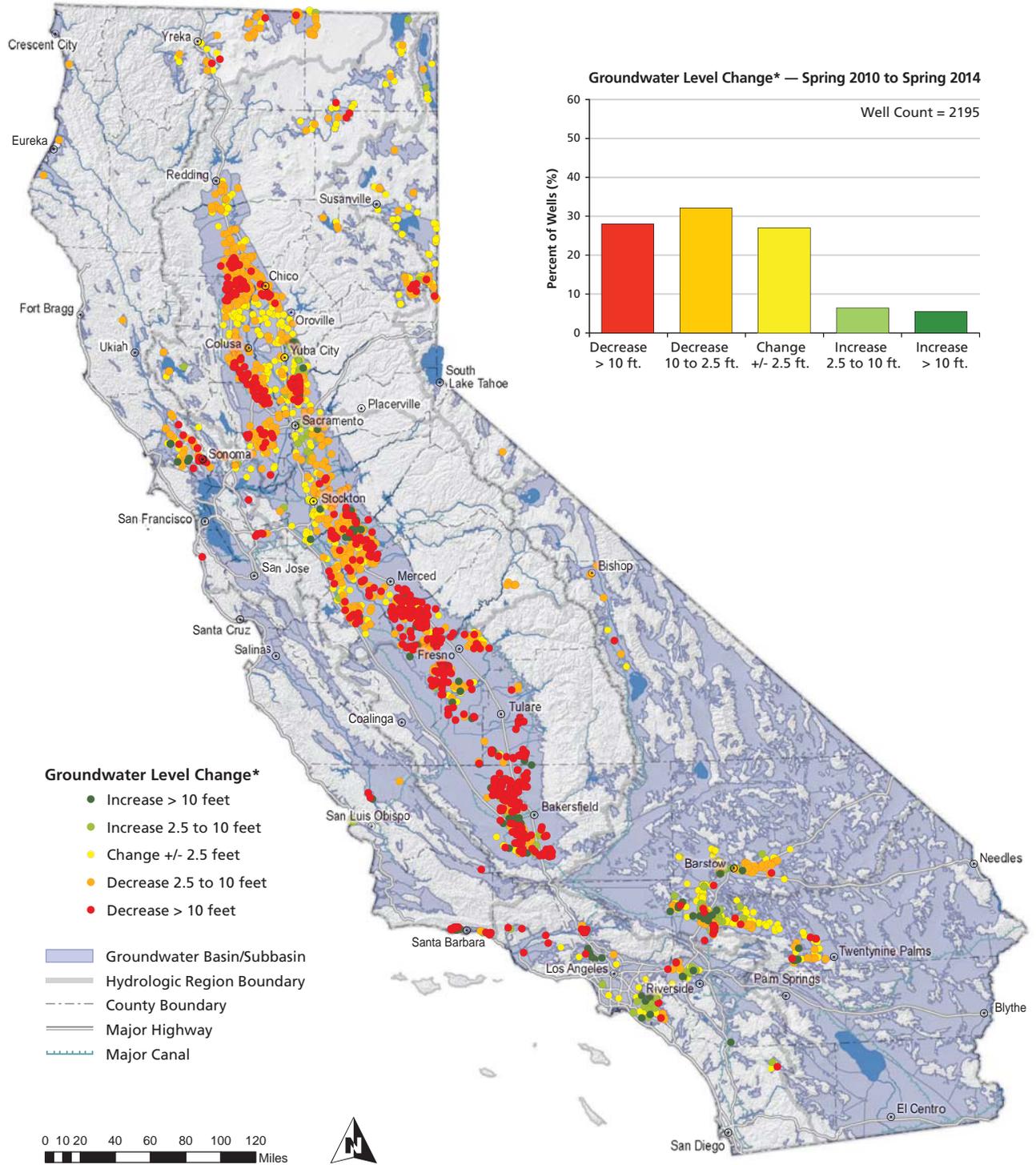


Public Update for Drought Response: *Groundwater Basins with Potential Water Shortages, Gaps in Groundwater Monitoring, Monitoring of Land Subsidence, and Agricultural Land Fallowing*

## Key Definition

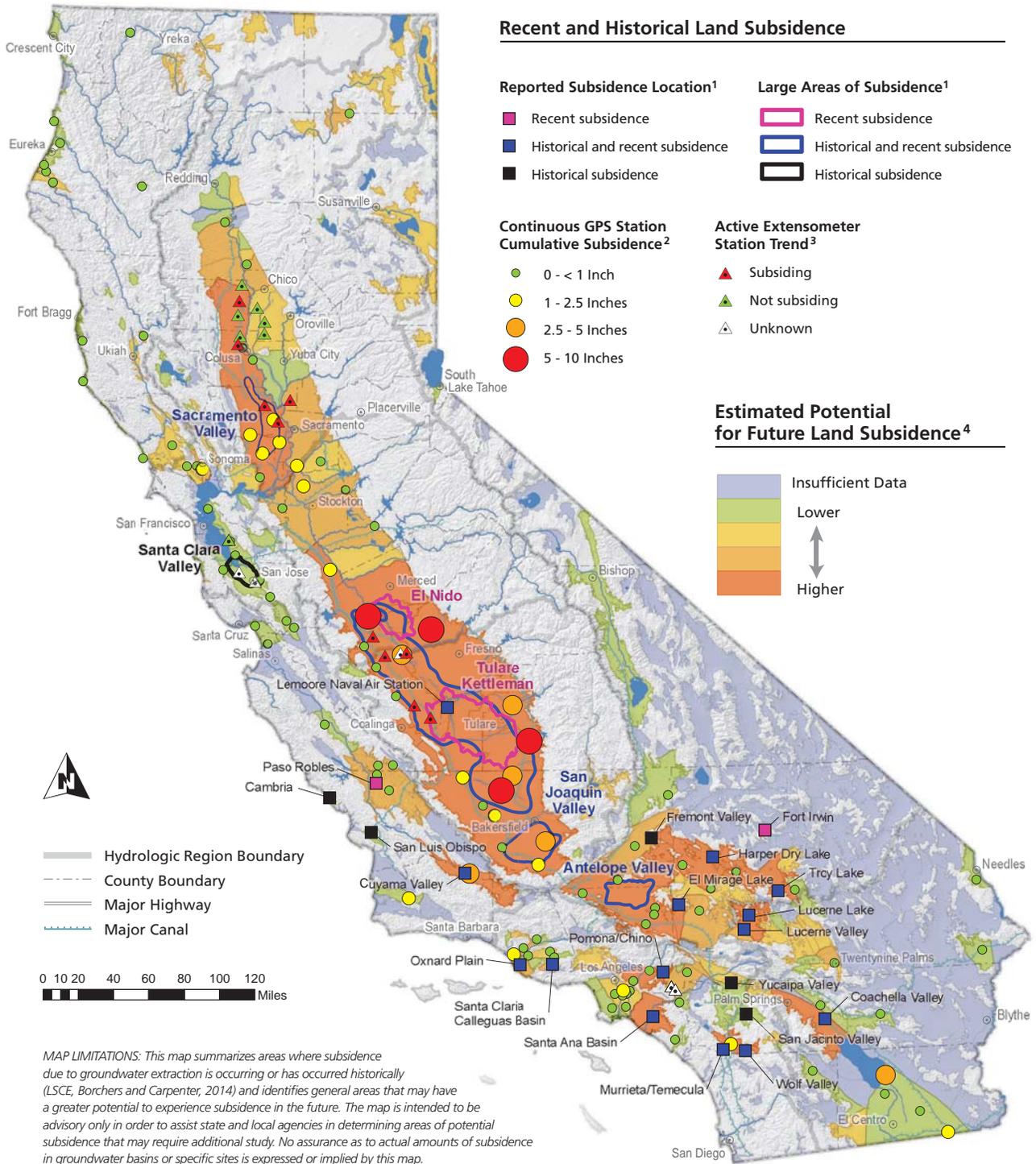
### Safe Yield

*The maximum quantity of water that can be continuously withdrawn from a groundwater basin without adverse effect.*



\*Groundwater level change determined from water level measurements in wells. Map and chart based on available data from the DWR Water Data Library as of 11/08/2014. Data subject to change without notice.

**Figure 1. Change in Groundwater Levels Spring 2010 to Spring 2014**



<sup>1</sup> Land subsidence data modified from LSCE, Borchers and Carpenter, 2014. <sup>2</sup> Continuous GPS data from UNAVCO.org.

<sup>3</sup> Extensometer data from DWR (<http://www.water.ca.gov/waterdatalibrary>) and LSCE, Borchers and Carpenter, 2014

<sup>4</sup> For more information on how the estimated potential for land subsidence was calculated see:

[http://www.water.ca.gov/groundwater/docs/Summary\\_of\\_Recent\\_Historical\\_Potential\\_Subsidence\\_in\\_CA\\_Final\\_with\\_Appendix.pdf](http://www.water.ca.gov/groundwater/docs/Summary_of_Recent_Historical_Potential_Subsidence_in_CA_Final_with_Appendix.pdf)

Data current as of May 2014.

**Figure 2. Summary of Recent, Historical, and Estimated Potential for Land Subsidence**

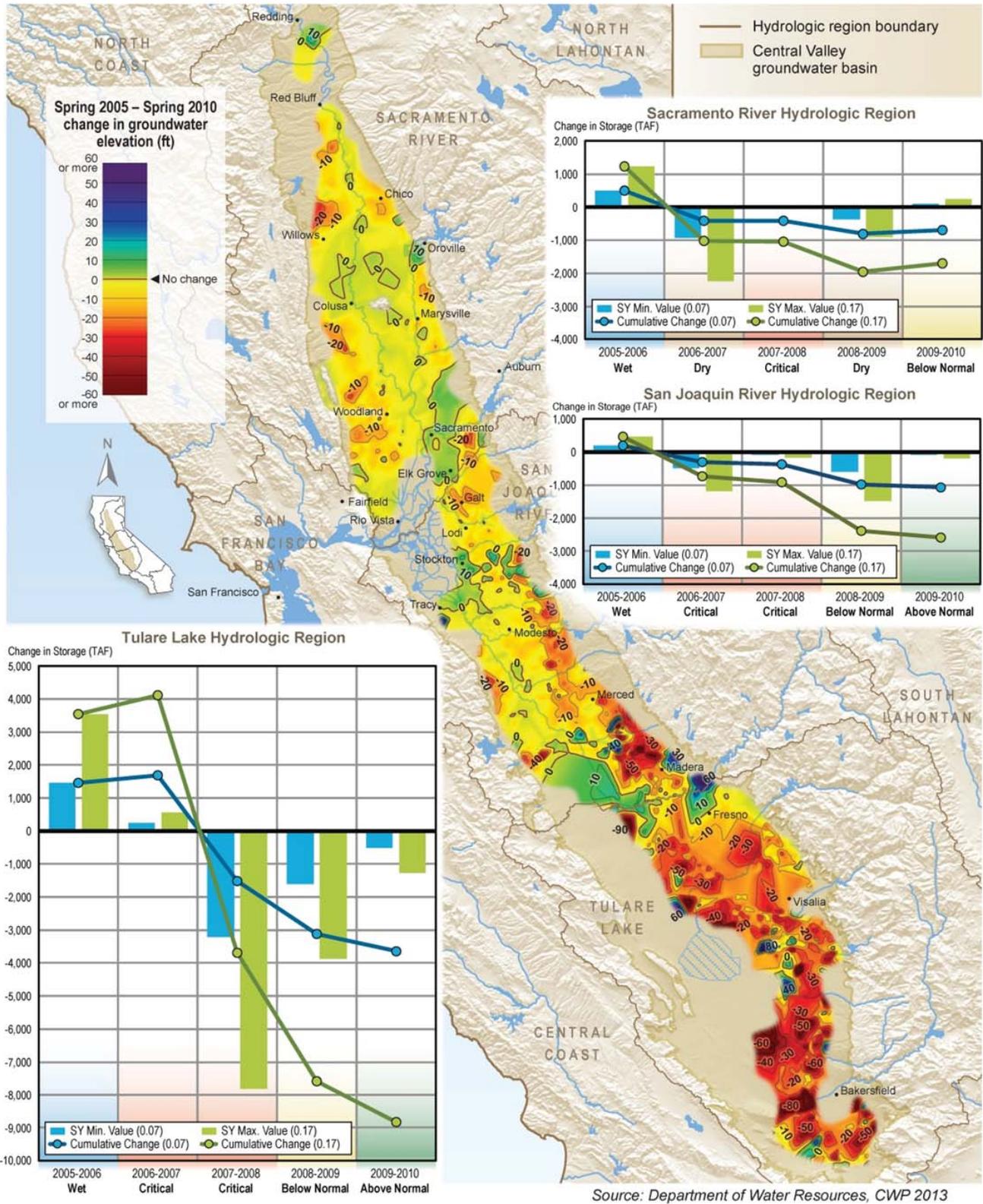


Figure 3. Change in Groundwater Storage in the Central Valley, Spring 2005–Spring 2010

## Groundwater Basins

The SGMA addresses alluvial basins identified by DWR's *Bulletin 118*, with specific required actions for those basins that have been categorized as high or medium priority by the California Statewide Groundwater Elevation Monitoring (CASGEM) Program (described below). Groundwater within fractured rock is not addressed by the SGMA. In addition, low and very low priority basins are not subject to the requirements outlined in the SGMA, but local managers are encouraged to manage sustainably and can form Groundwater Sustainability Agencies and develop Groundwater Sustainability Plans.

As part of California's 2009 Comprehensive Water Package legislation (SBx7-6), DWR implemented the CASGEM Program. The SBx7-6 Groundwater Monitoring legislation added Part 2.11 to Division 6 of the California Water Code (§10920 et seq.), which established provisions and requirements for local agencies to develop and conduct groundwater level monitoring programs. The legislation required DWR to identify the extent of groundwater elevation monitoring within each of the alluvial groundwater basins defined in *Bulletin 118-2003*, and to prioritize those basins to help identify, evaluate, and determine the need for additional groundwater level monitoring. The legislation directed DWR to consider, to the extent available, all of the data components listed below as the basis for prioritizing the basins:

1. Population overlying the basin
2. Rate of current and projected growth of the population overlying the basin
3. Number of public supply wells that draw from the basin
4. Total number of wells that draw from the basin
5. Irrigated acreage overlying the basin
6. The degree to which persons overlying the basin rely on groundwater as their primary source of water
7. Any documented impacts on the groundwater within the basin, including **overdraft**, subsidence, saline intrusion, and other water quality degradation
8. Any other information determined to be relevant by DWR.

DWR evaluated California's 515 groundwater basins identified in *Bulletin 118-2003* and categorized them into four priorities:

- High Priority
- Medium Priority
- Low Priority
- Very Low Priority

The CASGEM basin prioritization identified 43 groundwater basins as High Priority, 84 basins as Medium Priority, 27 basins as Low Priority, and the remaining 361 groundwater basins or subbasins as Very Low Priority. The 127 groundwater basins designated as High or Medium Priority include 96 percent of the annual groundwater use and 88 percent of the 2010 population overlying the groundwater basin area. DWR recently determined that the basin prioritization completed in June 2014 for the CASGEM program and shown in **Figure 4** is the initial prioritization required by the SGMA.

### Key Definition

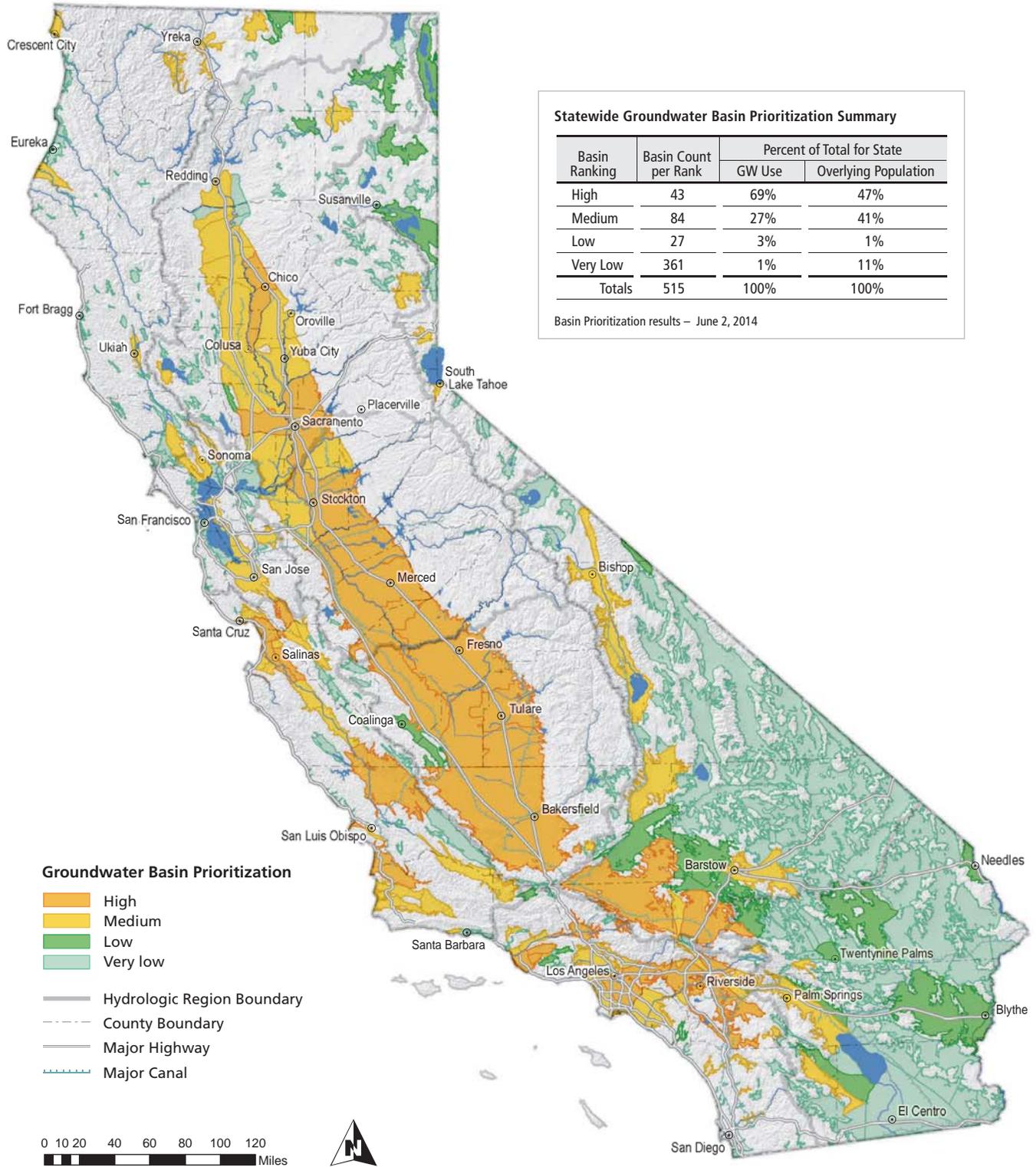
#### Groundwater Basins

*DWR's Bulletin 118 identifies 515 groundwater basins in California. The Act recognized these basins as the initial boundaries for groundwater management and permits revision of basin boundaries at the request of a local agency.*

### Key Definition

#### Overdraft

*The condition of a groundwater basin where the amount of water withdrawn exceeds the amount of water replenishing the basin over a period of time.*



**Statewide Groundwater Basin Prioritization Summary**

Basin Ranking	Basin Count per Rank	Percent of Total for State	
		GW Use	Overlying Population
High	43	69%	47%
Medium	84	27%	41%
Low	27	3%	1%
Very Low	361	1%	11%
<b>Totals</b>	<b>515</b>	<b>100%</b>	<b>100%</b>

Basin Prioritization results – June 2, 2014

**Figure 4. CASGEM Groundwater Basin Prioritization**

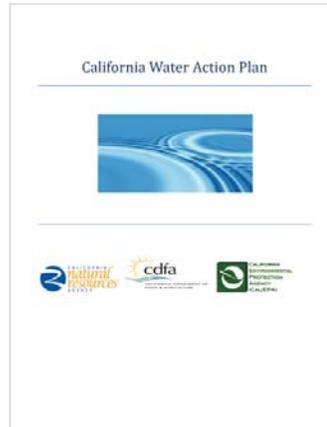
# Legislation and Other Drivers of Policy

In January 2014, the Governor's Office released the **California Water Action Plan (CWAP)**. The CWAP formulated actions that focus on sustainable water resource management for California's people, environment, industry, and agriculture, with the overarching goals to improve reliability, restore key ecosystem functions, and establish resilient resources that can be relied upon for future generations. Ten key actions identified in the CWAP:

1. Make conservation a California way of life
2. Increase regional self-reliance and integrated water management across all levels of government
3. Achieve the co-equal goals for the Delta
4. Protect and restore important ecosystems
5. Manage and prepare for dry periods
6. Expand water storage capacity and **improve groundwater management**
7. Provide safe water for all communities
8. Increase flood protection
9. Increase operational and regulatory efficiency
10. Identify sustainable and integrated financing opportunities

The CWAP acknowledges that there is broad agreement that the State's water management system is currently unable to satisfactorily meet all ecological and human needs, is too vulnerable to wet and dry climate cycles and natural disasters, and is inadequate to handle the additional pressures of future population growth and climate change. Water sustainability solutions are complex and expensive, and require the cooperation and ongoing commitment of all Californians working together. To be sustainable, solutions must consider the need to provide for public health and safety (e.g., safe drinking water, clean rivers and beaches, flood protection), to protect the environment, and to support a stable California economy.

CWAP recognizes the importance of increased water supply reliability, improved restoration of important species and habitat, and the develop-



## An excerpt from the *California Water Action Plan* about the need for better groundwater management:

*"The bottom line is that we need to expand our State's storage capacity, whether surface or groundwater, whether big or small. Today, we need more storage to deal with the effects of drought and climate change on water supplies for both human and ecosystem needs... Moreover, we must better manage our groundwater basins to reverse alarming declines in groundwater levels. Continued declines in groundwater levels could lead to irreversible land subsidence, poor water quality, reduced surface flows, ecosystem impacts, and the permanent loss of capacity to store water as groundwater."*

## CWAP Action 6: Expand water storage capacity and improve groundwater management

- Provide Essential Data to Enable Sustainable Groundwater Management
- Support Funding Partnerships for Storage Projects
- Update Bulletin 118, California's Groundwater Plan
- Improve Sustainable Groundwater Management
- Support Distributed Groundwater Storage
- Increase Statewide Groundwater Recharge
- Accelerate Clean-up of Contaminated Groundwater and Prevent Future Contamination

**Key Definition****Water Budget**

*“Water budget” means an accounting of the total groundwater and surface water entering and leaving a basin including the changes in the amount of water stored. {Water Code § 10721 (x)}*

ment of a more resilient and sustainably managed water resources system. The *CWAP* also outlines the importance of groundwater in achieving water management sustainability, a linkage between surface water and groundwater, and increasing the State’s groundwater and surface water storage capacity. Achieving groundwater sustainability will be dependent on implementing sustainable and balanced **water budgets** throughout California, and addressing most of the key actions identified in the *CWAP*.

## Building up to the Sustainable Groundwater Management Act

There have been a number of previous legislative and administrative efforts that have laid the groundwork for development of the SGMA, and several of these are likely to be useful tools as implementation of the SGMA goes forward. These efforts include:

### Assembly Bill 3030 (AB 3030)

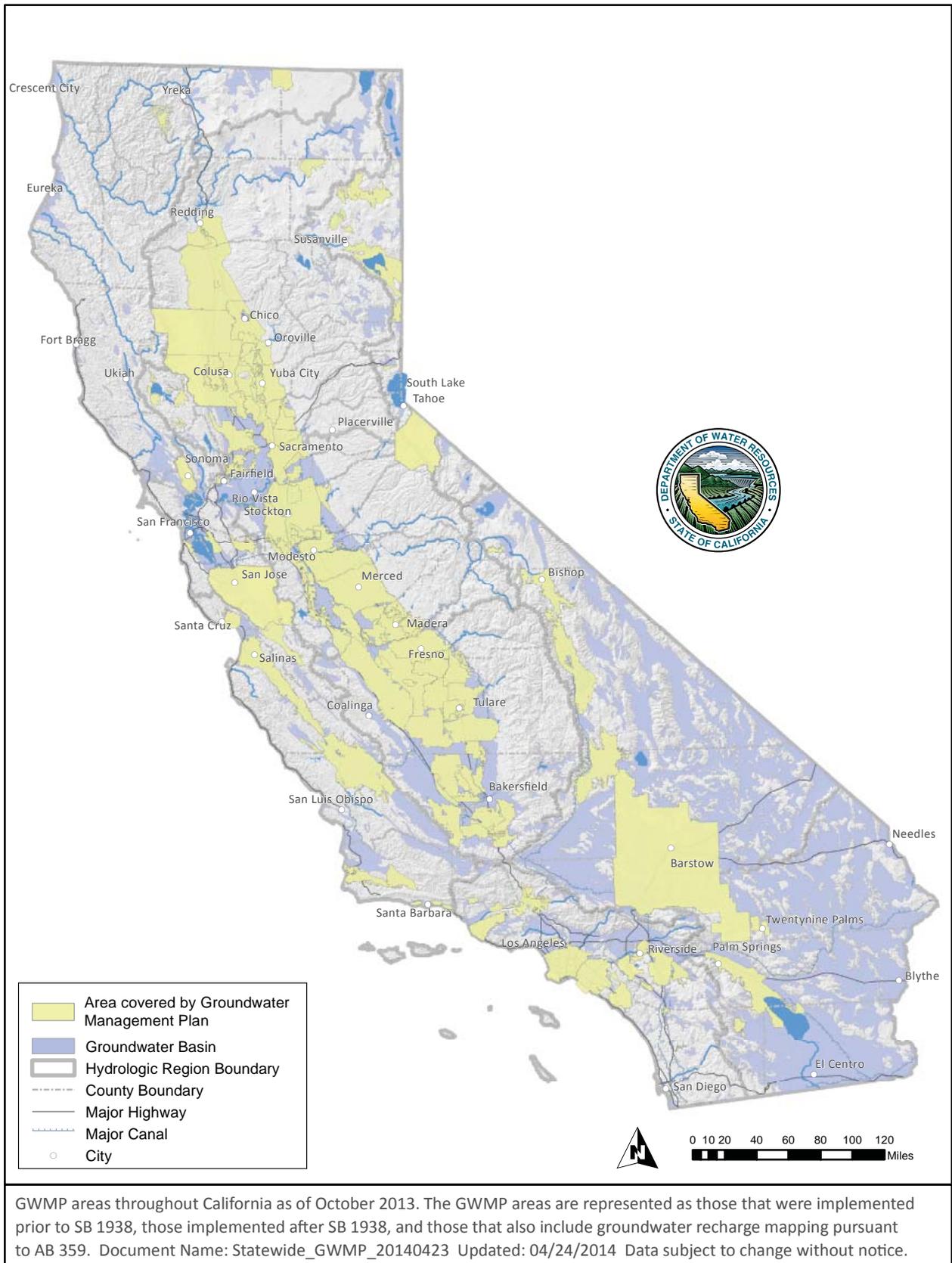
The passage of AB 3030 in 1992 encouraged local agencies to prepare and adopt plans for managing their local groundwater resources, whether or not their groundwater basin exhibited overdraft conditions. This legislation was significant in that it greatly increased the number of local agencies authorized to develop a groundwater management plan and set forth a common framework for management by local agencies throughout California. AB 3030 provides a systematic procedure to develop a groundwater management plan by local agencies overlying the groundwater basins defined by *Bulletin 118-75* and updates. Upon adoption of a plan, these agencies could possess the same authority as a water replenishment district to “fix and collect fees and assessments for groundwater management” (Water Code § 10754). However, the authority to fix and collect these fees and assessments is contingent on receiving a majority of votes in favor of the proposal in a local election (Water Code § 10754.3).

### Senate Bill 1938 (SB 1938)

In 2002, the Legislature passed SB 1938, which expanded groundwater management plan requirements related to groundwater levels, groundwater quality, inelastic land subsidence, and surface water-groundwater interaction, and required local agencies to develop and adopt plans so groundwater projects can be eligible for receiving public funds. The law requires any public agency seeking State funds administered through DWR for the construction of groundwater projects or groundwater quality projects to prepare and implement a groundwater management plan with certain specified components. New requirements included establishing basin management objectives, preparing a plan to involve other local agencies in a cooperative planning effort, and adopting monitoring protocols that promote efficient and effective groundwater management. **Figure 5** shows basins in California covered by some form of groundwater management plan.

### Assembly Bill 359 (AB 359)

AB 359, introduced in 2011, made changes to the California Water Code that, among other things, requires local agencies to provide a copy of their groundwater management plans to DWR and requires DWR to provide public access to those plans. The bill



**Figure 5. Location of Groundwater Management Plans in California**

requires local agencies to provide a map of recharge areas to local planning agencies and notify DWR and other interested persons when a map is submitted. Prior to the passage of AB 359, which went into effect on January 1, 2013, local groundwater management planning agencies were not required to submit their groundwater management plans to DWR.

### Local Groundwater Ordinances

Another method of managing groundwater is through ordinances adopted by local governments such as cities or counties. DWR's *Bulletin 118-2003* indicated that 27 counties adopted groundwater management ordinances related to the following activities: forming advisory committees; establishing basin management objectives; and controlling the export of groundwater by requiring permits for transferring groundwater out of the basin or county. The authority of counties to regulate groundwater has been challenged. An important event in 1995 was the California Supreme Court declining to review an appeal of a lower court decision, *Baldwin v. County of Tehama* (1994), that holds that State law does not occupy the field of groundwater management and does not prevent cities and counties from adopting ordinances to manage groundwater under their police powers. However, the precise nature and extent of the police power of cities and counties to regulate groundwater is uncertain. *Bulletin 118-2003* provided a model groundwater ordinance with recommended components of a groundwater management plan to guide local agencies as they develop groundwater management ordinances.

### Adjudication

In some groundwater basins, as the demand for groundwater exceeded the safe yield and caused overdraft, landowners and other parties turned to the courts to determine how much groundwater can rightfully be extracted by each user. The courts study available information on groundwater use and other factors to arrive at a distribution of the groundwater that is available each year, usually based on the California law of overlying use and appropriation. This court-directed process can be lengthy and costly. Many of these cases have been resolved with a court-approved negotiated settlement, called a stipulated judgment. The court decisions guarantee to each party a proportionate share of the groundwater that is available each year. The intense technical focus on the groundwater yield and restrictions on groundwater extraction for all parties make adjudications one of the strongest forms of groundwater management in California.

The majority of adjudicated groundwater basins are located in Southern California and in the South Coast region (See **Figure 6**). For each adjudicated groundwater basin, the court usually appoints a water-master to oversee the court judgment. The majority of groundwater basin adjudications in California impose extraction limits and/or initiate management actions in the event of declining groundwater levels or water quality degradation. The primary objective of adjudication is to provide a proportionate share of available groundwater to users within the basin so it can be extracted without having adverse effects on existing groundwater supplies. Environmental concerns were not considered when most of the judgments were written.

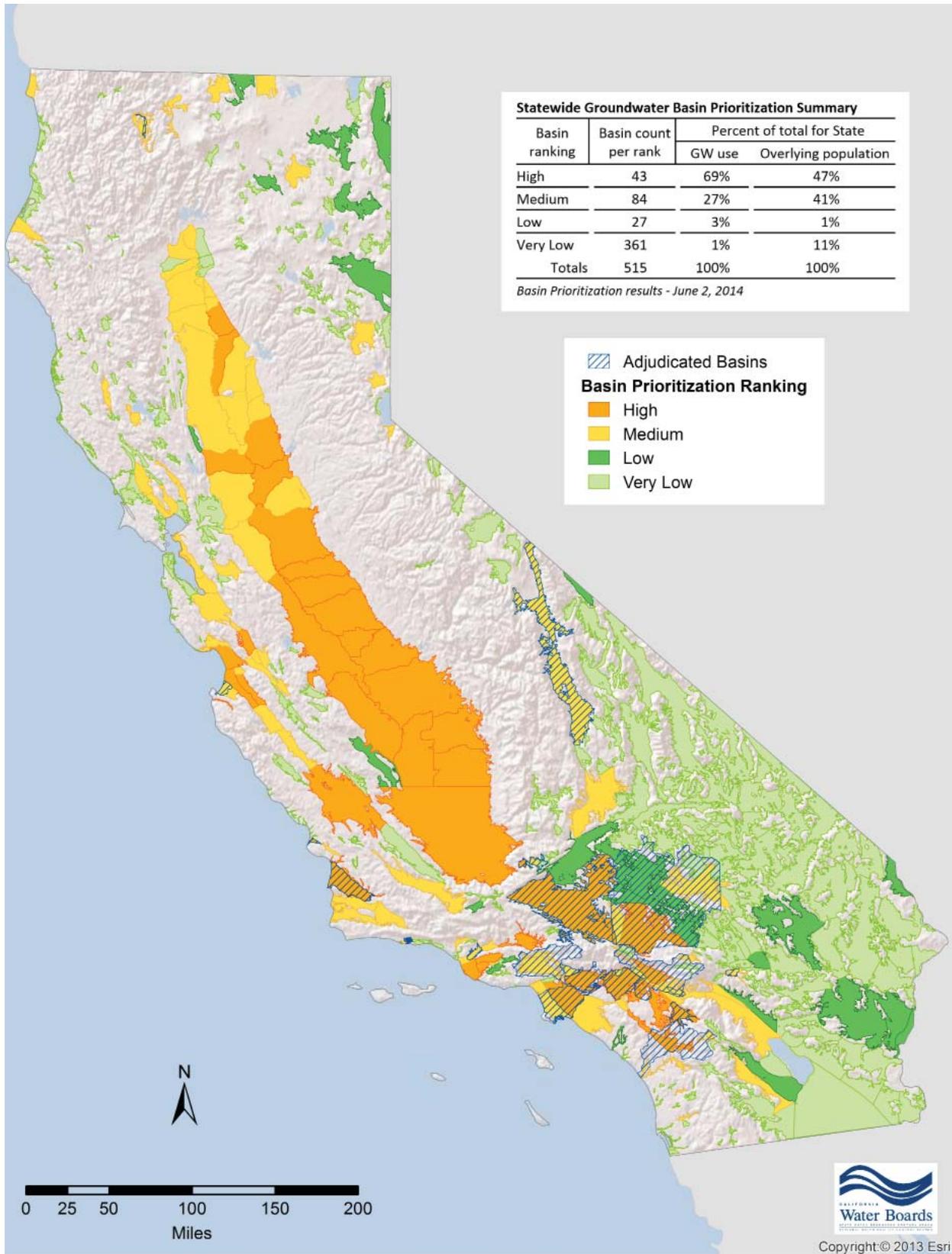


Figure 6. Adjudicated Groundwater Basins in California

**Key Definition**

**Sustainable Groundwater Management**

*The management and use of groundwater in a manner that can be maintained during the planning and implementation horizon without causing undesirable results.*

**Key Definition**

**Undesirable Results**

*Chronic lowering of groundwater levels, reduction of groundwater storage, seawater intrusion, degraded water quality, land subsidence and depletions of interconnected surface waters.*

**Key Definition**

**Critical Conditions of Overdraft**

*A basin is subject to critical conditions of overdraft when continuation of present water management practices would probably result in significant adverse overdraft-related environmental, social, or economic impacts (DWR Bulletin 118-80).*

**Key Definition**

**Groundwater Sustainability Agency**

*“Groundwater sustainability agency” means one or more local agencies\* that implement the provisions of this part. For purposes of imposing fees pursuant to Chapter 8 (commencing with Section 10730) or taking action to enforce a groundwater sustainability plan, “groundwater sustainability agency” also means each local agency comprising the groundwater sustainability agency if the plan authorizes separate agency action.*

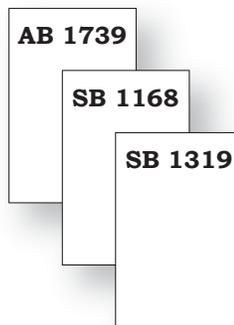
*\*Local agency is a local public agency that has water supply, water management, or land use responsibilities within a groundwater basin.*

## Sustainable Groundwater Management Act

On September 16, 2014, the Governor signed into law a three-bill legislative package: AB 1739 (Dickinson), SB 1168 (Pavley), and SB 1319 (Pavley). These laws are collectively known as the Sustainable Groundwater Management Act. This new legislation defines **sustainable groundwater management** as the “management and use of groundwater in a manner that can be maintained during the planning and implementation horizon without causing undesirable results” {Water Code § 10721(u)}. “**Undesirable results**” are defined in the legislation as any of the following effects caused by groundwater conditions occurring throughout the basin {Water Code § 10721(w) (1-6)}:

- Chronic lowering of groundwater levels indicating a significant and unreasonable depletion of supply
- Significant and unreasonable reduction of groundwater storage
- Significant and unreasonable seawater intrusion
- Significant and unreasonable degraded water quality
- Significant and unreasonable land subsidence
- Surface water depletions that have significant and unreasonable adverse impacts on beneficial uses of the surface water.

The legislation requires High and Medium Priority basins under the CASGEM program subject to **critical conditions of overdraft** to be managed under a groundwater sustainability plan by January 31, 2020 {Water Code § 10720.7(a) (1)}, and requires all other groundwater basins designated as High or Medium Priority basins to be managed under a groundwater sustainability plan by January 31, 2022 {Water Code § 10720.7 (a) (2)}. The legislation provides for financial and enforcement tools to carry out effective local sustainable groundwater management through formation of **Groundwater Sustainability Agencies (GSAs)**. The SGMA does not require adjudicated basins to develop GSPs, but they are required to report their water use. Additional work is underway to examine methods for expediting the adjudication process.



**The Governor’s signing message states,**

**“A central feature of these bills is the recognition that groundwater management in California is best accomplished locally.”**

The legislation significantly increases the role and responsibilities of DWR to support sustainable groundwater management. The legislation directs DWR to:

- Complete regulations for changing basin boundaries and establish content for and review of **Groundwater Sustainability Plans (GSPs)**
- Update basin priorities
- Conduct groundwater assessments into the next decade.

Together these new responsibilities require DWR to manage its existing resources and expand its expertise to meet the challenges and opportunities ahead.

The new legislation also expands the role of DWR to support local implementation of sustainable groundwater management, and allows for State intervention (SWRCB) at discrete points throughout the process if local agencies are not willing or able to manage groundwater sustainably.

**Figure 7** (page 22) summarizes the major timelines and milestones on California’s path to sustainable groundwater management.

Improving California groundwater management practices will require that local and regional agencies have the incentives, tools, authority, and guidance to develop, implement, and enforce sustainable groundwater management practices to provide the benefits of water supply reliability and resiliency, public health and safety, ecosystem services, and a stable California economy.

#### Key Definition

##### Groundwater Sustainability Plan

*“Groundwater Sustainability Plan” is a plan of a Groundwater Sustainability Agency, proposed or adopted.*



The severe drought in 2014 resulted in a lack of adequate surface water supply, which forced many water users to increase groundwater pumping. Above, Lake Oroville and the Enterprise Bridge looking from the South Fork on September 5, 2014.

## Key Intended Outcomes and Benefits of the Sustainable Groundwater Management Act

### **Key intended outcomes of the SGMA include:**

- Advancement in understanding and knowledge of the State's groundwater basins and their issues and challenges
- Establishment of effective local governance to protect and manage groundwater basins
- Management of regional water resources for regional self-sufficiency and drought resilience
- Sustainable management of groundwater basins through the actions of local governmental agencies, utilizing State intervention only when necessary
- All groundwater alluvial basins in California are protected and operated to maintain adequate quality to support the beneficial uses for the resource.
- Surface water and groundwater are managed as "a Single Resource" to sustain their interconnectivity, provide dry season base flow to interconnected streams, and support and promote long-term aquatic ecosystem health and vitality.
- A statewide framework for local groundwater management planning, including development of sustainable groundwater management best management practices and plans
- Development of comprehensive water budgets, groundwater models, and engineering tools for effective management of groundwater basins
- Improved coordination between land use and groundwater planning
- Enforcement actions as needed by the SWRCB to achieve region-by-region sustainable groundwater management in accordance with the 2014 legislation.

To assist in attaining the above outcomes, DWR will provide local agencies with the technical and financial assistance necessary to sustainably manage their water resources.

### **The benefits of these outcomes include:**

- A reliable, safe and sustainable water supply to protect communities, farms, and the environment, and support a stable and growing economy
- Elimination of long-term groundwater overdraft, an increase in groundwater storage, avoidance or minimization of subsidence, enhancement of water flows in stream systems, and prevention of future groundwater quality degradation.

# Success Factors

The SGMA provides a framework for best management of groundwater resources. There will be many challenges to overcome in implementing the SGMA, but addressing these will foster successful sustainable groundwater management. It is critical to identify and understand those challenges as DWR works with State, federal, and local agencies, tribes, and other stakeholders to achieve groundwater sustainability goals. Success will depend upon the following factors:

- **Balanced water supply and demand:** Current available surface water and safe yield of the groundwater basins must be balanced to support the current and future land use in the basin.
- **Coordinated water management within a basin:** Moving from disjointed basin management with sometimes conflicting interests and inconsistent objectives to a more coordinated structure will enable sustainable water management within basins.
- **Regulatory oversight and enforcement:** Managing groundwater extraction, establishing a fair allocation of groundwater resources, coordinating land use changes versus resource management, and controlling future groundwater development.
- **Regulation and criteria development:** DWR has the opportunity to promote local/regional groundwater management flexibility while ensuring that the ultimate goal of statewide sustainable groundwater management is achieved by developing appropriate and supportable criteria and regulations.
- **Basin stabilization:** Full recovery of the groundwater system may be possible in some basins. Critical issues that will need to be addressed include land subsidence and salts and nutrient concentrations. By addressing these impacts and challenges, basin managers can achieve significant improvements.
- **Improved data management:** Accurate and abundant data is necessary to assist basins in adequately developing and implementing plans to achieve the goals of the SGMA. This could include a more strategic and focused system of groundwater monitoring networks, extraction reporting, model and tool development, and a standardized process to determine water budgets for the basin.
- **Funding and resources:** Immediate, reliable, and long-term State and local funding will enable and support the achievement of the goals for sustainable groundwater management. Certain rural and disadvantaged communities will benefit from adequate funding to achieve their goals.
- **Communication and outreach:** Fostering robust communication amongst multiple entities with differing roles and responsibilities and stakeholders with differing and sometimes conflicting interests will further chances for success. Flexibility and cooperation will support consensus building amongst the various interested groups.
- **Uncertainties:** Addressing uncertainties directly will improve the likelihood for success, including those related to data, modeling and the long term effects of climate change. However, we must acknowledge we will not completely eliminate uncertainties and will therefore need to allow for adaptive management of systems as system knowledge improves.

# Groundwater Sustainability Goals, Objectives, and Actions

The goals and objectives of this *Strategic Plan* are specific to DWR's role in achieving the overall goal of sustainable groundwater management, which means assisting local agencies to achieve balanced groundwater basin conditions and avoid adverse impacts such as land subsidence and long-term overdraft of the basin. Two key principles of the groundwater legislation guiding DWR include the following:

***Groundwater is best managed at the local or regional level, and local agencies should have the tools they need to sustainably manage their resources.*** Some local and regional agencies do not currently have the necessary tools and resources to be successful. The legislation ensures that local and regional agencies will have the resources they need to sustainably manage groundwater, including the necessary authority, technical information, and financial resources.

***When local or regional agencies cannot or will not manage their groundwater sustainably, the State will intervene until the local agencies develop and implement sustainable groundwater management plans.*** This limited State intervention would be temporary—until an adequate local program is established—to ensure the protection of the groundwater basin and its users from overdraft, subsidence, and other problems stemming from unsustainable uses of groundwater resources.

## DWR's Groundwater Sustainability Goal

DWR will seek to assist local and regional GSAs to manage groundwater sustainably for long-term reliability, for economic, social, and environmental benefits, for current and future beneficial uses, and as an integral part of broader sustainable water management throughout California.

To achieve this goal, DWR has developed the following objectives. These objectives define DWR's approach to organizing and executing the work necessary for successful program implementation.

### **Objective 1: Develop a Framework for Sustainable Groundwater Management**

Providing a structure which will enable GSA's to achieve success will require many factors be addressed. This objective will address basin boundaries and prioritization, GSP formulation and content, BMP's, and water budgeting. In order to address directives from the Sustainable Groundwater Management Act, DWR will develop regulations to inform and support regional efforts.

### **Objective 2: Provide Statewide Technical Assistance to Groundwater Sustainability Agencies**

Providing technical assistance to GSA's will be crucial in enabling their success in managing their groundwater basins. GSA's will depend on easily accessible data and will be able to access this information via an online information system. Well standards and water conservation assistance will also be addressed.

### **Objective 3: Provide Statewide Planning Assistance to Support Groundwater Sustainability**

DWR's *Bulletin-118* provides a systematic evaluation of groundwater basins in California, and will be updated to reflect critical information, including basin boundaries, groundwater quality data, yield data, and water budgets. This information will support and inform statewide water planning and assessment, including water budgeting, via DWR's *California Water Plan (Bulletin-160)*. DWR will also provide information to support local groundwater recharge projects.

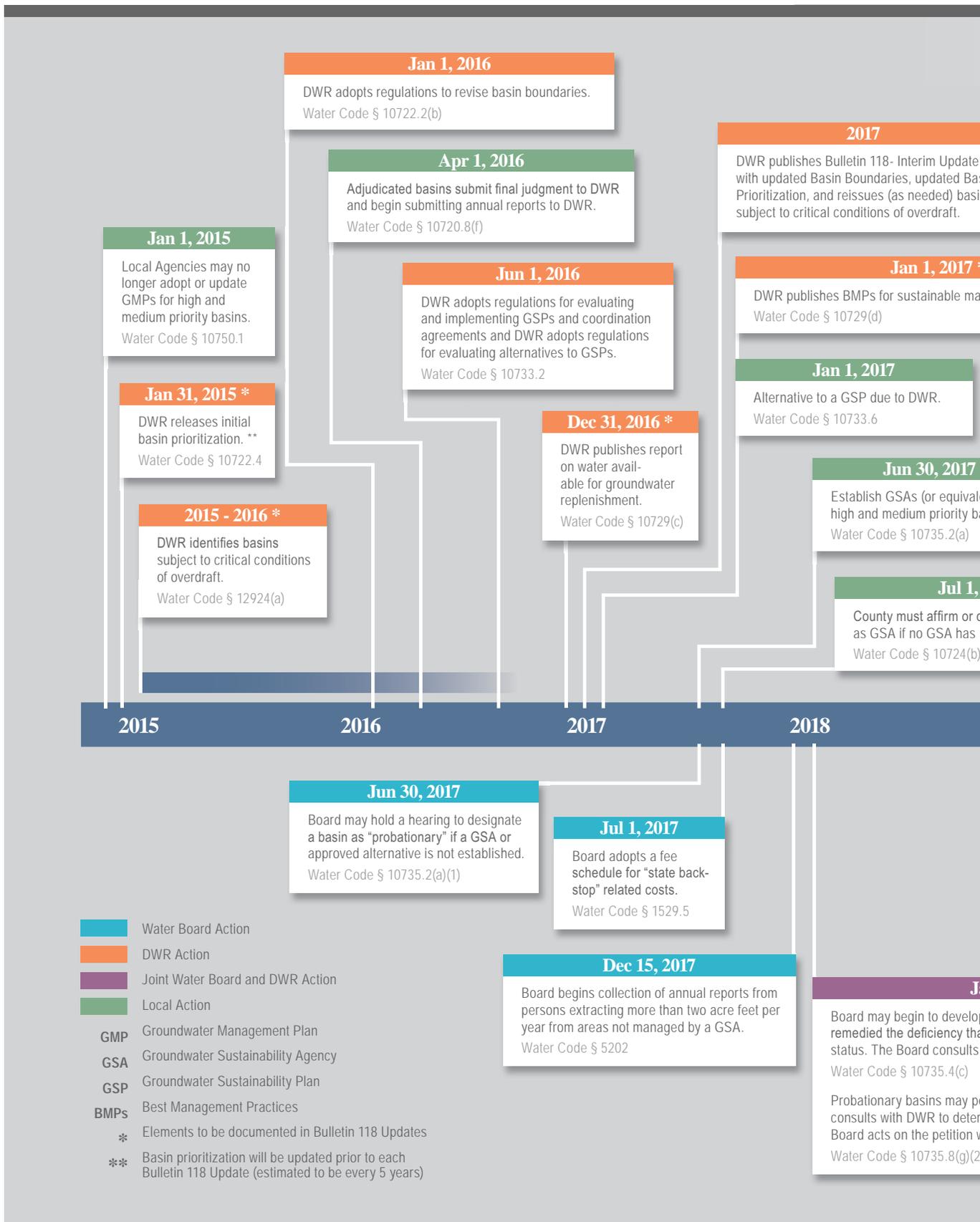
### **Objective 4: Assist State and GSA Alignment and Provide Financial Assistance**

Strong alignment and collaboration between and amongst local, regional, and State agencies will be critical to achieving sustainable groundwater management statewide. DWR will provide venues for communication and engagement, educational materials, and facilitation services, as well as financial assistance to help ensure success.

### **Objective 5: Provide Interregional Assistance**

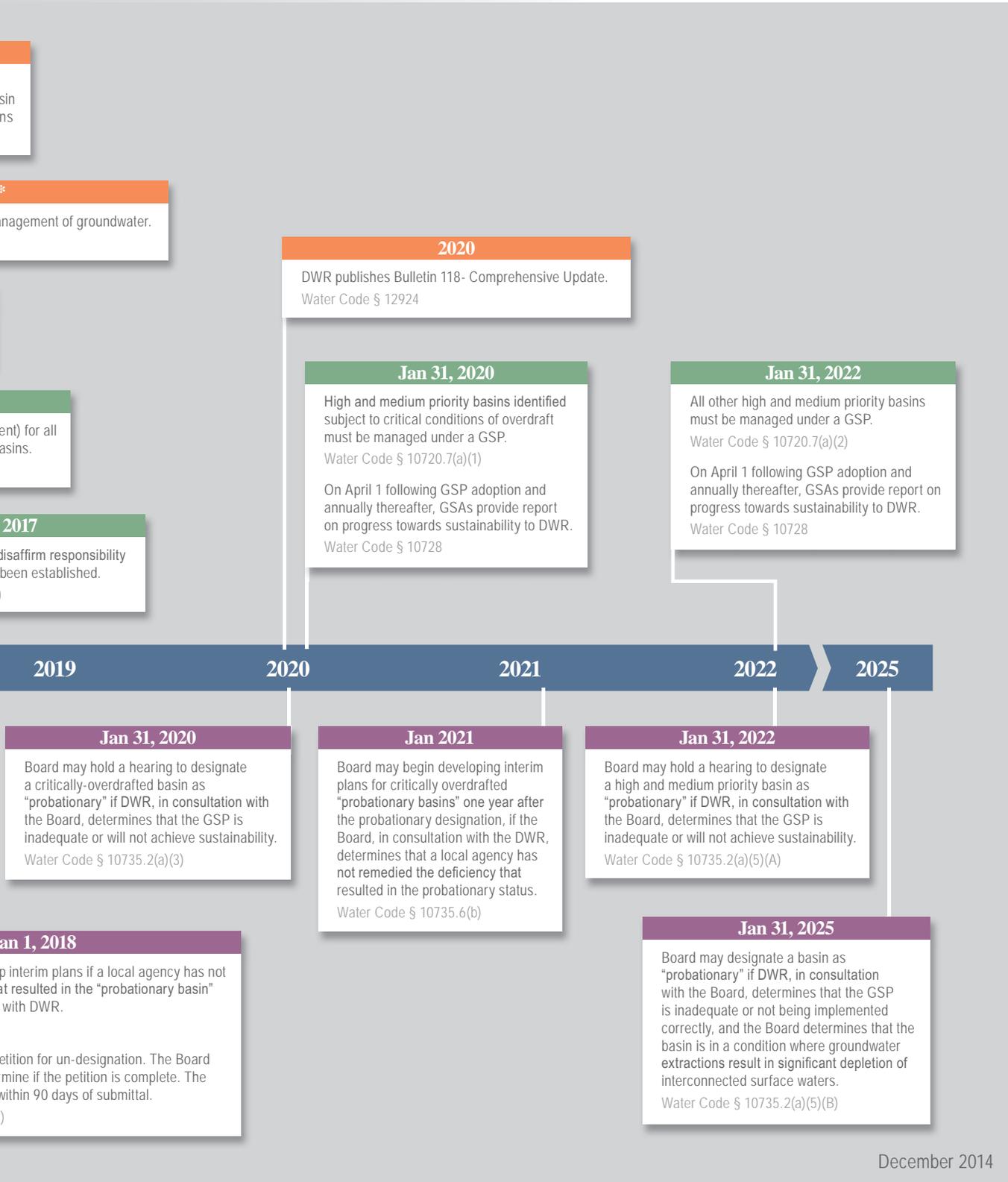
Achieving this objective will require DWR to support regional water managers with information on water reliability, storage and conveyance opportunities, water available for replenishment, and updated surface-groundwater interactions.

These objectives will be addressed by way of a suite of actions undertaken by DWR over the coming years to promote and support sustainable water management. These corresponding actions are defined in the following section.



**Figure 7. Major Timeline of Key SGMA Milestones**

# Key SGMA Milestones



December 2014

## DWR Objectives and Corresponding Actions

DWR's groundwater sustainability objectives and their associated actions are formulated to assist local agencies and GSAs to prepare and implement plans to achieve sustainable groundwater management in their basins. These objectives and their related actions were developed to achieve the key intended outcomes.

### Objective 1: Develop a Framework for Sustainable Groundwater Management

#### Action 1.1 Develop Comprehensive Water Budgets for the Entire Basin

DWR will provide guidance and criteria for preparing water budgets and will review, verify, and provide comments on the water budgets prepared by the GSAs. DWR will work with local agencies to provide technical expertise to quantify comprehensive water budgets for the entire basin, including connections to upper watersheds and adjacent basins, and support making the information available to the agencies and the public through a web-based information management system.

**Jan 31, 2015 \***

DWR releases initial basin prioritization. \*\*  
Water Code § 10722.4

#### Action 1.2 Update Basin Prioritizations

DWR will periodically revise and publish basin prioritization through updates of *Bulletin 118*. Groundwater basins will be categorized as High, Medium, Low, or Very Low Priority using eight criteria including basin population, irrigated acreage, and degree of reliance on groundwater. The initial basin prioritization already has been determined as that published in June 2014 pursuant to CASGEM. Future basin priority updates will include assessment of groundwater-related impacts to habitat and streamflow.

**Jan 1, 2017 \***

DWR publishes BMPs for sustainable management of groundwater.  
Water Code § 10729(d)

#### Action 1.3 Develop Best Management Practices

By **January 1, 2017**, DWR will publish best management practices (BMPs) for sustainable groundwater management. These BMPs will provide descriptions of essential elements

to be incorporated into a GSP, including stakeholder coordination, effective and appropriate monitoring systems for determining how well sustainability objectives are being met, essential data collection and management, and public transparency guidance. The BMPs will be incorporated into future *Bulletin 118* updates.

**Jan 1, 2016**

DWR adopts regulations to revise basin boundaries.  
Water Code § 10722.2(b)

#### Action 1.4 Develop and Adopt Regulations for Basin Boundary Revisions

By **January 1, 2016**, DWR will adopt regulations, which will include the methodology and criteria to be used in evaluating and approving basin boundary adjustments. DWR will then evaluate and approve local agency requests for basin boundary changes where supporting documents meet the specified criteria. Boundary changes will be published in *Bulletin 118: California's Groundwater*.

#### Action 1.5 Develop and Adopt Regulations for Groundwater Sustainability Plan Assessment and GSP Alternatives

By **June 1, 2016**, DWR will develop and adopt regulations for evaluating the adequacy of GSPs, the implementation of GSPs, and the development of coordination agreements.

These regulations will identify necessary plan components and describe how DWR will determine whether sustainable management objectives and actions developed by GSAs meet the intent of the SGMA. The regulations also will identify required necessary information for coordination with adjacent GSAs.

By **June 1, 2016**, DWR also will adopt regulations for evaluating alternatives to GSPs. Local agencies that wish to manage the basin under an alternative to GSP will need to submit their alternative to DWR by January 1, 2017. Basins managed under adjudication are required to submit their final judgment to DWR by April 1, 2016, and begin submitting their annual reports to DWR.

**Jun 1, 2016**

DWR adopts regulations for evaluating and implementing GSPs and coordination agreements and DWR adopts regulations for evaluating alternatives to GSPs.

Water Code § 10733.2

### **Action 1.6 Identify Basins Subject to Critical Conditions of Overdraft**

By **2016**, DWR will develop and apply criteria to identify basins subject to critical conditions of overdraft.

**2015 - 2016 \***

DWR identifies basins subject to critical conditions of overdraft.

Water Code § 12924(a)

### **Action 1.7 Evaluate Adequacy of Groundwater Sustainability Plans**

Within two years of receiving a GSP, DWR will evaluate the GSP and provide the GSA with an assessment of the plan– including recommended corrective action to address plan deficiencies or adequacy to achieve sustainability.

## **Objective 2: Provide Statewide Technical Assistance to Groundwater Sustainability Agencies**

### **Action 2.1. Develop a Groundwater Management Information System**

DWR will develop a web-based groundwater management information system to collect, organize, store, and manage the exchange of information between DWR and GSAs.

### **Action 2.2. Collect Groundwater Quality Data**

DWR will continue to collect and make groundwater quality data available.

### **Action 2.3. Collect Groundwater Elevation Data**

DWR will continue to collect, assess, and make groundwater level data available and provide assistance to improve/expand statewide groundwater elevation monitoring for high and medium priority basins.

### **Action 2.4 Collect Subsidence Data**

DWR will provide support to advance the collection and reporting of land subsidence data and opportunities to improve subsidence monitoring through remote sensing techniques.

### **Action 2.5 Establish Well Standards**

DWR will update the California Well Standards and submit them to the SWRCB for adoption into the Model Well Ordinance. DWR will provide training to local enforcing agencies in administering the updated Standards.

### **Action 2.6 Implement the CASGEM Program**

DWR will continue to support the CASGEM program and efforts that support local collection, analysis, and reporting of relevant data and information.

### Action 2.7 Promote Water Conservation

DWR will provide assistance and water management strategies to groundwater-reliant entities to promote water conservation and protect groundwater resources

## Objective 3: Provide Statewide Planning Assistance to Support Groundwater Sustainability

2017

DWR publishes Bulletin 118- Interim Update with updated Basin Boundaries, updated Basin Prioritization, and reissues (as needed) basins subject to critical conditions of overdraft.

### Action 3.1 Update Bulletin 118

**By 2017**, DWR will complete an interim *Bulletin 118* Update, then by 2020, and every 5 years thereafter DWR will update Bulletin 118, which will include updated basin boundaries and basin prioritization and identify basins that are subject to critical conditions of overdraft.

### Action 3.2 Integrate Groundwater information into Bulletin 160

DWR will incorporate basin budget information from *Bulletin 118* updates into statewide planning analysis developed as part of the Department's *Bulletin 160 California Water Plan* updates, to assess changes in aquifer storage and long-term groundwater sustainability throughout California.

### Action 3.3 Local Assistance for Recharge Projects

DWR will support the development, protection, and operation of a statewide network of locally and regionally operated natural and artificial groundwater recharge and managed groundwater storage sites. This will include identifying regulatory barriers and assist in removing those barriers, and providing technical tools and assistance to promote natural and managed groundwater recharge. This action will complement Action 5.1.

## Objective 4: Assist State and GSA Alignment and Provide Financial Assistance

### Action 4.1. Alignment for management of groundwater programs

DWR will establish State agency steering committees, policy groups, and technical advisory groups to help strengthen and improve alignment and collaboration with the State and GSAs, and to provide guidance and support to GSAs and other stakeholders. State agency steering committees will ensure collaboration, avoid redundancy, and remain in alignment throughout the implementation process.

### Action 4.2 Provide Financial Assistance

DWR will provide funding to help local agencies to develop tools and models, prepare water budgets, and provide technical assistance in helping GSAs prepare their GSPs.

**“One hundred million dollars (\$100,000,000) shall be made available for competitive grants for projects that develop and implement groundwater plans and projects”**

—Proposition 1

**Action 4.3. Provide Education and Communication Assistance**

DWR will assist in establishing effective communication pathways between GSAs and stakeholders through the implementation of a public engagement and outreach plan. DWR will provide education materials to stakeholders to assist in the development of groundwater sustainability agencies.

**Action 4.4. Provide Facilitation and Engagement Assistance**

DWR will provide neutral facilitation services to assist GSA development by assessing local issues, identifying common values and objectives, and establishing a framework for consensus building.

**Objective 5: Provide Interregional Assistance****Action 5.1. Assist in the Implementation of Storage and Conveyance Projects**

DWR will provide assistance to local agencies to implement groundwater conjunctive use and help curb groundwater overdraft. This could include development of storage projects, conveyance, inter-regional and systemwide infrastructure improvements for basin water supply reliability and to reduce reliance on groundwater.

**Action 5.2. Provide Information on Surface Water Reliability**

DWR will provide systemwide water supply availability information including State Water Project and Central Valley Project water supply reliability and delivery information.

**Action 5.3. Advance Studies on Surface/Groundwater Interaction**

DWR will advance studies, modeling, tools and integrated water management actions that support the understanding and ability to manage water as a single resource. Independent management of surface water and groundwater resources often result in undesirable consequences to the long-term supply of one or both of these resources.

**Action 5.4. Provide Information for Water availability for Replenishment**

**By December 31, 2016**, DWR will publish a report providing a statewide estimate of water available for groundwater replenishment. This estimate will provide information to enhance supply, based on hydrology and feasible conveyance improvements. This estimate will be included in updates to *Bulletin 118*.

**Dec 31, 2016 \***

DWR publishes report on water available for groundwater replenishment.  
Water Code § 10729(c)

**Phased Implementation**

It will take years to achieve the ultimate goal of local sustainable groundwater management at a statewide scale. To achieve the key outcomes, DWR, SWRCB, and other State agencies will work together to implement the many actions listed above, and assist local agencies in achieving groundwater sustainability. **Figure 8** provides an overview of the phased implementation of DWR's groundwater sustainability actions.

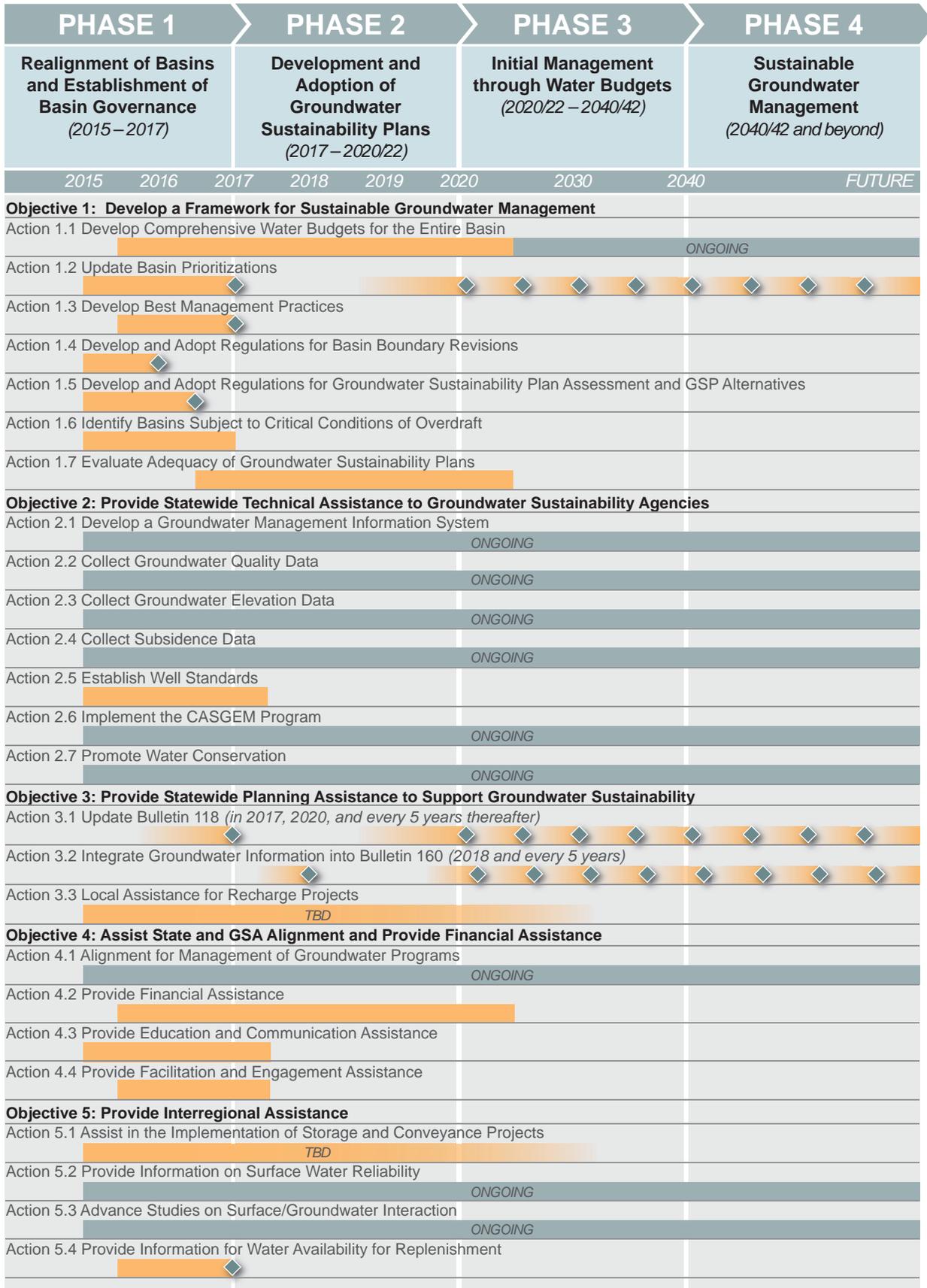


Figure 8. Phased Implementation of DWR Groundwater Sustainability Actions

# Communication and Outreach

Governor Brown noted upon signing the SGMA that groundwater is best managed at the local level, and that the State's primary role is to provide guidance and support. The CWAP, SGMA, and provisions of Proposition 1 (Water Bond) direct the State to provide assistance to local agencies. Successful implementation is directly tied to effective communication and outreach, in addition to coordination at all levels of government. The SGMA requires DWR to develop regulations and tools, provide data and information, and provide support to local and regional agencies as they take on central roles in managing their groundwater basins and advancing the CWAP. California water management needs are diverse and implementation of the SGMA necessitates timely, forthright, and consistent communication among all partners and stakeholders.

In addition to communication, proactive outreach to and engagement of partners and stakeholders is essential to achieving sustainable groundwater management at the local and regional level. Local and regional agencies in turn must reach out to keep local citizens, groundwater users, and stakeholders informed. Adaptive, practical, and two-way communication is essential to establishing and maintaining the partnerships needed. This section of the *Strategic Plan* provides an overview of DWR's initial plan for communication, outreach, and coordination with partners. The key audiences for this effort include:

- **State, Federal and Tribal Governments:** Governor's Administration, Legislature and key State and federal agencies, tribes
- **Regional and local governments and agencies:** Water and groundwater management agencies and districts; land use entities such as counties and cities
- **Other stakeholders:** Non-governmental organizations including water and groundwater, environmental, environmental justice, agriculture; universities
- **The public.**

A more comprehensive communication and outreach plan is forthcoming.

## Communication

Communication will provide for continuous sharing of information on all aspects of SGMA implementation, including details of DWR activities. Through proactive, regular, and timely communication, DWR seeks to accomplish the following:

- **Engagement:** Seek and maintain collaboration and cooperation with other agencies and stakeholders, and solicit and encourage public participation in SGMA implementation
- **Education:** Educate stakeholders, water users, and citizens on the requirements of the SGMA and water management sustainability objectives, and DWR's role in its implementation, relative to other State agencies
- **Accessibility:** Provide easy access to informative materials, data, reports and DWR's technical experts
- **Accountability:** Measure and report on progress and accomplishments in implementing the SGMA and provide transparency about DWR's implementation activities.

### Key Definition

#### Communication

*Ongoing sharing of information on provisions of the SGMA and its implementation.*

## Key Messages

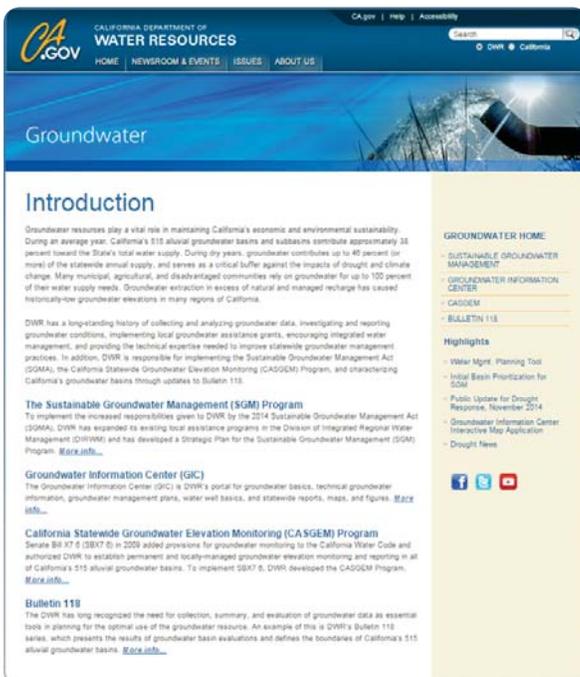
The following are some of the key messages that must be commonly understood by all stakeholders:

- Groundwater is best managed at the local or regional level, and strong local/regional governance and strategic planning are essential for success
- The State's role is to provide assistance to enable local and regional agencies to sustainably manage their water resources, and to intervene if necessary until local sustainable groundwater management plans are developed and implemented
- Strong and effective State agency alignment and coordination are required to support local/regional efforts
- Sustainable groundwater management can only be achieved in the context of regional and statewide water balance, accounting for all sources of supply as well as demands
- It will take decades to fully achieve sustainable water management and a phased approach is necessary, with accountability checks to measure progress.

## Communication Tools

In collaboration with the State Water Board, DWR will create a suite of information tools and resources. These include a centralized State groundwater website managed by DWR, as well as DWR and State Water Board websites:

- <http://www.groundwater.ca.gov>
- [http://www.waterboards.ca.gov/water\\_issues/programs/gmp/](http://www.waterboards.ca.gov/water_issues/programs/gmp/)
- <http://www.water.ca.gov/groundwater>



DWR's groundwater website includes information related to subject items in this *Strategic Plan* and links to other relevant websites.

DWR's groundwater website includes many informational features related to subject items discussed in this *Strategic Plan* and links to other related websites with technical information. The website will be updated regularly.

The DWR groundwater website will outline various project-specific actions and implementation status. DWR will continue to update and maintain its groundwater website. Technical information, data, and reports on DWR's websites will complement the centralized groundwater website and provide key information specific to SGMA implementation. DWR and SWRCB encourage local and regional agencies to develop their own communications programs to keep water users, stakeholders, and the public informed on implementation of the SGMA.

## Outreach

Outreach will be critical to successful implementation of the SGMA. DWR's *Strategic Plan* outlines an outreach program that will be proactive and interactive with information, ideas, and the opportunity for a two-way exchange. DWR will tailor its outreach efforts to major program functions and milestones, including governance, revisions to groundwater basin boundaries and

required regulations, local agency assistance, and information management. Outreach efforts will recognize the importance of differences from basin to basin.

DWR is committed to maintaining open and accessible pathways of information to provide as much opportunity for engagement as possible. Shared understanding of strengths and weaknesses in groundwater management will help to build a more resilient, interconnected management framework around the State—a key goal of the Administration’s CWAP.

#### Key Definition

##### Outreach

*Stakeholder/public engagement and interaction in all aspects of implementation.*

### Outreach Tools

DWR’s outreach program will consider a range of activities, events, and venues for public and stakeholder briefings. Specific meetings organized by DWR will include State agency committees, public stakeholder meetings, one-on-one meetings with interested stakeholders, regional workshops, and topic-specific webinars. DWR also will form groundwater sustainability member advisory panels to cover focused and specific issues. DWR-sponsored public meetings will help ensure public and stakeholder input as implementation unfolds.

## Partners

DWR and the SWRCB will work closely to develop clear, consistent information regarding SGMA implementation and enforcement. DWR and SWRCB steering committees have been formed to ensure collaboration, avoid redundancy, and create alignment throughout the implementation process. In addition, DWR has a long-standing direct relationship with the California Water Commission (Commission), which, pursuant to California Water Code Section 161, must approve all DWR rules and regulations. DWR will work closely with the Commission, which meets publicly, as it develops regulations pursuant to the SGMA.

DWR also recognizes the importance of keeping relevant federal agencies and tribal governments informed of its activities and exploring potential involvement in meeting statewide groundwater sustainable goals.

### Practitioners Advisory Panel

DWR will establish an advisory panel consisting of practitioners who have experience in managing groundwater or technical experts to help strengthen and improve alignment and collaboration with the State and GSAs, and to provide guidance and support to GSAs and other stakeholders. The panel will be formed to ensure the understanding of complex and detailed issues, coordination, avoidance of redundancy, alignment throughout the implementation process, and successful implementation of the SGMA.

### Leveraging Associations, Foundations, and Organizations

DWR will establish effective communication pathways between stakeholder organizations through the implementation of advisory groups to ensure these organizations provide the necessary input into the process, avoid redundancy, and remain in alignment throughout the implementation process.

### One-on-One Meetings

DWR will occasionally meet with specific water agency and county officials to ensure specific regional issues are discussed and well understood, and to ensure communication throughout the process.

### Workshops and Webinars

DWR will participate in workshops and topic-based webinars as needed.

**It is important that there is a shared vision of DWR’s objectives and plans in implementing its Groundwater Sustainability Program. To that end, DWR invites comments to this plan. Please send any comments by June 1, 2015 to: [sgmps@water.ca.gov](mailto:sgmps@water.ca.gov)**

**Edmund G. Brown Jr.**

Governor  
State of California

**John Laird**

Secretary  
California Natural Resources Agency

**Mark Cowin**

Director  
California Department of Water Resources



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# California Water Action Plan

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Among all our uncertainties, weather is one of the most basic. We can't control it. We can only live with it, and now we have to live with a very serious drought of uncertain duration.

Right now, it is imperative that we do everything possible to mitigate the effects of the drought. I have convened an Interagency Drought Task Force and declared a State of Emergency. We need everyone in every part of the state to conserve water. We need regulators to rebalance water rules and enable voluntary transfers of water and we must prepare for forest fires. As the State Water Action Plan lays out, water recycling, expanded storage and serious groundwater management must all be part of the mix. So too must be investments in safe drinking water, particularly in disadvantaged communities. We also need wetlands and watershed restoration and further progress on the Bay Delta Conservation Plan.

It is a tall order.

But it is what we must do to get through this drought and prepare for the next.

Edmund G. Brown Jr.

State of the State Speech, January 22, 2014

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# California Water Action Plan: Actions for Reliability, Restoration and Resilience

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## Introduction

California has seen many flood events, including the most recent flood of 1995 when 48 of 58 counties declared a state of emergency. After two years of dry weather and shrinking reservoir supplies, we are reminded once again that nothing focuses Californians' attention on our limited water resources like drought.

There is broad agreement that the state's water management system is currently unable to satisfactorily meet both ecological and human needs, too exposed to wet and dry climate cycles and natural disasters, and inadequate to handle the additional pressures of future population growth and climate change. Solutions are complex and expensive, and they require the cooperation and sustained commitment of all Californians working together. To be sustainable, solutions must strike a balance between the need to provide for public health and safety (*e.g.*, safe drinking water, clean rivers and beaches, flood protection), protect the environment, and support a stable California economy. This action plan lays out our challenges, our goals and decisive actions needed now to put California's water resources on a safer, more sustainable path. While this plan commits the state to moving forward, it also serves to recognize that state government cannot do this alone. Collaboration between federal, state, local and tribal governments, in coordination with our partners in a wide range of industry, government and nongovernmental organizations is not only important—it is essential. The input and contributions received from all of these partners throughout the drafting of this action plan have resulted in a comprehensive and inclusive plan.

## *Challenges for Managing California's Water Resources*

Water has always been a scarce resource in California. Most of the precipitation falls on the west-facing slopes of Northern California mountain ranges, yet most of the population and irrigated farmland is located in the drier southern half of the state. Precipitation is highly variable year-to-year, but the long warm summers are always dry. In the mid-20<sup>th</sup> century, state, federal and local agencies vastly expanded the state's system of reservoirs, canals, pumps and pipelines to store water and deliver it to agricultural and urban users in dry areas. Also, in the late 20<sup>th</sup> century, significant investments were made in the state's flood protection system, including levees and bypasses. These changes to the physical infrastructure have resulted in unintended consequences to the natural world. In general, there is broad consensus about our challenges.

***Uncertain water supplies*** – Reductions in water from major watersheds like the Colorado River watershed and the Sacramento-San Joaquin Delta (Delta) watershed—due to hydrologic and declining environmental conditions—have made these water supplies less reliable. Moreover, climate change impacts to these sources and the Cascade and Sierra headwaters will further strain supply reliability throughout the state. These sources are foundational supplies around which communities develop and manage local resources through strategies such as water use efficiency, recycled water, and groundwater recharge. The unreliable nature of these supplies threatens local, regional and statewide economies. **Collectively, the actions in this plan will contribute to more reliable water supplies.**

***Water scarcity/drought*** – California’s hydrology has always included extended dry periods. Much of California’s water system was originally designed to withstand a seven-year dry period without severe damage to the economy and environment. Today some regions and many communities struggle to maintain adequate water supplies after only a year or two of dry conditions. Climate change makes this situation even more challenging. Less outflow of water coming from the Cascades and Sierras during periods of drought increases seawater intrusion into the Delta. Improving our ability to manage scarce water supplies and over-stressed groundwater basins and better coordination of major reservoir operations is essential to economic and environmental sustainability. Taking action to address drought is especially urgent for agriculture where crops wither without water, and the world’s growing population and food demand create food security concerns. **This action plan includes both immediate steps for 2014 as well as actions that will better prepare California for future droughts.**

***Declining groundwater supplies*** – Groundwater accounts for more than one-third of the water used by cities and farms – much more in dry years, when other sources are cut back. Some of California’s groundwater basins are sustainably managed, but unfortunately, many are not. Inconsistent and inadequate tools, resources and authorities make managing groundwater difficult in California and impede our ability to address problems such as overdraft, seawater intrusion, land subsidence, and water quality degradation. Pumping more than is recharged lowers groundwater levels – which makes extracting water more expensive and energy intensive. Under certain conditions, excessive groundwater pumping could mobilize toxins that impair water quality and cause irreversible land subsidence which damages infrastructure and diminishes the capacity of aquifers to store water for the future. When properly managed, groundwater resources will help protect communities, farms and the environment against the impacts of prolonged dry periods and climate change. **The strategies identified in this action plan will move California toward more sustainable management of our groundwater resources.**

***Poor water quality*** – It is a fact that millions of Californians rely, at least in part, on contaminated groundwater for their drinking water. While most water purveyors blend or treat water to meet public health standards, many disadvantaged communities cannot afford to do so. In addition, domestic wells are drying up in many areas. All Californians have a right to safe, clean, affordable and accessible water adequate for human consumption, cooking and sanitary purposes. Safe water is necessary for public health and community prosperity. **The methods set forth in this action plan will improve the organization of our water quality programs and create new tools to help ensure that every Californian has access to safe water.**

***Declining native fish species and loss of wildlife habitat*** – California’s once robust native fish populations are at or near historic lows. Federal and state fish agencies now list many species of salmon and other fish as endangered and threatened. Wildlife habitat is also being lost at a rapid pace. Climate change further threatens the state’s natural biodiversity. Many do not understand that our fish and wildlife are part of the complex system that provides and protects California’s water resources. Tourism and fishing which provide economic benefits to local communities and to the state are also reliant on healthy ecosystems. Declining species and lost habitat disrupt the cultural, spiritual and ecological practices of California’s Native American tribes. Simply put, California’s diverse and unique ecosystems are irreplaceable and their loss threatens the sustainability of all of California’s communities. **The objectives in this action plan include aggressive ecosystem restoration and other steps that will restore fish populations and benefit wildlife.**

**Floods** – Over 7 million Californians live in a floodplain. Historically, flooding has occurred in all regions of the state. Our state’s capital, Sacramento, has one of the lowest levels of flood protection of any major city in the nation. Climate change will only exacerbate this problem. More precipitation will fall as rain rather than snow, snowmelt will occur earlier, and there will be more extreme weather events. **This action plan will serve to coordinate and streamline flood control efforts and result in multi-benefit flood projects, helping to mitigate the significant investments needed to improve flood protection for existing communities and infrastructure.**

**Supply disruptions** – Many parts of California’s water system are vulnerable to earthquakes and flooding, particularly the Delta, which serves as the conveyance hub for a substantial percentage of all water supplies in the Bay Area, the San Joaquin Valley, and Southern California. A large earthquake along any of five major faults or a major storm-induced levee failure could render this water supply unreachable or unusable for urban and agricultural needs for months. **The combined benefits of many of the actions in this plan will better prepare us to manage through potential disruptions in the system.**

**Population growth and climate change further increase the severity of these risks** – The state’s population is projected to grow from 38 million to 50 million by 2049.<sup>1</sup> The effects of climate change are already being felt and will worsen. The Sierra snowpack is decreasing, reducing natural water storage and altering winter and spring runoff patterns. This is most likely the result of higher temperatures and may also be related to air pollution that deposits fine particulate on the surface of snow, changing its reflectivity and causing it to absorb more heat and melt faster. Higher river and ocean water temperatures will make it harder to maintain adequate habitat for native fish species. Higher ocean temperatures will alter the already changing weather patterns. Sea level rise threatens coastal communities and islands in the Delta. Sea level rise also amplifies the risk that the pumps that supply cities and farms with Delta water will be inundated with seawater in a large earthquake or storms that breach levees. **The strategies identified in this action plan will help protect our resources from more frequent and more severe dry periods which threaten the health of our natural systems and our ability to meet our diverse water supply and water quality needs.**

### *Goals: Reliability, Restoration and Resilience*

The California Water Action Plan has been developed to meet three broad objectives: more reliable water supplies, the restoration of important species and habitat, and a more resilient, sustainably managed water resources system (water supply, water quality, flood protection, and environment) that can better withstand inevitable and unforeseen pressures in the coming decades. Over the next five years, the actions discussed below will move California toward more sustainable water management by providing a more reliable water supply for our farms and communities, restoring important wildlife habitat and species, and helping the state’s water systems and environment become more resilient.

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<sup>1</sup> <http://www.dof.ca.gov/research/demographic/reports/projections/view.php> California’s population will cross the 50 million mark in 2049 and grow to nearly 52.7 million by 2060.

## *Working Together and Continued Collaboration is Essential*

Despite the many challenges for water management in California, there is good progress to report. There are thousands of important projects that are being planned or implemented by all levels of government as well as by conservationists, tribes, farmers, water agencies and others. State, regional and local agencies have increasingly been pursuing a strategy of making regions more self-reliant by reducing water demand and by developing new or underused water resources locally. In the future, most new water will come from a combination of improved conservation and water use efficiency, conjunctive water management (i.e., coordinated management of surface and groundwater), recycled water, drinking water treatment, groundwater remediation, and brackish and seawater desalination. There is increased focus on projects with multiple benefits, such as stormwater capture and floodplain reconnection, that can help simultaneously improve the environment, flood management and water supplies. These diversified regional water portfolios will relieve pressure on foundational supplies and make communities more resilient against drought, flood, population growth and climate change.

This Water Action Plan does not replace these local efforts. It complements and leverages them. Collaboration is essential. Successful implementation of this plan will require increased collaboration between state, federal and local governments, regional agencies, tribal governments, and the public and the private sectors. The Legislature is also a key partner.

Water has shaped California's past, its present, and will help define its future. Water has always been among the state's most contentious issues. California is at its best when people come together in the face of adversity to solve difficult problems. Only by working together can we improve and sustain the state's water future for generations to come.

## **Actions**

1. Make conservation a California way of life;
2. Increase regional self-reliance and integrated water management across all levels of government;
3. Achieve the co-equal goals for the Delta;
4. Protect and restore important ecosystems;
5. Manage and prepare for dry periods;
6. Expand water storage capacity and improve groundwater management;
7. Provide safe water for all communities;
8. Increase flood protection;
9. Increase operational and regulatory efficiency;
10. Identify sustainable and integrated financing opportunities.

Together, these actions address the most pressing water issues that California faces while laying the groundwork for a sustainable and resilient future and are critical to moving the state forward now. They reflect an integration of new ideas with the ongoing important work that the state and federal government, local agencies, and others are already engaged in and require coordination and collaboration across levels of government. They will not address all of our challenges. Some of these actions are new proposals. Some are currently being planned and should be completed more rapidly, implemented in a better way, or on a larger scale. Success will require the cooperation of many partners; the state's role is to lead, help others, and remove barriers to action.

## 1. MAKE CONSERVATION A CALIFORNIA WAY OF LIFE

Conservation must become a way of life for everyone in California. Much has changed in the past half century, and our technology, values and awareness of how we use water have helped to integrate conservation into our daily lives. There is more that can be done and all Californians must embrace this effort. In 2009, the state adopted the Water Conservation Act through the passage of Senate Bill X7 7 requiring that we achieve a 20 percent reduction in urban per capita water use by December 31, 2020, promoting expanded development of sustainable water supplies at the regional level, and requiring agricultural water management plans and efficient water management practices for agricultural water suppliers. Conservation and efficiency are also keys to reducing the energy needed to pump, transport, treat and deliver water – an important action included in the state’s Climate Change Scoping Plan for reducing greenhouse gas emissions. We must continue to build on our existing efforts to conserve water and promote the innovation of new systems for increased water conservation.

- **Expand Agricultural and Urban Water Conservation and Efficiency to Exceed SBX7 7 Targets**  
The administration will expand existing programs to provide technical assistance, shared data and information, and incentives to urban and agricultural local and regional water agencies, as well as local governmental agencies, to promote agricultural and urban water conservation in excess of the amounts envisioned by SBX7 7. We will work collaboratively with stakeholders to identify and remove impediments to achieving statewide conservation targets, recycling and stormwater goals; to evaluate and update targets for additional water use efficiency, including consideration of expanding the 20 percent by 2020 targets by holding total urban water consumption at 2000 levels until 2030, achieving even greater per capita reductions in water use. The administration will also work with local and regional entities to develop performance measures to evaluate agricultural water management.
- **Provide Funding for Conservation and Efficiency**  
The administration will work with the Legislature to expand funding for urban and agricultural water use efficiency research, and the development and implementation of efficiency standards through existing and new programs that save water and the energy associated with water use. Conservation programs must include numeric targets and be designed to achieve the state-developed targets and performance measures.
- **Increase Water Sector Energy Efficiency and Greenhouse Gas Reduction Capacity**  
The administration will continue supporting the collection of regional data and development of efficiency standards that save water and energy associated with water use and will provide guidance on conservation rates and sustainable financing that achieve water and energy savings. The administration will also continue to collaborate with water and wastewater agencies and energy utilities to educate consumers on the water-energy nexus. The administration will work with the Legislature to eliminate barriers to co-funding projects with water and energy benefits and expand and prioritize funding and technical support for water and wastewater agencies that achieve energy efficiency co-benefits and greenhouse gas reductions.
- **Promote Local Urban Conservation Ordinances and Programs**  
Local agencies are increasingly conserving water by prohibiting certain types of wasteful water use. Examples include: prohibiting watering hard surfaces such as sidewalks, walkways, driveways or parking areas; prohibiting outdoor watering during periods of rain; and not serving water to customers in restaurants unless specifically requested. Local agencies are also pioneering incentive programs, for example, converting lawns to drought tolerant landscapes—and programs to capture rainwater.

## **2. INCREASE REGIONAL SELF-RELIANCE AND INTEGRATED WATER MANAGEMENT ACROSS ALL LEVELS OF GOVERNMENT**

While California has vast infrastructure to store and deliver water miles from its origin, the majority of infrastructure management and investment resides at the local and regional levels. Sometimes that management is done by agencies responsible for multiple functions such as flood management, water supply and water quality. Other times, individual agencies handle those functions separately. Over the past decade, the state has provided technical and financial assistance to regions to incentivize inter-agency/stakeholder cooperation in planning and implementing multi-objective actions that provide both regional and statewide benefits to water resources management and protection. Called "integrated water management," this approach balances the objectives of improving public safety, fostering environmental stewardship, and supporting economic stability. Developing local supplies can also save energy by reducing the distance that water must be transported. State grants are provided to both incentivize regional integration and leverage local financial investment.

Ensuring water security at the local level includes efforts to conserve and use water more efficiently, to protect or create habitat for local species, to recycle water for reuse, to capture and treat stormwater for reuse, and to remove salts and contaminants from brackish or contaminated water or from seawater. But, mostly it requires integrating disparate or individual government efforts into one combined regional commitment where the sum becomes greater than any single piece.

- **Support and Expand Funding for Integrated Water Management Planning and Projects**  
The administration will work with the Legislature to enhance the Integrated Water Management Planning program. Providing funding for regionally-driven, multi-benefit projects that prioritize protection of public health is critical. The administration will target funding to local regional projects that increase regional self-reliance and result in integrated, multi-benefit solutions for ensuring sustainable water resources.
- **Update Land Use Planning Guidelines**  
The Governor's Office of Planning and Research (OPR) will engage local land use authorities, California Native American tribes, and water agencies to amend the general plan guidelines to promote greater consistency between local land use plans and decisions and integrated regional water management plans and decisions. OPR will also work with the Legislature to determine whether water should be a mandatory feature of the general plan guidelines.
- **Legislation for Local and Regional Self Reliance**  
The administration will work with the Legislature to encourage local governments to adopt or amend local ordinances that enhance local and regional water supply reliability and conservation, such as ordinances that establish minimum requirements for infiltration or injection of water into the groundwater table, detection and prevention of utility system leaks, landscaping measures, and indoor/outdoor water use efficiency standards.
- **Provide Assistance to Disadvantaged Communities**  
The administration will provide technical assistance, tools, and allocate dedicated funds for grant administration, project development, and stakeholder collaboration to under-represented and economically-disadvantaged communities to promote greater participation and success in regional grant programs.

- **Demonstrate State Leadership**

All state agencies should take a leadership role in designing new and retrofitted state owned and leased facilities to increase water efficiency, use recycled water, and incorporate stormwater runoff capture and low-impact development strategies.

- **Encourage State Focus on Projects with Multiple Benefits**

The administration will direct agencies and departments to evaluate existing programs and propose modifications to incentivize and co-fund multi-benefit projects that promote integrated water management, such as stormwater permits that emphasize stormwater capture and infiltration, which provide both flood protection and groundwater recharge benefits, and agricultural groundwater recharge projects that emphasize water quality and conjunctive use. The commitment to emphasize multiple benefit projects will be applied to most of the actions in this plan.

- **Increase the Use of Recycled Water**

California needs more high quality water, and recycling is one way of getting there. The state will adopt uniform water recycling criteria for indirect potable reuse of recycled water for groundwater recharge. Technical and financial assistance will be provided to projects that meet these criteria. The administration will also develop criteria for direct potable reuse and will seek to consolidate the state's recycling programs in the State Water Resources Control Board to promote program efficiencies.

- **Streamline Permitting for Local Water Reuse or Enhancement Projects**

The administration will review and propose measures to streamline permitting for local projects that make better use of local water supplies such as recycling, stormwater capture, and desalination of brackish and seawater as well as projects that provide multiple benefits, such as enhancing local water supplies while improving wildlife habitat.

### **3. ACHIEVE THE CO-EQUAL GOALS FOR THE DELTA**

The Delta is California's major collection point for water, serving two-thirds of our state's population and providing irrigation water for millions of acres of farmland. The region supports farming, wetland and riparian habitats, as well as numerous fish and wildlife species. In recent years, important fish populations have declined dramatically, leading to historic restrictions on water supply deliveries. Moreover, the current system relies on water flowing through a network of fragile levees from the northern part of the Delta to the pumps in the south, where two out of three fish trapped near the pumps die. These levees were not designed to resist a significant seismic event, the probability of which is greater than 60 percent over the next 50 years. They are also vulnerable to major floods and rising sea levels, all of which puts unacceptable risk on the people who live in the Delta as well as the water supply for 25 million people and 3 million acres of farmland. Plans are underway to address these problems. The issues are contentious and have been for decades. But, the status quo in the Delta is unacceptable and it would be irresponsible to wait for further degradation or a natural disaster before taking action.

The Delta Stewardship Council was created in legislation to achieve the state-mandated co-equal goals of providing a more reliable water supply for California and to protect, restore and enhance the Delta ecosystem. Those two goals are to be achieved in a manner that protects and enhances the unique cultural, recreational, natural resource and agricultural values of the Delta as an evolving place. The council recently adopted its Delta Plan and will establish a high-level interagency coordinating body to commence implementation of a suite of actions designed to achieve the co-equal goals. The Implementation Committee can play a strong role in moving forward on the actions included in this plan, which include and build on many of the priorities included in the council's Delta Plan.

- **Begin Implementation of the Delta Plan**

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.

- **Complete Comprehensive Plans to Recover Populations of Threatened and Endangered Species in the Delta and Improve Water Supply Reliability for Users of Delta Water**

State and federal agencies will complete planning for a comprehensive conservation strategy aimed at protecting dozens of species of fish and wildlife in the Delta, while permitting the reliable operation of California's two biggest water delivery projects. The Bay Delta Conservation Plan (BDCP) will help secure California's water supply by building new water delivery infrastructure and operating the system to improve the ecological health of the Delta. It will also restore or protect approximately 145,000 acres of habitat to address the Delta's environmental challenges. The BDCP is made up of specific actions, called conservation measures, to improve the Delta ecosystem. It includes 22 conservation measures aimed at improving water operations, protecting water supplies and water quality, and restoring the Delta ecosystem within a stable regulatory framework. The project will be guided by 214 specific biological goals and objectives, improved science, and an adaptive management approach for operating the water conveyance facilities and implementing other conservation measures including habitat restoration and programs to address other stressors. As the Delta ecosystem improves in response to the implementation of the conservation measures, water operations would become more reliable, offering secure water supplies for 25 million Californians, an agricultural industry that feeds millions, and a thriving economy.

State and federal agencies will complete the state and federal environmental review documents; seek approval of the BDCP by the state and federal fishery agencies; secure all permits required to implement the BDCP; finalize a financing plan; complete the design of BDCP facilities; and begin implementation of all conservation measures and mitigation measures, including construction of water conveyance improvements. Once the BDCP is permitted, it will become part of the Delta Plan.

- **Restore Delta Aquatic and Intertidal Habitat**

In coordination with restoration proposed by the BDCP, a specific set of projects or acreage for restoration will be identified in the six priority areas listed in the Delta Plan: (1) Yolo Bypass; (2) Cache Slough Complex; (3) the confluence of the Cosumnes and Mokelumne rivers; (4) the lower San Joaquin River floodplain; (5) Suisun Marsh; and, (6) western Delta/eastern Contra Costa County. The Department of Water Resources, in consultation and coordination with the Department of Fish and Wildlife, the Delta Science Program, and the Delta Plan Implementation Committee will initiate projects to restore 8,000 acres of intertidal and associated subtidal habitat in the Delta and Suisun Marsh. These agencies will also coordinate with federal agency partners to ensure consistency with federal restoration efforts or requirements.

- **Implement Near-Term Delta Improvement Projects**

In coordination with restoration proposed in BDCP, the Department of Water Resources will initiate a project to remove fish passage barriers within the Yolo Bypass and modify the Fremont Weir to increase the amount and quality of fish rearing habitat by improving access to seasonal floodplain habitat.

- **Maintain Important Infrastructure**

The Department of Water Resources will continue implementation of the Delta Levees Subventions, Delta Special Projects, and Floodway Corridor Programs to provide financial assistance to local agencies for repair and improvement of levees and other multipurpose projects in the Delta.

- **Bay Delta Water Quality Control Plan**

The State Water Resources Control Board will complete its update of the Water Quality Control Plan for the Delta and its upstream watersheds. The plan establishes both regulatory requirements and recommended actions. The State Water Resources Control Board's action will balance competing uses of water including, municipal and agricultural supply, hydropower, fishery protection, recreation, and other uses.

#### **4. PROTECT AND RESTORE IMPORTANT ECOSYSTEMS**

Streams and rivers once ran freely from high in the mountains to downstream reaches, meandering naturally through lowland and floodplain habitats, connecting with coastal estuaries and the Pacific Ocean. The variability of natural water flows in this complex system created vibrant and resilient habitat for many species and functioned to store water, recharge groundwater, naturally purify water, and moderate flooding. Over 80 percent of the Central Valley's historical floodplain, riparian and seasonal wetland habitats have been lost in the last 150 years. This loss affects the physical and ecological processes of the Central Valley and beyond, contributes to the decline of salmon and steelhead, restricts habitat for waterfowl and other species, and impacts water supply, flood protection, and sediment control. In watersheds around the state, fish and wildlife no longer have access to habitat or enough cold, clean water at key times of the year. In response to these losses and ecological challenges, as well as in anticipation of the effects of climate change on the timing, volume and temperature of water flows, activities to protect and restore the resiliency of our ecosystems will help support fish and wildlife populations, improve water quality, and restore natural system functions. This effort will increase collaboration and transparency and ensure that management decisions are supported by the best available science.

- **Restore Key Mountain Meadow Habitat**

The Department of Fish and Wildlife, in coordination with other state resource agencies, will restore 10,000 acres of mountain meadow habitat in strategic locations in the Sierra Nevada and Cascade mountain ranges, which can increase groundwater storage and provide habitat for more than 100 native species, many of which are at risk as threatened or endangered. The department will also coordinate with federal agencies, local governments, conservation organizations, tribes, and others as necessary on this action to maximize efforts and avoid duplication.

- **Manage Headwaters for Multiple Benefits**

Watersheds in the Cascades, Sierra Nevada and other forested areas of the state are the places of origin for more than two-thirds of the state's developed water supply. Water originating in the Cascades and Sierra Nevada supplies all or part of the need for 23 million Californians and millions of acres of agricultural land. Up to one-half of the fresh water flowing into the Delta begins as snow and rain in these watersheds.

Many of these crucial watersheds are in poor health due to a number of factors. A changing climate of warmer temperatures will exacerbate the diseases and pests that create additional fire risk and, with more precipitation falling as rain instead of snow, create significant operational challenges for our reservoirs. Large, intense fires such as the recent Rim Fire will produce tons of sediment, much of which will end up in reservoirs, significantly reducing storage capacity and impacting water quality.

In order to reduce the significant risks posed to the water resources flowing from the Cascade, Sierra and other watersheds in the state, there is a critical need to address the following:

- Restore forest health through ecologically sound forest management. Overgrown forests not only pose a risk of catastrophic fire, but can significantly reduce water yield.
  - Protect and restore degraded stream and meadow ecosystems to assist in natural water management and improved habitat. Meadows provide a natural storage opportunity, critically important with a changing climate, while properly functioning stream systems reduce downstream sedimentation and enhance critical aquatic habitat.
  - Support and expand funding for protecting strategically important lands within watersheds to ensure that conversion of these lands does not have a negative impact on our water resources. By working with willing landowners, protection of key lands from conversion will result in a healthier watershed by reducing polluted runoff and maintaining a properly functioning ecosystem.
- **Bring Back Salmon to the San Joaquin River**

The Department of Fish and Wildlife and the Department of Water Resources will lead the state's effort to achieve the goals of restoring flows to the San Joaquin River from Friant Dam to the confluence of the Merced River, and bring back a naturally-reproducing, self-sustaining Chinook salmon fishery while reducing or avoiding adverse water supply impacts. Chinook will be reintroduced pursuant to the San Joaquin River Restoration Program, and the Department of Fish and Wildlife will complete construction of the conservation hatchery and research facility. The Department of Water Resources will perform activities that support the implementation of channel and structural improvements that result in restoring fish and flows. The administration will work with the Legislature and others to secure further funding as necessary to achieve these activities and the restoration goal.
  - **Protect Key Habitat of the Salton Sea Through Local Partnership**

The Natural Resources Agency, in partnership with the Salton Sea Authority, will coordinate state, local and federal restoration efforts and work with local stakeholders to develop a shared vision for the future of the Salton Sea. The Salton Sea is one of the most important migratory bird flyways in North America and is immediately threatened with reduced inflows and increasing salinity. The Department of Fish and Wildlife and the Department of Water Resources will begin immediately to implement the first phase of this effort with the construction of 600 acres of near shore aquatic habitat to provide feeding, nesting and breeding habitat for birds. This project is permitted to increase to 3,600 acres and could be scaled even greater with additional resources. Concurrently, the Natural Resources Agency and the Salton Sea Authority are developing a roadmap for the Salton Sea that will evaluate additional restoration projects and identify economic development opportunities through renewable energy development.
  - **Restore Coastal Watersheds**

The Department of Fish and Wildlife in coordination with other state resource agencies and other stakeholders, as appropriate, will develop at least 10 off-channel storage projects, modernize at least 50 stream crossings, and also implement at least 10 large-scale habitat projects along the California coast in strategic coastal estuaries to restore ecological health and natural system connectivity, which will benefit local water systems and help defend against sea level rise.

- **Continue Restoration Efforts in the Lake Tahoe Basin**

California, in partnership with the state of Nevada and the federal government, will continue its efforts to protect the beautiful and unique waters of Lake Tahoe. The Natural Resources Agency will maintain its role in leading the coordination of the state departments, the boards, and the conservancy involved in the bi-state efforts underway to restore, preserve and enhance the Lake Tahoe region. California's restoration efforts at Lake Tahoe include, among other things, support of the Tahoe Regional Planning Agency's implementation of its Regional Plan Update, putting into place the science provisions contained in the recently enacted SB 630, and support for projects contained in the region's Environmental Improvement Program.

- **Continue Restoration Efforts in the Klamath Basin**

The Department of Fish and Wildlife and the Natural Resources Agency will continue to work with diverse stakeholders to implement the Klamath Basin restoration and settlement agreements. Those agreements include measures to improve water quality in the Klamath River, restore anadromous fish runs, including Chinook and Coho salmon, and improve water reliability for agricultural and other uses by providing a drought planning mechanism for low water years. The administration will work with Congress to secure the necessary federal authorizations for the agreements and secure the necessary funding for removal of four hydroelectric dams on the Klamath River and funding for the necessary basin restoration.

- **Water for Wetlands and Waterfowl**

The Department of Fish and Wildlife in coordination with other state resource agencies will develop and implement a water acquisition, management, and water use efficiency strategy in coordination with the U.S. Fish and Wildlife Service, U.S. Bureau of Reclamation, Central Valley Project Improvement Act refuge water program, and Central Valley Joint Venture to secure reliable and affordable water for managed wetlands statewide. The administration will work with the Legislature, and others, to secure funding to acquire water and to replace or repair the most in need conveyances for delivering water for wetlands.

- **Eliminate Barriers to Fish Migration**

This action has three parts. First, in coordination with the Central Valley Project Improvement Act Anadromous Fish Screen Program, the Department of Fish and Wildlife will create and publish a Priority Unscreened Diversion List in the Central Valley area. Second, the administration will work with the Legislature and others to secure funding to install or repair the top 10 unscreened diversions on the priority list described above. Third, in smaller watersheds around the state, the Department of Fish and Wildlife will complete a comprehensive analysis, working with other state and federal agencies, to optimize barrier removal projects and river and stream priorities, and then complete culvert and bridge improvement and small dam removal projects to provide anadromous fish species access to historic spawning and rearing habitat.

- **Assess Fish Passage at Large Dams**

The Department of Fish and Wildlife, in coordination with state and federal resource agencies, will develop an evaluation and feasibility process for addressing fish passage at California's rim dams and develop rim dam solution plans for the most feasible locations. Rim dams are the large dams at the base of most major river systems in California. They are too integral to California's water infrastructure to consider removing, but, where feasible, passage around the rim dams may be necessary to recover salmon and steelhead, because 95 percent of the historical habitat for these fish is above the dams. This action will require coordination with local water agencies and dam owners and operators, as well as other stakeholders.

- **Enhance Water Flows in Stream Systems Statewide**

The State Water Resources Control Board and the Department of Fish and Wildlife will implement a suite of individual and coordinated administrative efforts to enhance flows statewide in at least five stream systems that support critical habitat for anadromous fish. These actions include developing defensible, cost-effective, and time-sensitive approaches to establish instream flows using sound science and a transparent public process. When developing and implementing this action, the State Water Resources Control Board and the Department of Fish and Wildlife will consider their public trust responsibility and existing statutory authorities such as maintaining fish in good condition.

- **Achieve Ecological Goals through Integrated Regulatory and Voluntary Efforts**

The San Francisco Bay and Sacramento-San Joaquin River Delta are some of the most studied ecosystems in the nation. Similarly, there are many scientific and management plans about the decline of salmon and steelhead in California. A fundamental ecological principle is that aquatic species and estuarine ecosystems need enough cold, clean water at the right times of year to ensure species abundance and health and ecological function. Integration across and between all voluntary and regulatory efforts may be necessary to truly achieve basic ecological outcomes.

As a goal, the state must continue to consider how to provide water flows necessary to meet current state policy, such as significantly increasing salmon, steelhead and trout populations while also supporting viable, self-sustaining populations of a broad range of other native aquatic species, and ensure sustainable river and estuary habitat conditions for a healthy, functional Bay Delta ecosystem. The administration, with the involvement of stakeholders, will build on the work in tributaries to the Sacramento and San Joaquin rivers, analyze the many voluntary and regulatory proceedings underway related to flow criteria, and make recommendations on how to achieve the salmon and steelhead and ecological flow needs for the state's natural resources through an integrated, multi-pronged approach.

## **5. MANAGE AND PREPARE FOR DRY PERIODS**

Water supply reliability is critical to maintaining California's economy. Temporary shortages caused today by extended, severe dry periods will become more frequent with climate change. Effective management of water resources through all hydrologic conditions will reduce impacts of shortages and lessen costs of state response actions. Many actions will help to secure more reliable water supplies and consequently improve drought preparedness. The actions identified below are specifically designed to address drought conditions and make California's water system more resilient.

- **Revise Operations to Respond to Extreme Conditions**

State natural resources and water quality agencies, in collaboration with their federal counterparts, will implement a series of administrative solutions through a transparent process to make water delivery decisions and propose options to address water quality and supply objectives in extreme conditions. Through these state agencies, the administration will exercise the maximum administrative discretion and flexibility possible to address the current dry conditions now and into 2014. Especially in drought conditions, adaptive management can have substantial fishery, water quality, and water supply benefits. The identification of such opportunities requires continued improved water forecasting and prompt inter and intra agency coordination and communication. It also requires an effective coordination mechanism involving the Department of Water Resources, the U.S. Bureau of Reclamation, the State Water Project and the Central Valley Project contractors, the state and federal fishery agencies, and the State Water Resources Control Board, at a minimum.

- **Streamline Water Transfers**

State agencies, in collaboration with their federal counterparts, will take all feasible steps to streamline water transfer processes to address both extreme situations and normal system operations. These include refining the schedule for the water transfer process, while considering cumulative, ground and surface water and third party impacts; and ensuring that transfers are based on measured water use. The administration will also improve outreach in support of local water transfer programs.

## **6. EXPAND WATER STORAGE CAPACITY AND IMPROVE GROUNDWATER MANAGEMENT**

On average, the state receives about 200 million acre-feet of water per year in the form of rain and snow. In reality, the average rarely occurs, as California has the most variable weather conditions in the nation and climate change may increase the variability. Storage, whether surface storage or groundwater storage, can hold water when it flows heavily for use at times when it does not and create greater flexibility in the system. Above ground (surface storage) can be in the form of large on-stream dams and reservoirs, or smaller on stream and off stream reservoirs. Groundwater storage consists of replenishing groundwater basins either directly through injection, or by allowing water to percolate into the ground naturally or from constructed spreading basins and some forms of stormwater capture. Surface storage can be operated in conjunction with groundwater storage to increase opportunities for groundwater recharge during high flow periods and thereby increase comprehensive water management benefits. Constructing surface storage can be challenging for environmental or financial reasons. Developing groundwater storage can be challenging because many basins are contaminated and this method of storage also requires an ability to measure and withdraw water.

The bottom line is that we need to expand our state's storage capacity, whether surface or groundwater, whether big or small. Today, we need more storage to deal with the effects of drought and climate change on water supplies for both human and ecosystem needs. Climate change will bring more frequent drought conditions and could reduce by half our largest natural storage system—the Sierra snowpack—as more precipitation falls as rain rather than snow, and as snow melts earlier and more rapidly. Moreover, we must better manage our groundwater basins to reverse alarming declines in groundwater levels. Continued declines in groundwater levels could lead to irreversible land subsidence, poor water quality, reduced surface flows, ecosystem impacts, and the permanent loss of capacity to store water as groundwater.

Demand for water goes well beyond water supply and flood management, the traditional purposes for which California's major reservoirs were built. Today, water storage is also needed to help provide widespread public and environmental benefits, such as seasonal fish flows, improved water quality, water cool enough to sustain salmon, and increased flexibility to meet multiple demands, especially in increasingly dry years. The financing of additional water storage in California must reflect not just specific local benefits, but also these broader public benefits.

- **Provide Essential Data to Enable Sustainable Groundwater Management**

The administration will expand and fund the California Statewide Groundwater Elevation Monitoring Program, which provides essential data to characterize the state's groundwater basins, including identifying basins in decline. In coordination with federal, tribal, local and regional agencies, state agencies will conduct groundwater basin assessments and develop assessment reports.

- **Support Funding Partnerships for Storage Projects**

The administration will 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, including working with local

partners to complete feasibility studies. For example, the Sites Project Joint Powers Agreement, formed by a group of local government entities in the Sacramento Valley, is a potential emerging partnership that can help federal and state government determine the viability of a proposed off stream storage project – Sites Reservoir.

- **Update Bulletin 118, California’s Groundwater Plan**

The Department of Water Resources, in consultation with the U.S. Bureau of Reclamation, U.S. Geological Survey, the State Water Resources Control Board, and other agencies and stakeholders will update Bulletin 118 using field data, California Statewide Groundwater Elevation Monitoring, groundwater agency reports, satellite imagery, and other best available science, so that this information can be included in the next California Water Plan Update and be available for inclusion in future water management and land use plans. The Bulletin 118 update should include a systematic evaluation of major groundwater basins to determine sustainable yield and overdraft status; a projection of California’s groundwater resources in 20 years if current groundwater management trends remain unchanged; anticipated impacts of climate change on surface water and groundwater resources; and recommendations for state, federal and local actions to improve groundwater management. In addition, the Bulletin 118 update should identify groundwater basins that are in a critical condition of overdraft.

- **Improve Sustainable Groundwater Management**

Groundwater is a critical buffer to the impacts of prolonged dry periods and climate change on our water system. The administration will work with the Legislature to ensure that local and regional agencies have the incentives, tools, authority and guidance to develop and enforce local and regional management plans that protect groundwater elevations, quality, and surface water-groundwater interactions. The administration will take steps, including sponsoring legislation, if necessary, to define local and regional responsibilities and to give local and regional agencies the authority to manage groundwater sustainably and ensure no groundwater basin is in danger of being permanently damaged by over drafting. When a basin is at risk of permanent damage, and local and regional entities have not made sufficient progress to correct the problem, the state should protect the basin and its users until an adequate local program is in place.

- **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.

- **Increase Statewide Groundwater Recharge**

The administration will work with the Legislature to discourage actions that cause groundwater basin overdraft and provide incentives that increase recharge. State agencies will work with tribes and federal, regional and local agencies on other actions related to promoting groundwater recharge and increasing storage, including improving interagency coordination, aligning land use planning with groundwater recharge, and identifying additional data and studies needed to evaluate opportunities, such as capturing and recharging stormwater flows and other water not used by other users or the environment.

- **Accelerate Clean-up of Contaminated Groundwater and Prevent Future Contamination**

Throughout the state, groundwater basins are contaminated by historic manufacturing, farming practices and other current uses. The State Water Resources Control Board and the Department of Toxic Substances Control will develop recommendations and take action to prevent the spread of

contamination, accelerate cleanup, and protect drinking water in urban areas. The State Water Resources Control Board will continue to implement appropriate control measures to address these sources through its water quality permitting authority.

## **7. PROVIDE SAFE WATER FOR ALL COMMUNITIES**

All Californians have a right to safe, clean, affordable and accessible water adequate for human consumption, cooking, and sanitary purposes. Disadvantaged communities, in particular, often struggle to provide an adequate supply of safe, affordable drinking water. The reasons for this are numerous: changes in drinking water quality standards, pollution, aging infrastructure, lack of funding for basic infrastructure, lack of funding for ongoing operation and maintenance, and unreliable supplies resulting in service interruptions are among the most common. Programs designed to protect the quality of our waters for drinking and other uses are housed in multiple agencies, reducing their effectiveness and ability to meet communities' needs.

- **Consolidate Water Quality Programs**

The administration is pursuing consolidation of the drinking water and surface and groundwater quality programs into a single agency to achieve broader program efficiencies and synergies that will best position the state to respond to existing and future challenges. This initiative will also better restore and protect water quality and public health for disadvantaged communities.

- **Provide Funding Assistance for Vulnerable Communities**

The administration will work with the Legislature to establish a stable, long-term funding source for provision of safe drinking water and secure wastewater systems for disadvantaged communities. The funding will be made available through a framework of statutory authorities for the state, tribes, regional organizations, and county agencies that will assess alternatives for providing safe drinking water and wastewater, including regional consolidation, and to develop, design, implement, operate and manage these systems for small disadvantaged communities impacted by contaminated drinking water and lack of sanitary wastewater infrastructure.

- **Manage the Supply Status of Community Water Systems**

The state will identify drought-vulnerable public water systems and monitor the status of these systems to help prevent or mitigate any anticipated shortfalls in supply and to secure alternative sources of water for the communities when needed. The state will also work with local governments and agencies to identify drought-vulnerable areas served by domestic wells and collaborate to prevent or mitigate any anticipated shortfalls.

## **8. INCREASE FLOOD PROTECTION**

California's exposure to flood risk presents an unacceptable threat to public safety, infrastructure, and our economy. More than 7 million people and \$580 billion in assets are exposed to flood hazards in the state and the lack of sufficient and stable funding for flood management exacerbates the state's risk.

When California floods, public safety and health is endangered, critical infrastructure is damaged, vital services become isolated or interrupted, vast agricultural areas are rendered unproductive, and water supplies are threatened or impacted. The effects of climate change on the state's water runoff patterns will magnify these challenges. Actions by state, local, tribal and regional governments, however, can reduce flood risks and improve

the state's preparedness and resiliency when flooding inevitably occurs. Flood projects done in an integrated, regionally-driven way can also achieve multiple benefits. It is possible through collaborative planning efforts to integrate our flood and water management systems, and implement flood projects that protect public safety, increase water supply reliability, conserve farmlands, and restore ecosystems.

- **Streamline and Consolidate Permitting**

The administration will convene a task force of federal, state and local permitting and flood management agencies, to develop a programmatic regulatory permitting process to replace current site-by-site mitigation requirements and expedite permitting of critical maintenance activities and flood system improvement projects. The effort to streamline and consolidate will also incorporate regional advanced mitigation as a means to expedite planning.

- **Create a Delta Levee Assessment District**

The administration, in consultation with the Delta Protection Commission and the Department of Water Resources, will sponsor legislation establishing a Sacramento-San Joaquin River Delta levee assessment district with authority to collect fees needed to repair and maintain more than 1,000 miles of Delta levees, many of them privately constructed before modern engineering standards were in place.

- **Improve Access to Emergency Funds**

The administration will sponsor legislation revising the California Disaster Assistance Act to enhance the Governor's Office of Emergency Services' ability to advance funds for flood response efforts in close coordination with the Department of Water Resources.

- **Better Coordinate Flood Response Operations**

The Governor's Office of Emergency Services, working in coordination with the Department of Water Resources, the U.S. Army Corp of Engineers, and others, will develop and implement a common interagency protocol that all jurisdictions and agencies at all levels of government operating in the Delta in an emergency will use to establish joint field incident commands for flood operations and other emergency response functions.

- **Prioritize Funding to Reduce Flood Risk and Improve Flood Response**

An estimated \$50 billion is needed to reduce flood risk statewide. The administration will focus on the highest risk areas and develop proposals to fund projects through a combination of financing options.

- **Identify State Funding Priorities for Delta Levees**

The Delta Stewardship Council, in consultation with the Department of Water Resources, the Central Valley Flood Protection Board, the Delta Protection Commission, local agencies, and the California Water Commission, should develop funding priorities for state investments in Delta levees. These priorities will 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.

- **Encourage Flood Projects That Plan for Climate Change and Achieve Multiple Benefits**

State agencies engaged in planning and implementing flood projects, such as those outlined in the Central Valley Flood Protection Plan, will factor in the effects of climate change as well as pursue projects that provide the greatest number of benefits in addition to flood and public safety. Projects should be developed in a manner that anticipates the extremes that are predicted to worsen due to climate change, and pursue multiple benefits as a climate adaptation strategy like increasing water supply reliability,

giving rivers more room to move through widening floodways, conserving farmlands, and restoring ecosystems.

## **9. INCREASE OPERATIONAL AND REGULATORY EFFICIENCY**

Efficiently operating the State Water Project and Central Valley Project, while complying with the requirements of state and federal endangered species acts and operating consistent with the conditions of water rights, contracts and other entitlements, is a delicate balancing act. Current coordination efforts, while longstanding and intended to cover a broad range of conditions, do not reflect the entire Delta watershed, nor do they effectively integrate all of the activities that other agencies and organizations are undertaking to improve the ecosystem.

- **Prepare for 2014 and Beyond Through Better Technology and Improved Procedures**

The administration will work with federal and regional counterparts to improve coordination of operations of all major water supply (storage facilities and direct diversions), flood control, hatchery facilities, and habitat restoration projects to improve water supply and fishery conditions. The goals are to improve water project near-term operational flexibility for water year 2014 and build upon those actions in subsequent years. Better technology can result in improved coordination and more accurate data for decision making. Examples of better technology and improved coordination include but are not limited to the following:

- Improve data availability, communication procedures, and analytical methods used to monitor and communicate risks to listed fish species and to water supplies when making regulatory decisions associated with implementation of incidental take provisions in the existing biological opinions.
- Develop a pilot project to test if a new index for Old River and Middle River reverse flows enables compliance with biological opinion requirements.
- Develop and employ new turbidity models to improve real-time turbidity management in the south Delta.
- Analyze through the South Delta Science Collaborative associated operational approaches for minimizing loss of salmon in the area of the Old River barrier and effects of the operations on water supply.
- Develop a Delta smelt life cycle model to help manage operations to avoid entrainment of smelt at the water project's intakes.
- Implement a 3.5-year study to enhance and modernize Delta smelt monitoring (fish abundance and geographic distribution in the Delta), to improve the ability to protect fish populations while minimizing the impacts of fish protective measures on water project operations.
- Work with federal agencies to improve coordination of hatchery fish releases with hydrologic conditions and water project operations to improve fish survival.
- Improve state and federal interagency coordination and water contractor coordination on real-time forecasting and management associated with meeting water quality control objectives, to optimize project operations and avoid redirected fishery impacts.

- Fund and revive the National Hydrological Dataset for California to improve high-quality framework geospatial data and the precision and accuracy of mapping and scientific studies.
- **Improve and Clarify Coordination of State Bay Delta Actions**  
The problems affecting the Delta need to be addressed on multiple fronts, including habitat loss, export conveyance, water projects operations, pollution control, and flows. The principal state entities charged with addressing these issues are the Delta Stewardship Council, Department of Water Resources, Department of Fish and Wildlife, and the State Water Resources Control Board. Several federal agencies exercise regulatory authority related to these issues. There are also multiple water districts, private parties, nongovernmental organizations and tribal communities with a profound stake in these issues.

A coordinated approach to managing the Delta is essential to serve the needs of California’s residents. State agencies will commit to using collaborative processes to achieve water supply, water quality and ecosystem goals. This approach embraces enhanced sharing of data, consistent use of peer-reviewed science, coordinated review under the California Environmental Quality Act, improved integration of related processes, and encouragement of negotiated resolutions.

- The Delta Stewardship Council, Department of Water Resources, Department of Fish and Wildlife, and the State Water Resources Control Board will ensure all relevant information is shared and will assist each other, as appropriate, to complete respective efforts to improve Delta conditions.
- State entities will encourage negotiated agreements among interested parties to implement flow and non-flow actions to meet regulatory standards and support all beneficial uses of water. State staff will participate in these processes to the maximum extent possible when requested.
- The Delta Stewardship Council’s Implementation Committee, which includes leaders from all the affected state entities, will meet regularly to review progress in coordination.
- The administration will direct relevant agencies and departments to work with the Delta Science Program, the Interagency Ecological Program, and others conducting science in the Delta to implement the Delta Science Plan, committing resources and funding for shared science to achieve integrated, collaborative and transparent science to enhance water and natural resource policy and management decisions.

## **10. IDENTIFY SUSTAINABLE AND INTEGRATED FINANCING OPPORTUNITIES**

California has a long history of making sound financial investments in water resources. However, our current investments are not keeping pace with the need. Our infrastructure is aging, levees are in need of repair, communities are without safe water, and our environment, farms and economy are suffering from unreliable and degraded water supplies. The effects of climate change will only accelerate the challenges facing our water resources and infrastructure. This plan includes actions that will require multiple funding sources. We have access to a variety of funding sources including federal grants and loans, general obligation bonds, revenue bonds, rate payer dollars, local initiatives, user fees, beneficiary fees, local and statewide taxes, private investment, public-private partnerships, and more. A better understanding of the variety and types of funds and financing available for water investment will help us to make the best, most efficient and sustainable uses of the funding available.

- **Remove Barriers to Local and Regional Funding for Water Projects**

The administration will work to clarify the 1996 Right to Vote on Taxes Act's (Proposition 218) applicability to water related fees and taxes, including sponsoring legislation if necessary.

- **Develop Water Financing Strategy**

The administration will develop a water financing strategy that leverages various sources of water-related project funding and proposes options for eliminating funding barriers, including barriers to co-funding multi-benefit projects. The strategy will identify all potential funding sources for water-related projects including cap and trade auction revenue under AB 32, energy efficiency funds, user and beneficiary fees, polluter fees, local measures, and other sources and will establish principles to guide the use of these funding sources. The strategy will consider measures for energy efficiency and renewable energy to achieve greenhouse gas reductions that would be a co-benefit of water infrastructure investments.

- **Analyze User and Polluter Fees**

The administration will direct agencies to identify areas where user and/or polluter fees may be appropriate. The agencies will assess the following: areas where users may not be fully funding the costs or impacts associated with their use, instances where polluters are not able to diminish their pollution and have not adequately accounted for the impacts of that pollution, and opportunities to use fees to incentivize positive behavior. The agencies will provide recommendations on fees, who would pay them, how they would be collected, and how they would be used.

## Conclusion

All Californians have a stake in our water future. These actions set us on a path toward reliability, restoration, and resilience in California water. We must adapt to this “new normal” and recapture California’s resource management leadership and our economic and environmental resilience and reliability. There are no silver bullets or single projects that will “fix the problem.” We must have a portfolio of actions to comprehensively address the challenges this state faces. Some actions must be taken immediately to address current risks such as the looming drought and inadequate safe drinking water. Additionally, over the next five years, we must address fundamental changes in our approach to water resource management and be prepared for the changes the future holds.

# Governor's Proclamation

## Native American Day Proclamation - 2014

**Executive Department**  
State of California

### PROCLAMATION

California has been home to human beings for at least 12,000 years, with the period of European-American settlement representing only a tiny fraction of this time. The first Europeans to arrive in California encountered hundreds of thousands of people organized into hundreds of distinct tribal groups. They flourished in the bountiful hills and valleys of what would someday become the Golden State.

The contact between these first Californians and successive waves of newcomers over the three succeeding centuries was marked by the utter devastation of Native American people, families and society. The colonial regimes of Spain and Mexico, through disease and slavery, reduced the indigenous population by more than half. Then the Gold Rush came, and with it a wave of new diseases and outright violence that halved the population again in just two years. The newborn State of California institutionalized violence against Native Americans, enacting policies of warfare, slavery and relocation that left few people alive and no tribe intact. In his 1851 address to the Legislature, our first Governor, Peter Hardeman Burnett, famously stated, "That a war of extermination will continue to be waged between the two races until the Indian race becomes extinct, must be expected."

In spite of Burnett's prediction, California today is home to the largest population of Native Americans in the fifty states, including both the rebounding numbers of our native Tribes and others drawn to the Golden State by its myriad attractions. The success of tribal businesses and the rise of tribal members in all walks of life today stand as testament to the resilience and enduring spirit of our native peoples. If Governor Burnett could not envision a future California including Native Americans, it is just as impossible for us today to envision one without them.

NOW THEREFORE I, EDMUND G. BROWN JR., Governor of the State of California, do hereby proclaim September 26, 2014, as "Native American Day" in the State of California.

IN WITNESS WHEREOF I have hereunto set my hand and caused the Great Seal of the State of California to be affixed this 22<sup>nd</sup> day of September 2014.



  
EDMUND G. BROWN JR.  
Governor of California

ATTEST:

  
DEBRA BOWEN  
Secretary of State

# Executive Order B-10-11

**Executive Department**  
**State of California**

## EXECUTIVE ORDER B-10-11

**FILED**  
in the office of the Secretary of State  
of the State of California

SEP 19 2011

By *[Signature]*  
Deputy Secretary of State

**WHEREAS** California is home to many Native American Tribes with whom the State of California has an important relationship, as set forth and affirmed in state and federal law; and

**WHEREAS** the State of California recognizes and reaffirms the inherent right of these Tribes to exercise sovereign authority over their members and territory; and

**WHEREAS** the State and the Tribes are better able to adopt and implement mutually-beneficial policies when they cooperate and engage in meaningful consultation; and

**WHEREAS** the State is committed to strengthening and sustaining effective government-to-government relationships between the State and the Tribes by identifying areas of mutual concern and working to develop partnerships and consensus; and

**WHEREAS** tribal people, as both citizens of California and their respective sovereign nations, have a shared interest in creating increased opportunities for all California citizens.

**NOW, THEREFORE, I, EDMUND G. BROWN JR.,** Governor of the State of California, by virtue of the power vested in me by the Constitution and the statutes of the State of California, do hereby issue the following orders to become effective immediately:

**IT IS ORDERED** that the position of Governor's Tribal Advisor shall exist within the Office of the Governor;

**IT IS FURTHER ORDERED** that the Governor's Tribal Advisor shall oversee and implement effective government-to-government consultation between my Administration and Tribes on policies that affect California tribal communities, and shall:

- Serve as a direct link between the Tribes and the Governor of the State of California.
- Facilitate communication and consultations between the Tribes, the Office of the Governor, state agencies, and agency tribal liaisons.
- Review state legislation and regulations affecting Tribes and make recommendations on these proposals.

**IT IS FURTHER ORDERED** that the Office of the Governor shall meet regularly with the elected officials of California Indian Tribes to discuss state policies that may affect tribal communities.

**IT IS FURTHER ORDERED** that it is the policy of this Administration that every state agency and department subject to my executive control shall encourage communication and consultation with California Indian Tribes. Agencies and departments shall permit elected officials and other representatives of tribal governments to provide meaningful input into the development of legislation, regulations, rules, and policies on matters that may affect tribal communities.

# Executive Order B-10-11

For purposes of this Order, the terms "Tribe," "California Indian Tribe", and "tribal" include all Federally Recognized Tribes and other California Native Americans.

This Executive Order is not intended to create, and does not create, any rights or benefits, whether substantive or procedural, or enforceable at law or in equity, against the State of California or its agencies, departments, entities, officers, employees, or any other person.

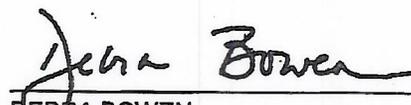
I FURTHER DIRECT that as soon as hereafter possible, this Order shall be filed with the Office of the Secretary of State and that it be given widespread publicity and notice.



IN WITNESS WHEREOF I have hereunto set my hand and caused the Great Seal of the State of California to be affixed this 19th day of September 2011.

  
EDMUND G. BROWN JR.  
Governor of California

ATTEST:

  
DEBRA BOWEN  
Secretary of State