

California Water Plan Update 2013

Central Valley Flood
Protection Board
December 19, 2014



Highlights

State of California Taking Action

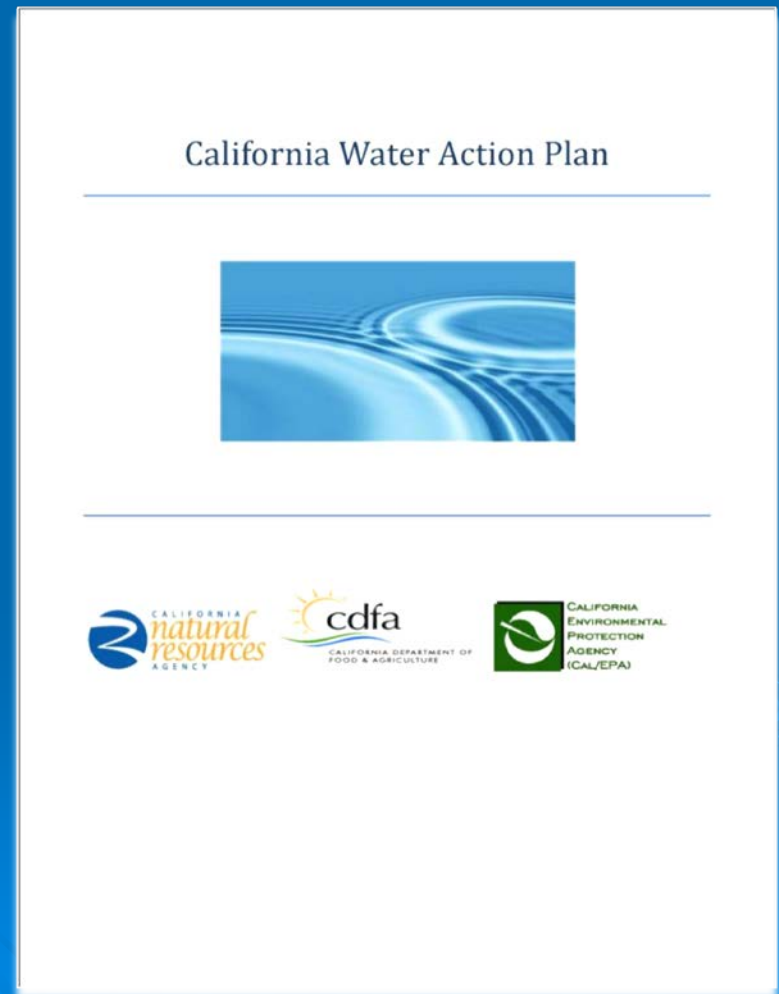
- PRD Governor's Water Action Plan & CA Water Plan Update 2013 (Oct 2013)
- State Drought Task Force Established (Dec 2013)
- Governor's Drought Proclamation & Water Action Plan (Jan 2014)
- Drought Emergency Funding (March)
- Groundwater Legislation (Sept)
- CA Water Plan 2013 (Oct 2014)



Governor's Water Action Plan

A 5-Year Plan to Meet 3 Broad Goals

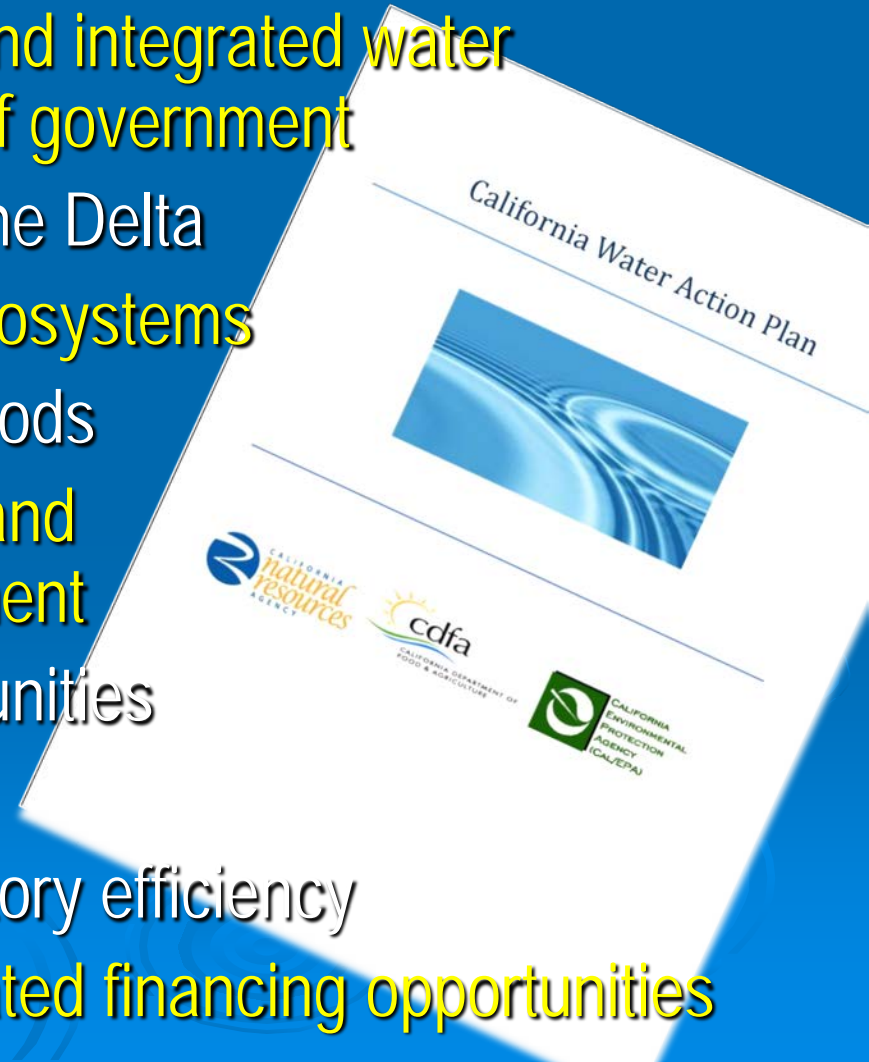
- **Reliability** --
more reliable water supplies for
our farms & communities
- **Restoration** –
restoring important
wildlife habitat & species
- **Resilience** --
more resilient, sustainably
managed water systems
& environment (supply, quality,
flood protection & ecosystems)



Governor's Water Action Plan

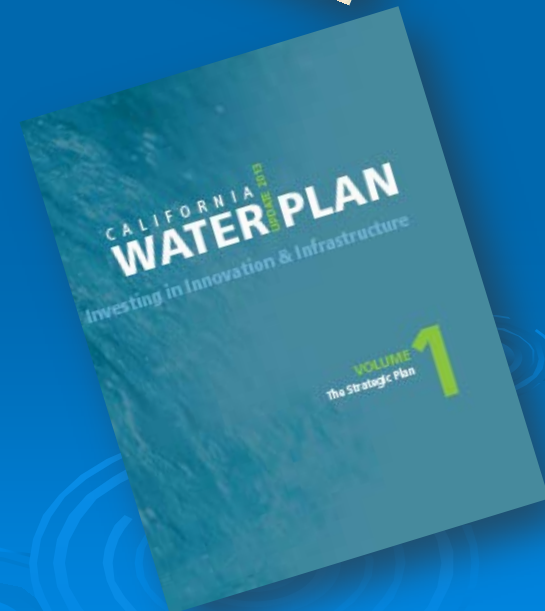
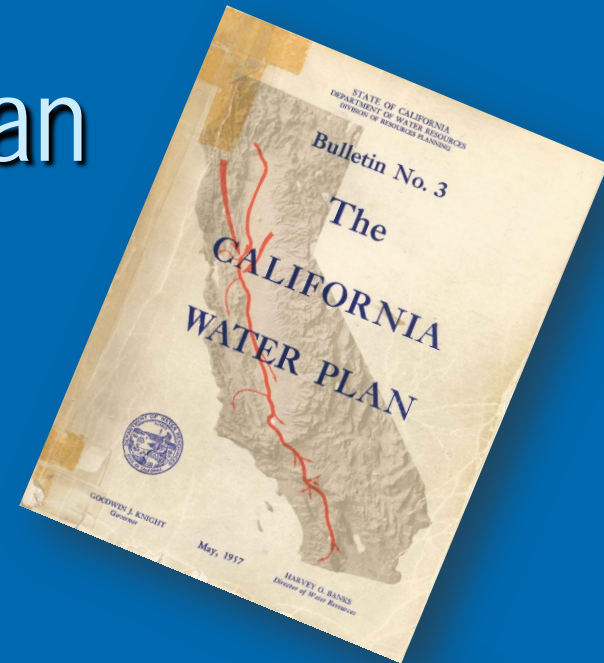
A Diverse Water Portfolio of 10 Priority Actions

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



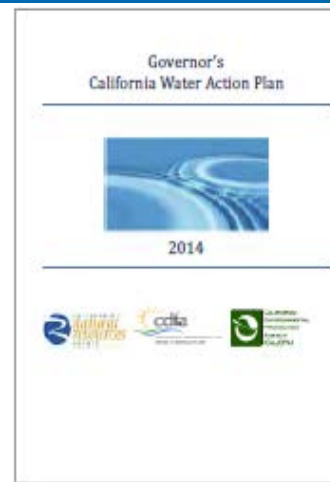
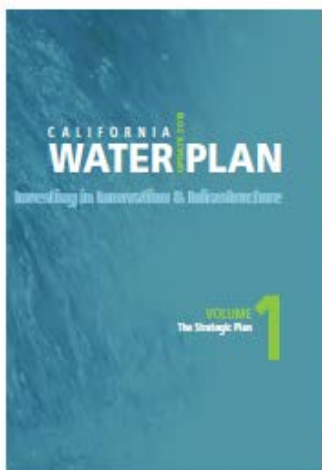
The California Water Plan

- First published in 1957 as Bulletin 3
- Water Code requires DWR to update Water Plan every 5 years – 10 updates (Bulletin 160)
- Strong nexus with Governor's Water Action Plan
- Tool for guiding investment priorities and legislative action
- Update 2013 lays out recommendations -- no mandates or appropriations



Update 2013 informed & helps implement 5-year Water Action Plan

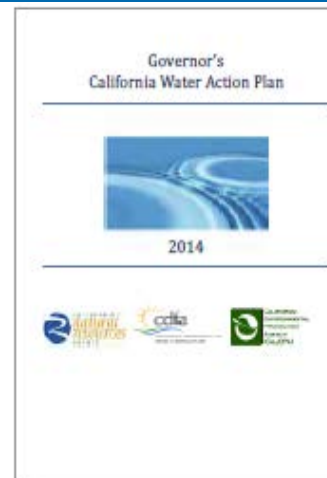
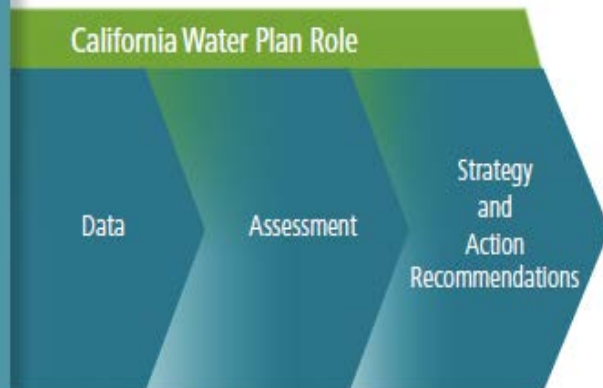
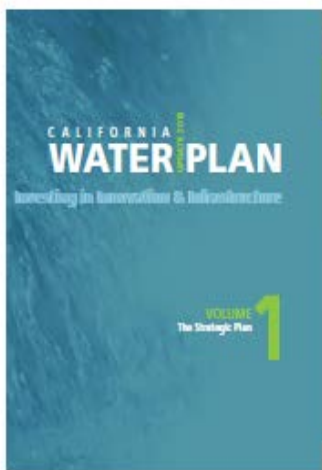
- Roadmap for Action
17 Objectives & 350+ Actions
- 30 Resource Management Strategies
- 12 Regional Reports
- Water Portfolios & Balances
- Future Scenarios & Responses
- Reference & Technical Guides



Core Messages

Charting a Course for IWM in California

- Water is the essence of Life
- California's complex water system is in crisis
- A diverse Portfolio Approach is needed to address challenges
- Solutions require Integration, Alignment & Investment
- We all have a role to play in securing our future



Update 2013 -- a Resource Guide for Implementing the Governor's Water Action Plan

California Water Plan Update 2013 | Highlights

A Resource for Implementing the Governor's Water Action Plan

This is a guide to assist with implementing the Governor's priority water actions in a manner aligned with the State's long-term, strategic vision for water. It links two key State government plans: the Governor's Water Action Plan and the more long-term California Water Plan Update 2013 (Update 2013). Linkages are shown between implementation actions in Update 2013 that advance one or more of the Governor's 10 priorities in the Five-Year Plan. The actions in Update 2013 represent the alignment of nearly 40 State agency plans and are well supported by the State's diverse stakeholder groups and opinion leaders.

Using this table as an entry point, implementers can access the over 350 specific actions in Update 2013. The Update 2013 actions are presented topically by the 17 objectives and related resource management strategies (RMSs) in the California Water Plan. The actions behind the objectives and RMSs can be accessed in Volume 1, Chapter 8 Roadmap for Action and Volume 3 Resource Management Strategies, respectively.

Water Action Plan's 10 Essential Actions	Make conservation a California way of life	Invest in integrated water management and increase regional self-reliance	Achieve the coequal goals for the Delta	Protect and restore important ecosystems	Manage and prepare for dry periods	Expand water storage capacity	Provide safe drinking water and secure wastewater systems to all communities	Increase flood protection	Improve operations and regulatory efficiency
------------------------------------------	--------------------------------------------	---------------------------------------------------------------------------	-----------------------------------------	------------------------------------------	------------------------------------	-------------------------------	------------------------------------------------------------------------------	---------------------------	----------------------------------------------

Update 2013 Objectives and Management Strategies

Update 2013 Objectives (Volume 1, Chapter 8)	#2 – Use and Reuse Water More Efficiently	#1 – Strengthen Integrated Regional Water Management Planning #17 – Improve Integrated Water Management Finance Strategy and Investments	#7 – Manage the Delta to Achieve the Coequal Goals for California	#4 – Protect and Restore Surface Water and Groundwater Quality #5 – Practice Environmental Stewardship #9 – Reduce the Carbon Footprint of Water Systems and Water Uses #14 – Public access to waterways, lakes, and beaches	#2 – Use and Reuse Water More Efficiently #3 – Expand Conjunctive Management of Multiple Supplies (includes groundwater and surface storage) #7 – Manage the Delta to Achieve the Coequal Goals for California #8 – Prepare Prevention, Response, and Recovery Plans	#3 – Expand Conjunctive Management of Multiple Supplies (includes groundwater and surface storage) #4 – Protect and Restore Surface Water and Groundwater Quality #12 – Strengthen Tribal/State relations and natural resources management #13 – Ensure Equitable Distribution of Benefits	#6 – Improve Flood Management Using an Integrated Water	#3 – Expand Conjunctive Management
Resource Management Strategies (Volume 3)	<ul style="list-style-type: none">• Ag Water Use Efficiency• Urban Water Use Efficiency• Recycled Municipal Water• Outreach and Engagement• Economic Incentives	All 30+ RMSs can enhance regional self-reliance, depending on where they are implemented and how the benefits are allocated.	All 30+ RMSs have the potential to help meet Delta coequal goals, depending on where they are implemented and how the benefits are allocated.	<ul style="list-style-type: none">• Six RMSs pertaining to water quality• Ag Lands Stewardship• Ecosystem Restoration• Forest Mgmt.• Land Use Planning and Mgmt.• Recharge Area Protection• Sediment Mgmt.• Watershed Mgmt.	(Partial list) <ul style="list-style-type: none">• Ag Water Use Efficiency• Urban Water Use Efficiency• Recycled Municipal Water• Conjunctive Mgmt. of Surface and Groundwater• CALFED/Local/Regional Surface Storage	<ul style="list-style-type: none">• Conjunctive Mgmt. of Surface and Groundwater• CALFED Surface Storage• Local/Regional Surface Storage	Nearly all 30+ RMSs can help provide safe water and wastewater to all communities, depending on where they are implemented and how the benefits are allocated.	



CALIFORNIA
WATER
Investing in Innovation & Infrastructure
AUGUST 2013

Cross-Cutting Objectives (Volume 1, Chapter 8)

- #10 – Improve Data, Analysis, and Decision-Support Tools
- #11 – Invest in Water Technology and Science
- #12 – Strengthen Tribal/State Relations and Natural Resources Management
- #13 – Ensure Equitable Distribution of Benefits
- #15 – Strengthen Alignment of Land Use Planning and Integrated Water Management
- #16 – Strengthen Alignment of Government Processes and Tools
- #17 – Improve Integrated Water Management Finance Strategy and Investments

Governor's California Water Action Plan

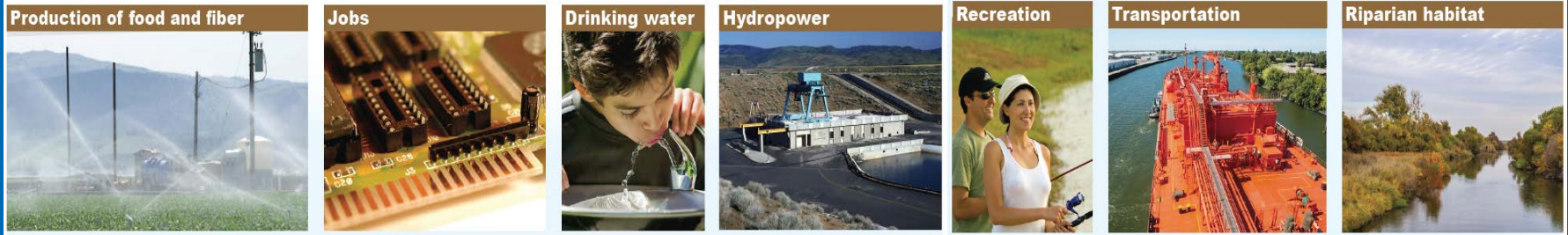


2014



VOLUME 1
The Strategic Plan

Water is the Essence of Life



PUBLIC SAFETY

ENVIRONMENTAL STEWARDSHIP

ECONOMIC STABILITY

- *Reduce flood risk Statewide.*
- *Provide safe drinking water.*
- *Improve water quality for fisheries and recreation.*
- *Clean, safe water supplies.*

- *Enhance Bay -Delta ecosystem.*
- *Restore terrestrial and aquatic habitats.*
- *Improve watershed management.*
- *Raise awareness and increase stewardship.*

- *Enhance State economic output.*
- *Contribute to job creation and security.*
- *Promote food production security.*
- *Provide stable funding for infrastructure.*



Healthy watersheds

Landscaping and beautification



Aquatic habitat



Aesthetics and spiritual well being



Three Themes of Update 2013

- Commit to Integrated Water Management
- Strengthen Government Agency Alignment
- Invest in Innovation & Infrastructure (green & grey)

Integrated Water Management

System flexibility and resiliency
Advocacy from implementers and financiers
Delivery of benefits using fewer resources

Government Agency Alignment

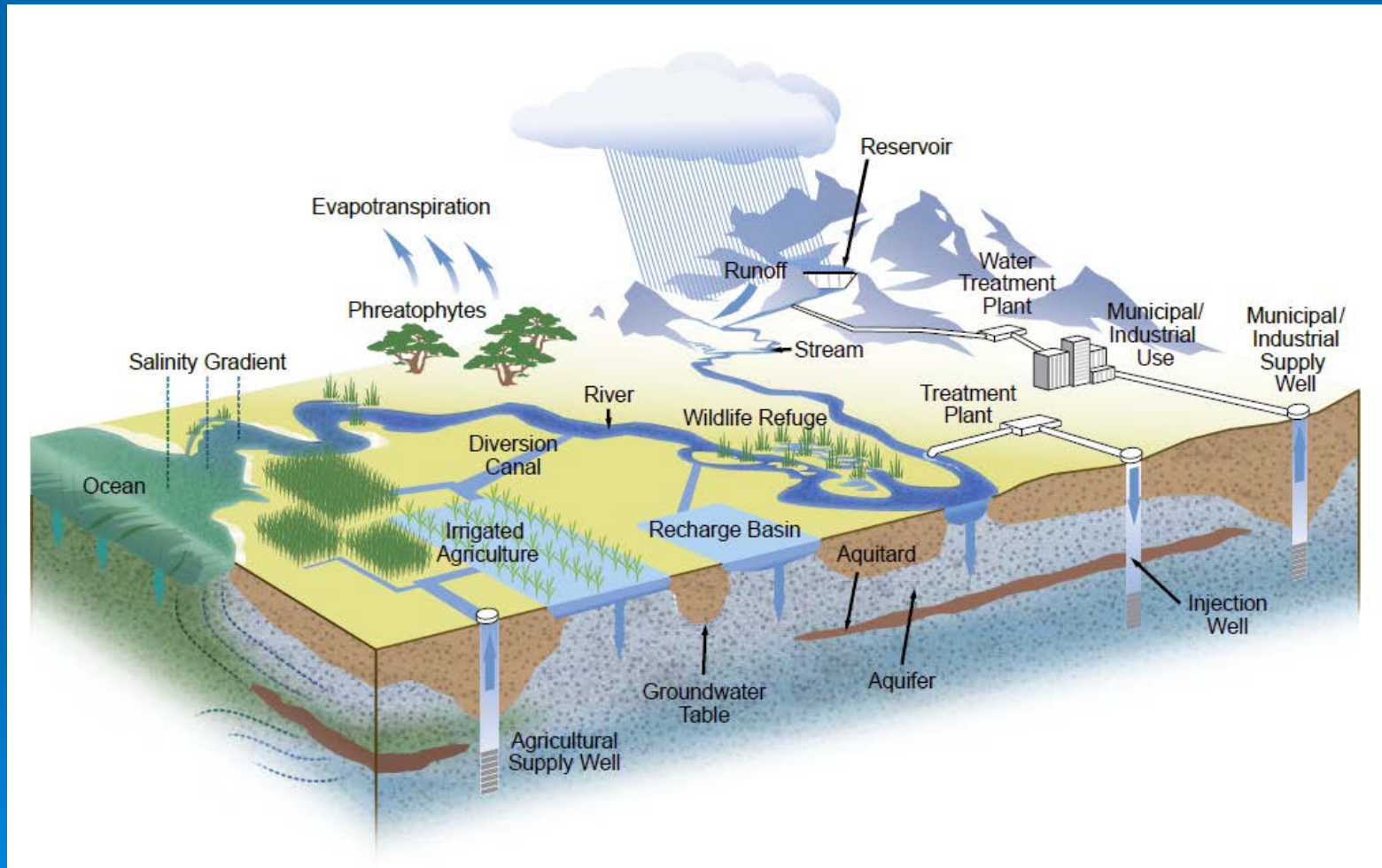
Clarification of state roles
Reduction in implementation time and costs
Efficient achievement of multiple objectives

Investment in Innovation and Infrastructure

Stable and strategic funding
Priority-driven funding decisions
Equitable and innovative finance strategies

A Call to Integrate

Interconnected Systems Require Integrated Solutions



Integrated Regional Water Management

48 Regional Water Mgmt Groups

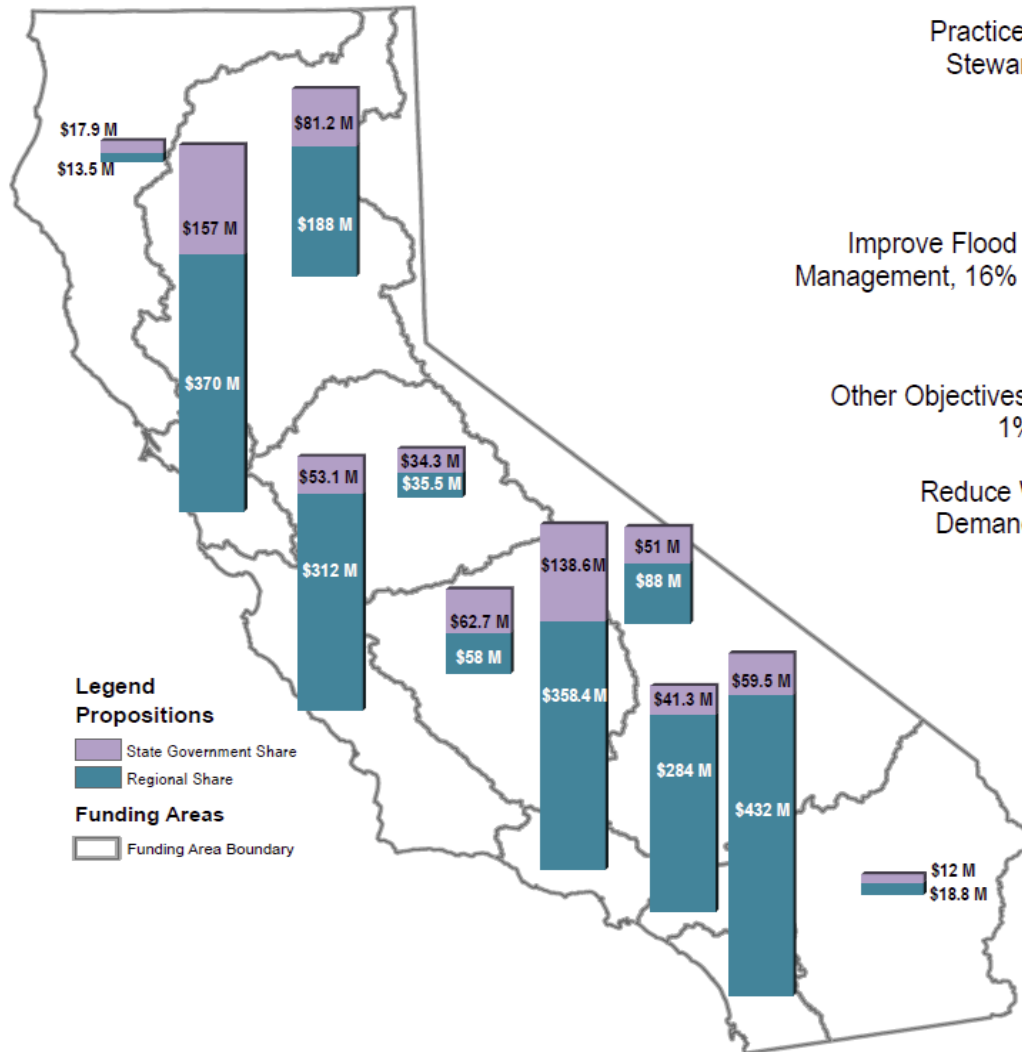
- Foster partnerships & promote regional solutions
- Diversify water portfolios & integrate supplies
- Leverage economies of scale to reduce costs
- Integrate data, tools & resources
- Invest in multi-benefit projects with sustainable outcomes
- Increase regional self-reliance



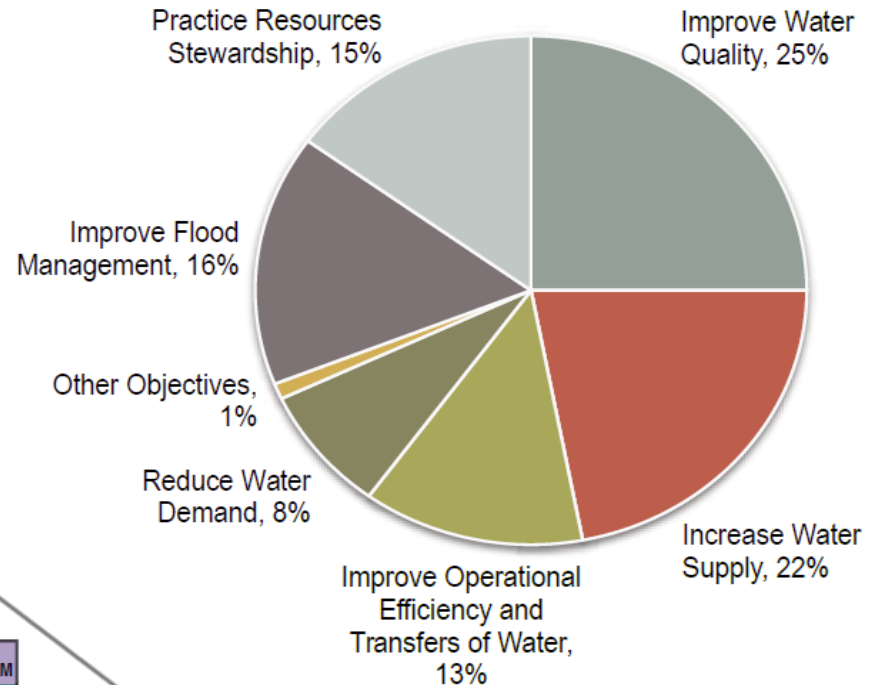
A Decade of Regional Investment

Regional Diversity Requires Regional Solutions

Investing in California's Regions

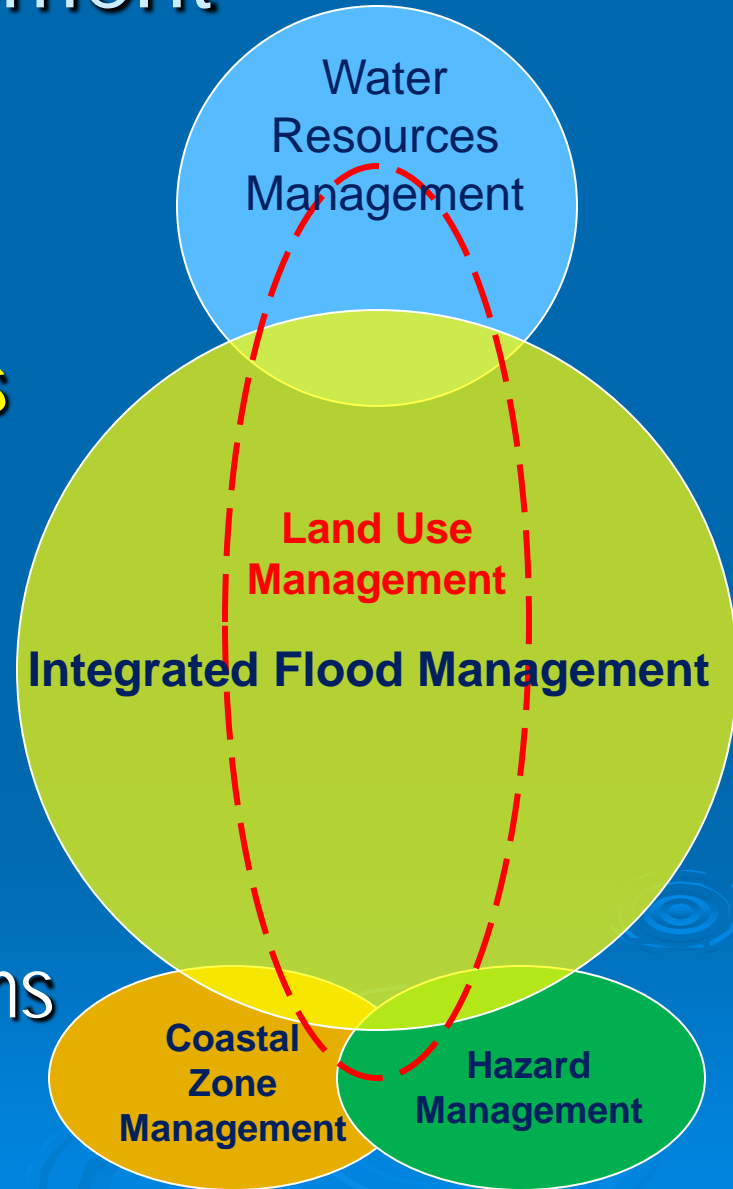


Achieving Multi-Benefits



Integrated Flood Management

- Comprehensive approach to flood management
- Considers land & water resources at watershed scale
- Minimizes loss of life and property damage from flooding
- Maximizes benefits of floodplains
- Recognizes benefits to ecosystems from periodic floods



Improving Coordination Land Use Planning & Water Management

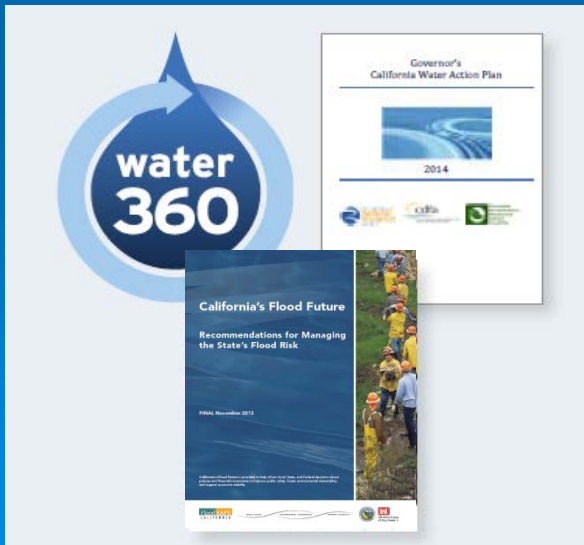


- Land use planning controlled locally
- Water management decentralized -- over 2,300 counties, cities, public agencies, and private water companies
- IRWM coordinates land use planning with water supply, quality, flood management, and climate adaptation
- State Government provides technical assistance and financial incentives
- More coordination among State agencies & with IRWM Partnerships

A Call to Align Agency Alignment Is Critical

Expediting and reducing the cost of implementation with:

- Principles for improving alignment
- Actions for aligning government agencies



Strengthening Agency Alignment

- **Improve, align, and transform processes and admin. tools** for water planning, public engagement, project implementation, & policy- and regulation-setting to advance IWM.

- **Intended Outcomes**

- Consistent & regionally-appropriate plans, policies & regulations
- Shorter implementation times & avoided costs
- Achieving multiple benefits through more partnerships

- **Water Plan Strategies & Tools**

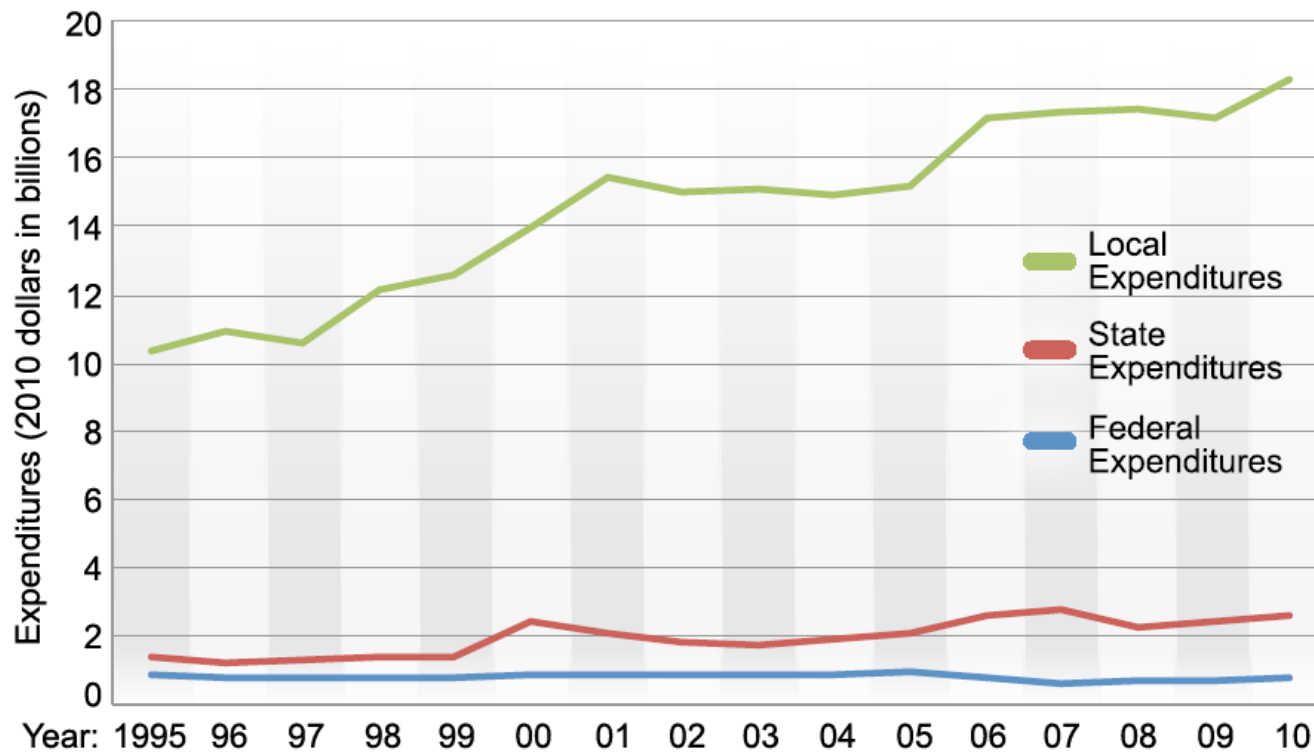
- State Agency Steering Committee (28 members)
- Companion State Plans (37 featured)
- Federal Agency Network & Companion Fed Plans
- State & Federal subject matter experts & authors
- Workshops on regulatory alignment



A Call to Invest

Resiliency Requires Sustained Investment

Investments Over Previous Decade: A Good Down Payment



Despite significant local investments and State bonds, management of California's water resources remains underfunded.

3 I's - Invest in Innovation & Infrastructure

California State Government in partnership with others should invest in water innovation & infrastructure to support integrated water management and sustainable outcomes

➤ Innovation actions

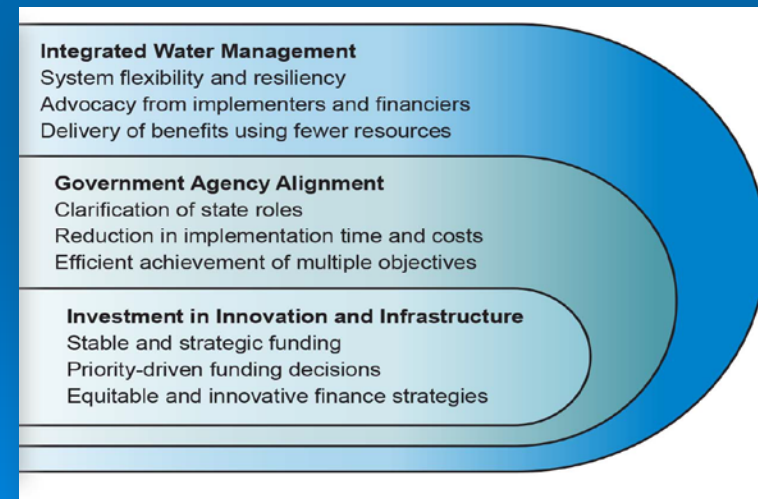
- Governance improvements
- Planning & public engagement improvements
- Agency alignment (data, plans, policies & regulations)
- Information technology (data & tools)
- Water technology & science

➤ Infrastructure improvements -- natural (green) & human (grey)

- Regional projects
- Inter-regional projects
- Statewide systems

➤ State Investments - Finance Plan

- Stable funding for innovation actions & statewide systems
- Seed money to incentivize regional infrastructure improvements¹⁹



Update 2013 Water Finance Planning

➤ New Finance Planning Framework

- Provides context, structure and strategies
- 8-step finance planning storyboard

➤ Shared Values for Guiding State Government Investments

- Prioritization of State government investments
- Fiduciary responsibility and accountability
- Beneficiary and stressor responsibilities

➤ Attributes of future finance strategies

- Improve cost effectiveness, efficiencies, and accountability.
- Avoid stranded costs and funding discontinuity.
- Leverage funding across State government agencies.
- Increase certainty of desired outcomes.



Roadmap for Implementing Integrated Water Management

► VISION & MISSION

Update 2013 provides a vision for more sustainable and reliable water resources and management systems. Mission statement describes collaborative efforts to prepare for California's most pressing statewide and regional water management issues and challenges.

► 7 GOALS

Seven goals set forth the desired outcomes of Update 2013.

► 10 GUIDING PRINCIPLES

Ten guiding principles express the core values and philosophies for making decisions about how the vision, mission, and goals will be achieved.

► 17 OBJECTIVES 350+ RELATED ACTIONS

Seventeen objectives and their 350-plus related actions are geared toward fulfilling the vision, mission, goals, and principles.

► 30+ RESOURCE MANAGEMENT STRATEGIES

More than 30 resource management strategies are described as tools for diversifying water portfolios and implementing integrated water management.

California Water Plan Update 2013

Objective 6 – Improve Flood Management Using an IWM Approach

- Promote & practice flood management that reduces flood risk to people & property and maintains & enhances natural floodplain functions using an IWM approach.
- 14 Related Actions including to:
 - Utilize IWM principles that consider flood risk, mitigation & natural floodplain functions
 - Develop regional flood risk management plans
 - Develop statewide flood management investment approach
 - Develop indicators of flood risks & floodplain functions.



California Water Plan Update 2013

Objective 8 – Prepare Prevention, Response, and Recovery Plans

- Prepare prevention, response, and recovery plans for floods, droughts, and catastrophic events to help residents and communities, particularly disadvantaged communities, make decisions that reduce the consequences and recovery time of these events when they occur.
- 7 Related Actions including to:
 - Develop & practice flood emergency preparedness/response/recovery plans
 - Evaluate if water suppliers should plan for more than 3 consecutive dry years
 - Update the Drought Contingency Plan



California Water Plan Update 2013

Objective 15 – Strengthen Alignment of Land Use Planning and IWM

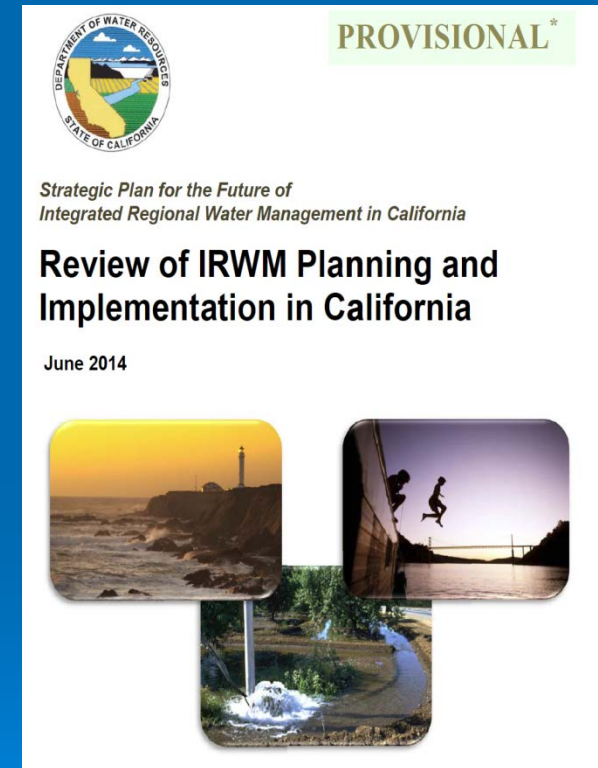
- Strengthen the alignment of goals, policies, and programs for improving local land-use planning and IWM.
- 12 Related Actions including to:
 - Provide incentives for compact & sustainable development
 - Integrate IWM considerations into General Plan updates
 - Implement land-use planning & regulatory measures to reduce flood risks
 - Implement the *Integrating Water & Land Management* tool



California Water Plan Update 2013

Objective 1 – Strengthen IRWM

- Strengthen integrated regional water management planning and implementation to maintain and enhance regional water management partnerships and improve regional self-reliance.
- 8 Related Actions including to:
 - Develop Strategic Plan for IRWM
 - Encourage & support RWM groups
 - Improve IRWM processes to encourage broad participation



California Water Plan Update 2013

Objective 5 – Practice Environmental Stewardship

- Practice, promote, improve, & expand environmental stewardship to protect biological diversity and sustain natural water & flood management systems in watersheds, on floodplains, & in aquatic habitats.
- 10 Related Actions including to:
 - Re-establish 1 million ac of riparian/wetland/floodplain habitat
 - Protect/enhance/restore 1 million ac of upper watershed forests & meadows
 - Incorporate nature's services economic value into natural resource management decisions
 - Evaluate reintroduction of anadromous fish into upper watersheds.



California Water Plan Update 2013

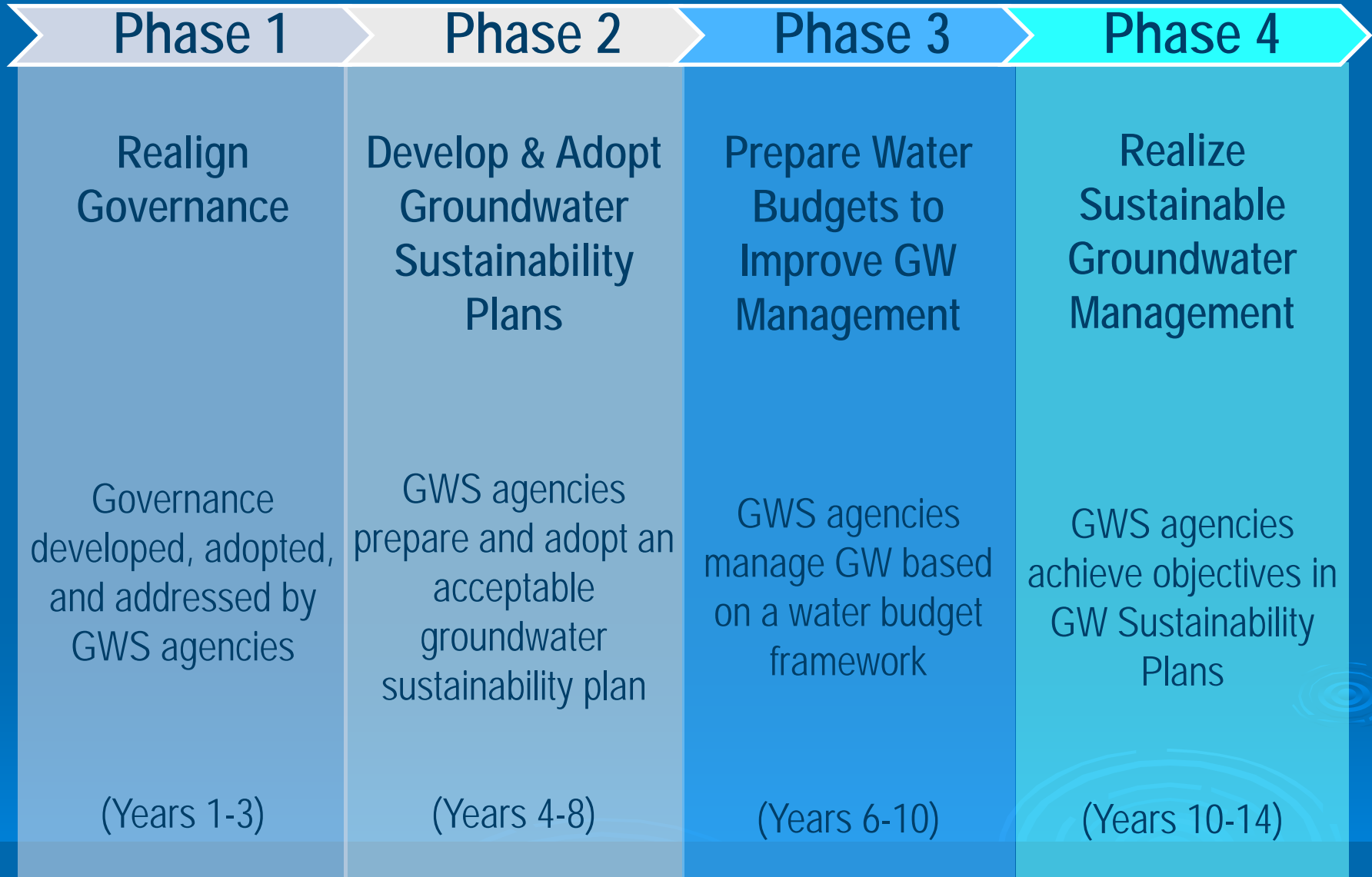
Objective 3 – Expand Conjunctive Management of Multiple Supplies

- Advance and expand conjunctive management of multiple water supply sources with existing and new surface and groundwater storage to prepare for future droughts, floods, and climate change.
- 11 Related Actions including to:
 - Implement sustainable GW mgmt
 - Convene a Statewide GWMP AC
 - Increase GW recharge & storage
 - Complete water storage investigations



Yuba River Infrastructure, such as this water discharge pipe, allows water districts and agencies to manage surface water and groundwater within the same hydrologic area as a single resource, allowing water to be used where it is most needed. This can reduce water diversions and groundwater pumping, enhance local supply, and increase the amount of water available for transfer.

Sustainable Groundwater Management*



*From 2014 sustainable groundwater management legislation, including provisions for State “backstop” measures

30+ Resource Management Strategies

Tools for Diversifying Regional Water Portfolios

Reduce Water Demand

- Agricultural Water Use Efficiency
- Urban Water Use Efficiency

Improve Operational Efficiency & Transfers

- Conveyance – Delta
- Conveyance – Regional / Local
- System Reoperation
- Water Transfers

Increase Water Supply

- Conjunctive Management & Groundwater Storage
- Desalination – Brackish & Seawater
- Precipitation Enhancement
- Recycled Municipal Water
- Surface Storage – CALFED
- Surface Storage – Regional / Local

Improve Flood Management

- Flood Management

** New for Update 2013

Improve Water Quality

- Drinking Water Treatment & Distribution
- Groundwater / Aquifer Remediation
- Matching Quality to Use
- Pollution Prevention
- Salt & Salinity Management
- Urban Stormwater Runoff Management

Practice Resource Stewardship

- Agricultural Lands Stewardship
- Ecosystem Restoration
- Forest Management
- Land Use Planning & Management
- Recharge Areas Protection
- Sediment Management **
- Watershed Management

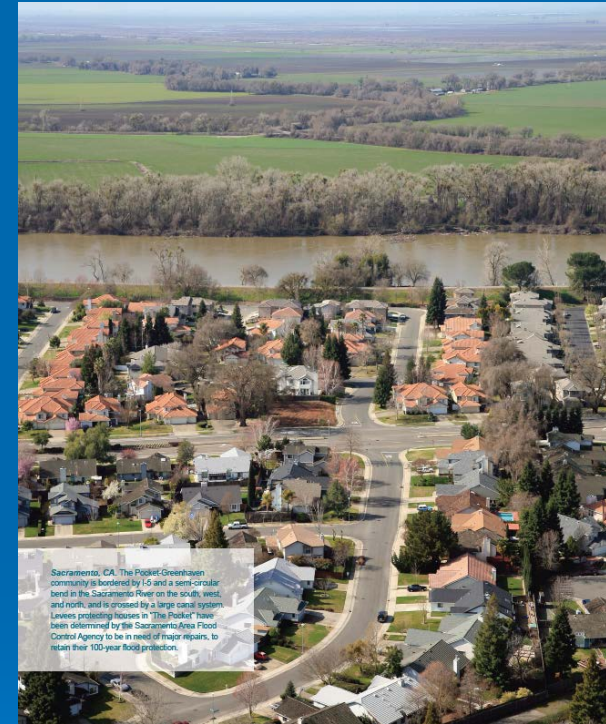
People & Culture

- Economic Incentives
(Loans, Grants & Water Pricing)
- Outreach & Engagement **
- Water & Culture **
- Water-Dependent Recreation

California Water Plan Update 2013

Flood Management RMS

- Includes flood governance & management, IWM approach, natural floodplain restoration, flood infrastructure, climate change implications
- 25 Recommendations including:
 - Pursue stable funding & create incentives
 - Develop adequate data & tools
 - Improve awareness & understanding of flood risk
 - Strengthen agency alignment



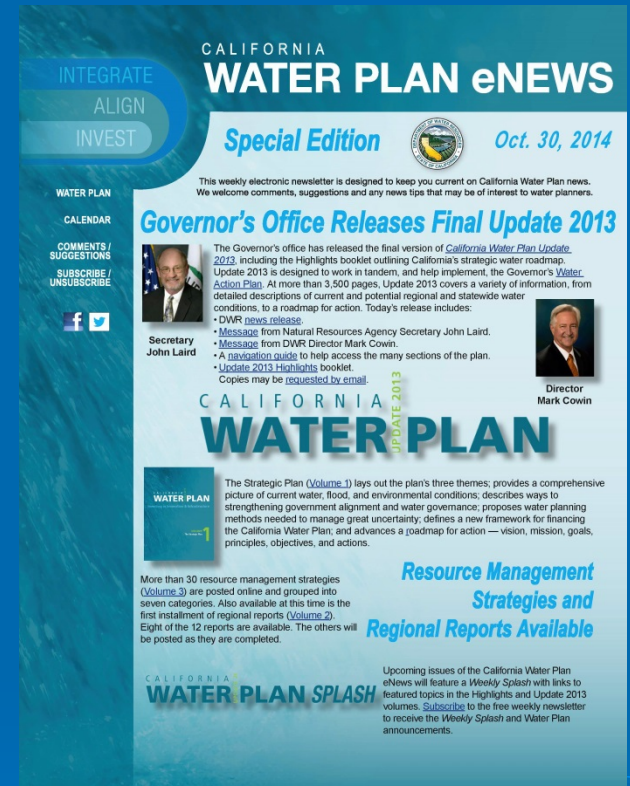
The Path Forward



- Update 2013 describes:
 - California's water resources and systems
 - Path toward sustainable water management
 - Consequences of inaction
- Focuses on matters of great importance and urgency to stakeholders, the public, and State government
- An actionable roadmap for California's water future
- Includes practical, well-reasoned, and critical decision support for implementing the Governor's Water Action Plan

Ways to Access Water Plan Information

- Visit the *Water Plan Web Portal*
www.waterplan.water.ca.gov



- Subscribe to *Water Plan eNews*
a weekly electronic newsletter
www.waterplan.water.ca.gov/enews

Questions & Comments



Kamyar Guivetchi, PE

Statewide Integrated Water Mgmt
CA Department Water Resources

(916) 653-3937

Kamyar.Guivetchi@water.ca.gov