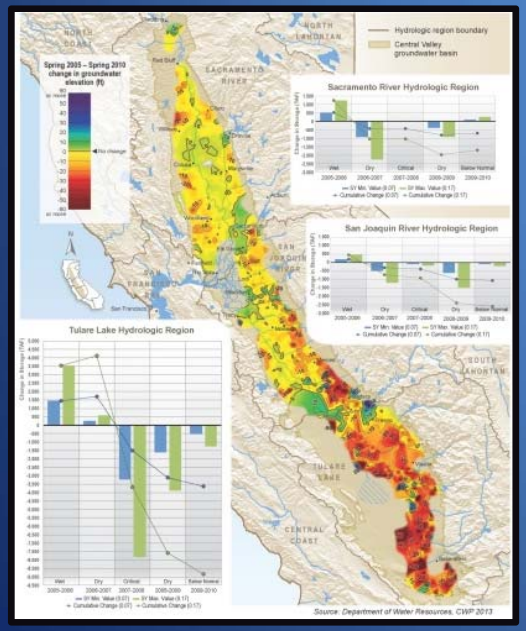
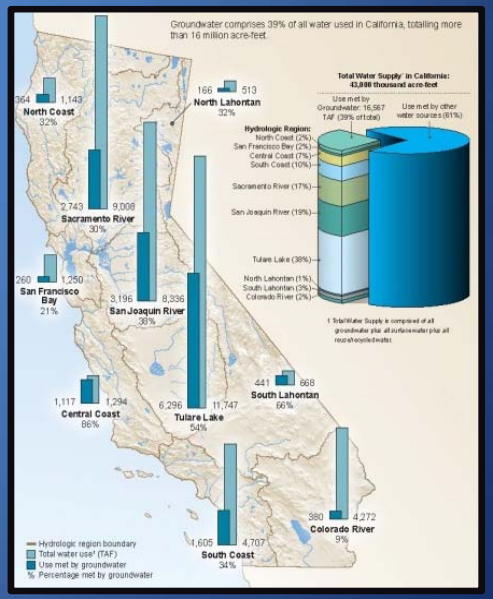
DEPARTMENT OF
WATER RESOURCES

Sustainable Groundwater Management Program

NRO Tribal Workshop





April 13, 2015

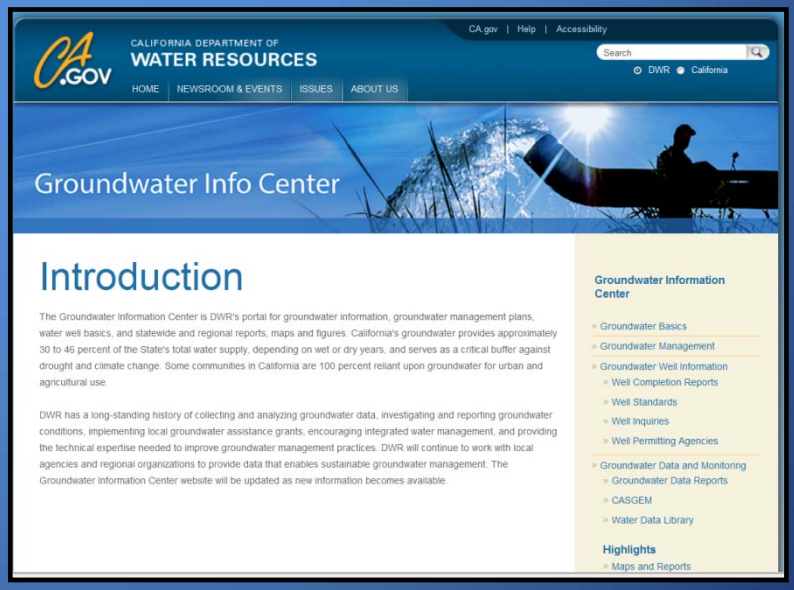
Dan McManus

dan.mcmanus@water.ca.gov

(530) 529-7373

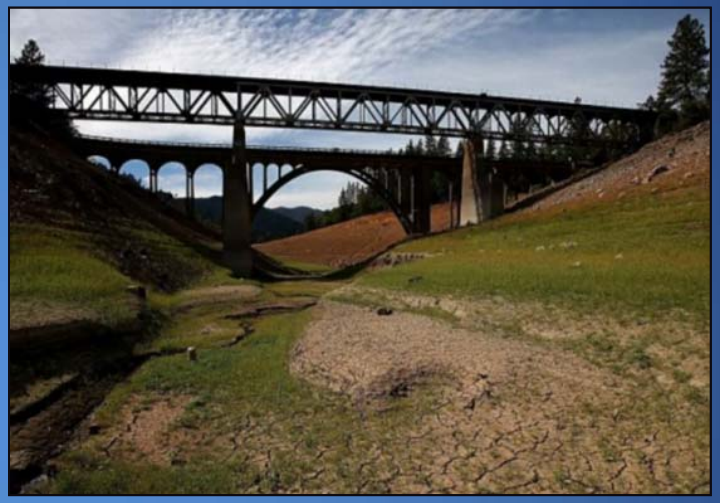
Presentation Overview:

- *Legislation Drivers…how did we get here?*
- *2014 Sustainable Groundwater Management Act*
- *DWR Groundwater Sustainability Program draft Strategic Plan*
- *Near Term Actions…*



http://water.ca.gov/groundwater/

2014 Sustainable Groundwater Management Act Drivers

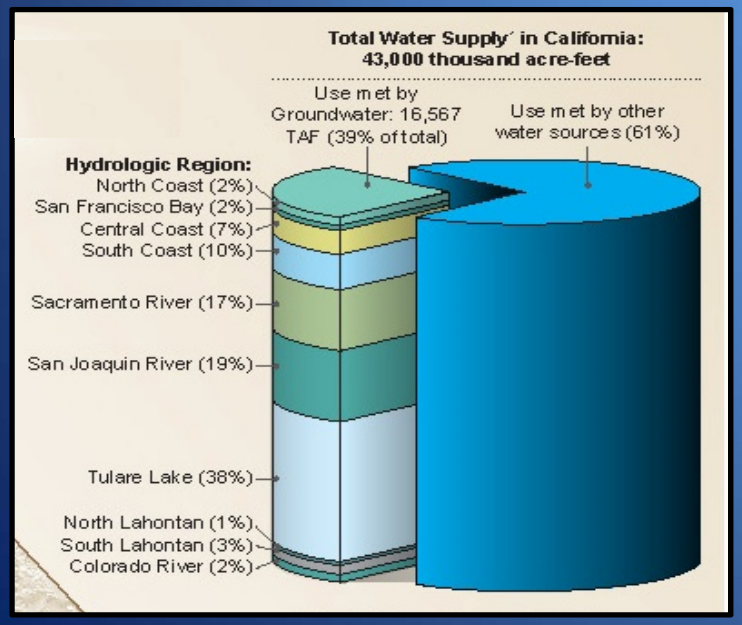


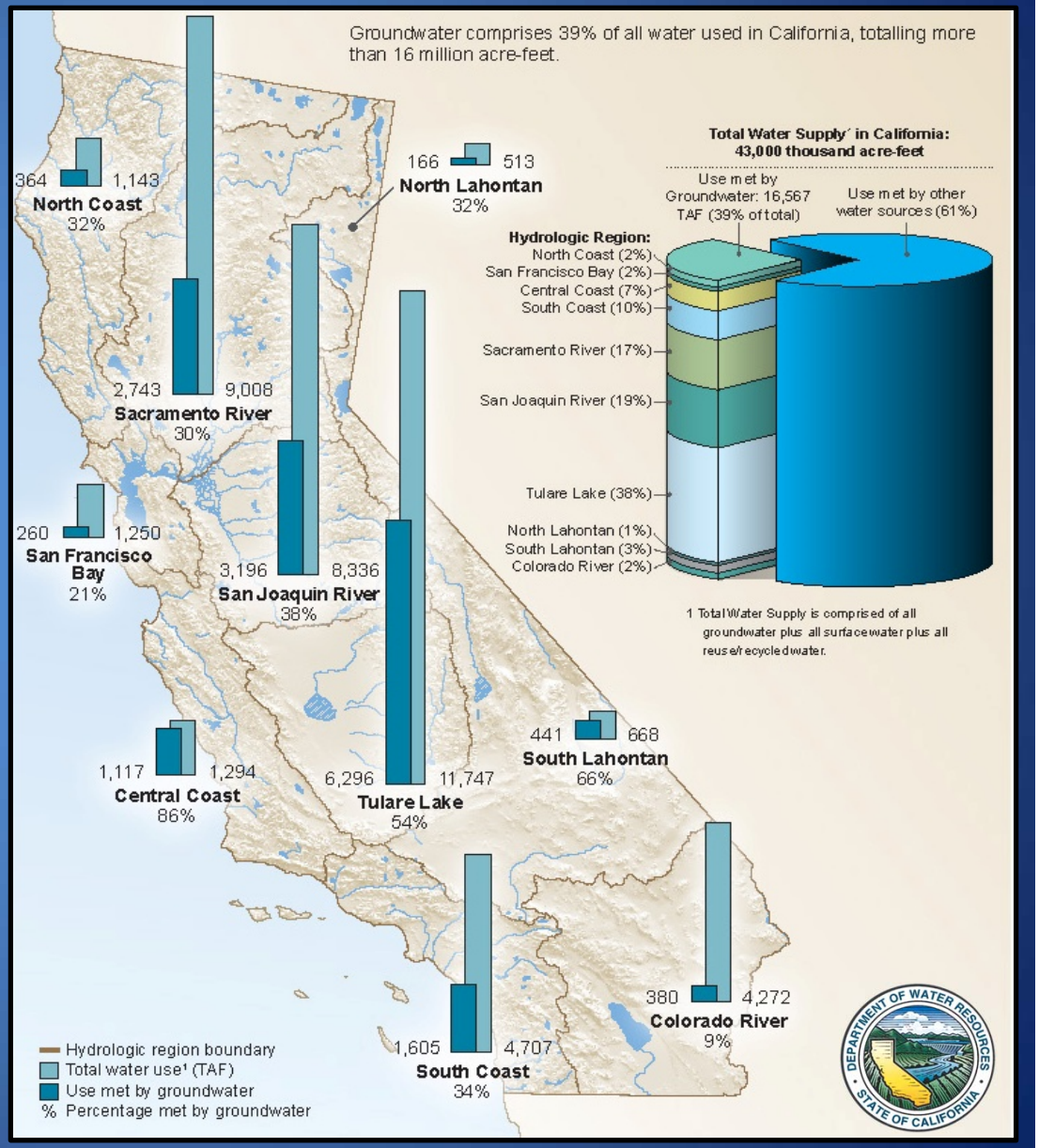
Statewide Groundwater Use

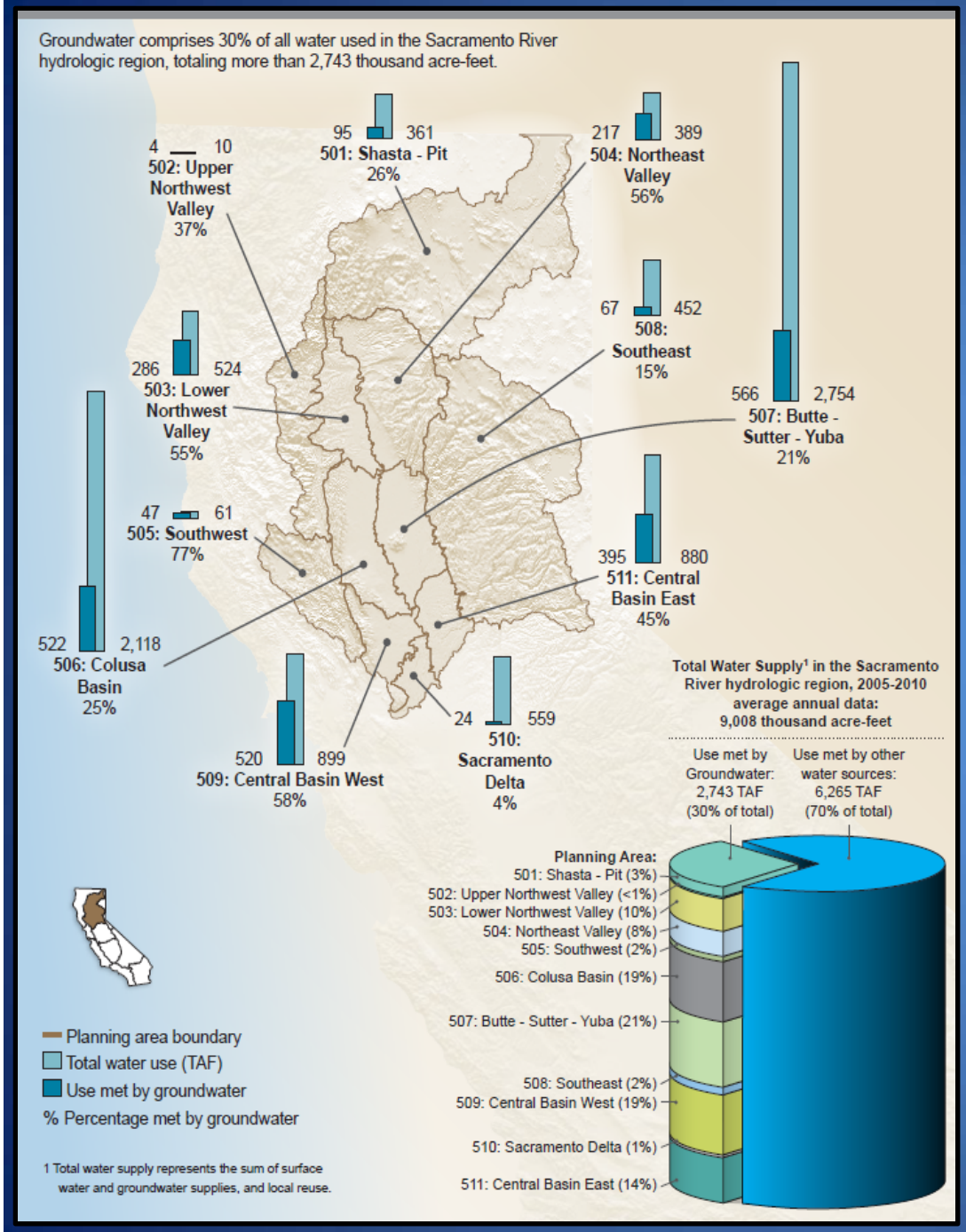
2005 – 2010
Average Annual Use

Total Supply: 43 MAF/yr

GW Use = 16.5 MAF/yr
39% of total supply





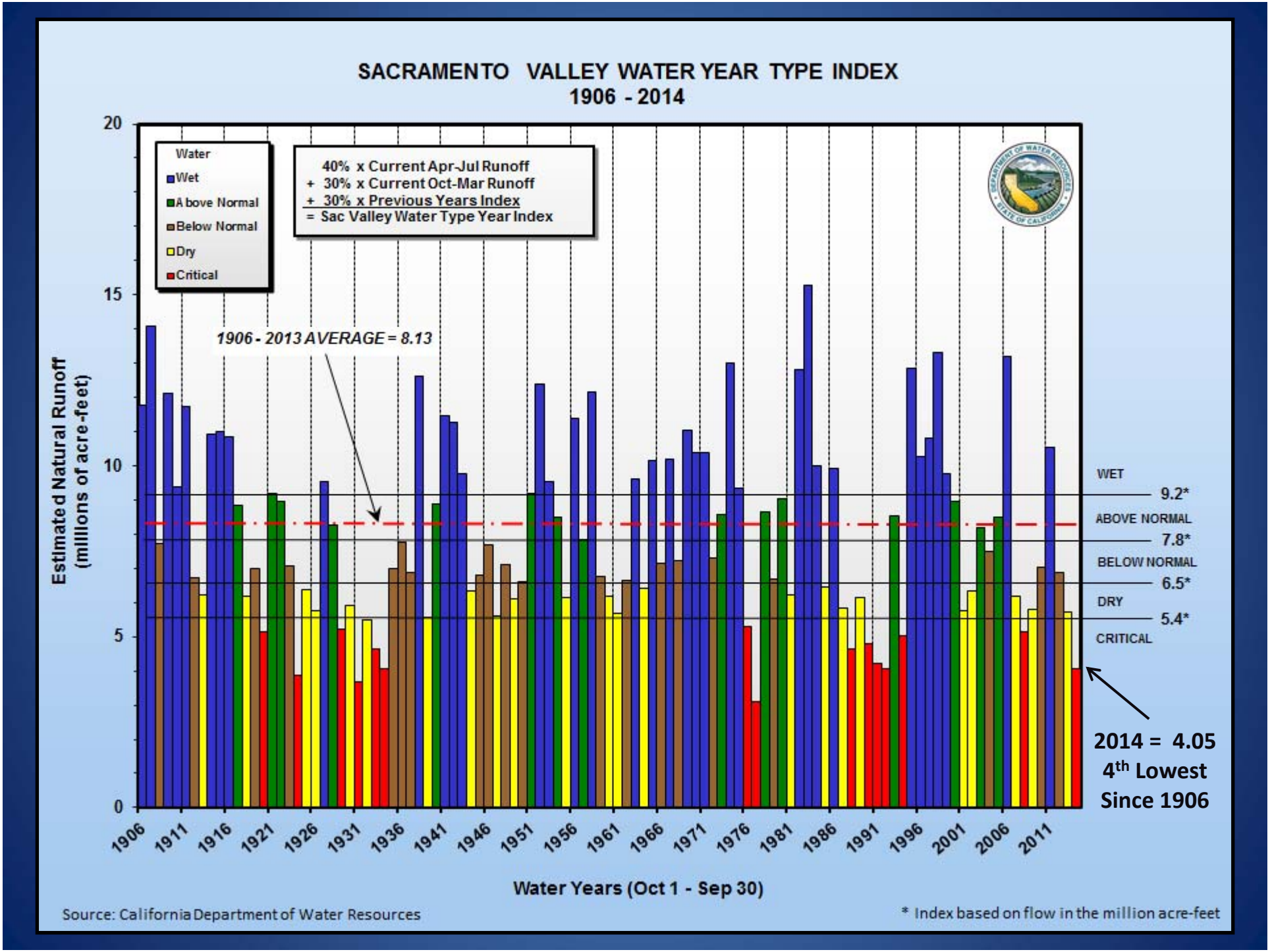


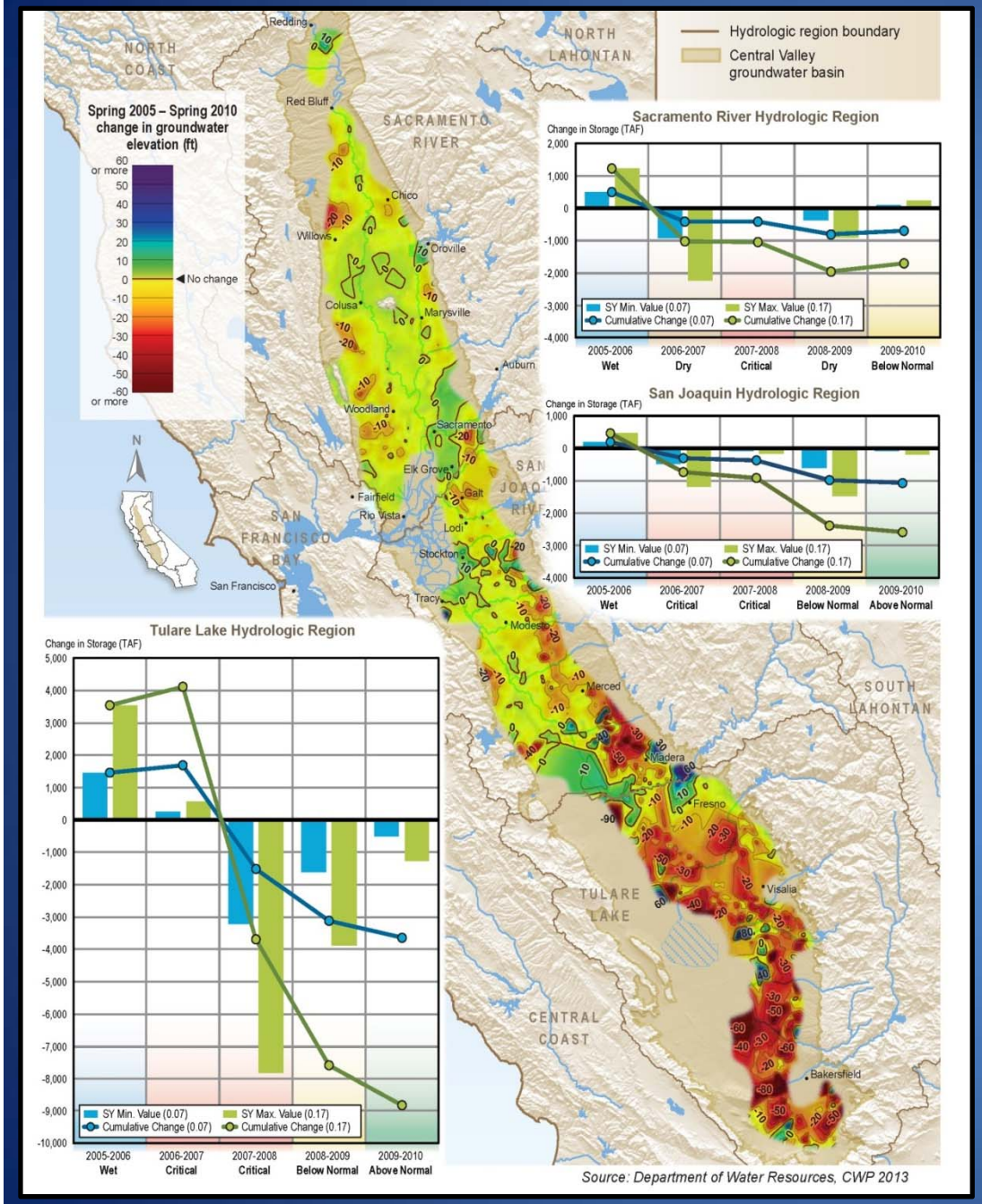
Sacramento River Hydrologic Region Groundwater Use vs Total Water Supply…

by Planning Area

Total Water Supply: 9,008 TAF

Use met by GW: 2,743 TAF ~30%


SACRAMENTO VALLEY WATER YEAR TYPE INDEX
1906 - 2014
Water
Wet
Above Normal
Below Normal
Dry
Critical
40% x Current Apr-Jul Runoff
+ 30% x Current Oct-Mar Runoff
+ 30% x Previous Years Index
= Sac Valley Water Type Year Index
1906 - 2013 AVERAGE = 8.13
Estimated Natural Runoff
(millions of acre-feet)
20
15
10
5
0
1906
1911
1916
1921
1926
1931
1936
1941
1946
1951
1956
1961
1966
1971
1976
1981
1986
1991
1996
2001
2006
2011
WET
9.2*
ABOVE NORMAL
7.8*
BELOW NORMAL
6.5*
DRY
5.4*
CRITICAL
2014 = 4.05
4th Lowest
Since 1906
Water Years (Oct 1 - Sep 30)
Source: California Department of Water Resources
* Index based on flow in the million acre-feet

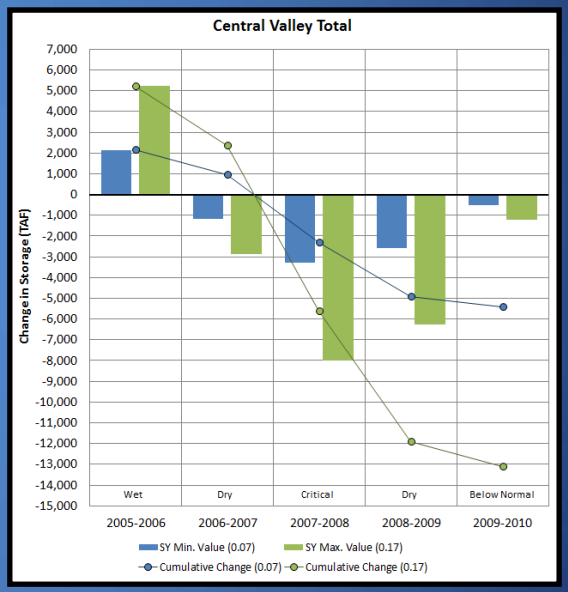


Source: Department of Water Resources, CWP 2013

DWR CWP 2013 Update, Volume 4

Change in Groundwater Elevation Contour Map

Spring 2005 – Spring 2010 with Estimated Change in Groundwater in Storage by Hydrologic Region Level Change



SR: -0.7 to -1.7 MAF

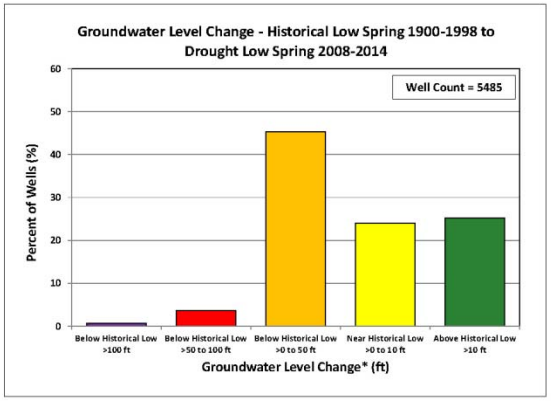
SJR: -1.0 to -2.6 MAF

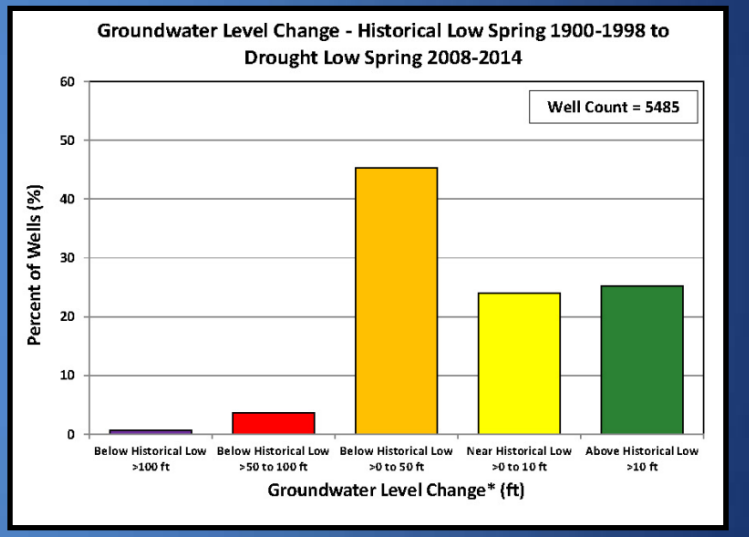
TL: -3.7 to -8.9 MAF

CV Total: -5.4 to -13.2 MAF

Groundwater Level Change

Historic Spring Low (1900 - 1998) vs Recent Drought Spring Low (2008 - 2014)



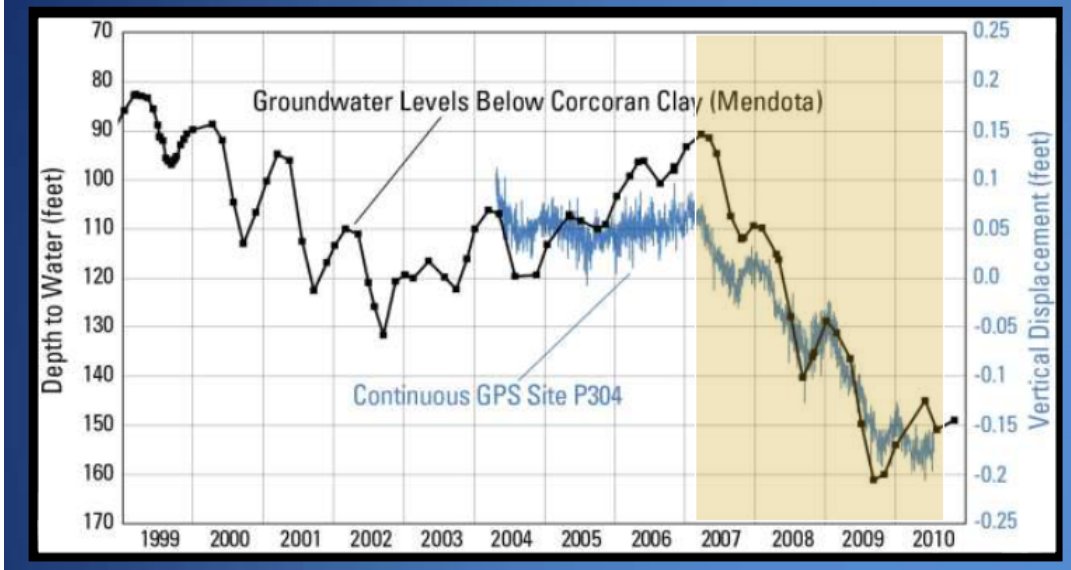


Change in Groundwater Levels

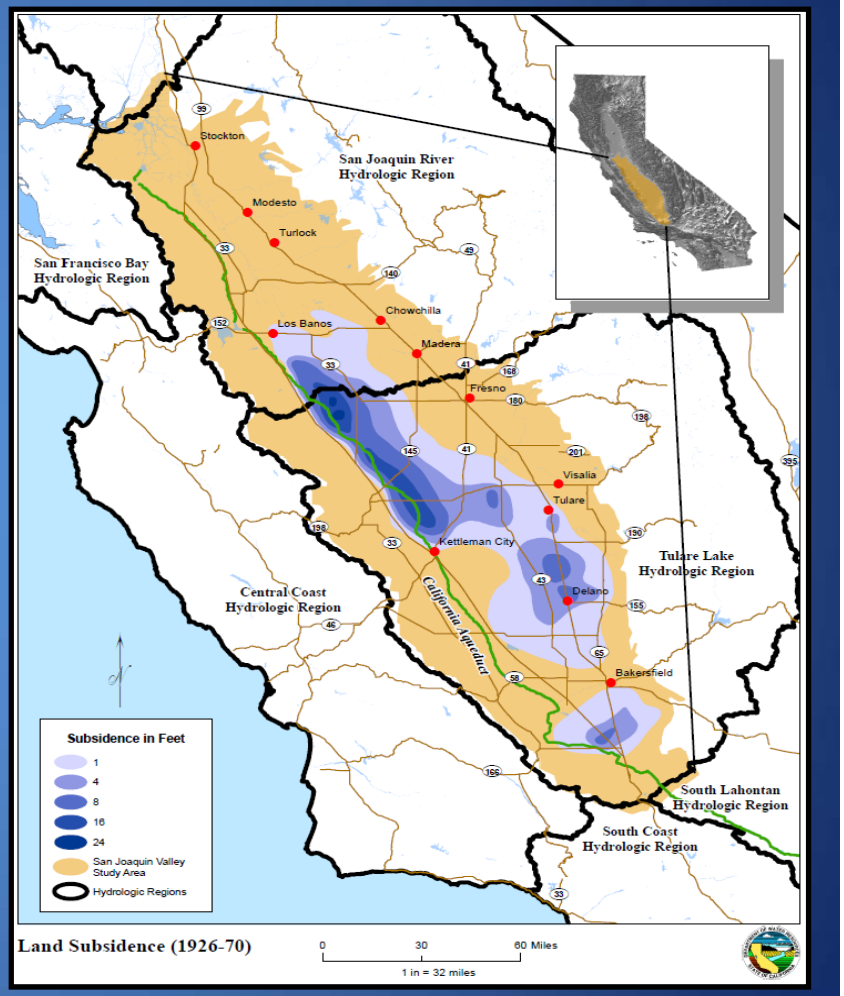
- Above Historical Low >10 ft
- Near Historical Low >0 to 10 ft
- Below Historical Low >0 to 50 ft
- Below Historical Low >50 to 100 ft
- Below Historical Low >100 ft

DWR April 2014, Drought Report

Renewed Land Subsidence



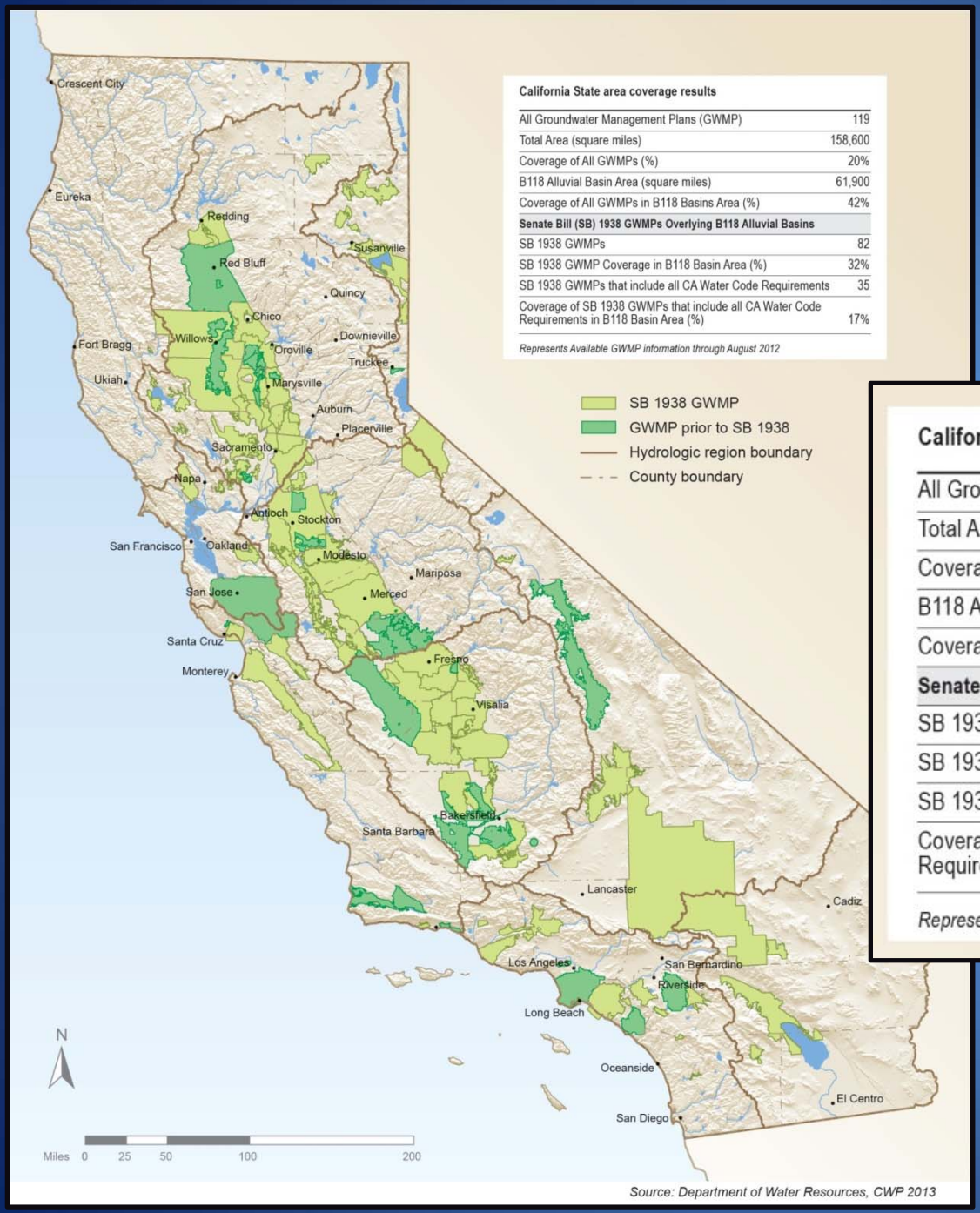
Renewed land subsidence threatens infrastructure, buildings, water delivery systems, and long-term water supply capacity.



Adapted from Ireland, 1983.

Ecosystem Impacts

2012 Groundwater Management Planning



Source: Department of Water Resources, CWP 2013

California State area coverage results

All Groundwater Management Plans (GWMP)	119
Total Area (square miles)	158,600
Coverage of All GWMPs (%)	20%
B118 Alluvial Basin Area (square miles)	61,900
Coverage of All GWMPs in B118 Basins Area (%)	42%
Senate Bill (SB) 1938 GWMPs Overlying B118 Alluvial Basins	
SB 1938 GWMPs	82
SB 1938 GWMP Coverage in B118 Basin Area (%)	32%
SB 1938 GWMPs that include all CA Water Code Requirements	35
Coverage of SB 1938 GWMPs that include all CA Water Code Requirements in B118 Basin Area (%)	17%

Represents Available GWMP information through August 2012

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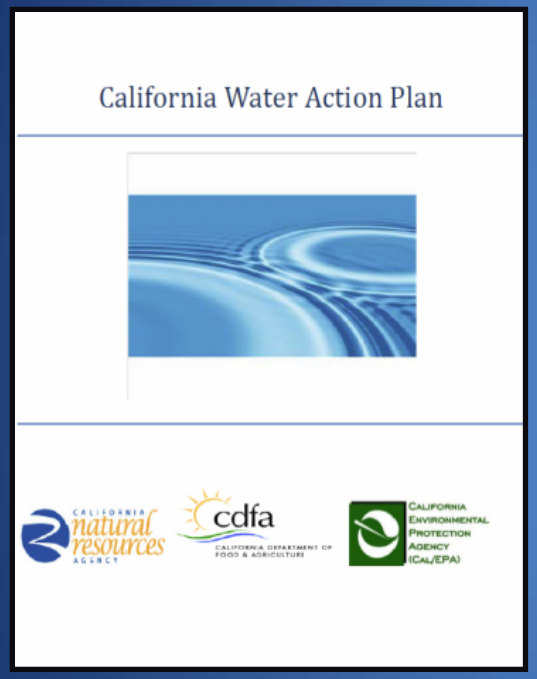
California Water Action Plan

Final Released: January 22, 2014

5 year Plan to improve sustainability of CA's Water Resources



Final State Water Action Plan Released: Outlines California's Near- and Long-Term Water Priorities

Plan Includes 2014-15 Budget Proposals, Implementation Efforts, Updates from Public and Stakeholder Comments

SACRAMENTO, Calif. – As California experiences one of the driest winters on record, the California Natural Resources Agency, the California Environmental Protection Agency, and the California Department of Food and Agriculture released the final California Water Action Plan, laying out goals and vision for the next five years. The plan will guide state efforts to enhance water supply reliability, restore damaged and destroyed ecosystems, and improve the resilience of our infrastructure.

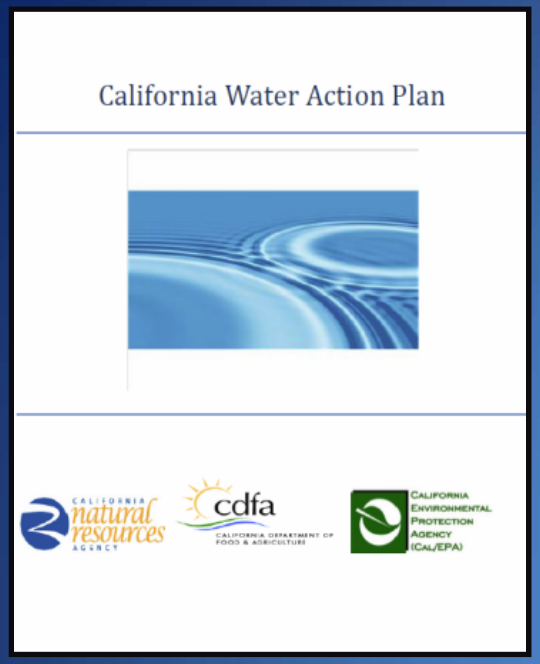
At the direction of Gov. Edmund G. Brown Jr., a collaborative effort of state agencies, and nearly 100 substantive public and stakeholder comments formed a plan to set direction for a host of near- and long-term actions on water issues for the state.

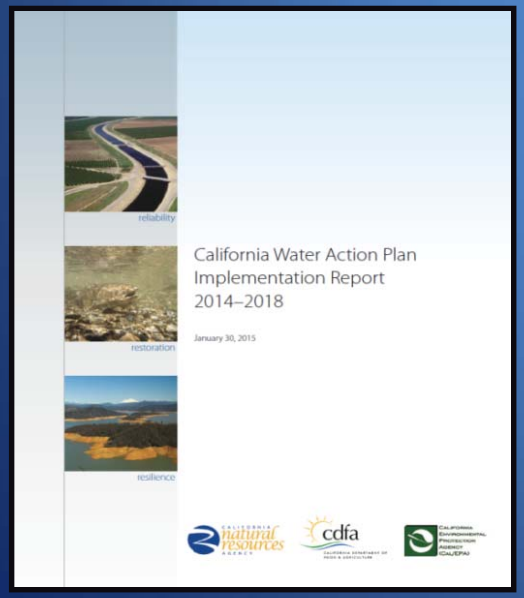
"It is a tall order. But it is what we must do to get through this drought and prepare for the next," said Gov. Brown in his 2014 State of the State address.

The Governor's proposed 2014-15 budget lays a solid fiscal foundation for implementing near-term actions for the plan, recommending $618.7 million in funding for water efficiency projects, wetland and watershed restoration, groundwater programs, conservation, flood control, and integrated water management.

http://resources.ca.gov/docs/california_water_action_plan/Final_California_Water_Action_Plan.pdf

California Water Action Plan… Preparing for the Future

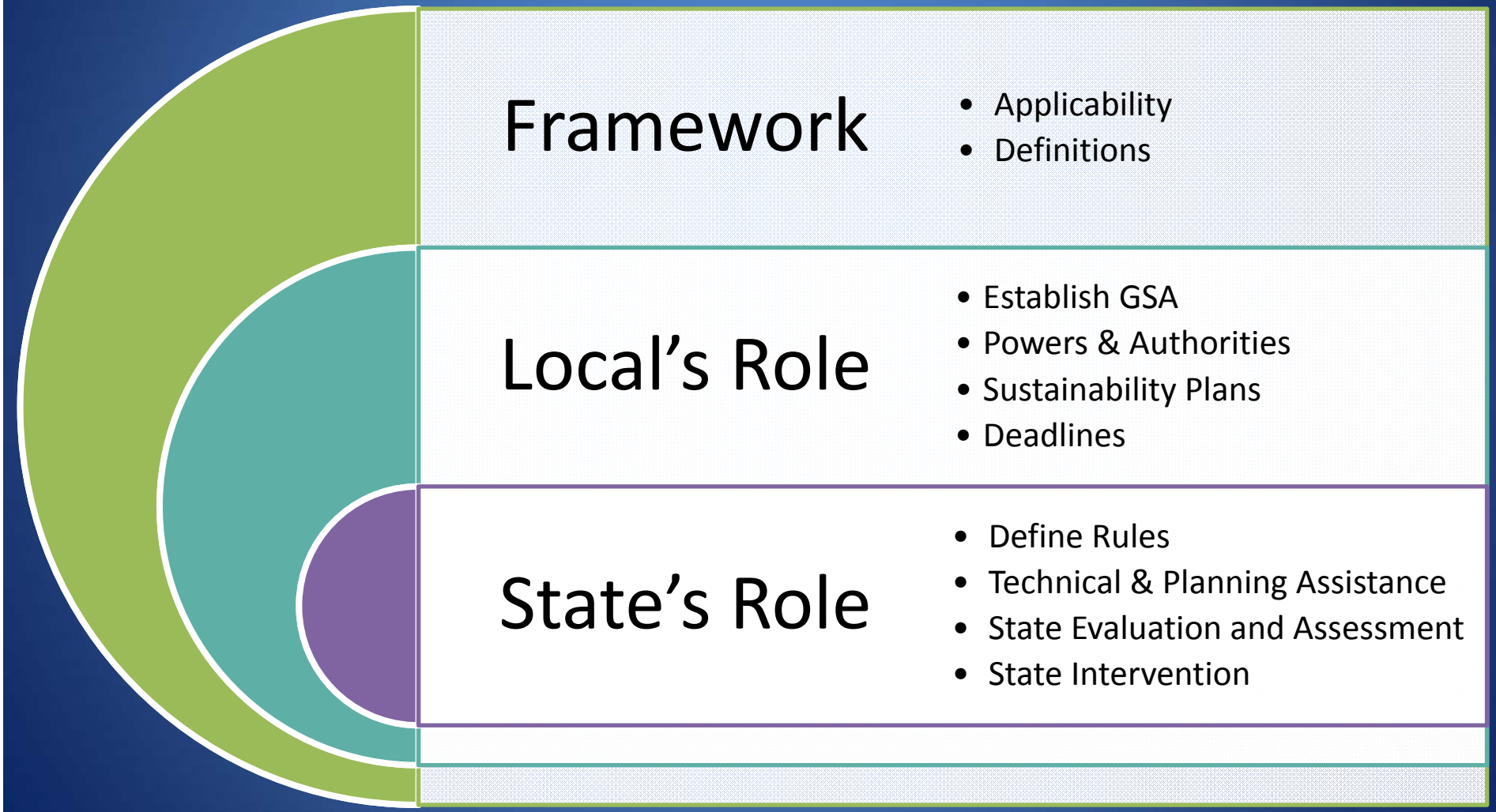




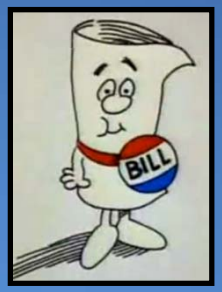
http://resources.ca.gov

2014 Sustainable Groundwater Management Legislation

Sustainable Groundwater Management Overview



The Sustainable Groundwater Management Act of 2014



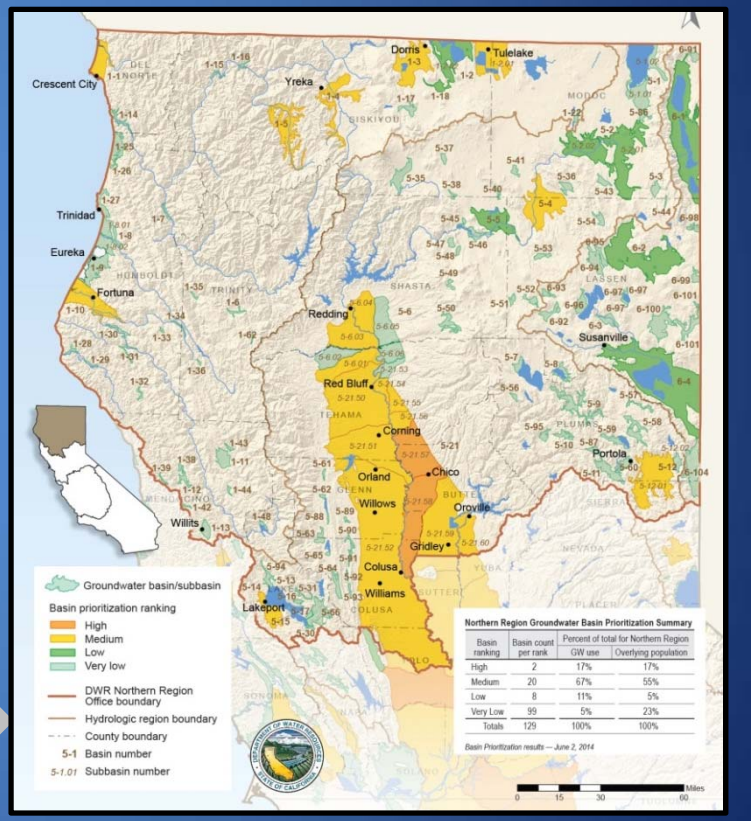
- AB 1739: Dickinson
- SB 1168: Pavley
- SB 1319: Pavley

KEY INTENDED OUTCOMES

- Establish effective local governance to protect and manage groundwater basins
- Achieve sustainable management of groundwater basins
- Manage regional water resources for regional self-sufficiency and prepare for dry periods
- If local or regional agencies are not able to manage groundwater sustainably, the State will intervene until local agencies can implement sustainable management

Requires that a groundwater sustainability plan (GSP) be adopted for High and Medium groundwater basins

- **Limited to "high & medium priority basins"**
  127 out of 515 basins in the state
- **Adjudicated basins are exempt, except for minimal reporting**
- **"Low & very low priority" basins are exempt, but are encouraged to adopt plans.**



*** Initial Basin Priority = June, 2014 Results**

Basin Priority will be updated to
Include impacts to habitat and stream flow

June 2014 Basin Prioritization Results
http://water.ca.gov/groundwater/casgem/basin_prioritization.cfm

Establishes a timetable for Sustainable Management

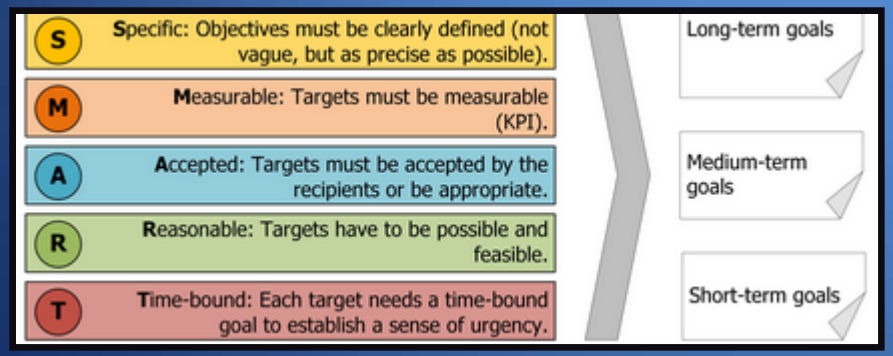
- By 2017, local groundwater sustainability agencies (GSA) must be identified.
- By 2020, overdrafted basins must be covered by a groundwater sustainability plan (GSP). Other high & medium priority basins not in overdraft must have plans by 2022.
- By 2040, each high & medium priority basin must achieve sustainability, though this can be extended by 10 years for good cause.

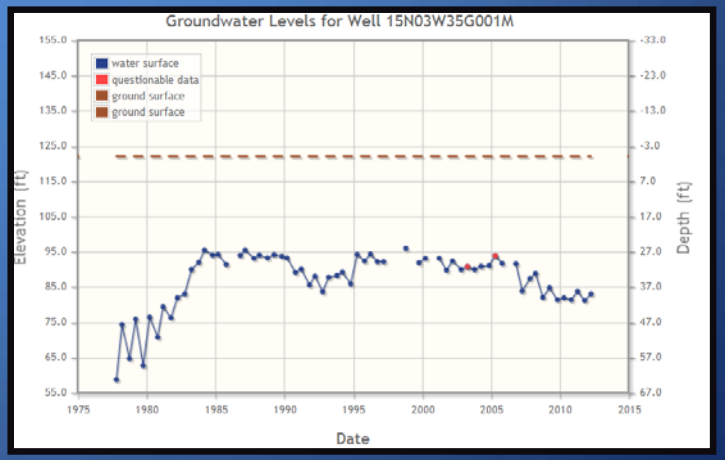
Provides New Management Authority and Tools

- Requires creation of Groundwater Sustainability Agencies (GSAs)
- Empowers GSAs to:
  - Register groundwater wells
  - Measure extractions
  - Require reports
  - Manage extractions
  - Assess fees
- Exempts preparation of local Groundwater Sustainability Plans (GSPs) from CEQA

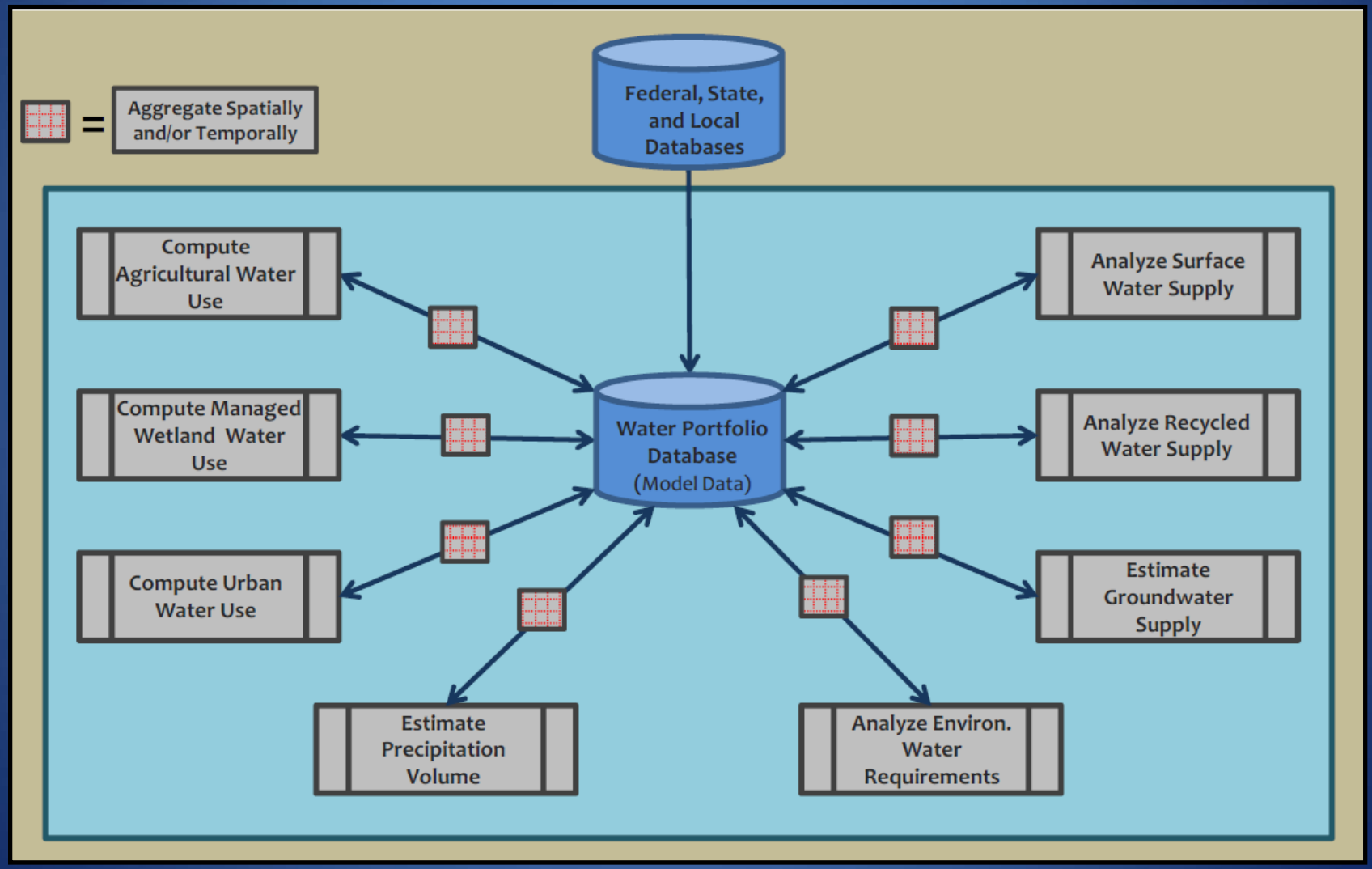
Establishes Basic Requirements for GSPs:

- Description of physical setting
- Identification of groundwater conditions: (levels, quality, subsidence, groundwater – surface water interaction)
- Historic and projected water demands and supplies
- Maps: basin and agency boundaries, recharge areas.
- Measurable Objectives with Interim Milestones (every 5 yrs) to achieve sustainability in 20 yrs.
- Description of how GSP is given consideration in General Plans



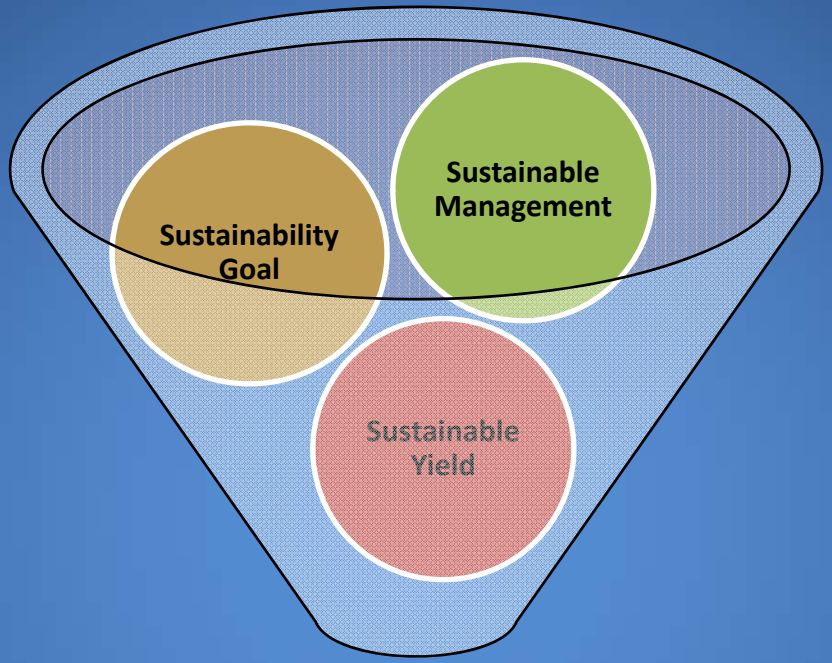


Understanding Local Water Supply & Balance… Essential for Sustainability



Sustainability: Groundwater *Management …*

…without undesirable results



Prevent

"Undesirable Results"

- Lowering of Groundwater Levels
- Reduction in Groundwater Storage
- Seawater Intrusion
- Water Quality Degradation
- Land Subsidence
- Depletions of Surface Water

State Oversight…backstop

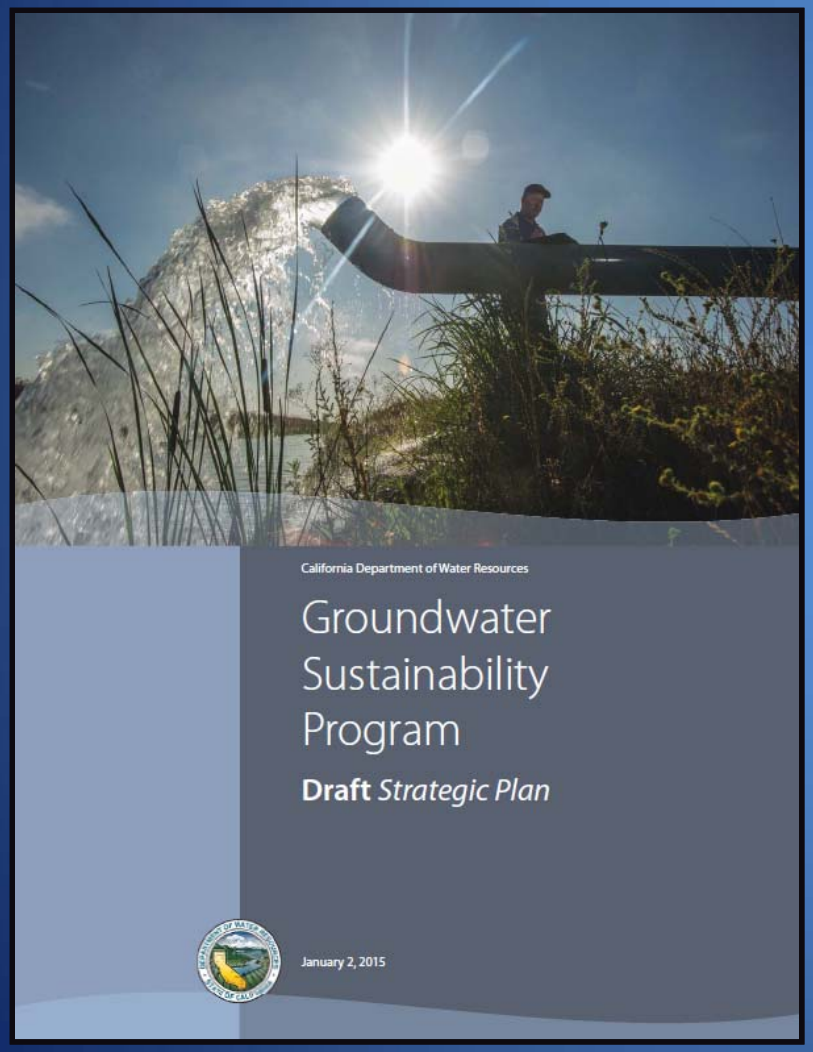
- DWR evaluates GSPs within two years of submission.
- State Water Board Intervention:
  - No governance structure for a basin after 2 ½ years
  - No plan after five years (overdrafted basins) or ten years (other basins)
  - Plan is inadequate and the basin has serious groundwater problems
  - Local agency has not adequately implemented the plan and the basin has serious groundwater problems
- State Board must return control to local agencies as soon as they adopt an adequate plan.
- State Board may limit its temporary control to the portion of the basin not being managed.

Tribes Participation in SGMA

Water Code: 10720.3

- Federally recognized tribes may participate through a Joint Powers Agreement or other agreement with local agencies in the basin.
- Participating tribes are eligible to conduct planning, financing, and management under SGMA, including eligibility for grants and technical assistance.
- Exercise of regulatory authority, enforcement, or collection of fees needs to be pursuant to the tribe's authority and not pursuant to the authority granted under SGMA
- Federally reserved water rights to groundwater shall be respected in full.

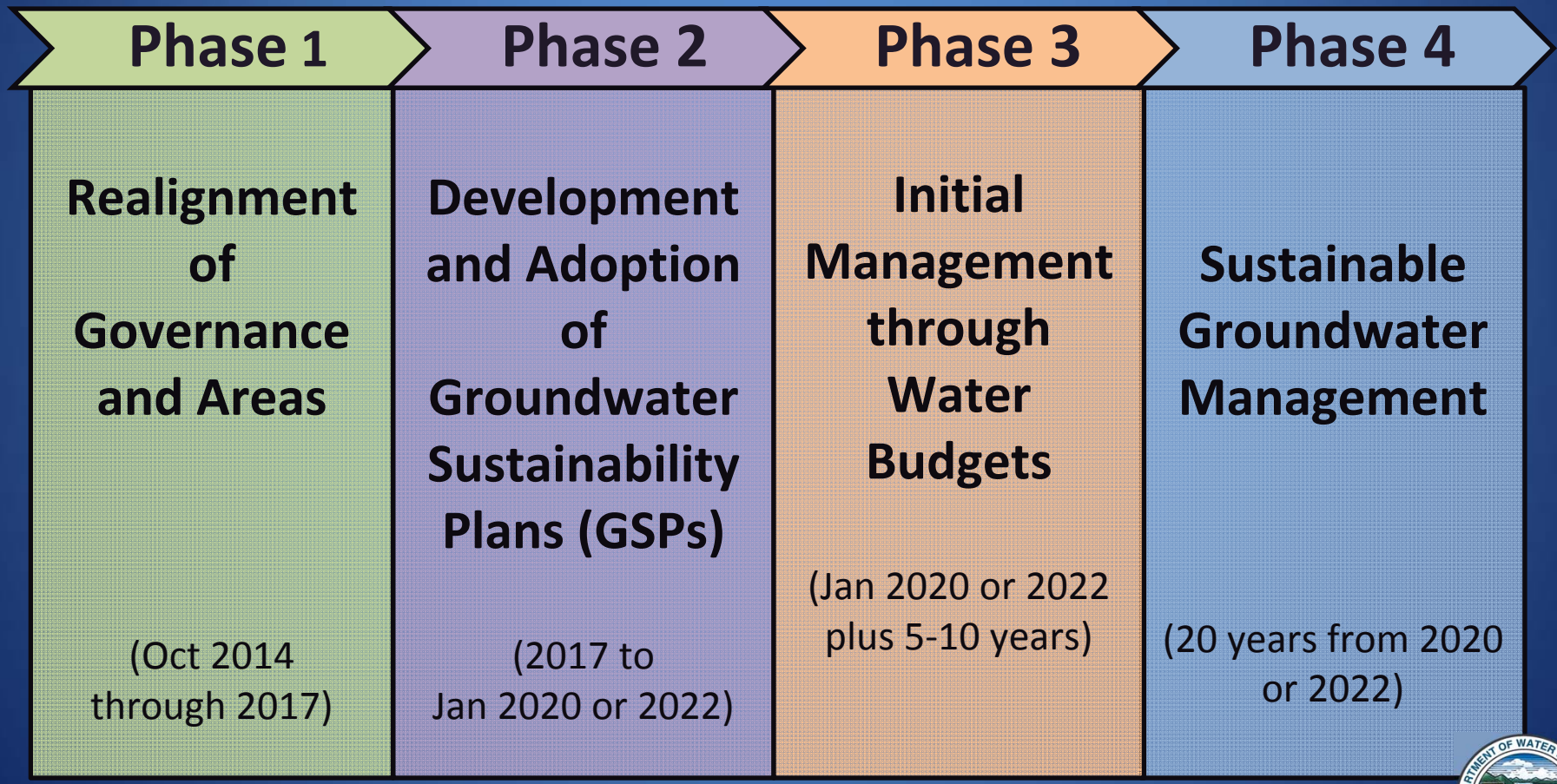
DWR Implementation of the Sustainable Groundwater Management Program



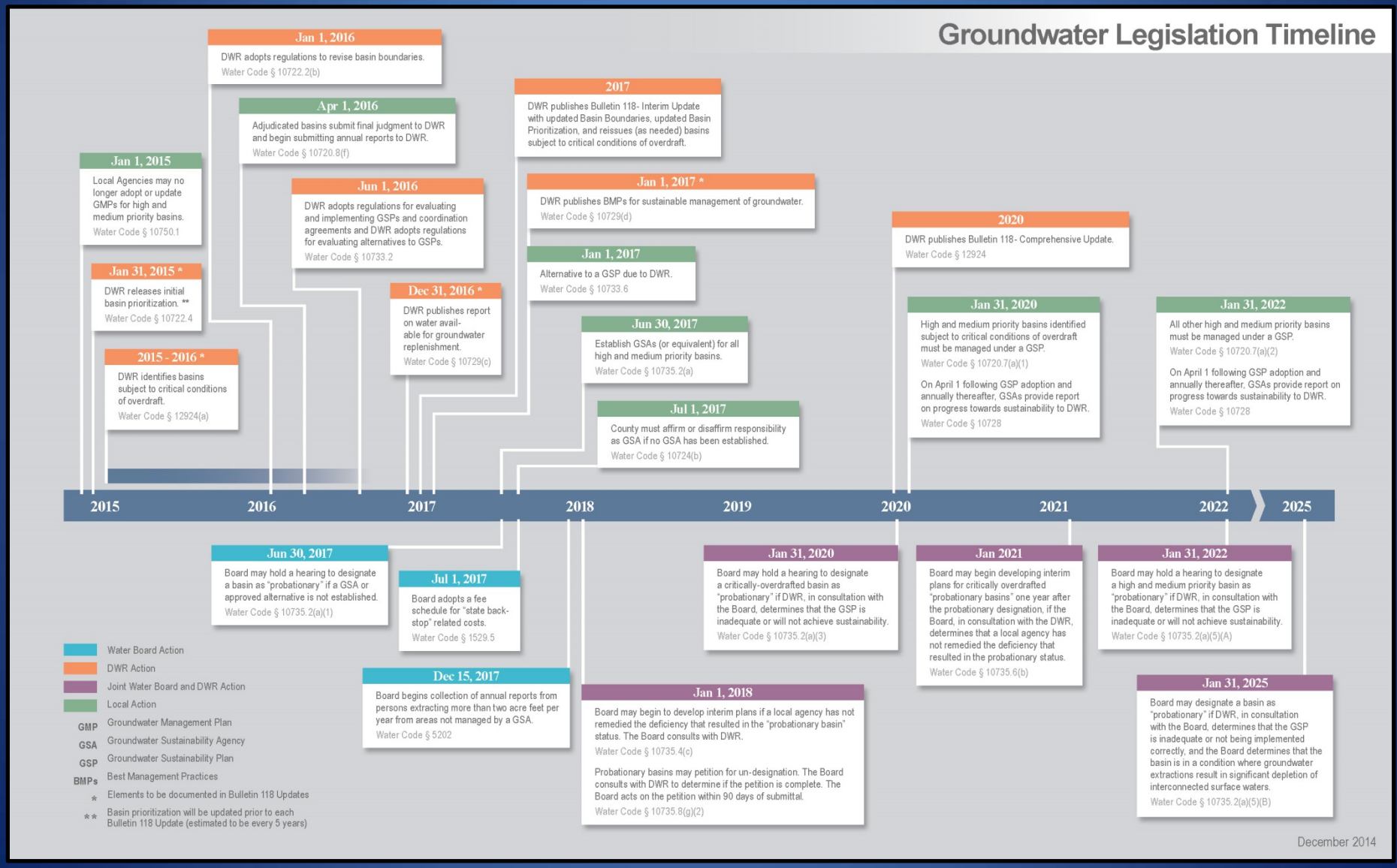
Groundwater Sustainability Program Strategic Plan

Describes DWR role and responsibilities under the Sustainable Groundwater Management Act and outlines related actions from the California Water Action Plan.

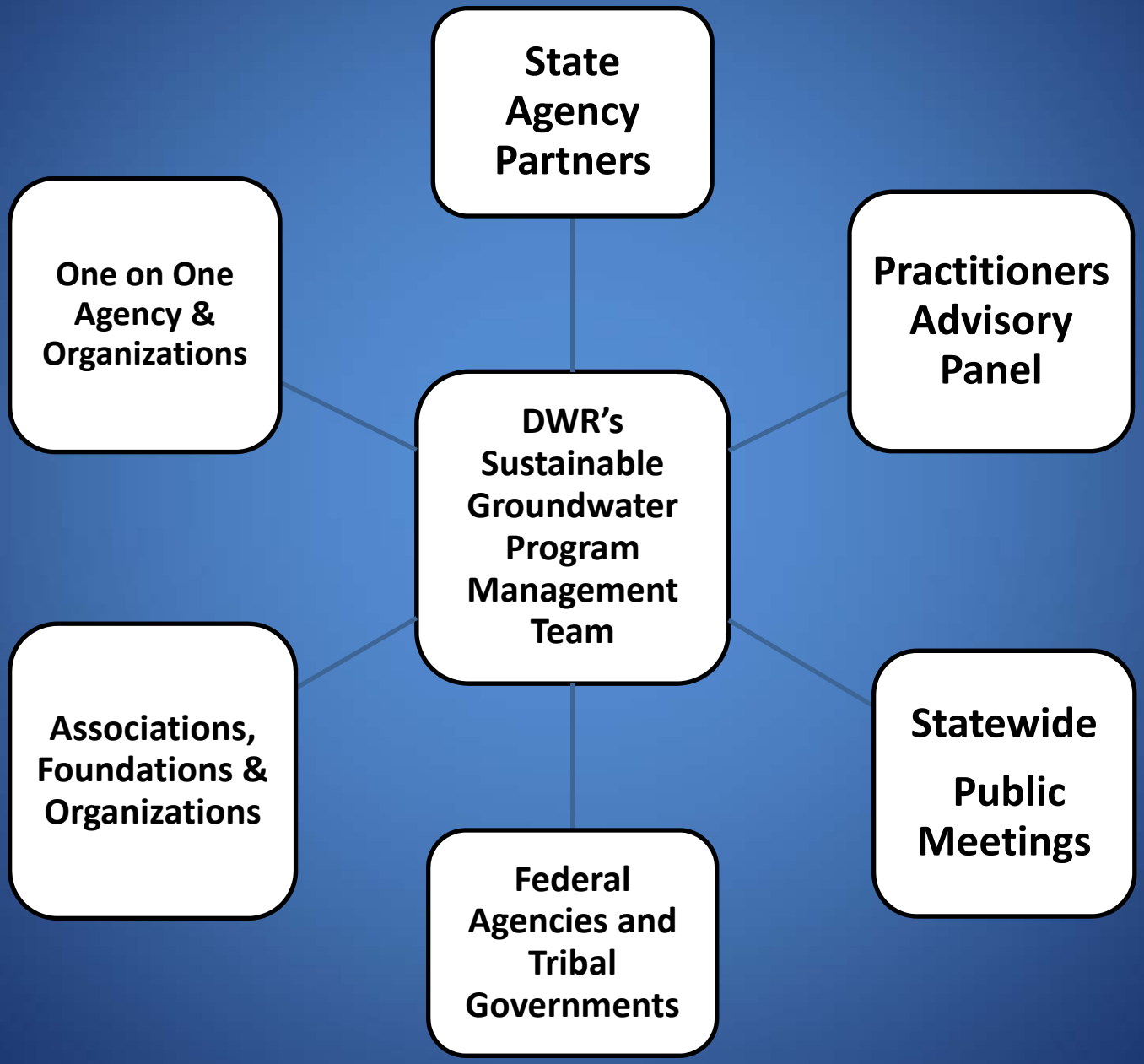
DWR Rollout: *Phased Implementation of Legislation to Achieve Sustainable Groundwater Management*



Legislation Timeline



Communication and Outreach



Communication

- Joint Websites
  - http://www.water.ca.gov/cagroundwater/
  - http://www.waterboards.ca.gov/water_issues/programs/gmp/
  - http://www.water.ca.gov/groundwater
- Speaking Engagements
  - 35 engagements since mid November
- Brochures, Technical Fact Sheets
- Webinars
- Strategic Plan
- Workshops
- Assistance to local agency communication

Outreach

- **SWRCB**
  - **Management Team**
  - **Communication Team**
  - **Data Team**
  - **Regulations Team**
- **Water Commission**
  - **Sub Committee**
- **Technical Advisory Panel**
- **Leveraging Organizations**
- **Tribal Governments**
- **Federal Agencies**
- **Public Listening Sessions**

DWR's Sustainable Groundwater Management Program

1. Develop a Framework for Sustainable Groundwater Management

DWR will support locally developed groundwater sustainability plans

- Develop Comprehensive Water Budgets
- Update basin prioritization
- Publish Best Management Practices
- Develop and Adopt Regulations for Basin Boundary Revisions
- Develop and Adopt Regulations for Groundwater Sustainability Plan Assessment and GSP Alternatives
- Identify Basins Subject to Critical Conditions of Overdraft
- Evaluate Adequacy of Groundwater Sustainability Plans

2. Provide Statewide Technical Assistance

DWR will conduct technical activities to improve groundwater management

- Develop Groundwater Management Information System
- Collect Groundwater Quality Data
- Collect Groundwater Elevation Data
- Collect Subsidence Data
- Establish Well Standards
- Implement the CASGEM Program
- Promote Water Conservations

3. Provide Statewide Planning Assistance

DWR will conduct planning activities to improve groundwater management

- **Publish 2017 - Bulletin 118 “Interim Update”**
- **Publish 2020 - Bulletin 118 “Comprehensive Update”**
- **Integrate Groundwater information into Bulletin 160**
- **Local Assistance for Recharge Projects**

4. Assist State and GSA Alignment and provide Financial Assistance

DWR will support local activities to improve alignment of groundwater management

- **Alignment for management of groundwater programs**
- **Provide Financial Assistance**
- **Provide Education and Communication Assistance**
- **Provide Facilitation and Engagement Assistance**

5. Provide Interregional Assistance

DWR will support projects and programs to improve interregional management

- **Assist in the Implementation of Storage and Conveyance projects**
- **Provide Information on Surface Water Reliability**
- **Advance Studies on Surface/Groundwater Interaction**
- **Provide Information for Water availability for Replenishment**

Immediate Actions

- Developing Regulations for Basin Boundaries
- Updating Basin Prioritization
- Identify basins subject to conditions of critical overdraft
- Developing Regulations for Groundwater Sustainability Plans

Basin Boundary and GSP/ALT Regulations Process

- Phases of Implementation

Internal Project Scoping

- Notify OAL
- Collection of Statewide Issues
- Coordinate with SWRCB

Draft Principles for Regulations

- Public Listening Sessions
- Input from Advisory Panels and Public

Draft Emergency Regulations

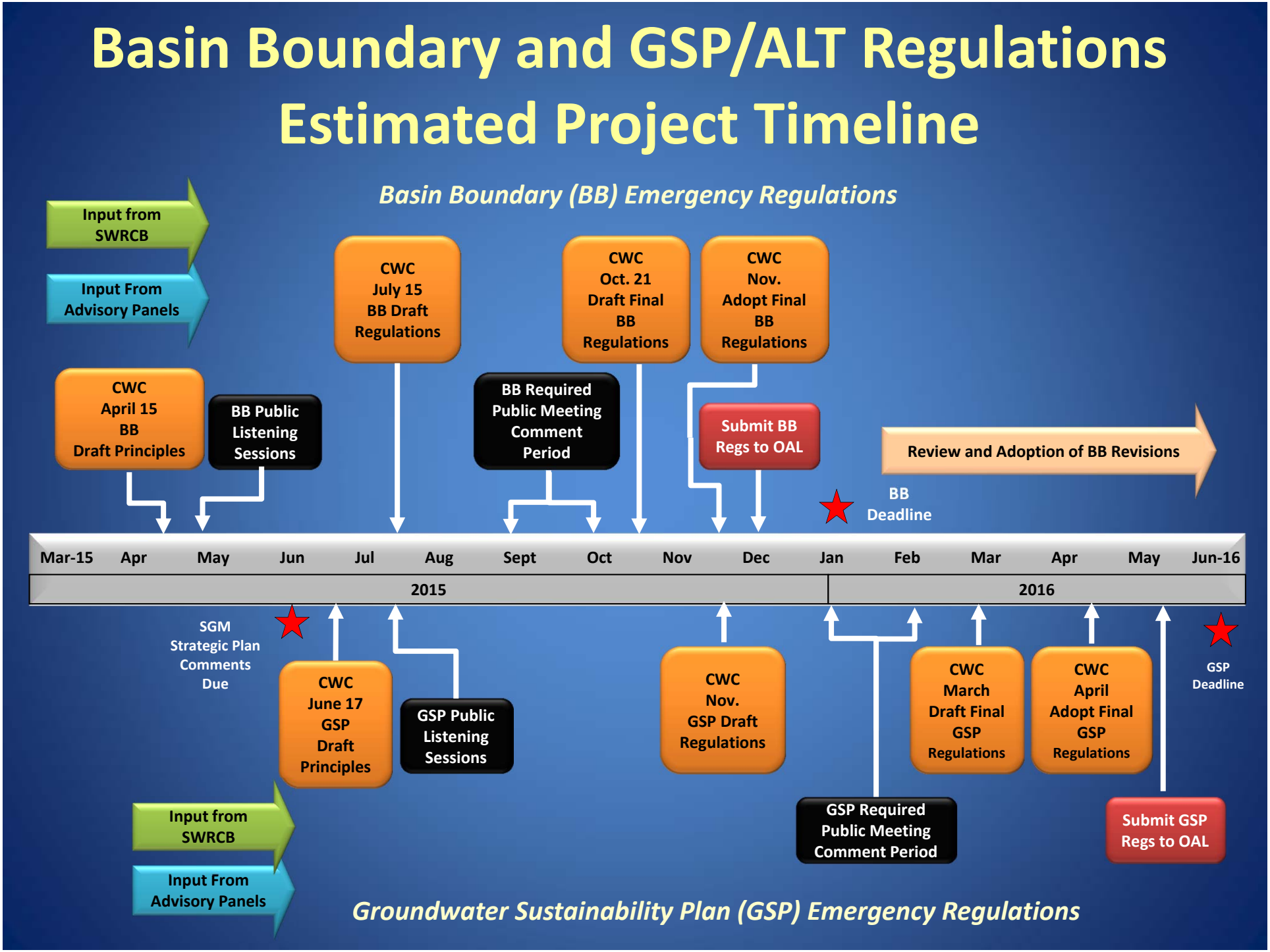
- Required Public Meetings
- Record and Evaluate Comments

Adopt Emergency Regulations

- CWC Approval
- Noticing and Submittal to OAL

Input and Feedback from the California Water Commission

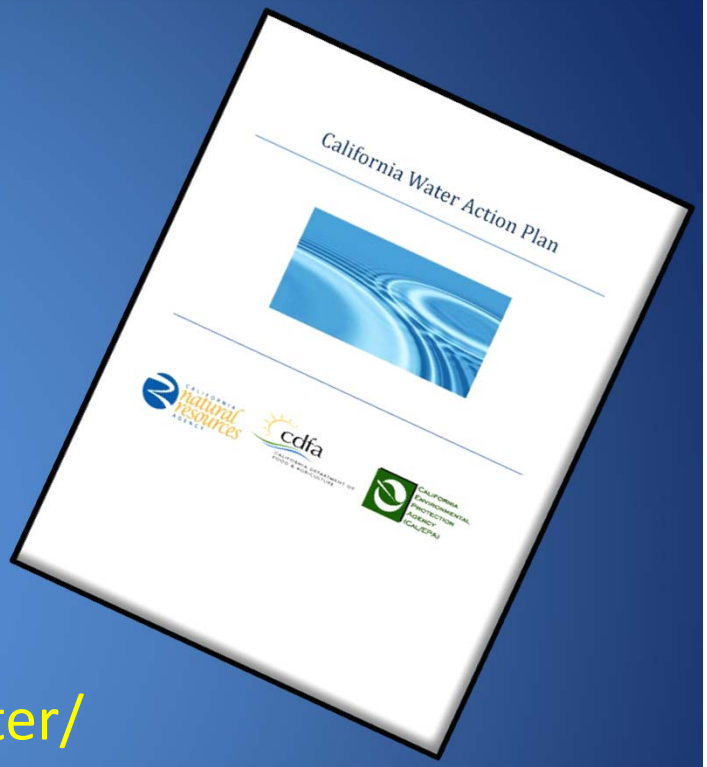
Basin Boundary and GSP/ALT Regulations Estimated Project Timeline



Questions

When properly managed, groundwater resources will help protect communities, farms, and the environment against the impacts of prolonged dry periods and climate change.

California Water Action Plan 2014



State: http://www.water.ca.gov/cagroundwater/

DWR: http://www.water.ca.gov/groundwater/

SWRCB: http://www.waterboards.ca.gov/water_issues/programs/gmp/