

DWR's Role in Sustainable Groundwater Management

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

Governor Jerry Brown

CA Department of Water Resources



Outline

- Groundwater: Current Conditions
- Groundwater Management and Recent Legislation
- Strategic Program Formulation and Implementation
- Near Term Activities
- Final Thoughts



Groundwater: Current Conditions

Groundwater Storage

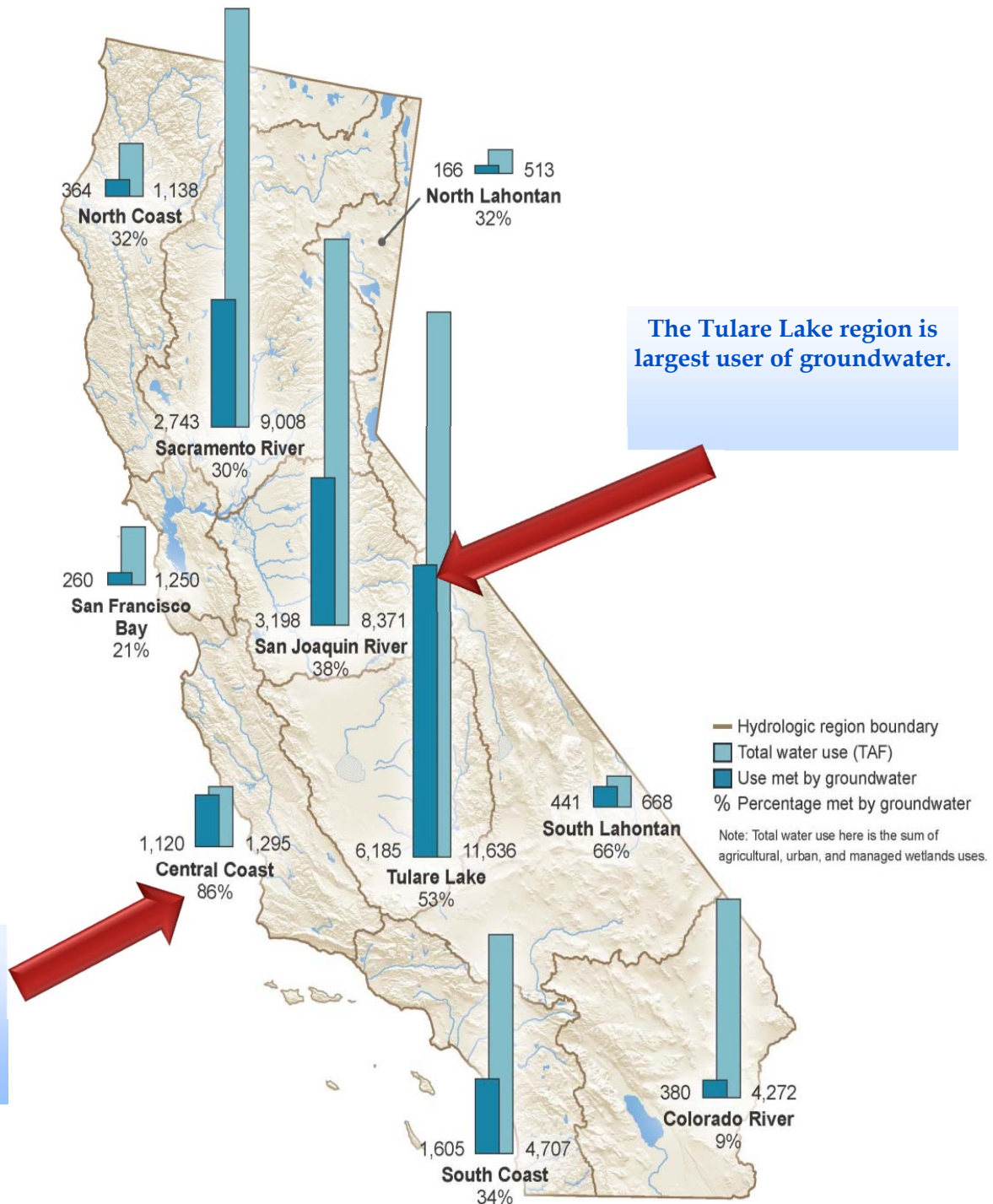
- Groundwater Basins carry 10 times the capacity of California's surface storage
- Cost-effective, local storage



Ground-water Supply in California

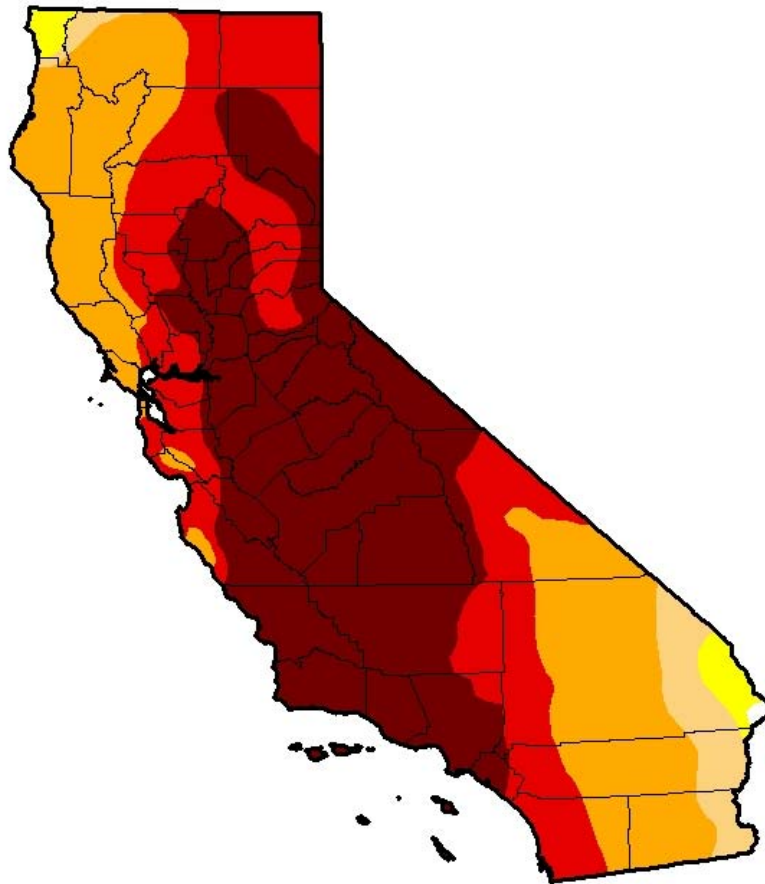
2005-10
Average

The Central Coast
region is the most
groundwater
dependent.



Most of CA in *Exceptional Drought Condition*

U.S. Drought Monitor California



March 24, 2015

(Released Thursday, Mar. 26, 2015)

Valid 7 a.m. EST

Drought Conditions (Percent Area)

	None	D0-D4	D1-D4	D2-D4	D3-D4	D4
Current	0.15	99.85	98.11	93.44	66.60	41.41
Last Week 3/17/2015	0.16	99.84	98.11	93.44	67.46	39.92
3 Months Ago 12/23/2014	0.00	100.00	98.41	94.42	77.94	32.21
Start of Calendar Year 12/02/2014	0.00	100.00	98.12	94.34	77.94	32.21
Start of Water Year 9/01/2014	0.00	100.00	100.00	95.04	81.92	58.41
One Year Ago 3/25/2014	0.00	100.00	99.80	95.21	71.78	23.42

Intensity:

D0 Abnormally Dry	D3 Extreme Drought
D1 Moderate Drought	D4 Exceptional Drought
D2 Severe Drought	

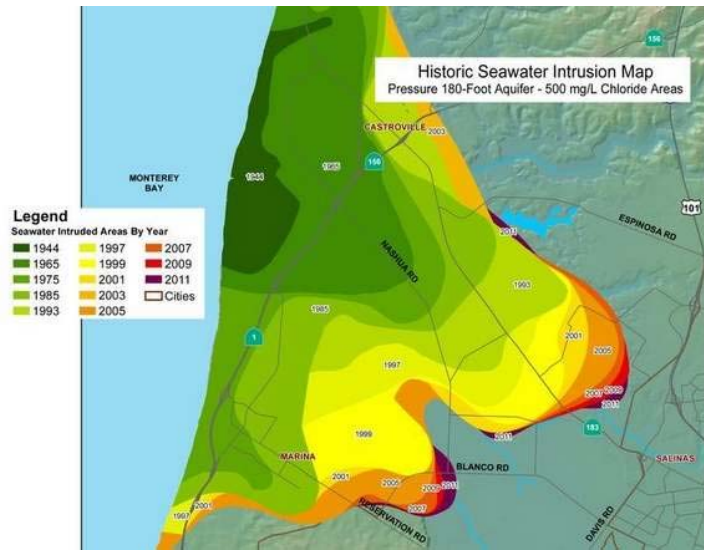
The Drought Monitor focuses on broad-scale conditions. Local conditions may vary. See accompanying text summary for forecast statements.

Author:

Eric Luebbehusen
U.S. Department of Agriculture



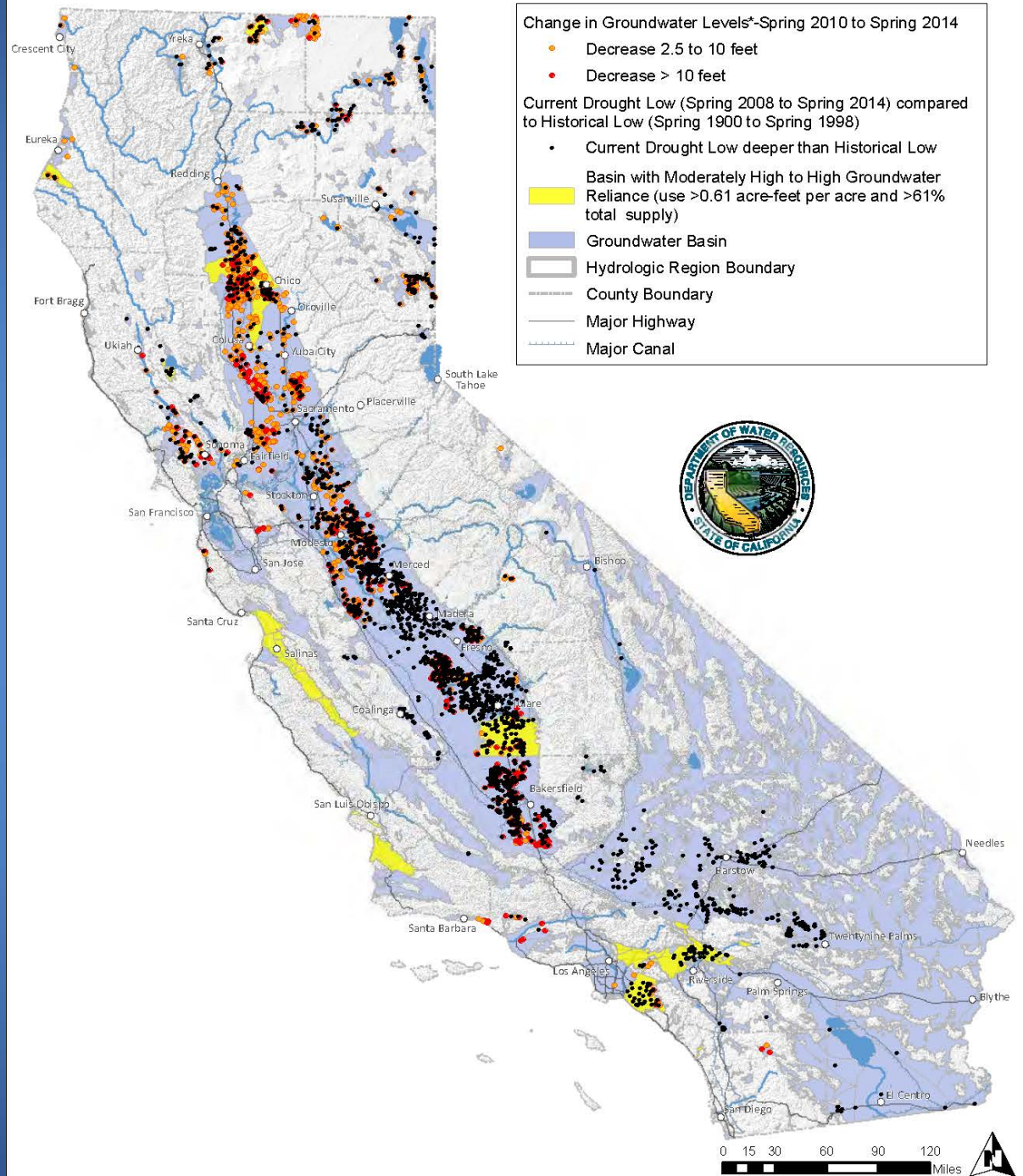
<http://droughtmonitor.unl.edu/>



Adverse Impacts

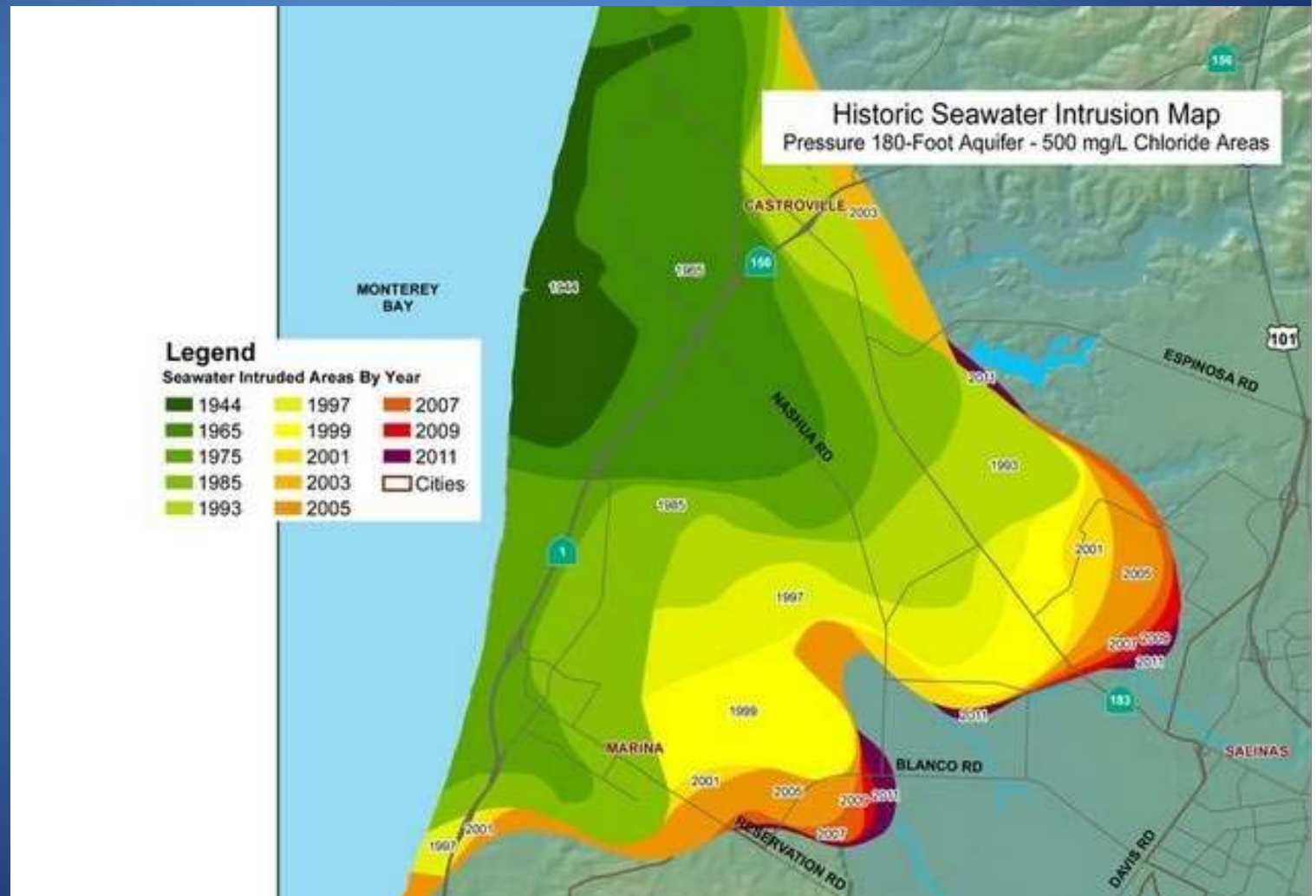


**Black Dots =
Groundwater Level
at Lowest Recorded**



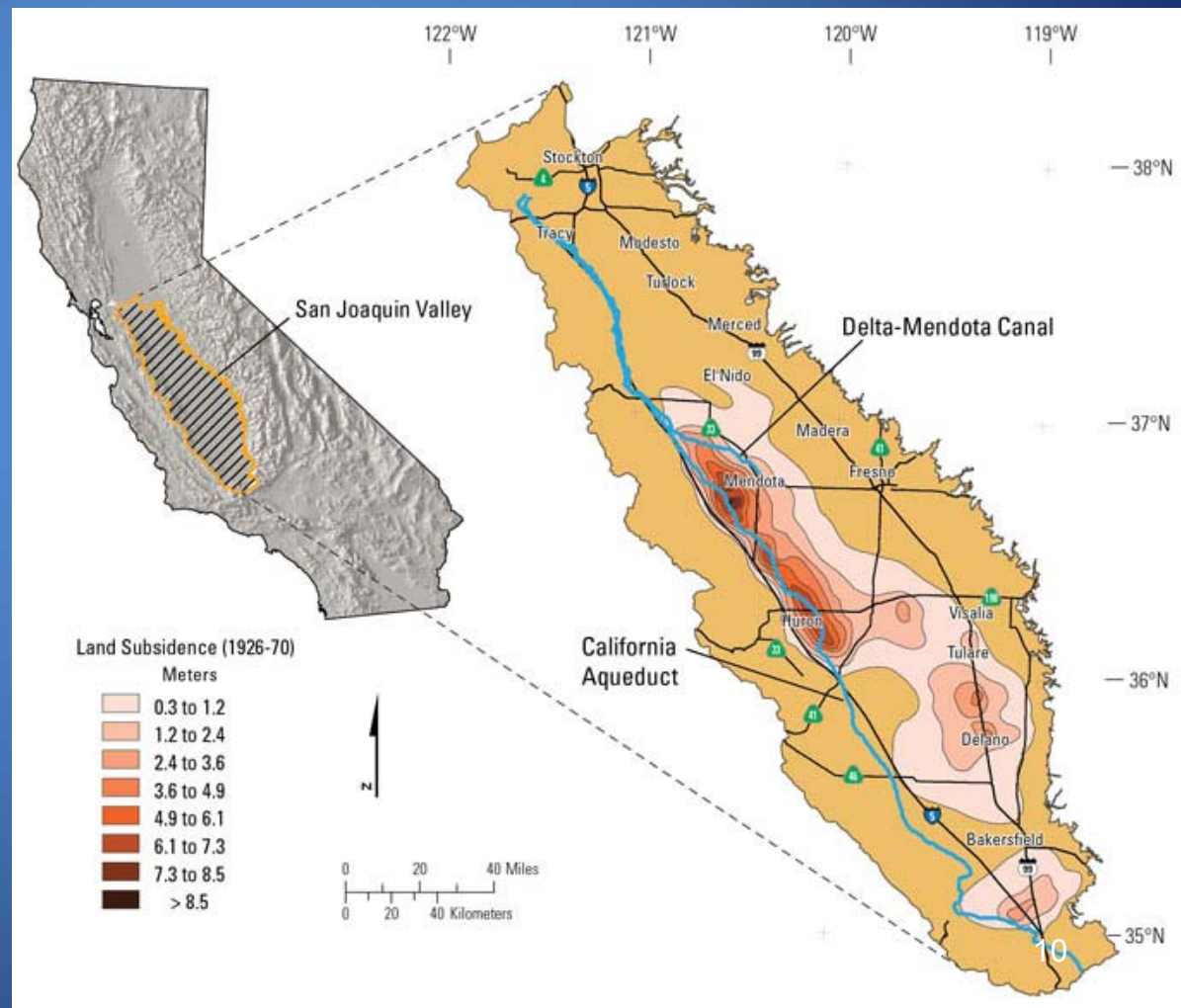
Water Quality

- Seawater intrusion in coastal areas



Subsidence

- Permanent loss of water storage
- Damage to infrastructure and water delivery systems



Subsidence



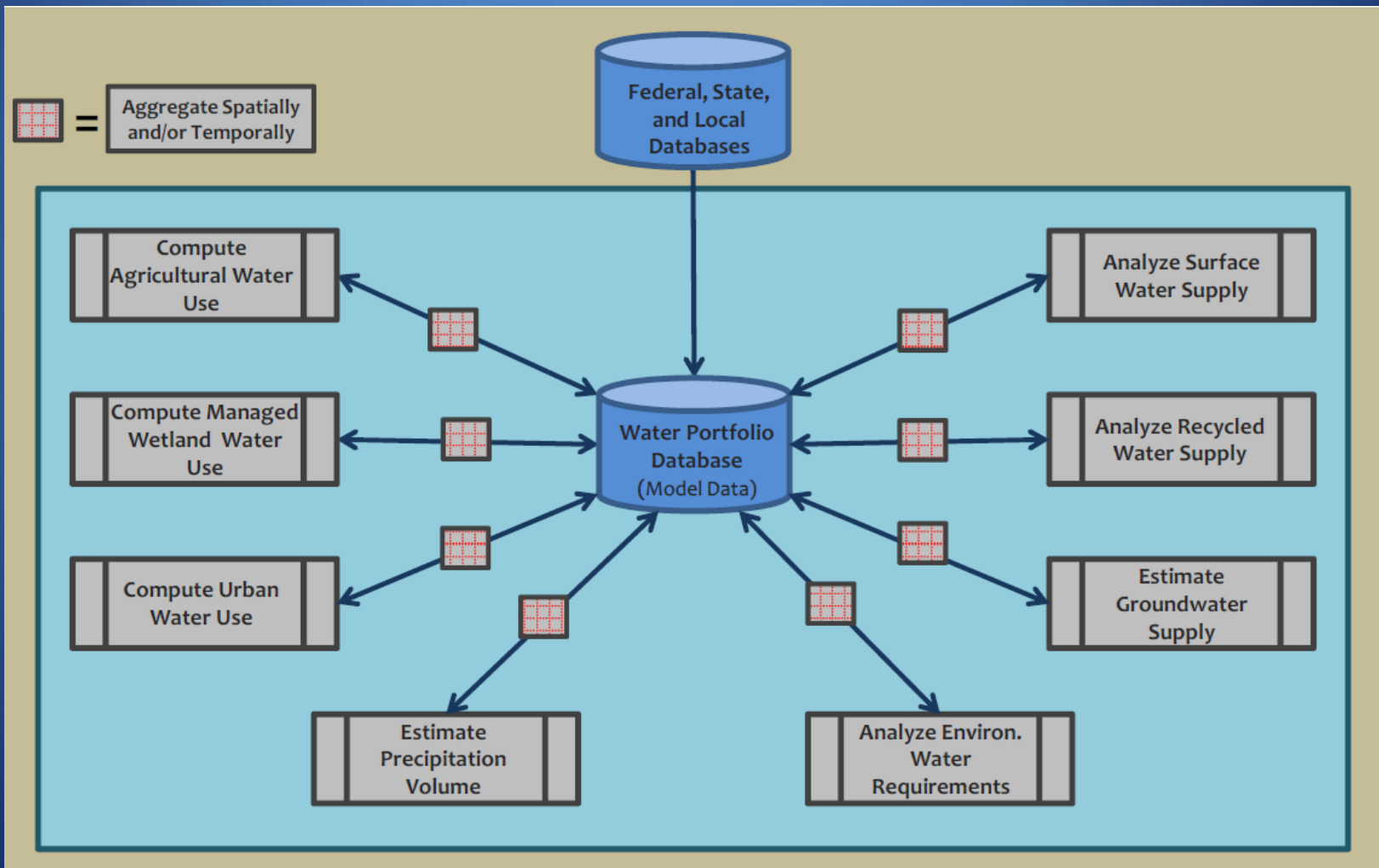
Ecosystem Impacts



Vital Resource Under Stress



Water Balance is essential for sustainability



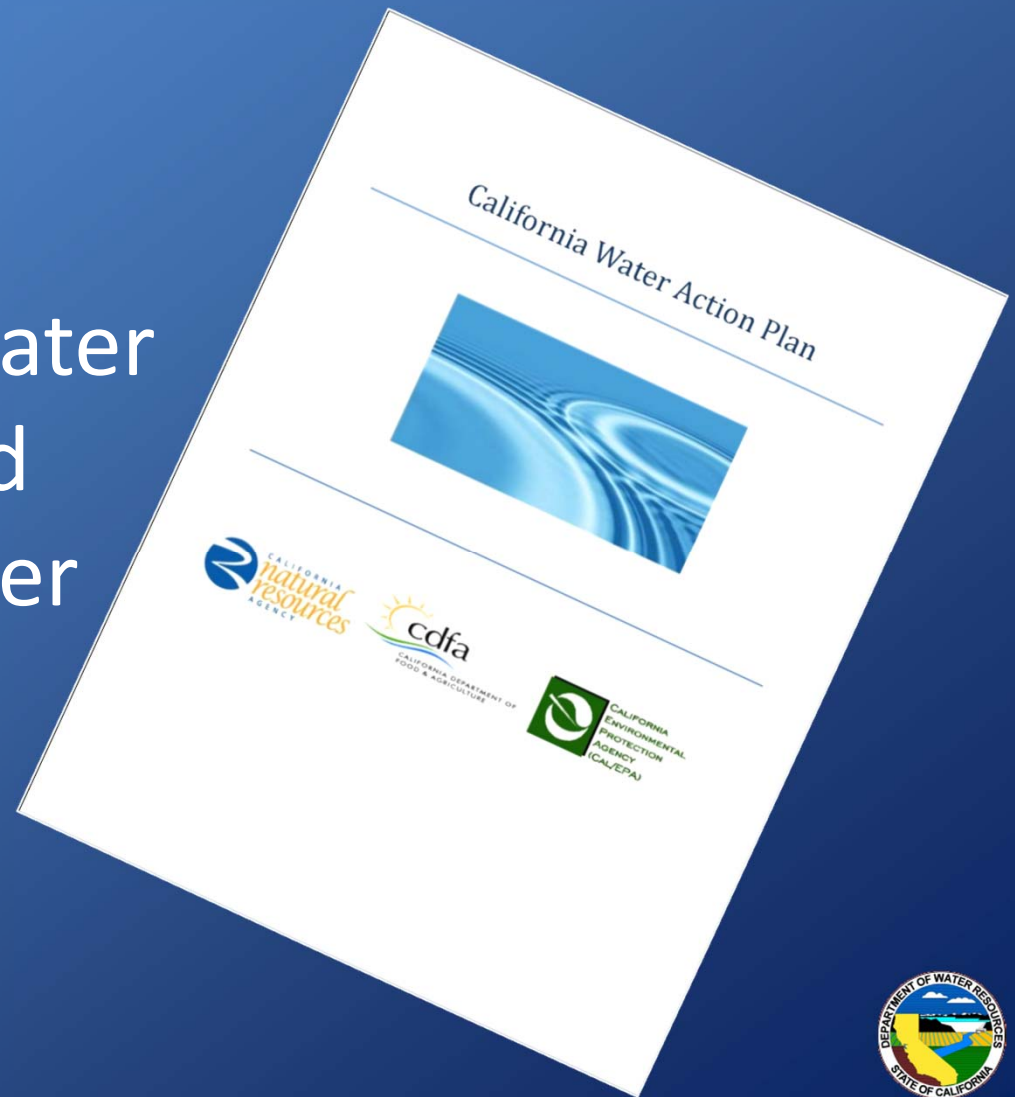
PREPARING FOR THE FUTURE

California Water Action Plan



California Water Action Plan

Action 6: Expand water storage capacity and improve groundwater management



Expand Water Storage Capacity & Improve Groundwater Management



FIGURE 8: OCWD GROUNDWATER RECHARGE SITE (SOURCE: OCWD)

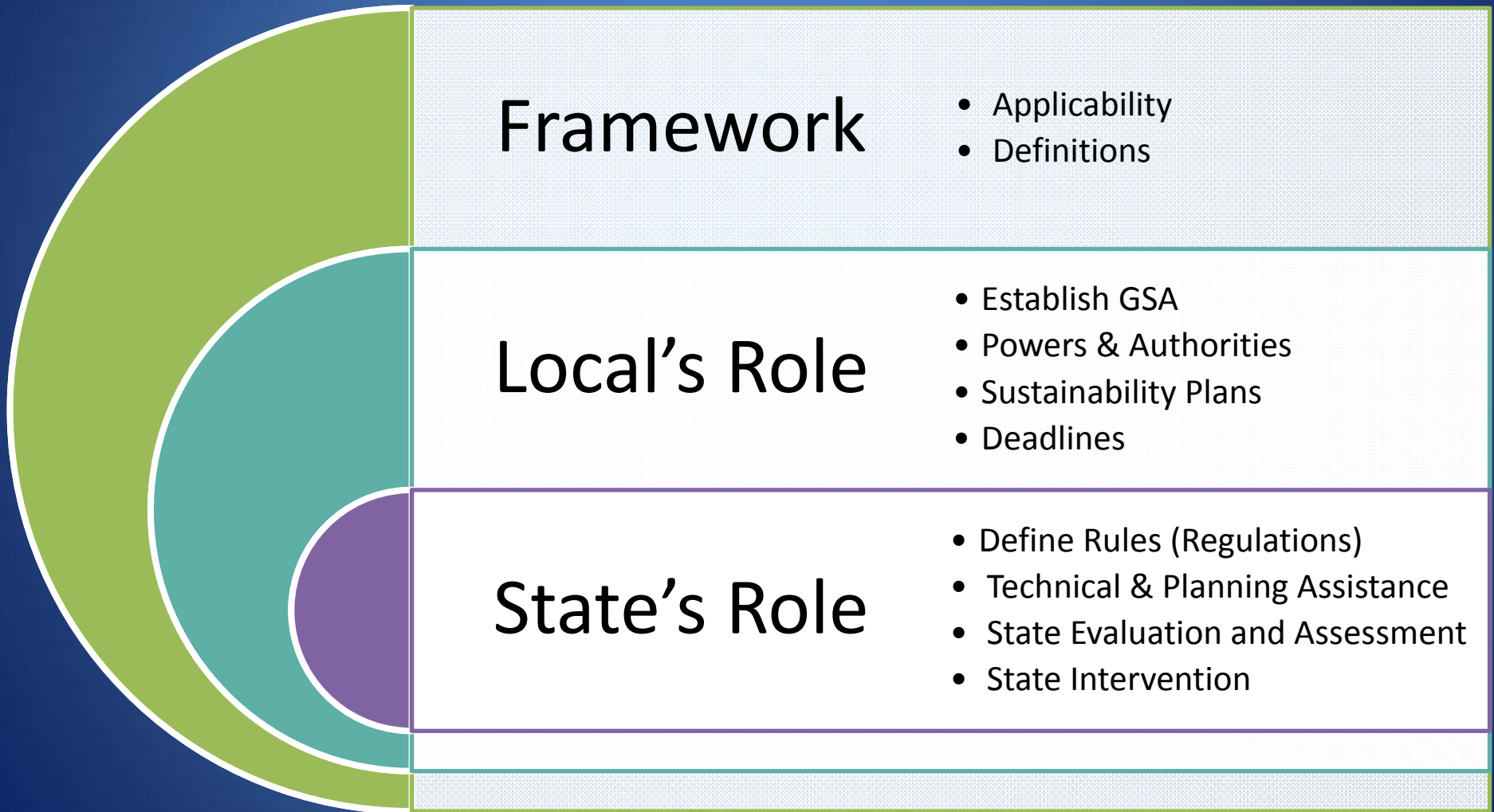
Groundwater Management and Recent Legislation

The Sustainable Groundwater Management Act of 2014

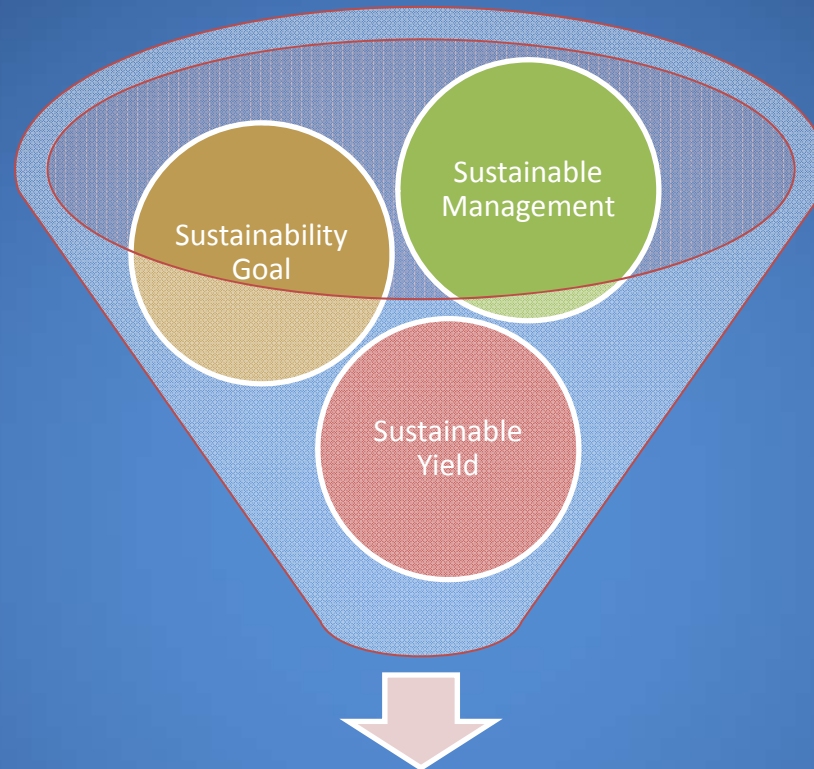
- Requires sustainable groundwater management
- Promotes local control



Sustainable Groundwater Management: Overview



Sustainability:



**Prevent
“Undesirable Results”**

Lowering of
Groundwater
Levels

Reduction in
Groundwater
Storage

Seawater
Intrusion

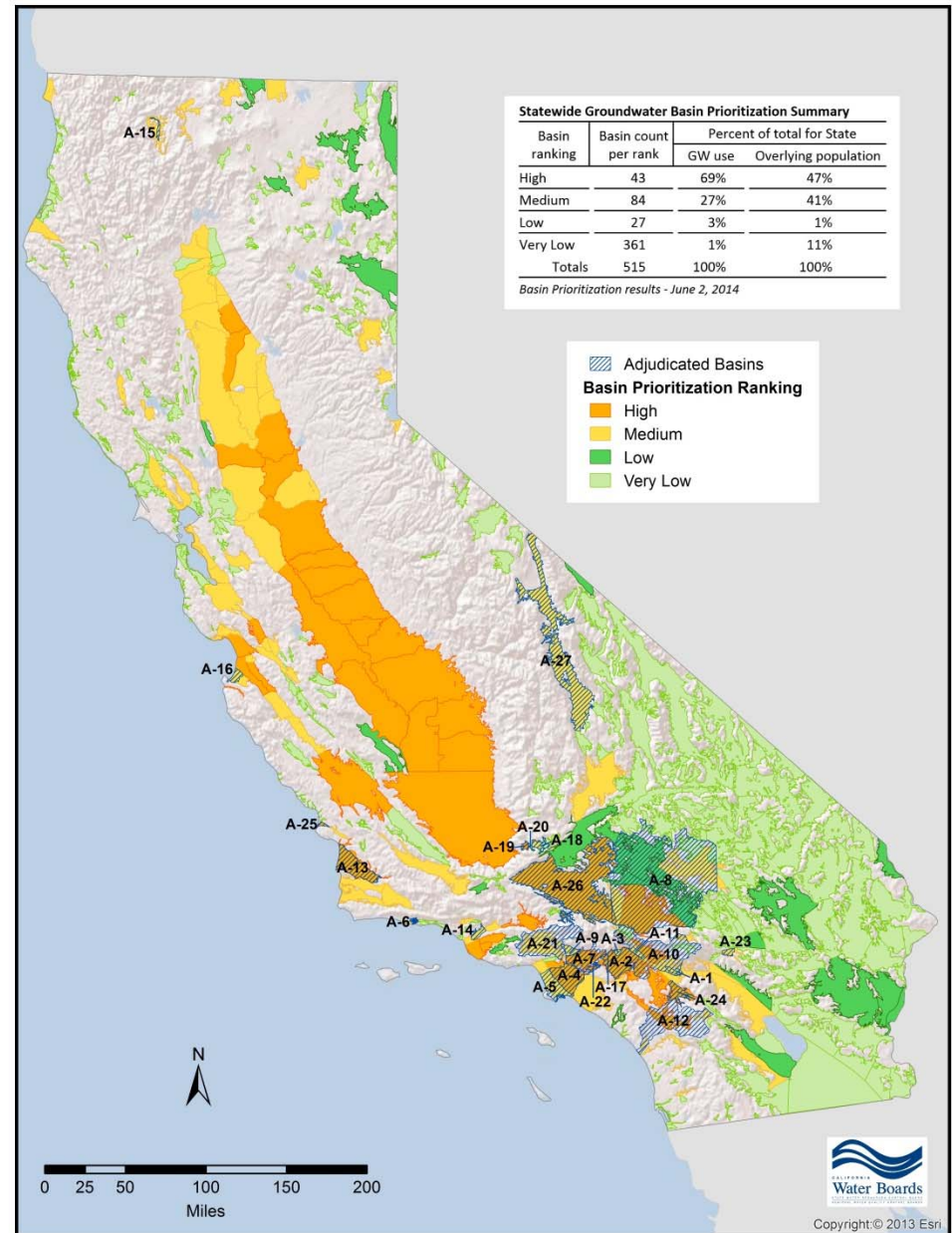
Water
Quality
Degradation

Land
Subsidence

Depletions of
Surface
Water

SGMA 2014

- Requires GW sustainability plans in high- and medium-priority basins
- Authorizes management tools for local agencies
- Creates state “backstop”
- Defines time frame for accomplishing goals
- Does not require adjudicated basins



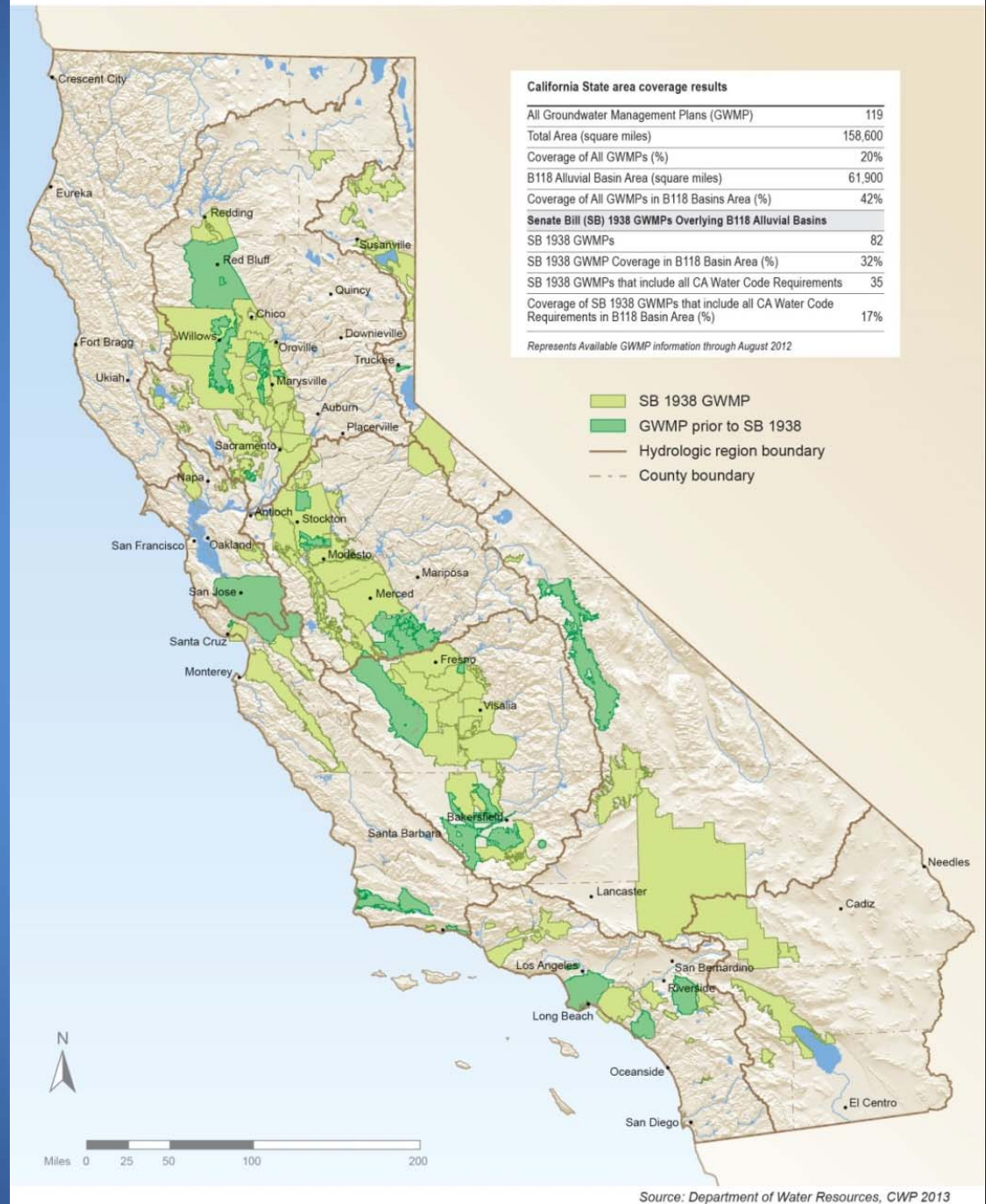
New Local Management Tools

- Requires creation of “groundwater sustainability agencies”
- Empowers GSAs to:
 - Register groundwater wells
 - Measure extractions
 - Require reports
 - Manage extractions
 - Assess fees
- Exempts preparation of local groundwater sustainability plan from CEQA
- Establishes “sustainability goal” over time to guide management



California Groundwater Management Plans

California Groundwater Management Plans



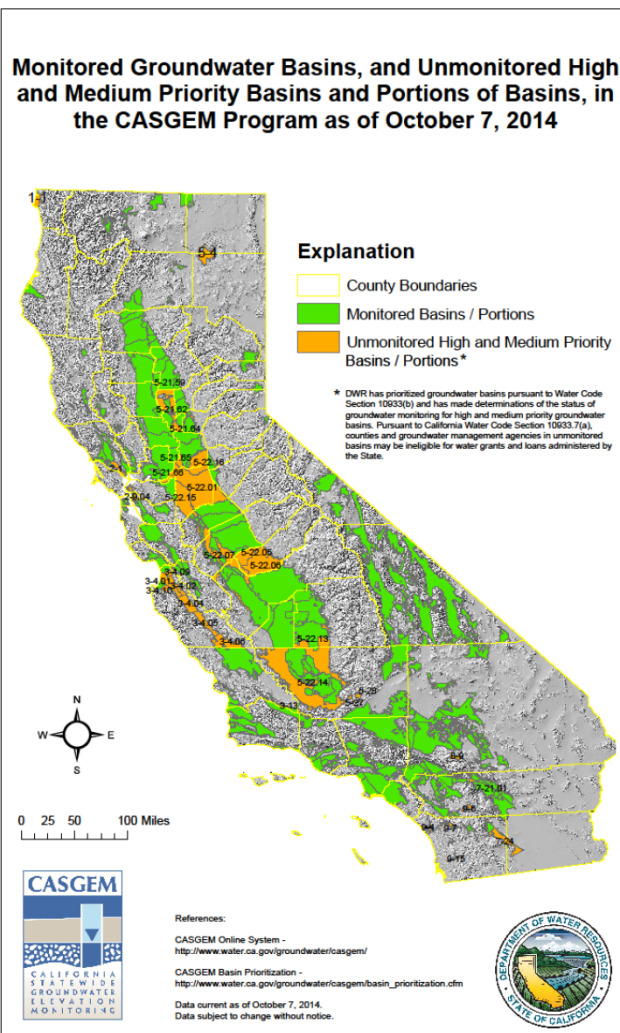
Monitored Groundwater Basins

Program Statistics

(as of Oct 7, 2014)

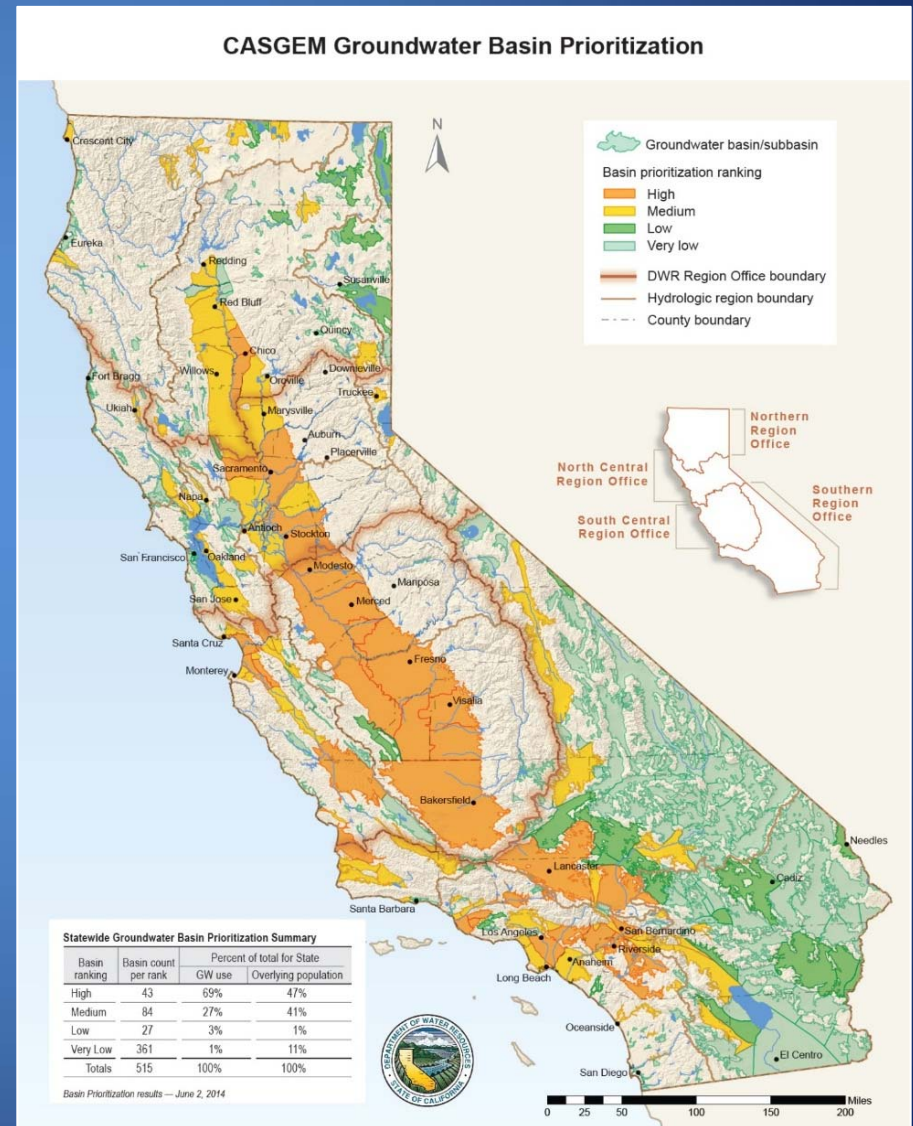
- 354 Basins represented by notification (includes portions)
- 130 Unique agencies submitting notifications
- 222 Basins either fully or partially designated
- 99 Unique agencies designated as Monitoring Entities
- 4,790 CASGEM wells in the Online System
- >100k groundwater elevation records (includes historic data)

87% of the 127 classified as High and Medium priority basins are now being Fully or Partially Monitored under CASGEM

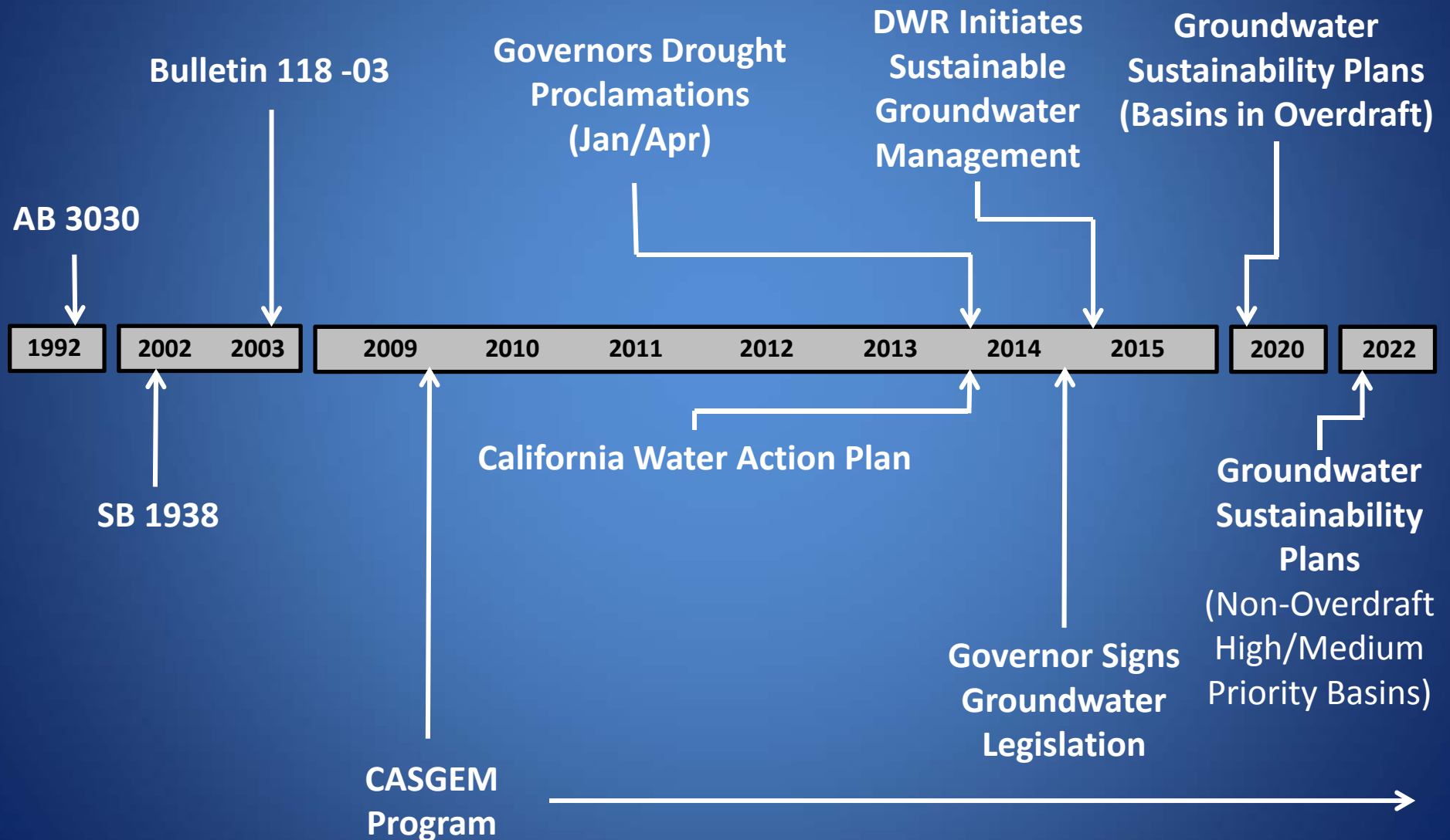


CASGEM Basin Prioritization

- 127 High and Medium Priority Basins
- 96% of Groundwater Use
- 88% of population overlying the basins

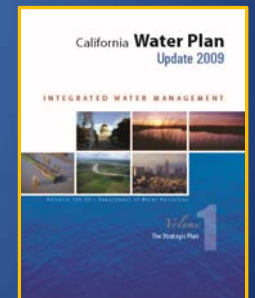
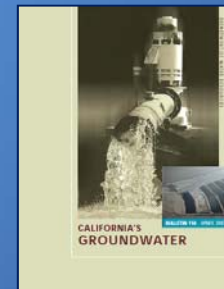


California's Major Milestones toward Sustainable Groundwater Management



DWR Groundwater Management Program: Integrating Recent Actions and Programs

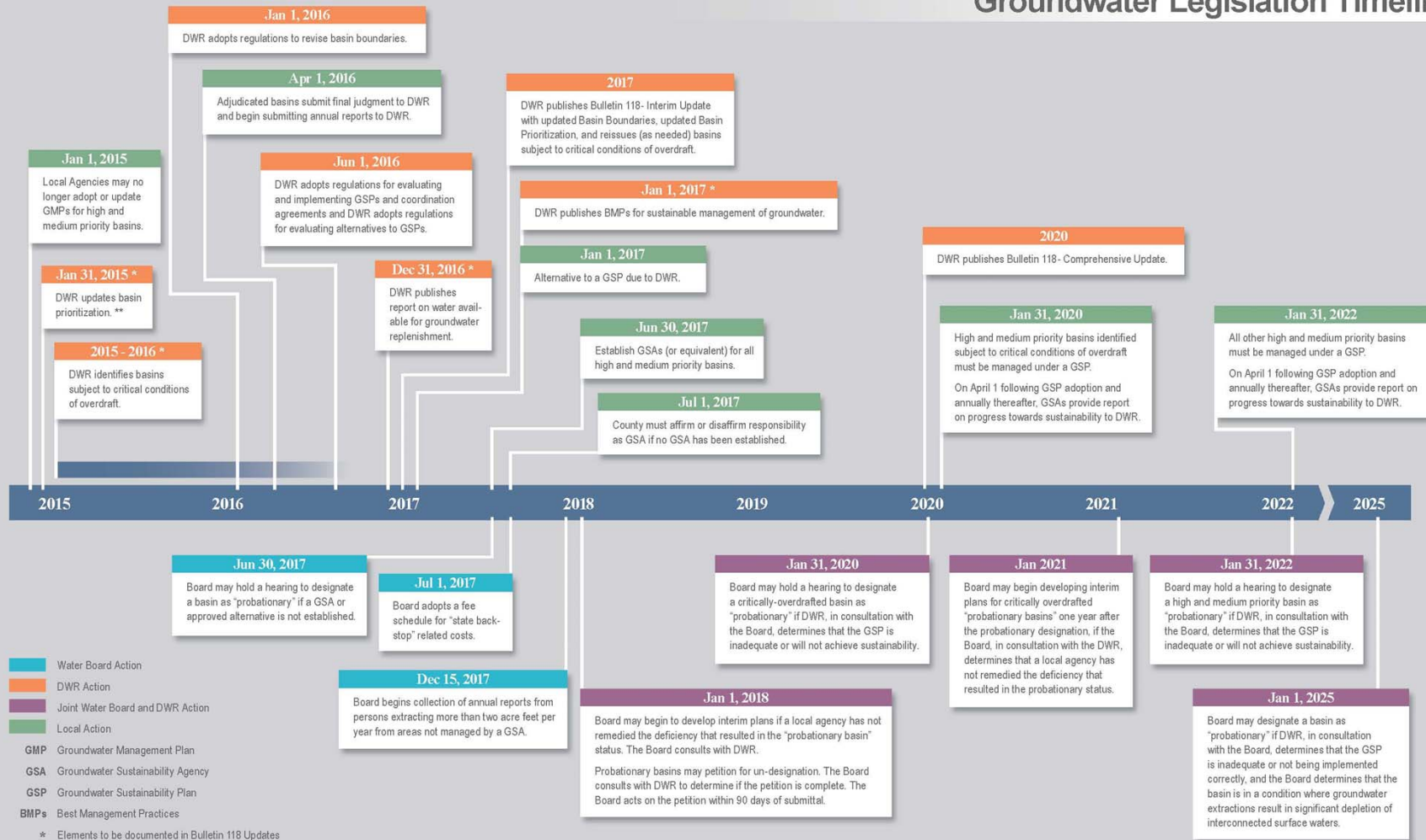
- CA Water Action Plan
- Sustainable Groundwater Management Act
- AB3030, SB1938, CASGEM
- Bulletin 118
- Bulletin 160
- Integrated Regional Water Management



DWR's Strategic Program Formulation and Implementation

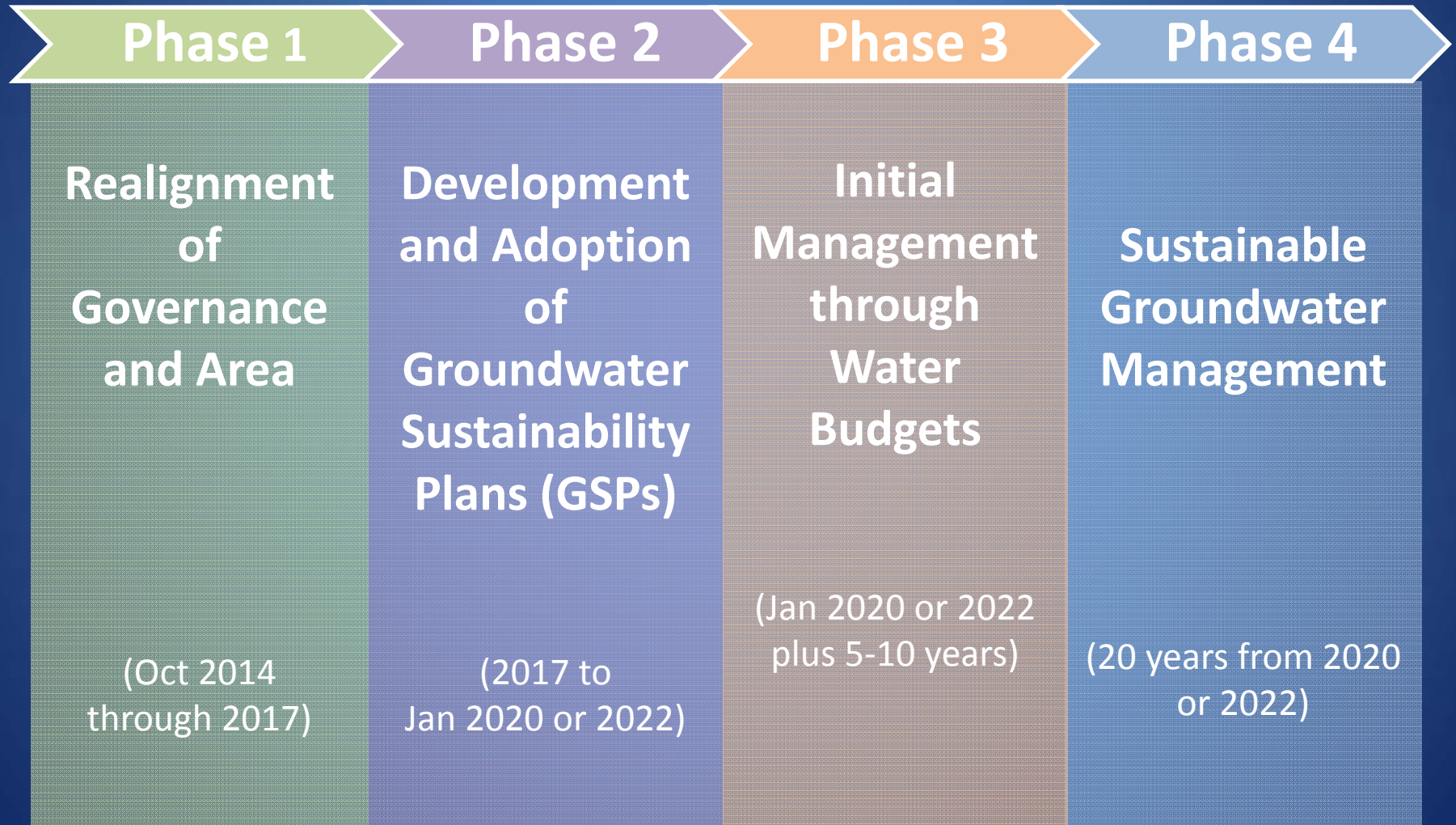
Legislation Timeline

Groundwater Legislation Timeline



- Water Board Action
- DWR Action
- Joint Water Board and DWR Action
- Local Action
- GMP Groundwater Management Plan
- GSA Groundwater Sustainability Agency
- GSP Groundwater Sustainability Plan
- BMPs Best Management Practices
- * Elements to be documented in Bulletin 118 Updates
- ** Basin prioritization will be updated prior to each Bulletin 118 Update (estimated to be every 5 years)

Phases to Implement Groundwater Legislation and Achieve Sustainable Groundwater Management



Communication and Engagement

Outreach

Agency
Alignment



Communication and Outreach



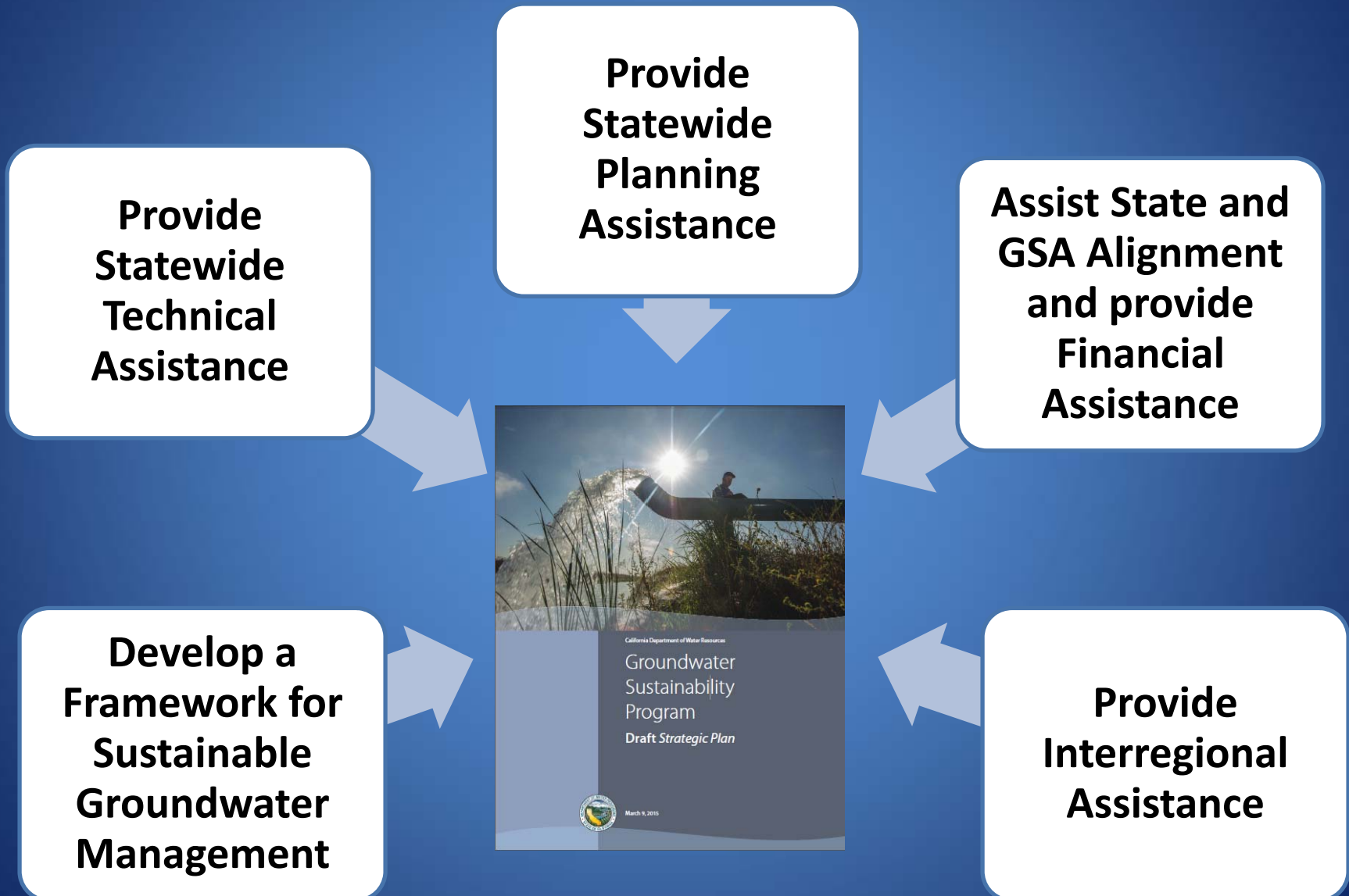
Communication

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

Outreach

- **SWRCB**
 - Management Team
 - Communication Team
 - Data Team
 - Regulations Team
- **Water Commission**
 - Sub Committee
- **Advisory Panels**
- **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**

Near Term Activities

DWR Near-term Actions

Jan. 2015

- Basin Priority

Nov. 2015

- Basins in Critical Conditions of Overdraft

Jan. 2016

- Basins Boundary Regulations

Jun. 2016

- GSP & Alternative GSP Regulations

Dec. 2016

- Water Available for Replenishment

Jan. 2017

- Bulletin 118 Interim Update

Jan. 2017

- BMPs for Sustainable GW Mgmt

Immediate Actions

Developing
Regulations
for Basin
Boundaries

Updating
Basin
Prioritization

Identify
basins
subject to
conditions of
critical
overdraft

Developing
Regulations
for
Groundwater
Sustainability
Plans



Establishing GSAs

- Local Agency or combination of Local Agencies
 - Single GSA, Single GSP
 - Multiple GSAs, Single GSP
 - Multiple GSAs, Multiple GSPs with “Coordination Agreement”
- Publication of Notice and Public Hearings
- “Exclusive” local agencies within statutory boundary
- Notice of Intent to DWR posted with proposed boundaries
- Consider all interests of beneficial uses and users of groundwater (specific information identified in act)

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

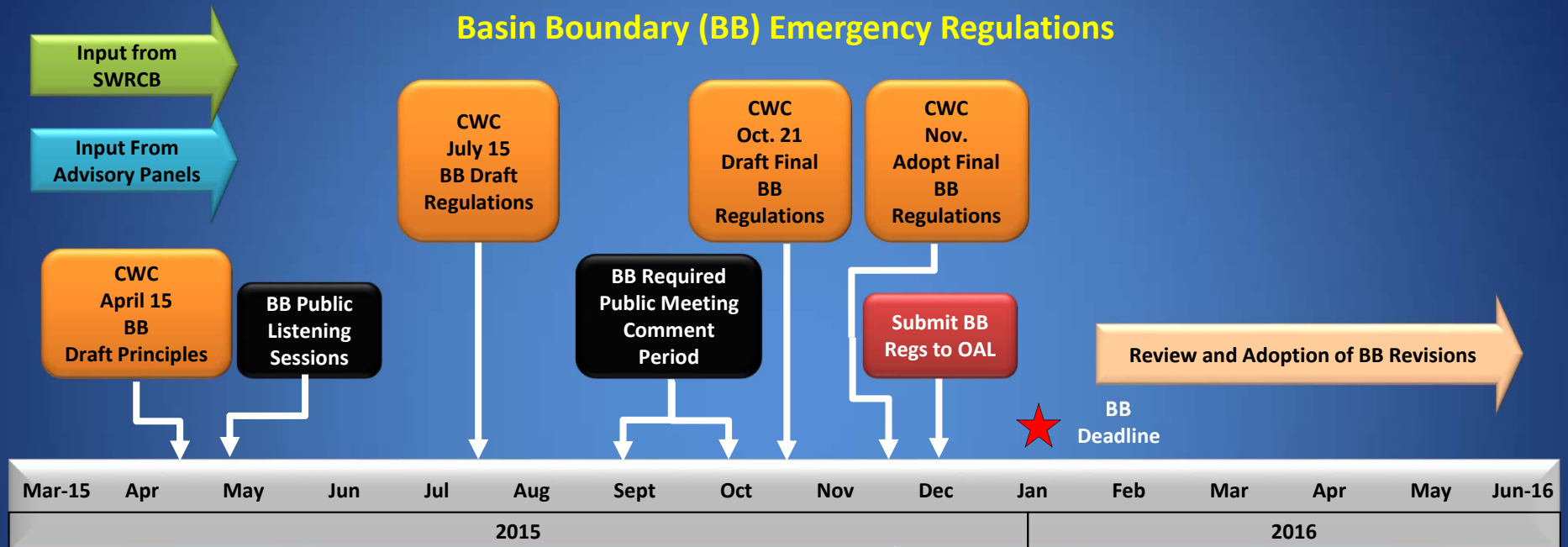
- CWC Approval
- Noticing and Submittal to OAL

Input and Feedback from the California Water Commission

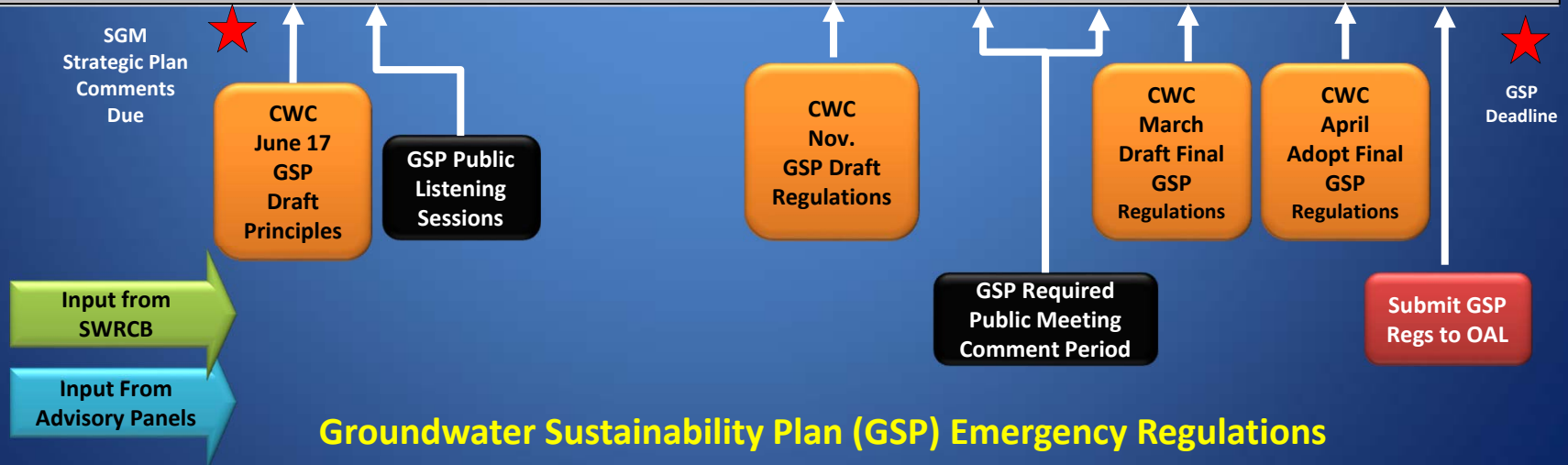
Basin Boundary and GSP/ALT Regulations

Estimated Project Timeline

Basin Boundary (BB) Emergency Regulations



Groundwater Sustainability Plan (GSP) Emergency Regulations



Public Listening Sessions

- WILLOWS – Tuesday, April 28, 2015
 - 3:00pm to 5:00pm
 - Willows Memorial Hall
 - 525 West Sycamore Street
 - Willows, CA 95988
- VISALIA – Wednesday, April 29, 2015
 - 3:00pm – 5:00pm
 - Visalia Convention Center - Charter Oak Ballroom, C/D
 - 303 E Acequia Avenue
 - Visalia, CA 93291
- SAN BERNARDINO – Thursday, April 30, 2015
 - 1:00pm – 3:00pm
 - Feldheym Central Library – Bing Wong Lecture Hall
 - 555 W 6th Street
 - San Bernardino, CA 92410
- WEBINAR – Friday, May 1, 2015
 - 12:00pm – 2:00pm
 - Details to Follow

Basin Priorities

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DWR

SGM Sustainable Groundwater Management

Initial Groundwater Basin Prioritization under the SGM Act

The Sustainable Groundwater Management Act revised the Water Code to direct the Department of Water Resources (DWR) to develop the initial groundwater basin priority by January 31, 2015. DWR has concluded that the basin prioritization finalized in June 2014 under the California Statewide Groundwater Elevation Monitoring (CASGEM) Program will be the initial prioritization when the SGM Act goes into effect on January 1, 2015. The basin prioritization results are posted on the CASGEM website at http://www.water.ca.gov/groundwater/casgem/basin_prioritization.cfm.



The SGM Act applies to the 127 High and Medium priority groundwater basins, which account for approximately 96 percent of groundwater use in California.

DWR has determined that data is not readily available to allow reprioritization based on adverse impacts from local habitat and local streamflows prior to January 31, 2015. DWR will immediately begin to compile the habitat and streamflow data and develop a revised process to consider new information. The groundwater basin prioritization could change at a later date for some basins due to the consideration of impacts from local habitat and local streamflows in addition to potential changes to basin boundaries based on improved geologic information, correcting errors in the dataset, and requests from local agencies. However, any changes to basin priorities will not be officially changed until after the Bulletin 118 alluvial groundwater basin boundaries are updated in 2016. The basin prioritization update process will include public meetings or workshops to solicit data not available to DWR and input on the process.

The June 2014 Final Statewide basin prioritization results are compiled into a [summary table](#). This list is organized by priority and includes the basin name, number, total score, Hydrologic Region, and DWR Region. More detailed information, associated maps, and description of the process are available [here](#).

GROUNDWATER HOME
SUSTAINABLE GROUNDWATER MANAGEMENT

- Groundwater Sustainability Agencies
- Initial Basin Prioritization
- GROUNDWATER INFORMATION CENTER
- CASGEM
- BULLETIN 118

f t y

- Initial priorities established June 2014
- Compiling habitat and streamflow data and evaluating methods to update priorities
- Will conduct extensive outreach
- Formalize priorities with next Bulletin 118

Updating Basin Prioritization

- Updates prioritize to include adverse impacts on local habitat and streamflow
- Consideration of impacts into basin prioritization by January 31, 2015
- Determination of basin priority is required so GSAs will know if and when they need to develop and implement a GSP

Identify basins subject to conditions of critical overdraft

- **Develop process to identify basins subject to critical overdraft**
- **Process to include local agency input and coordination**
- **Basins subject to conditions of critical overdraft require GSP's by 2020**

Updating Bulletin 118 (2017 Update Planned)

- **“California’s Groundwater” – Comprehensive Info on the State’s Groundwater conditions**
- **2017 Interim Update Planned**
 - **Information to aid GSA’s to move forward with GSPs**
 - **Updated Basin Boundaries**
 - **Updated Basin Priorities**
 - **Identification of Basins subject to Critical Overdraft**

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



www.water.ca.gov/groundwater/sgm/subscribe.cfm

State: www.groundwater.ca.gov

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

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

