

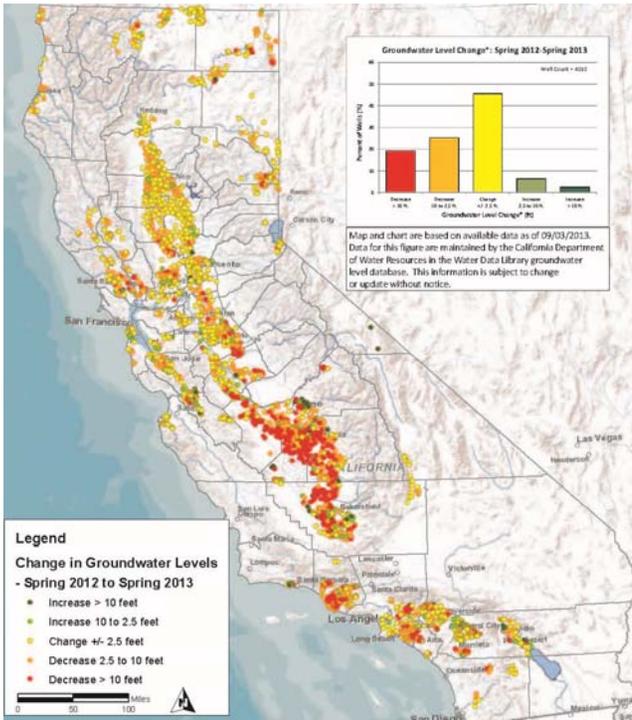
Meeting Agenda

- **Welcome, Introductions, Agenda Review**
- **Meeting Purpose and SGMA Background**
- **Basin Boundary Regulation Presentation**
- **Basin Boundary - Listening Sessions**

Sustainable Groundwater Management Act Implementation

Basin Boundary Listening Sessions

California
Department of Water Resources



Presentation Outline

- Meeting Purpose
- Sustainable Groundwater Management Act –
Brief Overview
- DWR's Sustainable Groundwater Management
Program - *Strategic Plan*

Sustainable Groundwater Management Act

- **KEY PRINCIPLES**

- Groundwater best managed at the local & regional level

- Groundwater needs to be managed sustainably

- Local agencies should have necessary authority & tools

- State assistance and oversight – intervention only when needed



Sustainable Groundwater Management Act



Framework

- Applicability
- Definitions

Local's Role

- Establish GSA
- Powers & Authorities
- Sustainability Plans
- Deadlines

State's Role

- Basin Boundaries & Priorities
- Technical Assistance
- State Evaluation and Assessment
- State Intervention

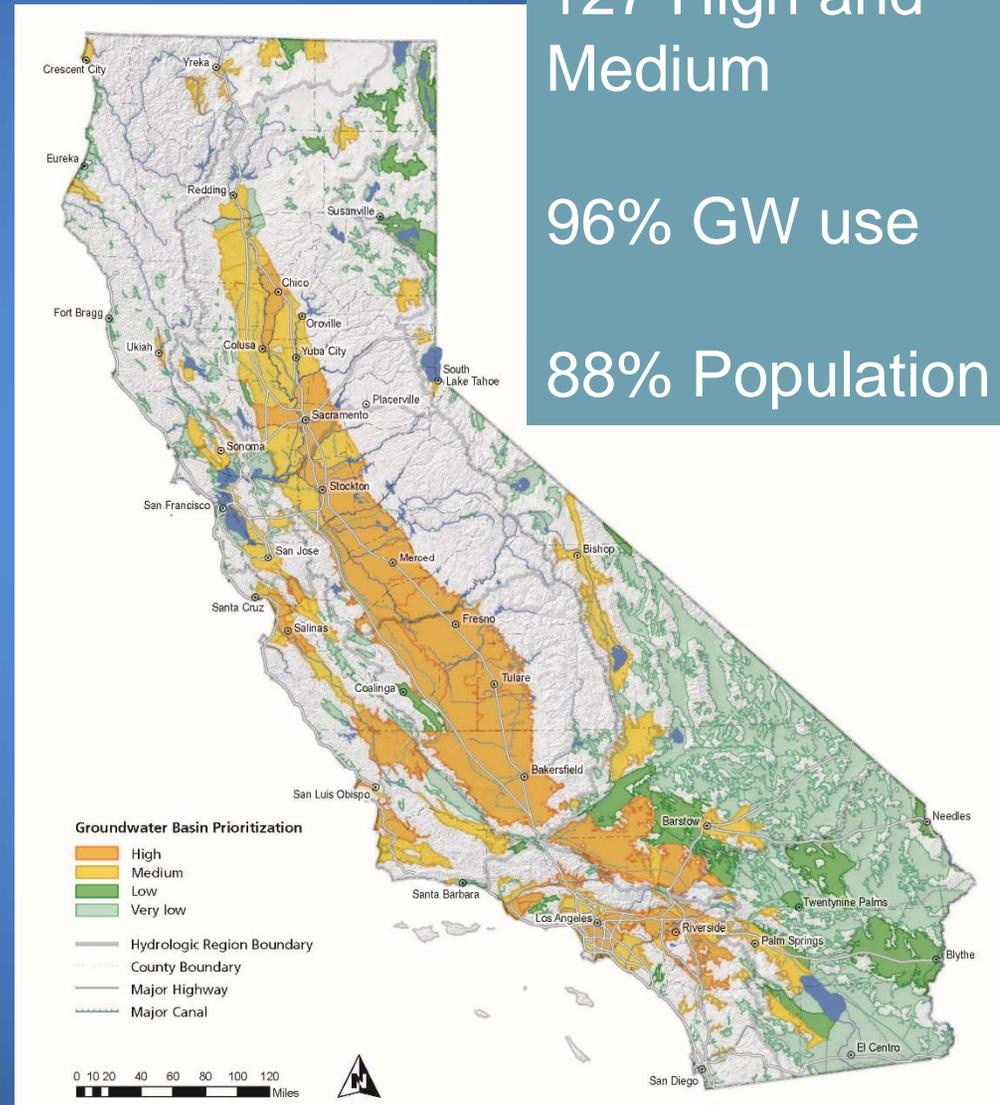
Sustainable Groundwater Management Act

- Requires GW sustainability plans in high- and medium-priority basins
- Defines time frame for accomplishing goals

127 High and Medium

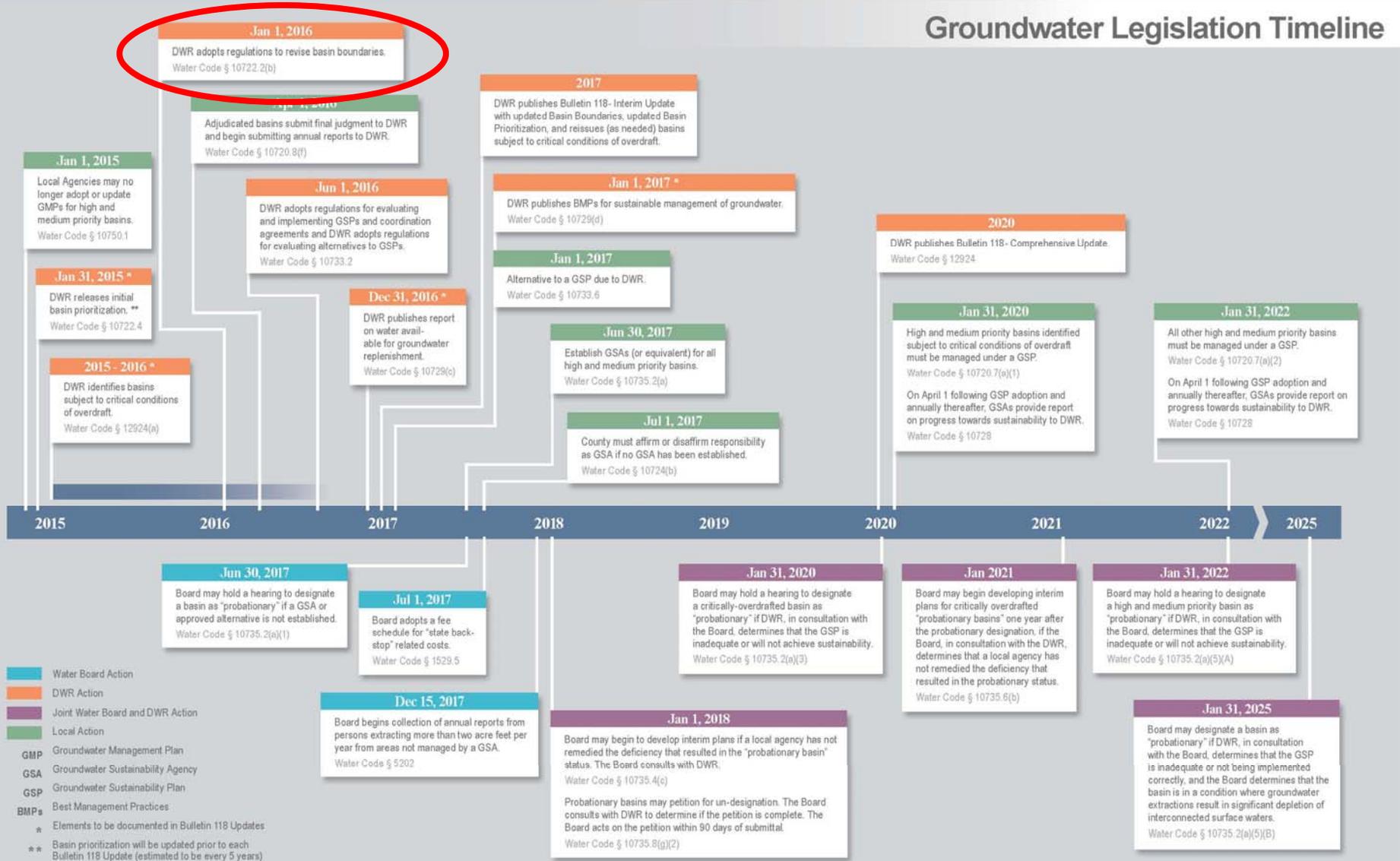
96% GW use

88% Population

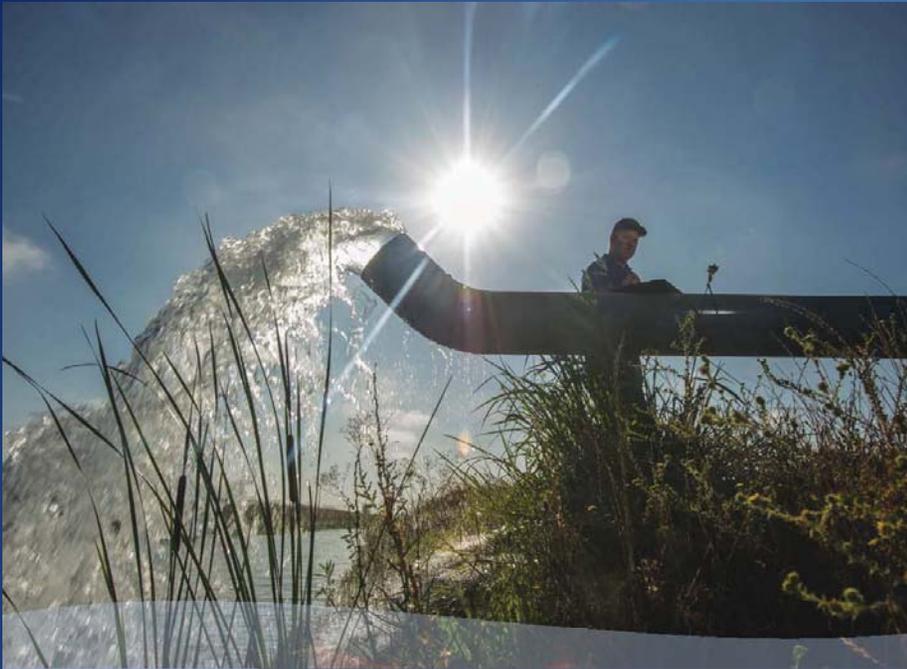


Sustainable Groundwater Management Act

Groundwater Legislation Timeline



DWR's Sustainable Groundwater Management Program - Strategic Plan



California Department of Water Resources

Groundwater Sustainability Program Draft Strategic Plan

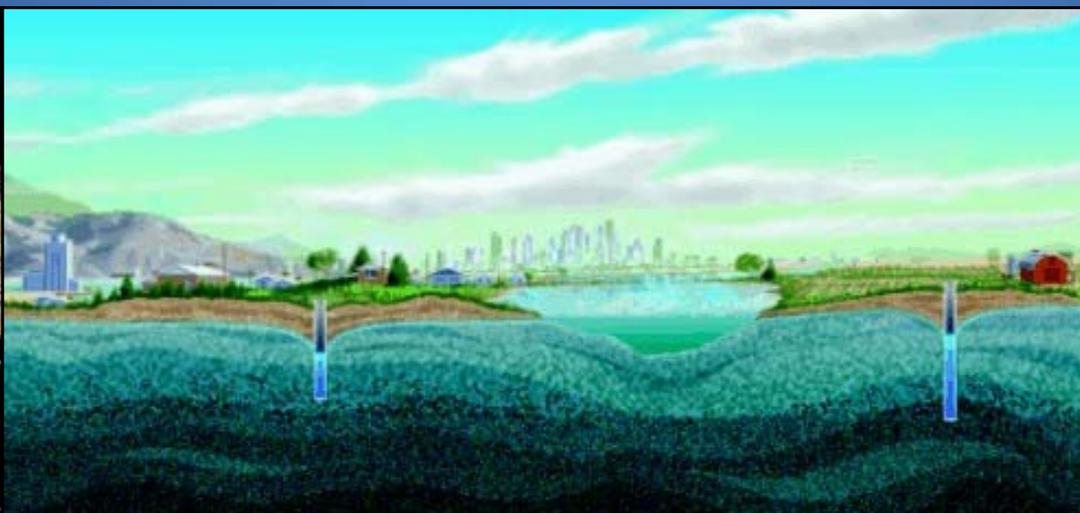


January 6, 2015

	PHASE 1			PHASE 2			PHASE 3		PHASE 4
	Realignment of Basins and Establishment of Basin Governance (2015 – 2017)			Development and Adoption of Groundwater Sustainability Plans (2017 – 2020/22)			Initial Management through Water Budgets (2020/22 – 2040/42)		Sustainable Groundwater Management (2040/42 and beyond)
	2015	2016	2017	2018	2019	2020	2030	2040	FUTURE
Objective 1: Develop a Framework for Sustainable Groundwater Management									
Action 1.1	Develop Comprehensive Water Budgets for the Entire Basin								
Action 1.2	Update Basin Prioritizations								
Action 1.3	Develop Best Management Practices								
Action 1.4	Develop and Adopt Regulations for Basin Boundary Revisions								
Action 1.5	Develop and Adopt Regulations for Groundwater Sustainability Plan Assessment and GSP Alternatives								
Action 1.6	Identify Basins Subject to Critical Conditions of Overdraft								
Action 1.7	Evaluate Adequacy of Groundwater Sustainability Plans								
Objective 2: Provide Statewide Technical Assistance to Groundwater Sustainability Agencies									
Action 2.1	Develop a Groundwater Management Information System								
Action 2.2	Collect Groundwater Quality Data								
Action 2.3	Collect Groundwater Elevation Data								
Action 2.4	Collect Subsidence Data								
Action 2.5	Establish Well Standards								
Action 2.6	Implement the CASGEM Program								
Action 2.7	Promote Water Conservation								
Objective 3: Provide Statewide Planning Assistance to Support Groundwater Sustainability									
Action 3.1	Update Bulletin 118 (in 2017, 2020, and every 5 years thereafter)								
Action 3.2	Integrate Groundwater Information into Bulletin 160 (2018 and every 5 years)								
Action 3.3	Local Assistance for Recharge Projects								
Objective 4: Assist State and GSA Alignment and Provide Financial Assistance									
Action 4.1	Alignment for Management of Groundwater Programs								
Action 4.2	Provide Financial Assistance								
Action 4.3	Provide Education and Communication Assistance								
Action 4.4	Provide Facilitation and Engagement Assistance								
Objective 5: Provide Interregional Assistance									
Action 5.1	Assist in the Implementation of Storage and Conveyance Projects								
Action 5.2	Provide Information on Surface Water Reliability								
Action 5.3	Advance Studies on Surface/Groundwater Interaction								
Action 5.4	Provide Information for Water Availability for Replenishment								

DWR's Sustainable Groundwater Management Implementation

Basin Boundary Regulations



Public Listening Session
May 1, 2015
Sacramento, CA

Presentation Overview

- Purpose
- Groundwater Basin Summary
- SGMA Requirements for Boundary Revisions
- Summary of Boundary Issues
- Proposed Boundary Regulation Goal and Potential Characteristics
- Future Steps and Stakeholder Resources

Purpose

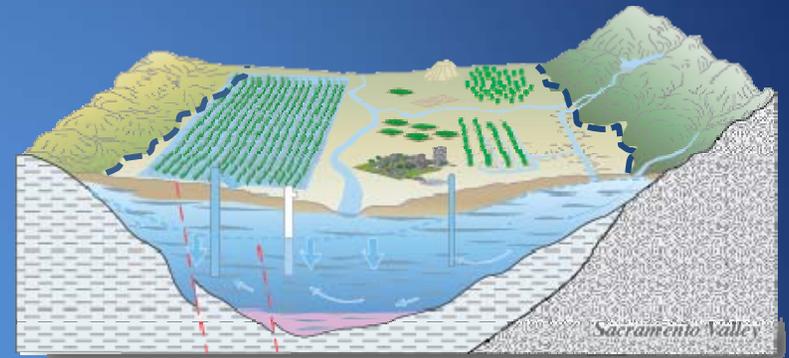
Purpose

- **Present Draft Framework for Boundary Revision Regulations**
 - **Basin Boundary Regulation Discussion Paper**
 - http://water.ca.gov/groundwater/sgm/basin_boundaries.cfm
- **Enhance DWR's Understanding of Specific Stakeholder Issues**

Groundwater Basin Summary

Groundwater Basins

- **SGMA Definition**
- **Groundwater Basin** – An alluvial aquifer or a stacked series of alluvial aquifers with reasonably well-defined boundaries in a lateral direction and having a definable bottom.



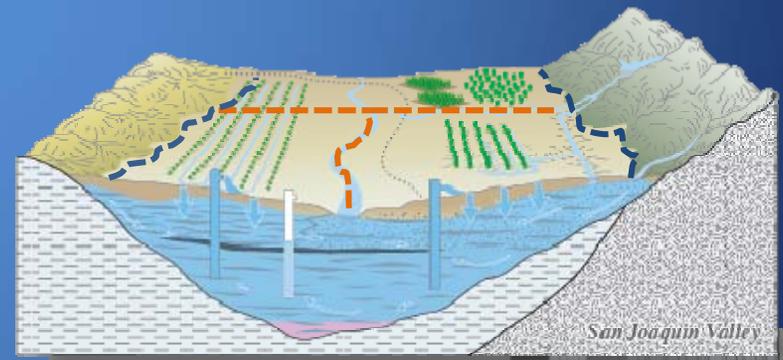
Modified from Faunt, 2009

Groundwater Basins & Subbasins

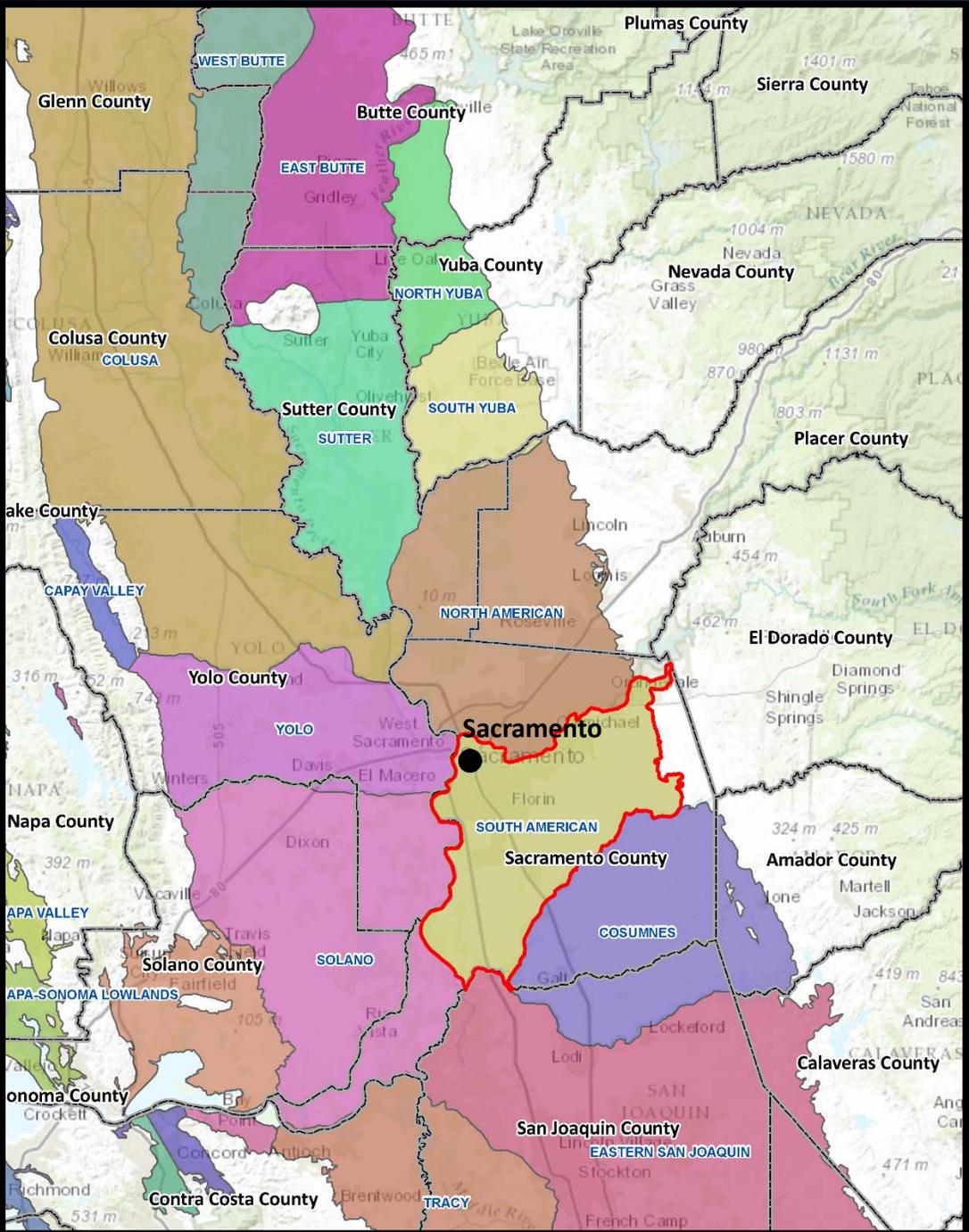
- **SGMA Definition**
- **Groundwater Basin** – An alluvial aquifer or a stacked series of alluvial aquifers with reasonably well-defined boundaries in a lateral direction and having a definable bottom.
- **Groundwater Subbasin** – A subbasin is created by dividing a groundwater basin into smaller units using geologic and hydrologic barriers or institutional boundaries.



Modified from Faunt, 2009



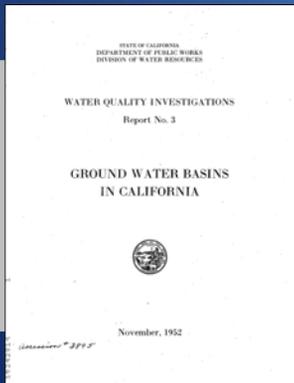
Modified from Faunt, 2009



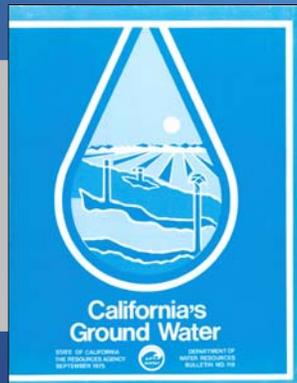
South American Subbasin

CA Groundwater Basins

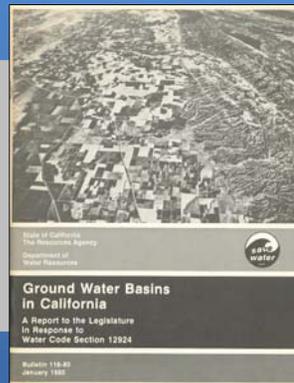
- Groundwater Basins & Subbasins Are Defined in DWR Bulletin 118 Using the Best Available Data
- Revisions to Basin Boundaries Have Occurred During B-118 Updates. (Water Code § 12924)



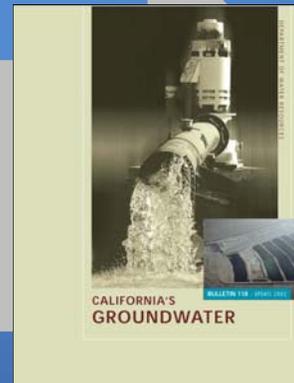
1952



Bulletin 118
1975



Bulletin 118
1980



Bulletin 118
2003

CA Groundwater Basins

➤ *Bulletin 118 – 2003*

- 515 (108), Basins & Subbasins
- Defined by geological and hydrological conditions and consideration of political boundaries whenever practical.
- Alluvial Aquifers.

2003



Data Used

- Geologic Maps (1:250K Scale)
- Technical Reports

CA Groundwater Basins

➤ **Bulletin 118 – 2003**

- 515 (108), Basins & Subbasins
- Defined by geological and hydrological conditions and consideration of political boundaries whenever practical
- Alluvial Aquifers

➤ **SGMA - 2015**

- Unless modified, basin boundaries shall be as identified in Bulletin 118-2003

2015



Data Used

- Geologic Maps (1:250K Scale)
- Technical Reports

SGMA Requirements for Boundary Revisions

SGMA Requirements

- **Emergency regulations for process to request and potentially approve revisions to existing Bulletin 118 basin boundaries**
 - **DWR Shall Adopt by January 1, 2016**
 - **Instructions to Local Agencies on Submittal of:**
 1. Information demonstrating proposed basin can be sustainably managed
 2. Technical information on boundaries and conditions in proposed basin
 3. Consultation with interested parties in affected basins
 4. Other information DWR deems necessary to justify revision

SGMA Requirements

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 4. Other information DWR deems necessary to justify revision
 - **Methodology and Criteria on how to assess:**
 1. Likelihood proposed basin can be sustainably managed
 2. Whether proposed basin would limit the SGM of adjacent basin
 3. Whether there is a history of SGM of groundwater levels in the proposed basin

Basin Boundary Regulations Process

- Phases of Implementation

Scoping

- Notify OAL
- Collect Issues from Stakeholders
- Coordinate with SWRCB & CWC

Draft Framework

- Public Listening Sessions
- Present and Receive Input from Advisory Groups and Public

Draft Emergency Regulations

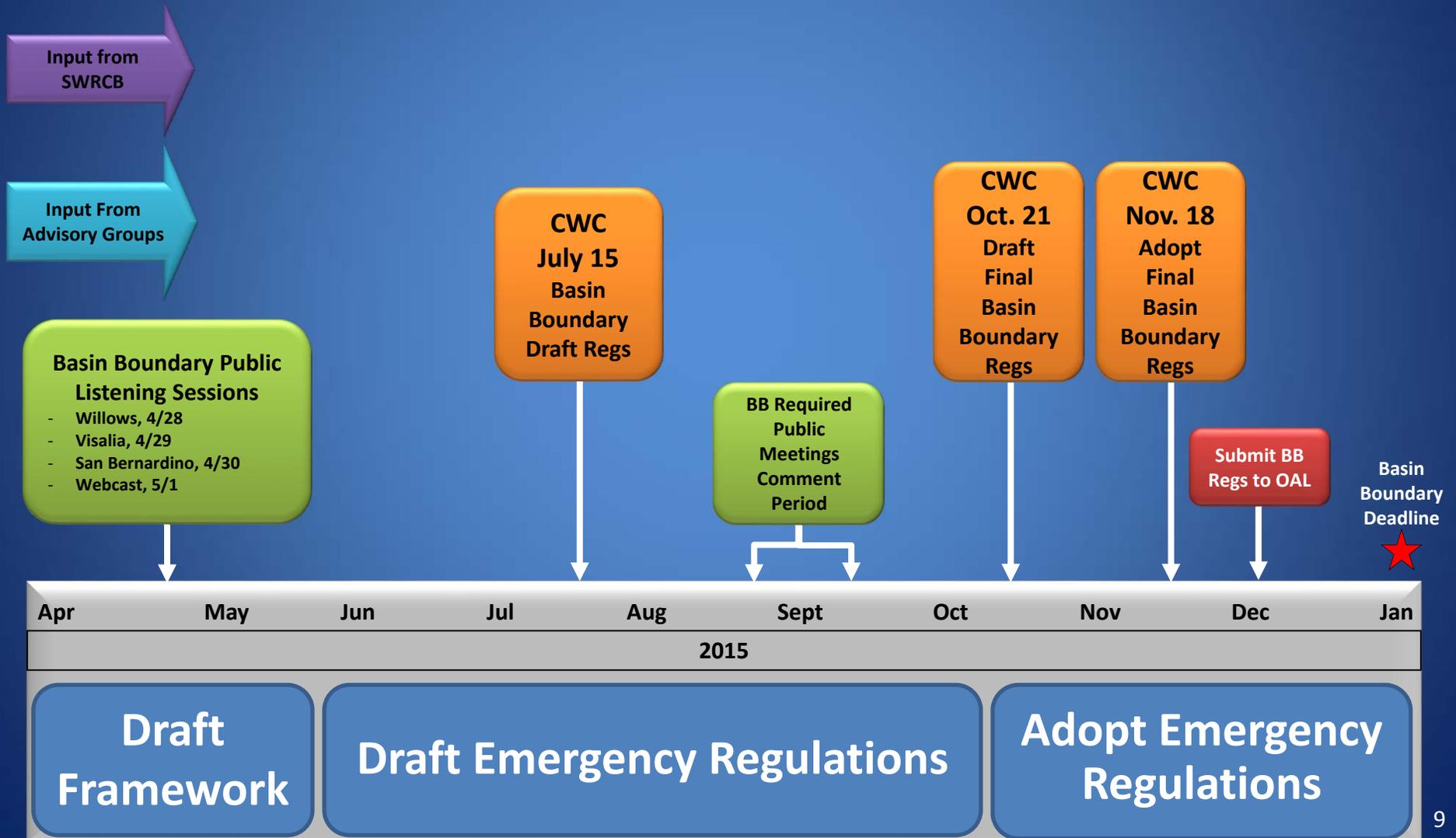
- Required Public Meetings
- Present and Receive Input from Advisory Groups and Public

Adopt Emergency Regulations

- CWC Approval
- Noticing and Submittal to OAL

Input and Feedback from the CWC and SWRCB

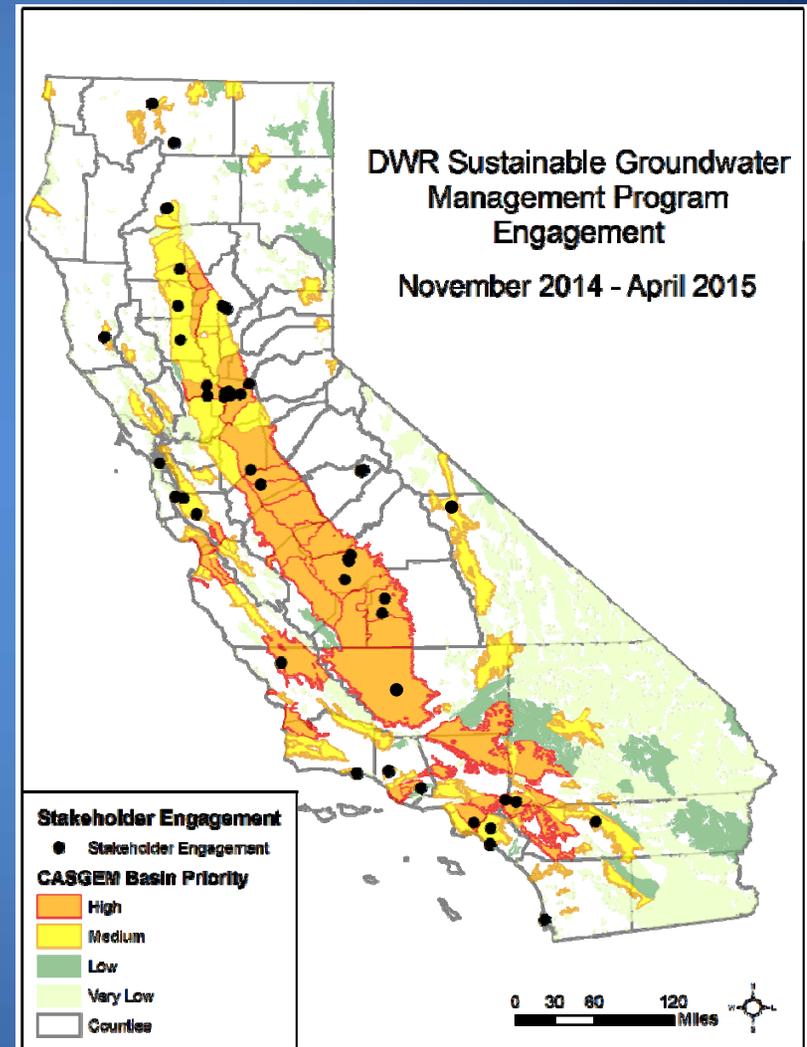
Basin Boundary Regulations Estimated Timeline



Summary of Basin Boundary Issues

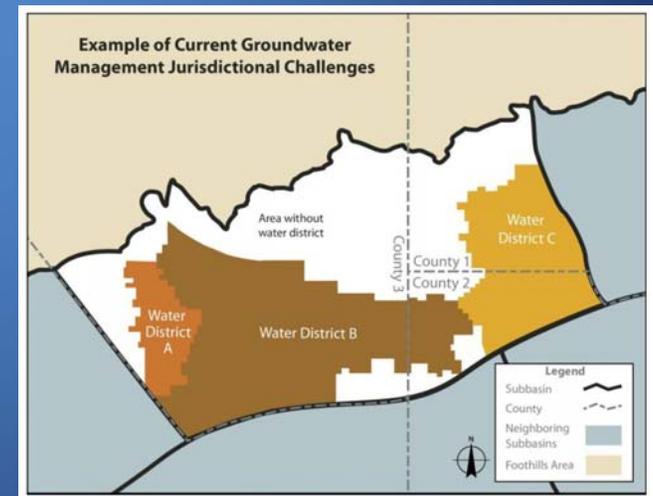
Summary of Boundary Issues

- DWR has Received Input on Potential Statewide Basin Boundary Issues and Challenges
- Organized by Issue Types
 - Governance
 - Hydrogeologic
 - SGMA Compliance
 - Existing State Programs



Summary of Boundary Issues

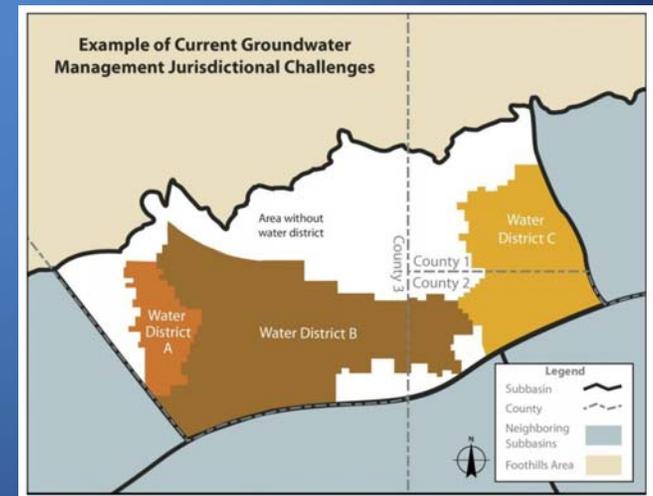
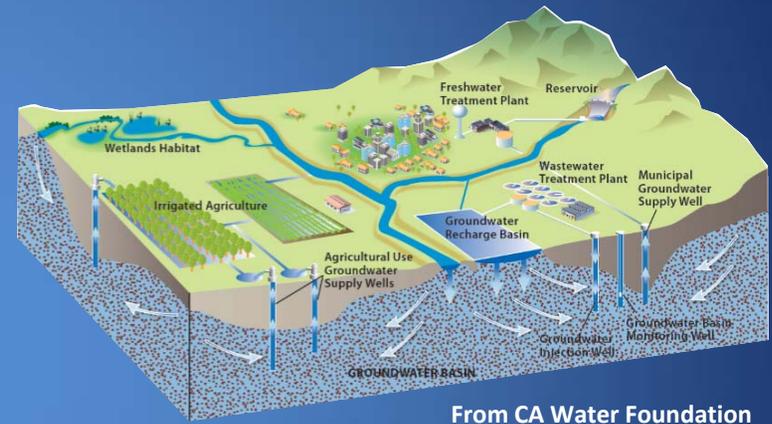
- Summary of Boundary Issues – **Governance**
 - Boundaries Not Consistent with Political Jurisdictions
 - Multiple Political Jurisdictions (Counties)
 - Tribal, Federal, and Adjudicated Areas
 - Existing Planning



Summary of Boundary Issues

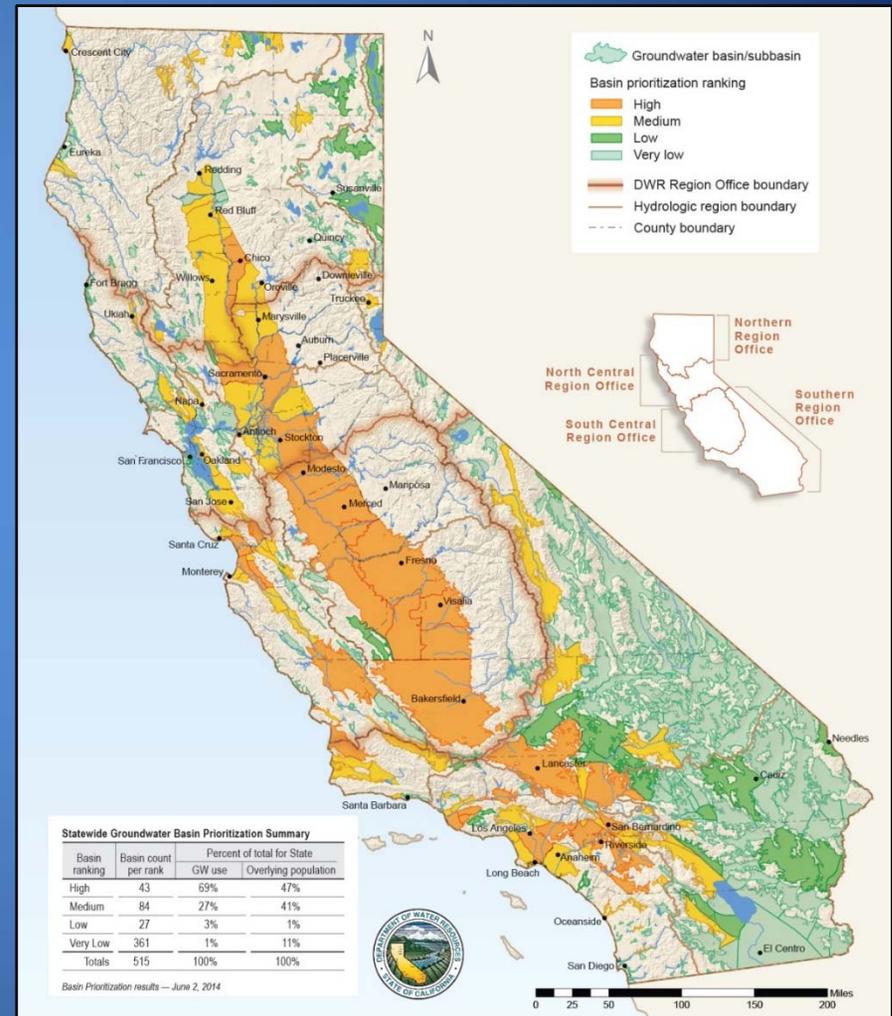
- Summary of Boundary Issues – **Hydrogeologic**

- Updated Information
- Existing Management
- Pumping Adjacent to Basin
- Watersheds
- Stream-Aquifer Interaction
- Future Boundary Adjustments



Summary of Boundary Issues

- Summary of Boundary Issues – **SGMA Compliance**
- Changes to Basin Priority
 - Decrease Priority
 - Increase Priority



Summary of Boundary Issues

- Summary of Boundary Issues - **Existing State Programs**



DWR

- CASGEM
- Basin Prioritization
- Reporting



State and Regional Water Boards

- Basin Plans
- Permits and Water Quality Objectives

Question & Answer - 1

Question 1: Has DWR accurately summarized the types of boundary issue?

Question 2: Are there additional basin boundary issues that need to be considered?

Proposed Basin Boundary Goal And Potential Characteristics

Proposed Basin Boundary Goal

State Policy (SGMA - Water Code § 113, § 10721)

- Statewide sustainable management of groundwater without causing undesirable results.

DWR's Proposed Goal –

- Groundwater resources are sustainably managed within existing groundwater basin boundaries defined by Bulletin 118-2003 unless compelling reasons, which are supported by adequate technical information and broad agreement, are provided for alternative boundaries that increase the likelihood of sustainable management of the proposed and adjacent basins.

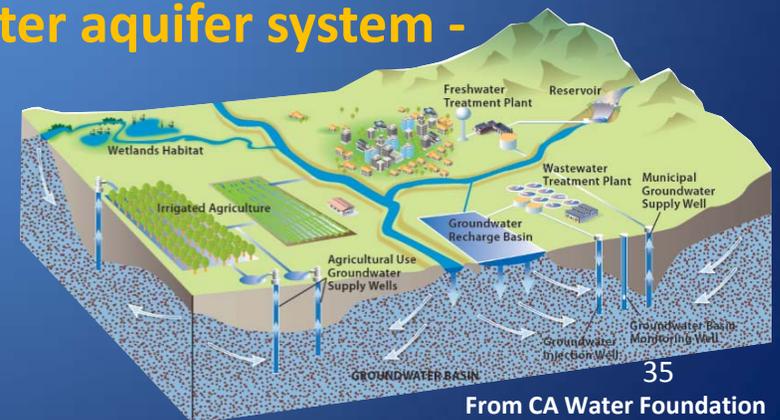
Potential Basin Boundary Regulation Characteristics

- Intended to promote discussion on the potential advantages and disadvantages of basin boundary revisions.
- Assist with the development of draft regulations that align with the requirements of the SGMA and proposed goal to achieve groundwater sustainability statewide.
 - **Size and Hydrogeologic Characteristics**
 - **Governance and Jurisdictional Characteristics**
 - **Coordination Characteristics**

Basin Boundary Characteristics

Size and Hydrogeologic

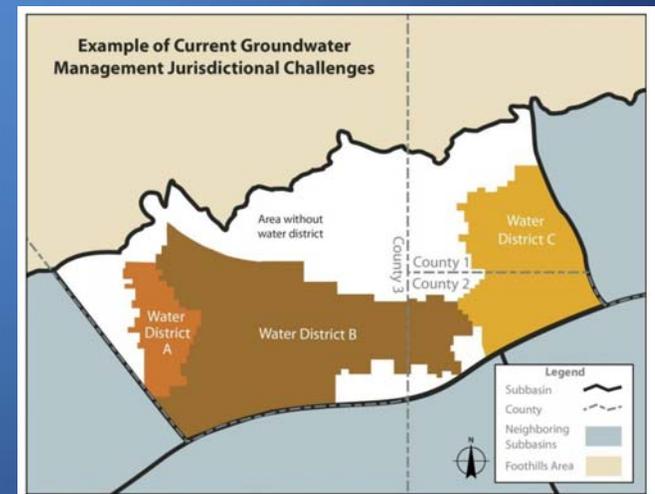
- **Basin adequately sized to maximize water management opportunities** - Would it be advantageous if a groundwater basin is revised to be the largest hydrologic and hydrogeologically-contiguous alluvial area including multiple local agencies, and defined to maximize opportunities to sustainably manage groundwater, integrate surface water management activities, and limit undesirable results?
- **Basin properly sized for development and management of basin budgets** - Should an existing groundwater basin be the largest hydrologic and hydrogeologically-defined contiguous area in which local agencies are capable of leveraging resources to characterize and sustainably manage the water budget and sustainable yield over the implementation and planning horizon?
- **Fragmentation of a contiguous groundwater aquifer system** - Should fragmentation of existing groundwater basins in the same geographic area with multiple local agencies managing the same groundwater aquifer system and water budget be considered?



Basin Boundary Characteristics

Governance and Jurisdictional

- **Solely jurisdictional revisions** - To what extent should a groundwater basin or subbasin that is solely defined by a jurisdictional boundary such as, adjudication, county line, or other geopolitical boundary be considered?
- **Basin properly sized for GSP governance** - Should existing groundwater basin or subbasin boundaries be revised to match the alluvial portion of an entire county, assuming the entire redefined basin or subbasin is completely managed? Would this revision: 1) leverage the existing groundwater authority of counties; 2) maximize the new authorities provided to GSA's through SGMA; and 3) result in sustainable groundwater management in the State?
- **Scientific vs. Governance information** - When evaluating boundary revisions, should scientific information be given greater consideration than jurisdictional or governance information?



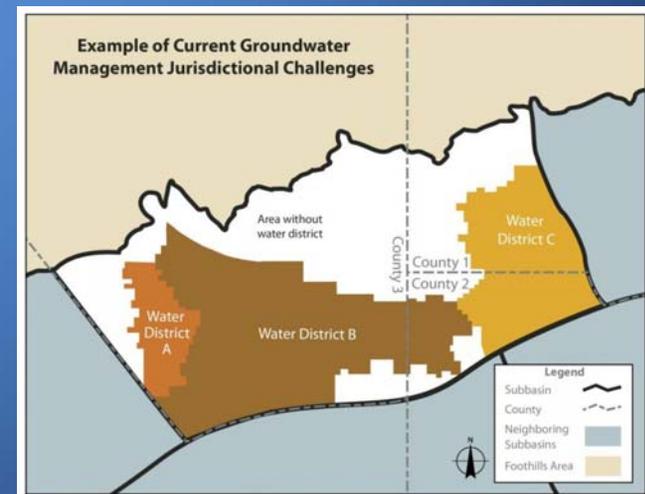
Basin Boundary Characteristics

Governance and Jurisdictional – cont'd

- **Basin boundary revision that does not create unmanaged area(s) in original basin** - Should a groundwater basin or subbasin revision only be considered if there is sufficient evidence that the entire basin will be covered by a GSA(s) and will not result in unmanaged areas?
- **Fragmentation to exclude areas experiencing undesirable results** - Should a groundwater basin be revised for the purpose of excluding areas experiencing undesirable results rather than including other regional entities to sustain a long-term regional groundwater planning effort?



From CA Water Foundation

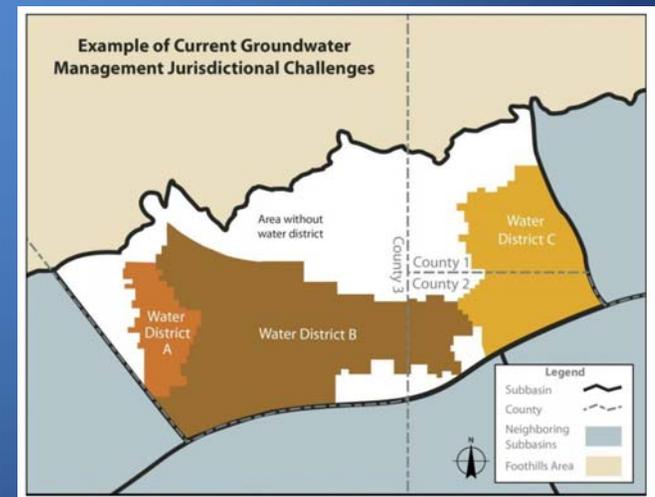


From CA Water Foundation

Basin Boundary Characteristics

Coordination

- **Boundary revisions developed through multi stakeholder process -** Should a groundwater basin be large enough to support the formation of functional GSA(s) that are inclusive and utilize a collaborative, multi-stakeholder process to: 1) achieve broad local agreement; 2) assist disadvantaged communities; 3) monitor the basin and mitigate undesirable results; 4) address groundwater management issues; and 5) develop integrated, multi-benefit, regional solutions that result in a compliant GSP(s)?
- **Coordination agreements (Between Basins) -** If an existing basin or subbasin is split, what requirements and content should be included in an inter-basin coordination agreement?
- **Coordination agreements as an alternative to boundary revisions (Within Basin) -** Should local agencies be encouraged to expand existing groundwater management coordination and governance structures, through an intra-basin agreement, within existing basins to include stakeholders that manage, direct, or are involved in processes that influence regional water management rather than revising existing boundaries?



Question & Answer - 2

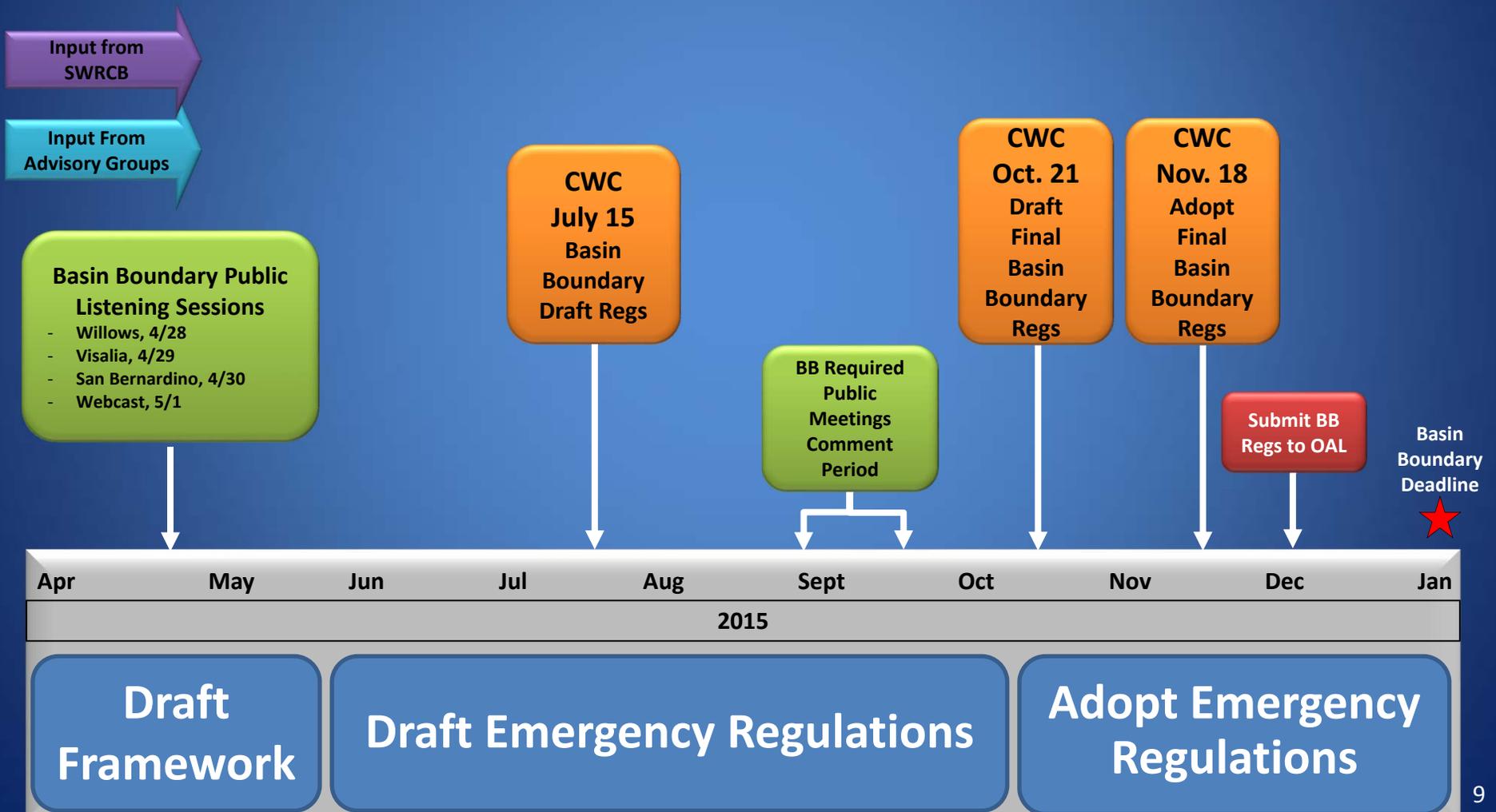
Question 1: What are the advantages and disadvantages of the characteristics?

Question 2: Are there additional characteristics that need to be considered?

Future Steps and Stakeholder Resources

Future Steps

Estimated Timeline



Stakeholder Resources

- **DWR Sustainable Groundwater Management (SGM)**
<http://www.water.ca.gov/groundwater/sgm/index.cfm>
- **Subscribe to DWR SGM Email List**
<http://www.water.ca.gov/groundwater/sgm/subscribe.cfm>
- **DWR Basin Boundary Regulation Website**
http://www.water.ca.gov/groundwater/sgm/basin_boundaries.cfm
- **DWR Water Management Planning Tool**
<https://gis.water.ca.gov/app/boundaries/>

Questions or Comments
sgmps@water.ca.gov

Thank You