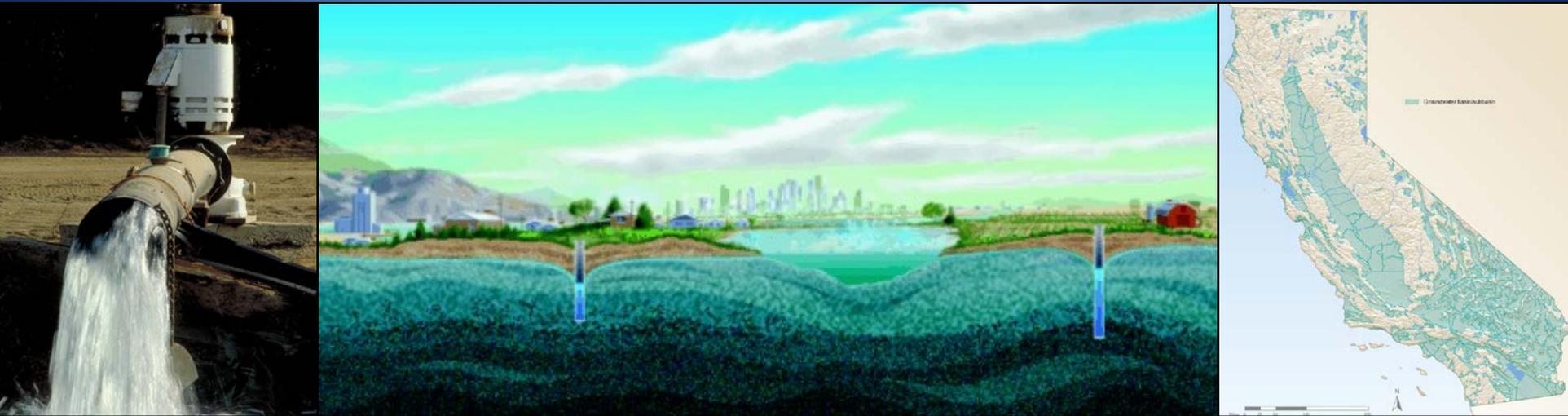


DWR's Sustainable Groundwater Management Implementation

Groundwater Sustainability Plan (GSP) & Alternative (Alt) Emergency Regulations

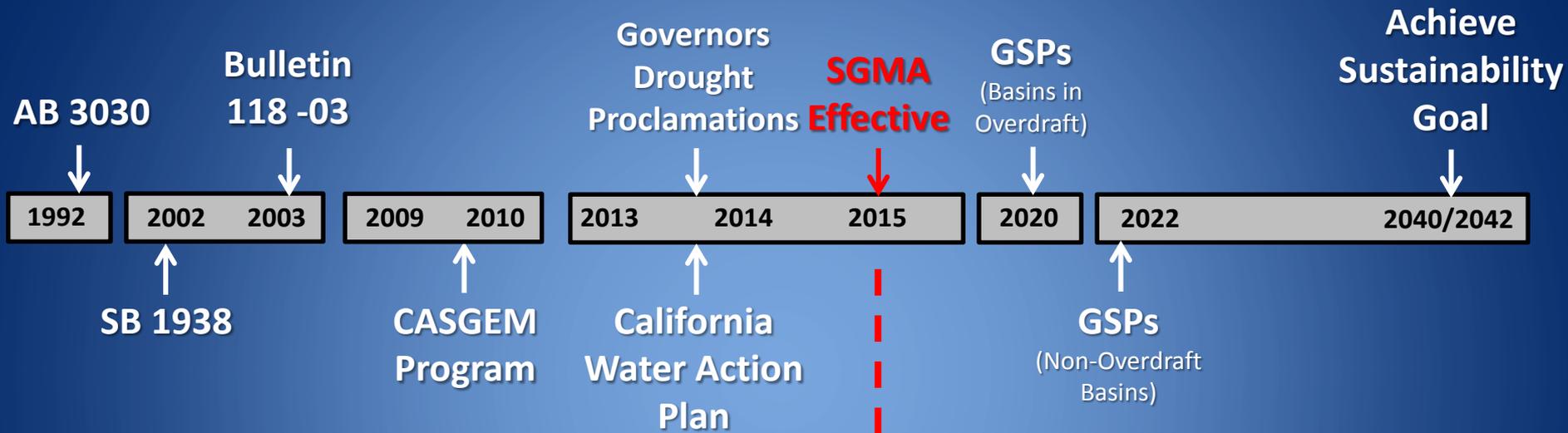


California Water Commission
November 19, 2015
Sacramento, CA

Presentation Overview

- **SGMA Background - GSP & Alternatives**
- **Summary of Informal GSP Outreach**
- **Overview of Potential Regulation Components**
- **Future Steps**

California's Major Groundwater Milestones



Voluntary Groundwater Management

- Service Area Planning
- Minimal Implementation
- Variable Authority
- Grant Incentives

Required Groundwater Management

- Entire Basin Planning
- Required Implementation
- GSAs have new:
 - Authorities
 - Responsibilities
- State Backstop

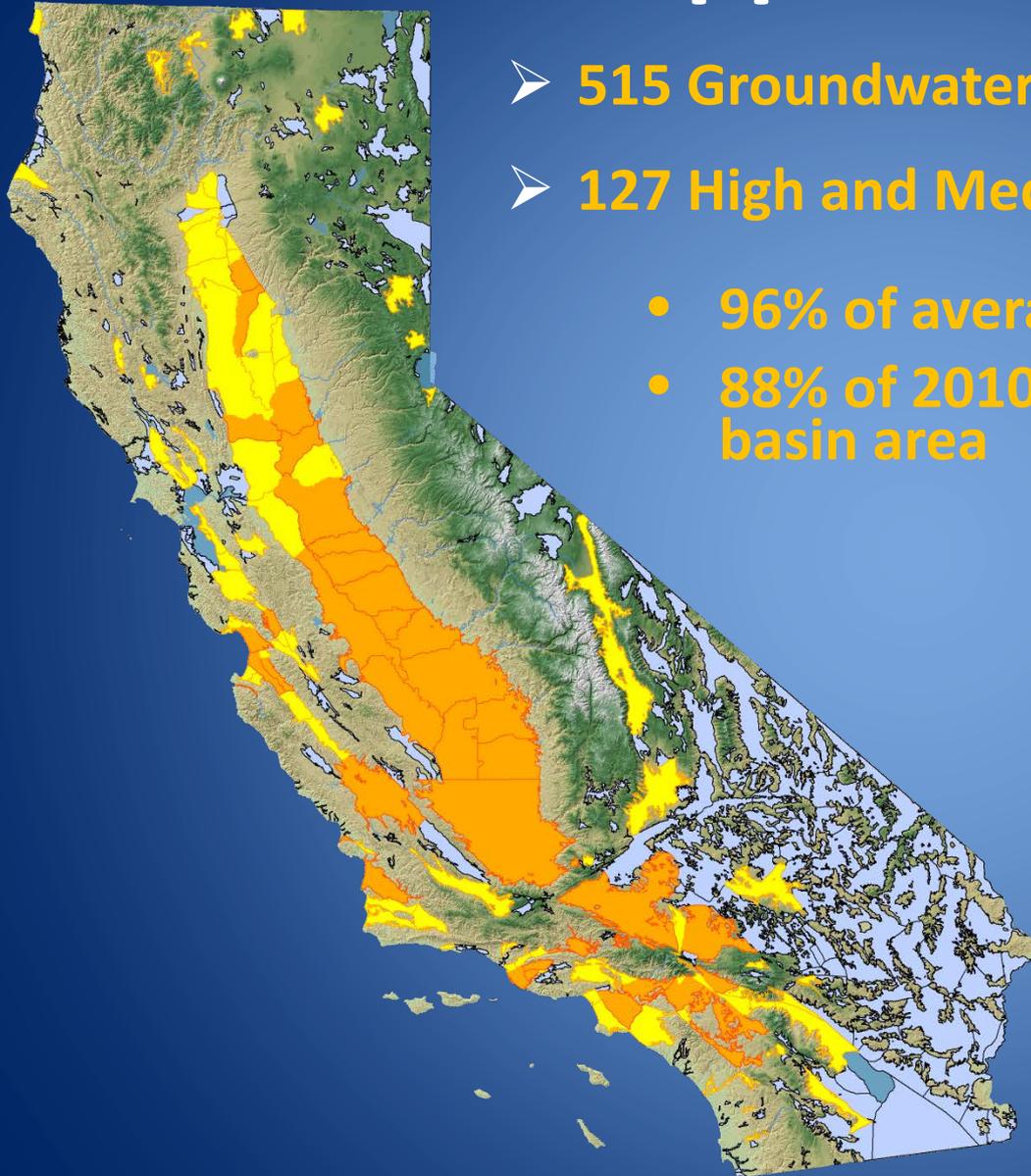
Applicability

- 515 Groundwater Basins (Applies)



Applicability

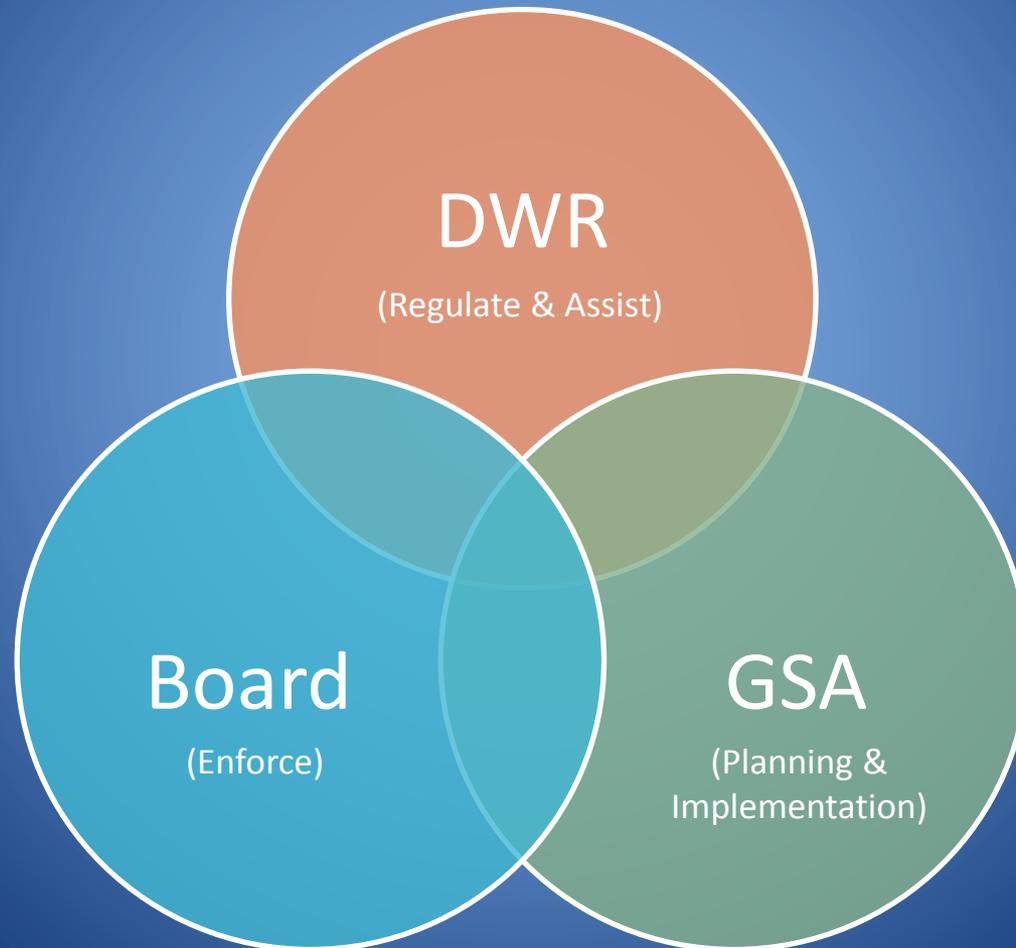
- 515 Groundwater Basins (Applies)
- 127 High and Medium Priority Basins (Required)
 - 96% of average annual GW supply
 - 88% of 2010 population overlying the GW basin area



BASIN RANKING	BASIN COUNT	PERCENT OF TOTAL	
		GW USE	POPULATION
High	43	69%	47%
Medium	84	27%	41%
Low	27	3%	1%
Very Low	361	1%	11%
Totals	515	100%	100%

Basin Prioritization Results – June 2, 2014

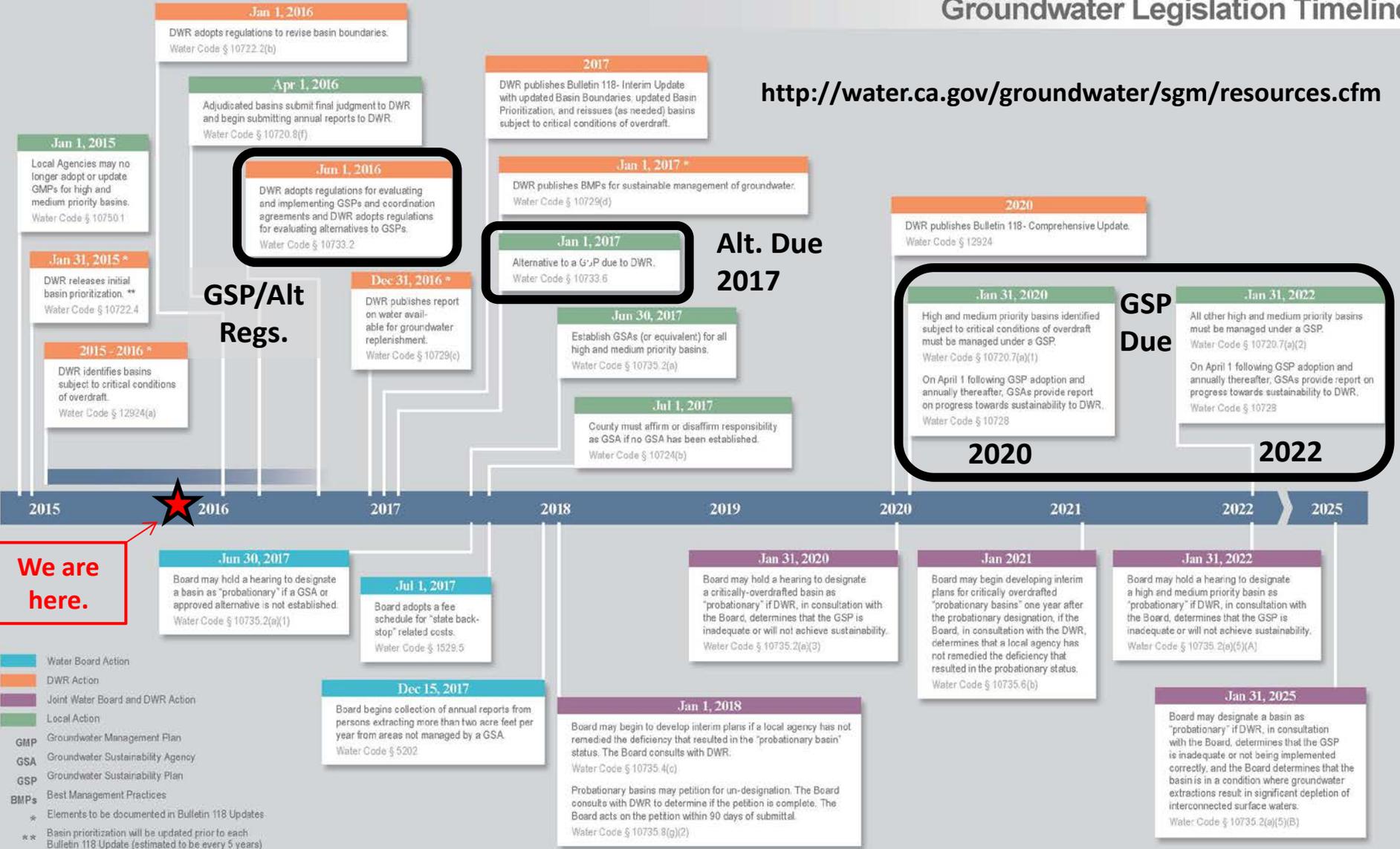
GSP/ALT Regulations



SGMA Milestones

Groundwater Legislation Timeline

<http://water.ca.gov/groundwater/sgm/resources.cfm>



- 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)

SGMA GSP Requirements

- **By June 1, 2016, DWR shall adopt regulations for:**
 - Evaluating GSP
 - Implementation of GSP
 - Coordination agreements
- **The regulations shall identify:**
 - Required Plan Components (§ 10727.2)
 - Additional Plan Elements (§ 10727.4)
 - Coordination of Multiple GSPs in Basin (§ 10727.6)
 - Other information that will assist local agencies in developing and implementing GSPs and coordination agreements.
- **The department may update the regulations, including to incorporate the best management practices (§ 10729)**

GSP/ALT Regulations

Sustainable Groundwater Management

Required for All High and Medium Priority Basins (127)

GSP

- Covers Entire Basin
- Multiple GSPs Require Coordination Agreement
- Submitted by GSA(s)
- Annual Reporting
- 5 Year Evaluation
- Submitted to DWR by
 - 1/31/2020 (Critical Overdrafted)
 - 1/31/2022 (all other High/Medium Priority)

Alternative Plan

- Covers Entire Basin
- Submitted by Local Agency or GSA
- Eligibility:
 1. Existing GMP
 2. Adjudication
 3. Basin Operated within Sustainable Yield for 10 years
- CASGEM Compliant
- Annual & 5 Year Reporting
- Submitted to DWR by 1/1/2017

Paths To Sustainability

- Three Options (§ 10727)

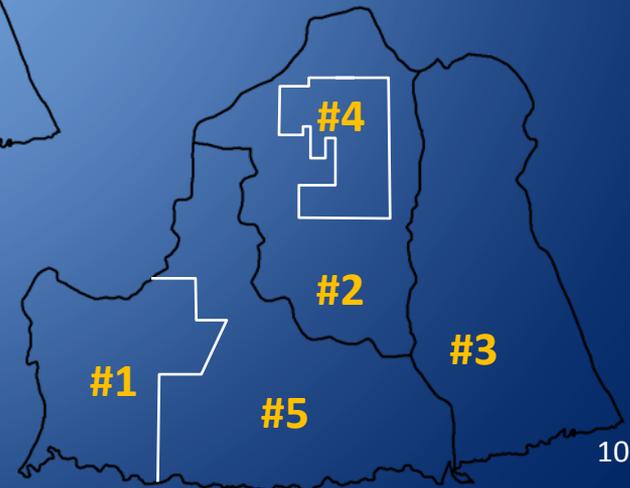


One GSA
One GSP

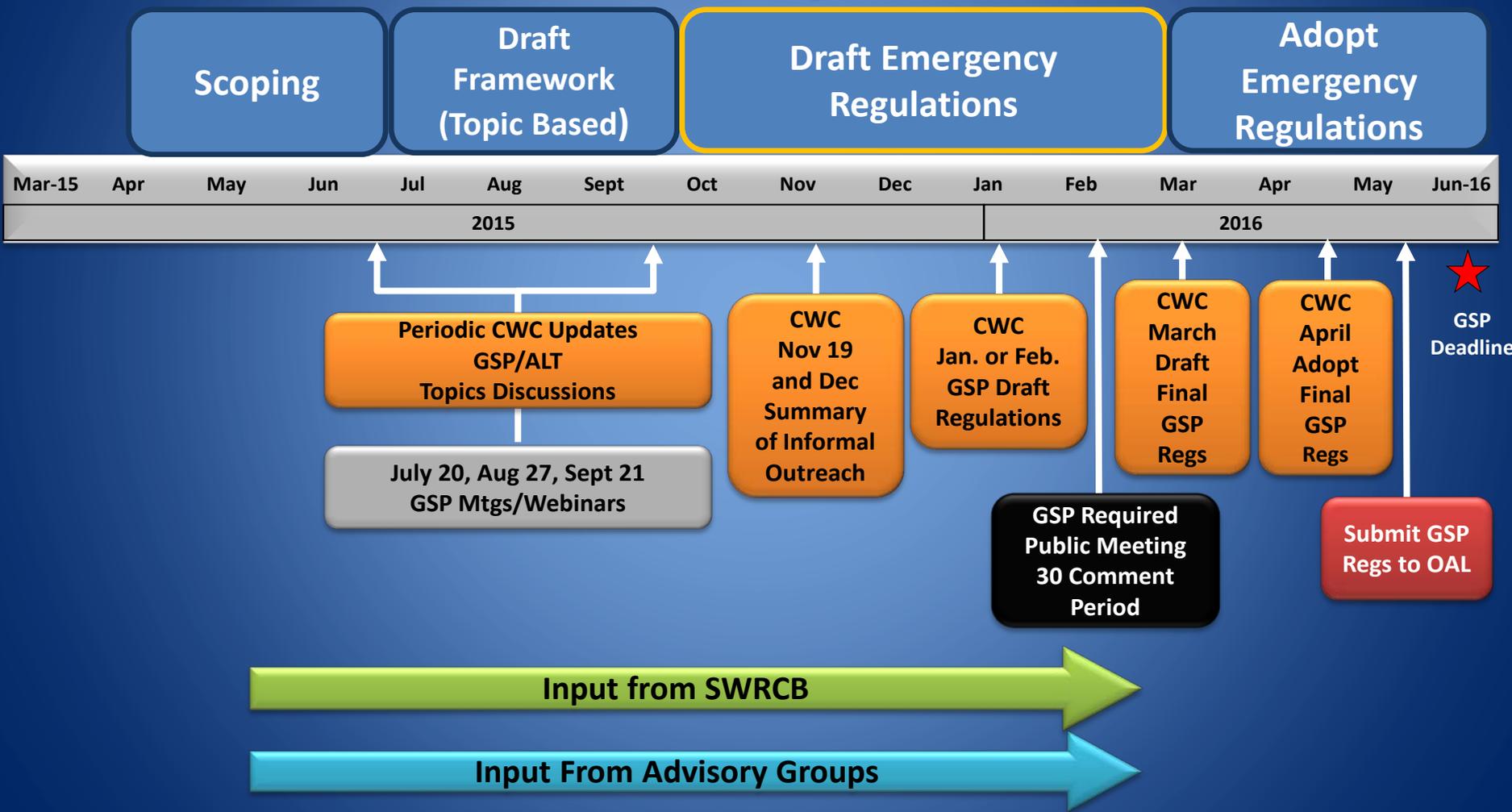


Many GSAs
One GSP

Many GSAs
Many GSPs with a
Coordination
Agreement



Groundwater Sustainability Plan (GSP) Emergency Regulations – Detailed Timeline



Dates and Durations are Subject to Change

GSP Regulations – 10 Issue Topics

**Phase 1 –
Scoping
(Collection
of Issues)**

All 10 +
Topics
(May-Jun)

**Phase 2 –
Draft
Discussion
Papers and
Public
Informational
Sessions**

1st Batch
(Jun-Jul)

2nd Batch
(Jul-Aug)

3rd Batch
(Aug-Sep)



GSP Communication and Outreach

Advisory Group	GSP Topics	GSP Batch 1	GSP Batch 2	GSP Batch 3
1. Practitioners Advisory Panel	6/22/2015		7/24/2015	8/24/2015
2. ACWA (Statewide)	6/12/2015	7/16/2015	8/21/2015	9/23/2015
3. RCRC & CSAC	6/10/2015	7/16/2015	8/12/2015	9/30/2015
4. Ag Group	6/29/2015	7/31/2015	9/1/2015	9/28/2015
5. Non-Governmental Organizations (NGOs)	6/19/2015	7/13/2015	8/7/2015	10/3/2015
6. Tulare Lake Hydrologic Region	5/27/2015	7/6/2015	8/28/2015	9/22/2015
7. San Joaquin Tributaries Authority (Delta)	5/29/2015	7/17/2015	9/24/2015	
8. San Luis & Delta-Mendota Water Authority	5/29/2015	-	-	-
9. Central Coast Area	6/11/2015	7/15/2015	8/17/2015	9/29/2015
10. Northern California Water Association (NCWA)	6/19/2015	7/10/2015	8/17/2015	10/7/2015
11. Tribal Government	8/13/2015		10/5/2015	
Public Meetings / Webcasts	-	7/20/2015	8/27/2015	9/21/2015

40 meetings, >100 hours

Potential Regulation Components

Overview

Potential Regulation Content

Stakeholder Input

Governance & Coordination

"Who is managing & participating"

Governance
Coordination
Land Use

All Topics

6 - Coordination Agreements

7 - State Agency Coordination

8 - Water Budgets and Coordination

3 - Land Use & County Involvement

Basin Setting

"What are the current conditions"

Basin Conditions

2- Pre SGMA Conditions and Undesirable Results

SGM Planning

"How will GW be managed & measured"

Sustainability Goal (Sustainable Yield, SGM)
Measurable Objectives & Undesirable Results
Monitoring Plan

1 - Measurable Objectives

2- Pre SGMA Conditions and UR's

8 - Water Budgets and Coordination

10 - Adaptive Mgt. and Focus Areas

1 - Measurable Objectives

2- Pre SGMA Conditions and UR's

9 - Data Collection, Mgt., & Reporting

Evaluation

"Reporting, Evaluation, & Adaptive Management"

Implementation & Reporting

9 - Data Collection, Mgt., & Reporting

10 - Adaptive Mgt. and Focus Areas

Equivalent GSPs

Alternative GSPs & Fringe Areas

4 - Alternative GSP

5 - Boundaries, Overlapping & Unmanaged Areas

Governance

Governance

Coordination

Land Use

Basin Conditions

Sustainability Goal

Measurable Objectives & Undesirable Results

Monitoring Plan

Implementation & Reporting

Alternative Plans & Frings Areas

GSA Formation – Chapter 4 of SGMA (§10723)

- Entire basin must be covered by a GSA(s) by June 30, 2017
 - A local agency can decide to *become* a GSA or a combination of local agencies can *form* a GSA through a JPA or other legal agreement
 - A water corporation or mutual water company may participate in a GSA through a legal agreement
 - Senate Bill (SB) 13 changed DWR's role in reviewing GSA notices and addressed overlapping service area boundaries

GSP Governance – Chapter 6 of SGMA (§10727)

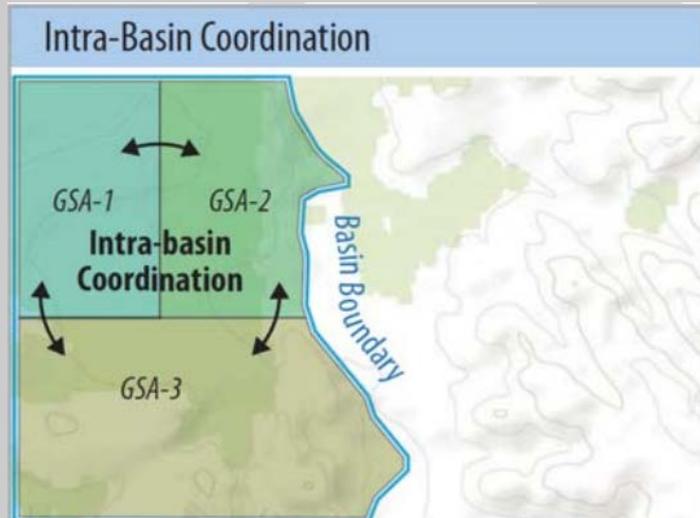
- Adoption or Amendment of Plan Following Public Hearing (§10728.4)
- Public Notification and Participation (Advisory Committee) (§10727.8)

Stakeholder Comments

- Stakeholders should have equal voice in GSP development and implementation
- Stakeholder involvement should be limited to existing SGMA requirements
- The GSP should contain a communications plan

Coordination

Intra-Basin (Within Basin)

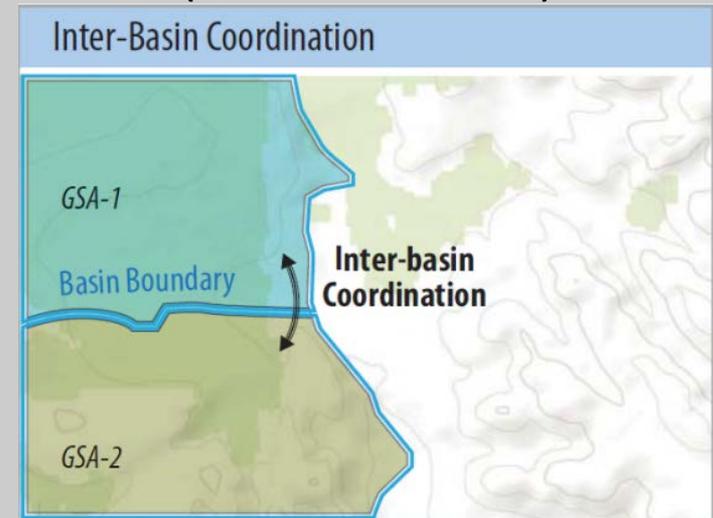


- Coordination Agreement is required if there are multiple GSP's in basin (§ 10726.6)

Stakeholder Comments

- "Same" Data & Methodologies
- Coordination Agreement Requirements

Inter-Basin (Between Basins)



- DWR shall evaluate if one GSP adversely affects an adjacent GSP (§ 10733 (c))

Stakeholder Comments

- Adversely Affects
- Use Intra Requirements
- Don't Use Intra Requirements

Governance

Coordination

Land Use

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Measurable
Objectives &
Undesirable
Results

Monitoring Plan

Implementation
& Reporting

Alternative
Plans & Frings
Areas

Land Use

Planning and Land Use

- **Review and Consideration of GW Requirements (Govt. Code 65350.5)**
 - Before adoption or amendment of a city's or county's general plan, the planning agency shall review and consider the GSP
- **Consideration of All Beneficial Uses and Users of Groundwater (§10723.2)**
 - GSAs shall consider the interests of all beneficial uses and users of groundwater including local land use planning agencies
- **Required GSP Elements (§10727.2 (g))**
 - GSP description of consideration of county and city general plans and how GSP may affect general plans

Stakeholder Comments

- GSAs should describe how land use & planning agencies were engaged by GSA
- Counties & Cities should be a signatory to the governance structure of a GSA
- GSAs should provide technical information in a format for ease of use in planning decisions and general plans
- GSAs should recommend protection of recharge areas to local land use and planning agencies
- GSP should consider the reliance on strategies and policies outside GSA boundaries

Governance

Coordination

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Basin Conditions

State of the Basin (§10727.2 (a))

- Physical characteristics and aquifer system
- Historical data
- Groundwater levels, groundwater quality, subsidence, and groundwater-surface water interaction data
- Map of boundaries
- Map of recharge areas
- Map of appropriate planning agencies

Stakeholder Comments

- Where applicable a GSA should be able to use existing GMP content
- A description of historical and projected water budget information should be a requirement for each GSP

Governance

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Groundwater Sustainability



*Undesirable Results:
Significant and Unreasonable...*



Surface Water Depletion



Reduction of Storage



Degraded Quality



Seawater Intrusion



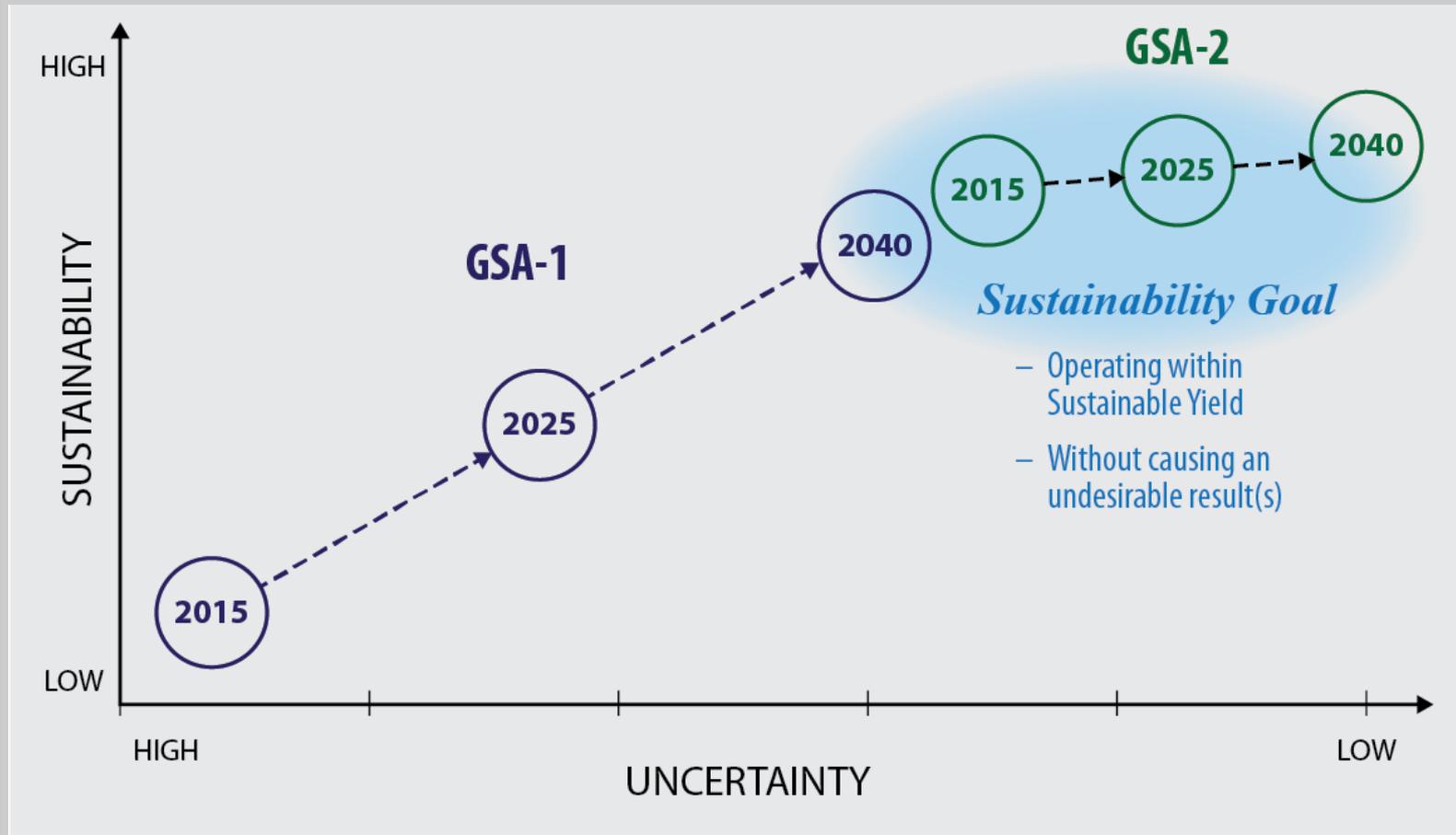
Land Subsidence



Lowering GW Levels

Sustainability Goal (Sustainable Yield and Sustainable Groundwater Management)

- Governance
- Coordination
- Land Use
- Basin Conditions
- Sustainability Goal**
- Measurable Objectives & Undesirable Results
- Monitoring Plan
- Implementation & Reporting
- Alternative Plans & Frings Areas



Sustainability Goal --> SGM --> SY--> Undesirable Results
Undesirable Results --> SY--> SGM --> Sustainability Goal

Measurable Objectives

Measurable Objectives & Interim Milestones (§10727.2 (b))

- GSPs shall include Measurable Objectives, as well as Interim Milestones in increments of five years, to achieve the sustainability goal in the basin within 20 years of the implementation of the plan

Stakeholder Comments

- Measurable Objectives & Interim Milestones should be:
 - Specific and quantifiable
 - Tied to discrete numerical values
 - Contain Thresholds, Triggers, and Actions
 - Adaptive (allow to change over time)
- Provide clear guidelines for inter-basin coordination with respect to Measurable Objectives

Governance

Coordination

Land Use

Basin Conditions

Sustainability
Goal

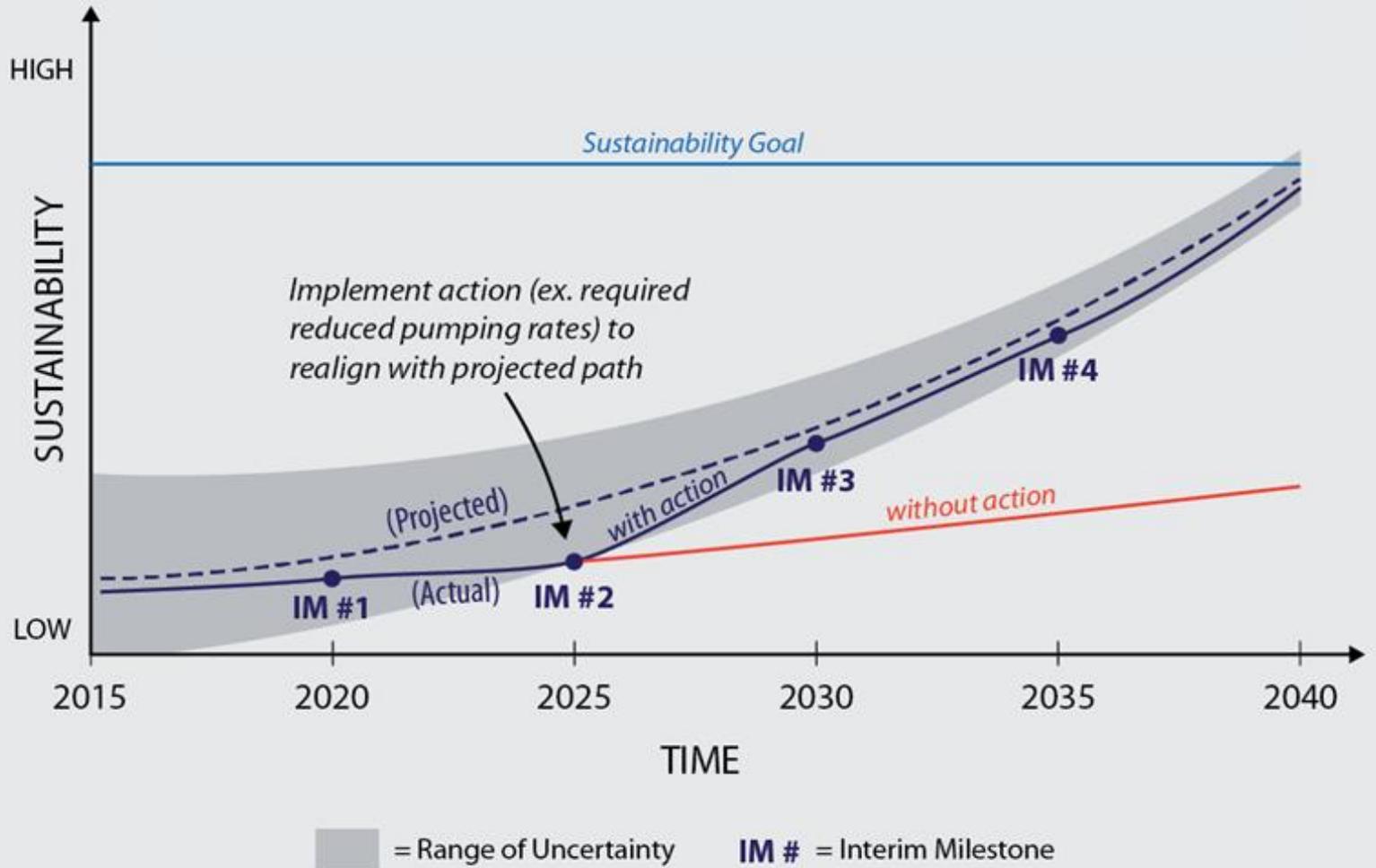
Measurable
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Undesirable
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Interim Milestones



- Governance
- Coordination
- Land Use
- Basin Conditions
- Sustainability Goal
- Measurable Objectives & Undesirable Results
- Monitoring Plan
- Implementation & Reporting
- Alternative Plans & Frings Areas

Undesirable Results

Undesirable Results (§10721)

- Significant and Unreasonable
 1. Chronic lowering of GW levels indicating a depletion of supply
 2. Reduction of groundwater storage
 3. Seawater intrusion
 4. Degraded water quality
 5. Land subsidence substantially interferes with surface land uses
 6. Depletions of interconnected surface water that adversely impact beneficial uses of the surface water

Stakeholder Comments

- “Significant and unreasonable” should largely be based on site-specific considerations and defined/developed at the local level
- A state-developed minimum standard or framework for each undesirable result should be established regardless of site specific conditions

Governance

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Undesirable Results (cont.)

SGMA Accountability Date (§10727.2 (b))

- GSP may *but is not required* to address undesirable results that occurred before but have not been corrected by January 1, 2015.

Stakeholder Comments

- GSP regulations should provide flexibility for GSAs to manage undesirable results below levels observed at the SGMA Accountability Date if they are not significant and unreasonable.
- In some cases, undesirable results will continue based on prior actions that occurred before the SGMA Accountability Date and therefore should be addressed as a requirement in the GSP regulations.

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Monitoring Plan

Monitoring Summary (§10727.2 (e)(f))

- Existing monitoring sites (identification of data gaps)
- Types of measurements
- Frequency of monitoring
- Monitoring protocols

Stakeholder Comments

- Appropriate spatial & temporal resolution is important
- Resolution should vary but be tied to site-specific conditions
- Suggestions on monitoring frequency varied (monthly, quarterly, semi-annually)
- Water Budget information should also be a requirement

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Annual Reporting (§ 10728)

- Groundwater elevations
- Annual aggregated groundwater extraction
- Surface water supply used for groundwater recharge
- Total water used
- Change in groundwater storage

Stakeholder Comments

- Standardized approaches needed but not prescriptive
- Standard units and meta-data should be strong requirements
- Transparency of data submitted and collected is essential

Implementation

- DWR review and assessment (§10733.8)
 - Review of GSPs at least every 5 years
 - Identification of corrective actions to address deficiencies
- GSAs periodically evaluate GSPs for effectiveness (§10728.2)

Stakeholder Comments

- DWR should allow for limited GSA consultation prior to SWRCB involvement
- Adaptive management is necessary to allow for GSP adjustments (both annually and every 5 years) but should not be formalized in the regulation

Alternative Plans

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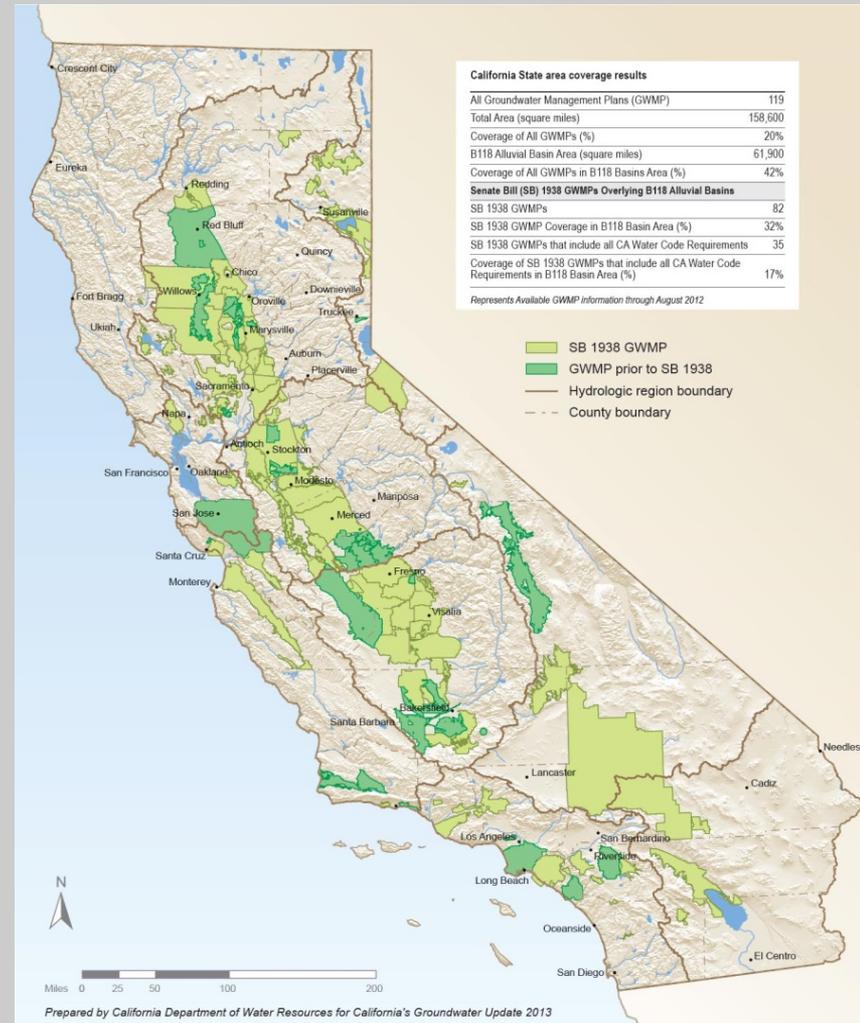
Alternative Plans & Frings Areas

Alternatives (§10733.6)

- Existing GMP or law authorizing groundwater management
- Adjudication action
- Analysis that basin has operated within its sustainable yield for 10 years

Stakeholder Comments

- Cover the entire basin
- Not cover the entire basin
- Difficulty of timing between GSPs and Alternatives
 - January 1, 2017 (Alternatives)
 - Jan 31, 2020, or 2022 (GSPs)
- Use of existing GMP
- Technical Adequacy should be equal to GSPs



Fringe Areas

Governance

Coordination

Land Use

Basin Conditions

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& Reporting

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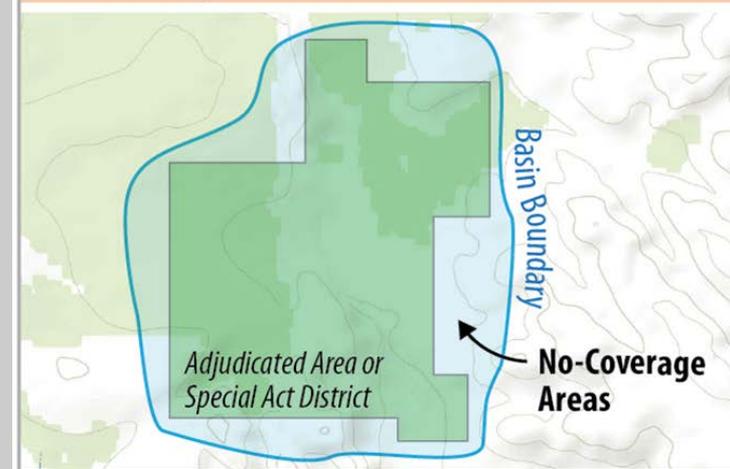
Fringe Areas

- Small portions of a basin not fully covered within boundaries of an Adjudication
- County possibly only eligible GSA
- Fringe areas not defined in SGMA

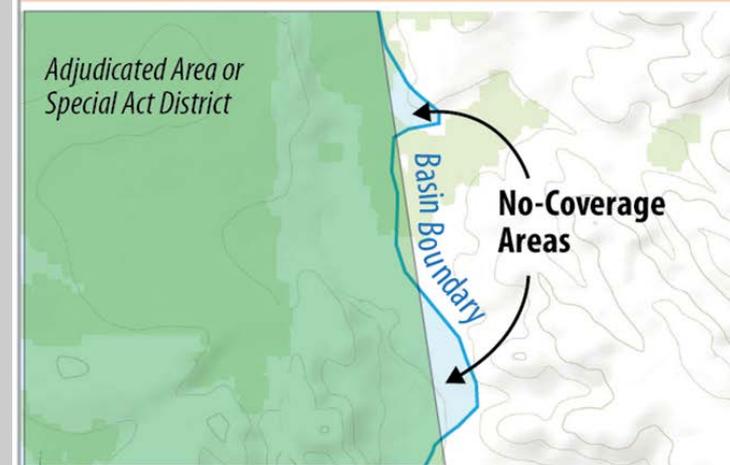
Stakeholder Comments

- Fringe areas should be allowed to conform to a lesser GSP standard.
- Fringe areas should not be allowed to conform to a lesser GSP standard.
- Fringe areas should be able to rely on data from Adjudicated areas to meet SGMA requirements.

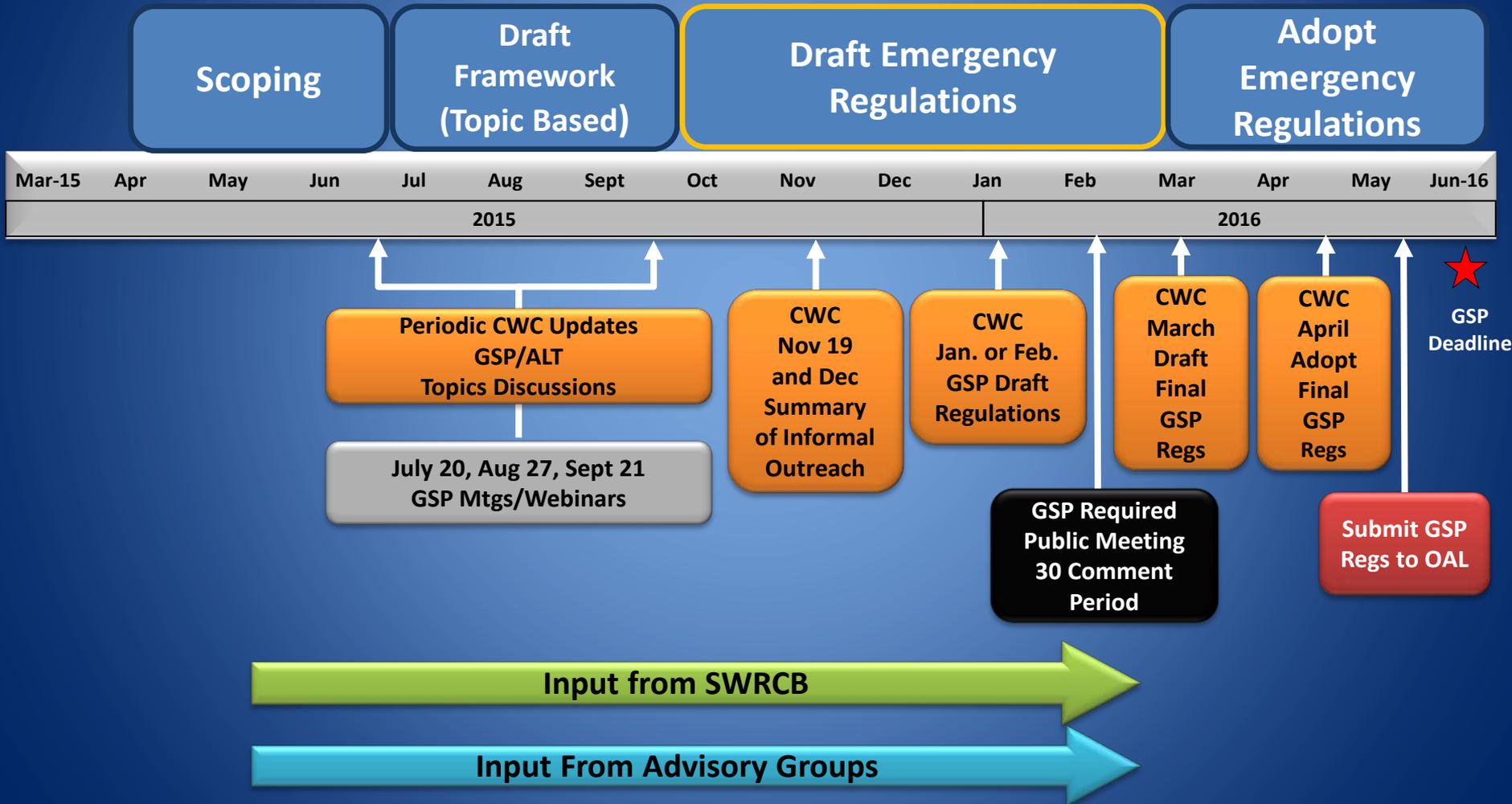
No-Coverage Areas: Substantial Fringe Areas



No-Coverage Areas: Minimal Fringe Areas



Next Steps



Dates and Durations are Subject to Change

Web Resources

- **DWR Sustainable Groundwater Management (SGM)**
<http://www.water.ca.gov/groundwater/sgm/index.cfm>
- **DWR GSP Emergency Regulation Website**
<http://www.water.ca.gov/groundwater/sgm/gsp.cfm>
- **Subscribe to DWR SGM Email List**
<http://www.water.ca.gov/groundwater/sgm/subscribe.cfm>
- **DWR Region Office Contacts**
<http://www.water.ca.gov/groundwater/gwinfo/contacts.cfm>
- **Questions or Comments**
sgmps@water.ca.gov