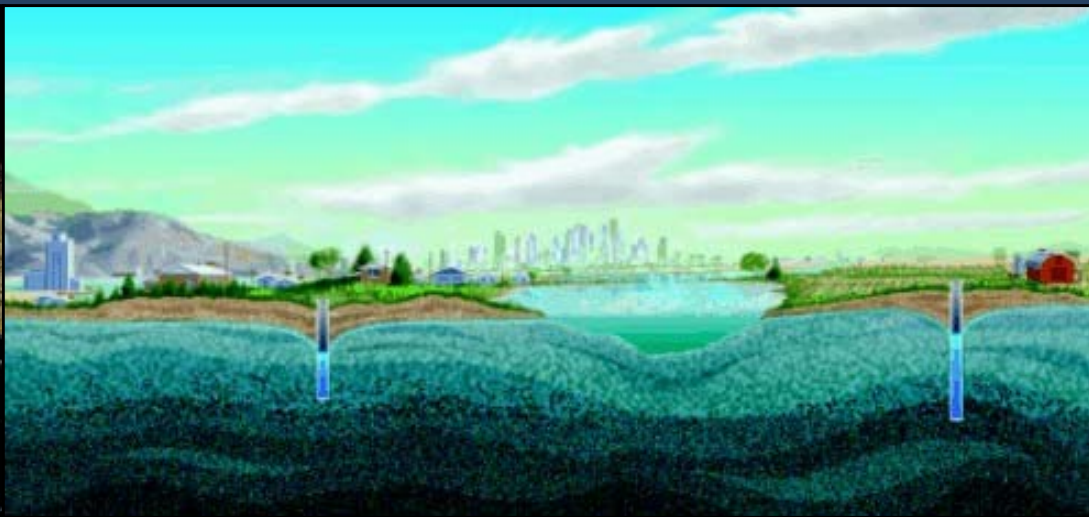


# DWR's Sustainable Groundwater Management Implementation



RCRC/CSAC  
August 12, 2015



# Basin Boundary Regulations Process

Jan-April

April-May

July-Sept

Oct-Nov

## 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

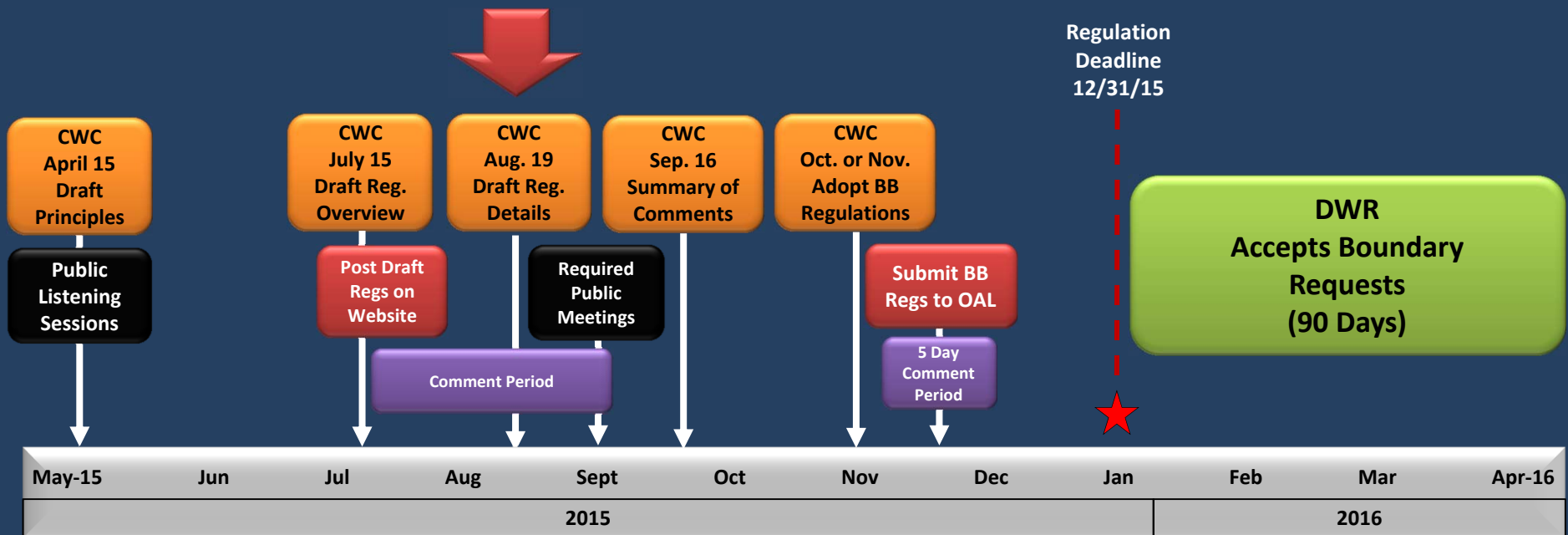
- CWC Approval
- Noticing and Submittal to OAL

Input and Feedback from the CWC and SWRCB

CWC – California Water Commission  
SWRCB – State Water Resources Control Board  
OAL – Office of Administrative Law



# Basin Boundary Regulations Estimated Timeline





# How to Provide Input

- **DWR Welcomes Feedback on Draft Regulations**

- Email & Written Comments
- CWC Meetings (Aug.-Oct.)

- **DWR will be Holding Three Public Meetings**

- Sacramento (8/31)
- Bakersfield (9/2)
- Orange County (9/3)

A screenshot of the California Department of Water Resources website. The page is titled "Public Comments - Basin Boundary Regulations". It includes a "How to Provide Input" section with instructions on submitting comments via email or mail. Below this is a table of "Comments Received on Basin Boundary Emergency Regulations" with columns for "Comment Received From", "Comment", and "Date". The table shows one entry. To the right is a "GROUNDWATER HOME" sidebar with a "SUSTAINABLE GROUNDWATER MANAGEMENT" section containing various links like "Basin Boundary Regulations", "Public Listening Sessions", "Public Comments", "Groundwater Sustainability Agencies", "GSA Notifications", "Groundwater Sustainability Plan Regulations", "Initial Basin Prioritization", "Communication and Outreach", "Advisory Groups", "Statewide SGMA Calendar", "Region Office Contacts", "Subscribe for Email Updates", "Resources", and "Facilitation Support Services".

Comment Received From	Comment	Date
Name	Link to Comment	Date Received
Comment Received From	Comment	Date

[http://www.water.ca.gov/groundwater/sgm/basin\\_boundaries.cfm](http://www.water.ca.gov/groundwater/sgm/basin_boundaries.cfm)



# Web Resources

- **DWR Sustainable Groundwater Management (SGM)**  
<http://www.water.ca.gov/groundwater/sgm/index.cfm>
- **DWR Basin Boundary Regulation Website**  
[http://www.water.ca.gov/groundwater/sgm/basin\\_boundaries.cfm](http://www.water.ca.gov/groundwater/sgm/basin_boundaries.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](mailto:sgmps@water.ca.gov)



# **GSP/Alt Regulations Outreach**

## **Approach and Overview of**

### **Summer Meetings**



# GSP/ALT Regulations Process

- Phases of Implementation

## Scoping

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

## Draft Framework (Topic Based)

- 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

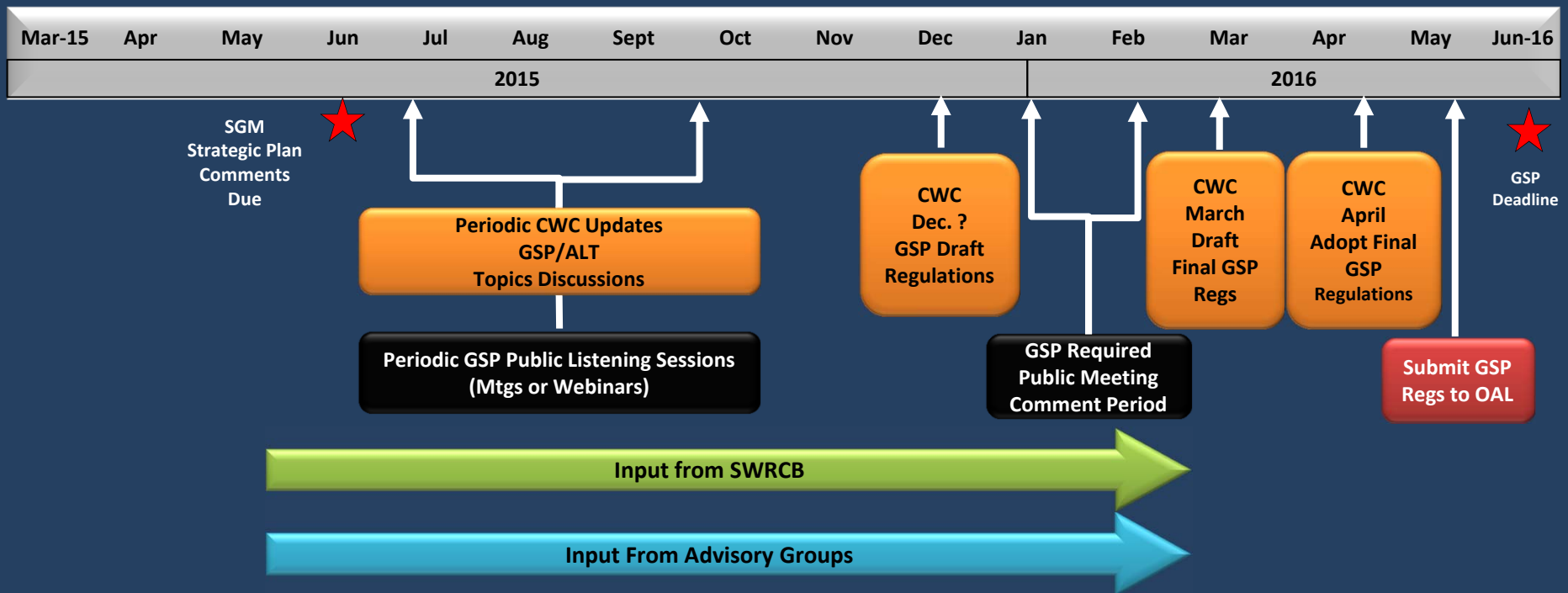
- CWC Approval
- Noticing and Submittal to OAL

Input and Feedback from the CWC and SWRCB

CWC – California Water Commission  
SWRCB – State Water Resources Control Board  
OAL – Office of Administrative Law

# GSP/ALT Regulations

## Estimated Project Timeline





# GSP Issue Topics for Regulation Development



Phase 1 –  
Scoping  
(Collection  
of Issues)

All 10  
Topics  
(May-Jun)

Phase 2 –  
Draft  
Framework  
(Present  
and Receive  
Input from  
Advisory  
Groups and  
Public)

1<sup>st</sup> Batch  
(Jun-Jul)

2<sup>nd</sup> Batch  
(Jul-Aug)

3<sup>rd</sup> Batch  
(Aug-Sep)





# Topic 4: Alternative Groundwater Sustainability Plan (GSP) Submittals



# Topic 4: Alternative GSPs

## California Water Code §10733.6

*(a) If a local agency believes that an alternative described in subdivision (b) satisfies the objectives of this part, the **local agency may submit the alternative** to the department for evaluation and assessment of whether the alternative satisfies the objectives of this part for the basin.*

*(b) **An alternative is any of the following:***

*(1) A **plan developed pursuant to Part 2.75** (commencing with Section 10750) or other law authorizing groundwater management.*

*(2) Management pursuant to an **adjudication action**.*

*(3) An analysis of basin conditions that demonstrates that the basin has **operated within its sustainable yield over a period of at least 10 years**. The submission of an alternative described by this paragraph shall include **a report prepared by a registered professional** engineer or geologist who is licensed by the state and submitted under that engineer's or geologist's seal.*



# Water Code Sections Related to Alternative GSPs

## **10733.**

*(c) The department shall evaluate whether a groundwater sustainability plan adversely affects the ability of an adjacent basin to implement their groundwater sustainability plan or impedes achievement of sustainability goals in an adjacent basin.*

## **10733.6.**

*(c) A local agency shall submit an alternative pursuant to this section no later than **January 1, 2017, and every five years thereafter.***

*(d) The assessment required by subdivision (a) shall include an assessment of whether the alternative is within a basin that is in compliance with Part 2.11 (commencing with Section 10920). If the alternative is within a basin that is not in compliance with Part 2.11 (commencing with Section 10920), the department shall find the alternative does not satisfy the objectives of this part.*



# Alternative GSPs (cont.):

1. A plan developed pursuant to Part 2.75 (commencing with Section 10750 et seq.) or other law authorizing groundwater management.

- Many GWMPs “unofficially” deemed incomplete or inadequacy per existing law.
  - GWMPs are generally non-regulatory plans.
  - Prepared for areas smaller than a basin or subbasin.
- Is AB 3030, SB 1938, or AB 359 the plan standard?
- How would a local agency know if a plan is adequate and should be used as the basis for an Alternative GSP?

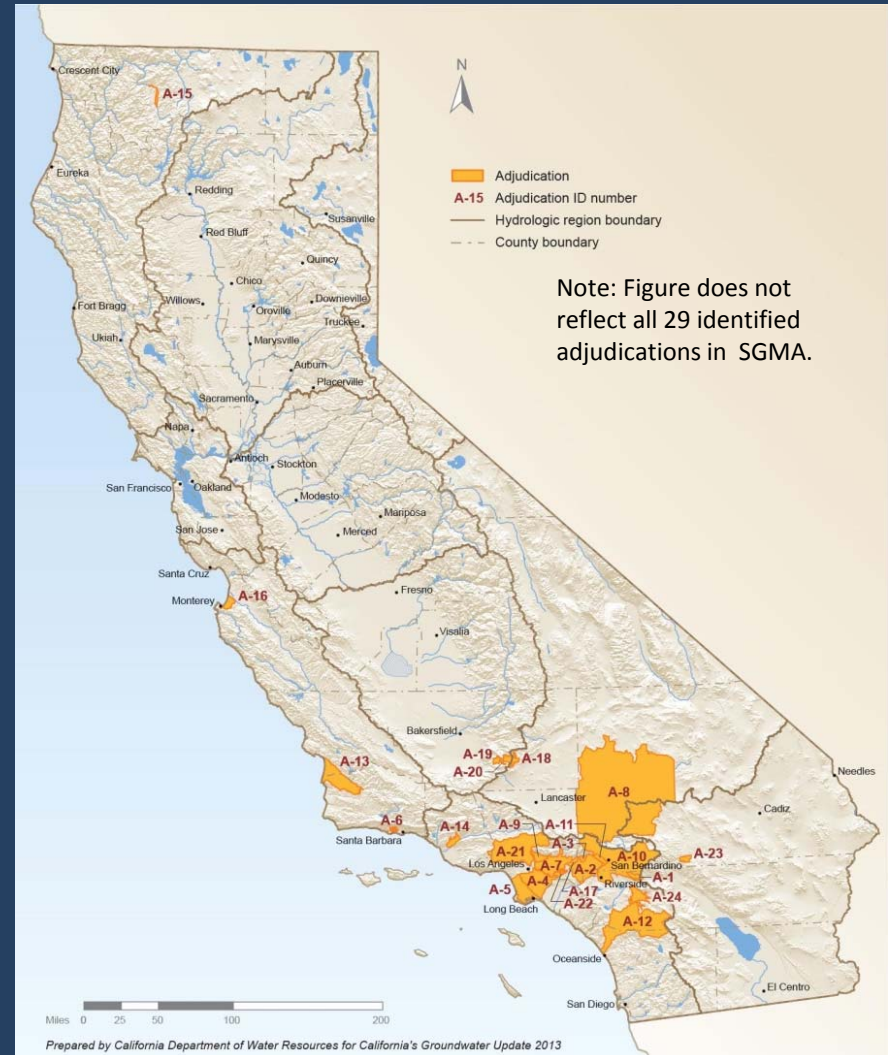




# Alternative GSPs (cont.):

## 2. Management pursuant to an adjudication action

- Can a local agency located outside an adjudicated area use data and information to comply with SGMA?
  - Or does it have to use only data and information outside of the adjudicated boundary?
- How should an adjudication action be evaluated as sustainable per the SGMA?





## Alternative GSPs (cont.):

3. *An analysis of basin conditions that demonstrates that the basin has been operated within its sustainable yield over a period of at least 10 years*

- How would a local agency demonstrate 10 years of operating within a basin or subbasin's sustainable yield?
- If a subbasin only has jurisdictional separation between other subbasins, how can it prove that it has operated within its sustainable yield without considering the assumptions of the adjacent subbasins?
- Should local agencies or GSAs be required to submit a letter of approval for an adjacent Alternative GSP?
  - What happens if a GSA in the adjacent basin does not agree with the assumptions in an Alternative GSP?

### **Sustainable Yield:**

*The maximum quantity of water, calculated over a base period representative of long-term conditions in the basin and including any temporary surplus, that can be withdrawn annually from a groundwater supply without causing an undesirable result.*

### **Water Budget:**

*An accounting of the total groundwater and surface water entering and leaving a basin including the changes in the amount of water stored.*



## Alternative GSPs (cont.):

### 4. *Timing of Alternative GSPs due in January 2017 related to GSPs due in 2020 or 2022*

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- Alternative GSPs are due January 1, 2017
  - Only local agencies can submit Alternative GSPs
  - Annual reports are not required
  - Updates are required every 5 years
- “Standard” GSPs are not due until 2020 or 2022
  - Annual reports are required
- How would a local agency that submitted an Alternative GSP provide information that shows assumptions related to sustainable yield, undesirable results, and water budgets are consistent with GSPs that have yet to be submitted for review in the same basin?





# General Alternative GSP Questions

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- How could an Alternative GSP meet the legislative intent of SGMA if the technical requirements are not equal to the standards for a GSP?
- How do GSAs preparing GSPs plan to coordinate with a local agency's Alternative GSP?
- Would an Alternative GSP only be considered effective if there were a coordination agreement with other GSPs within the same basin or subbasin?



# Topic 5: Overlapping and “Fringe” Areas



# Topic 5: Boundaries – Overlapping and Fringe Areas

## Overlapping Areas:

- *Overlapping Governance (GSAs)* - Two or more local agencies intentionally form separate and potentially competing GSAs for the same area of a groundwater basin.
- *Overlapping Planning (GSPs)* - If overlapping GSAs do not resolve their governance issues, or describe how the overlapping governance will be effective, and choose to develop two or more GSPs that apply to the same area of a basin.

**Fringe Areas:** Cases where a relatively small portion of a basin is not fully covered within the boundaries of a Special Act District or a court-ordered groundwater rights adjudication.



# Select Water Code Sections Related to Boundaries

## **10723.**

*(a) Except as provided in subdivision (c), any **local agency or combination of local agencies** overlying a groundwater basin may elect to be a groundwater sustainability agency for that basin.*

## **10724.**

*(a) In the event that there is an **area** within a basin that is **not** within the management area of a groundwater sustainability agency, the **county** within which that unmanaged area lies will be **presumed** to be the **groundwater sustainability agency** for that area.*



# Select Water Code Sections Related to Boundaries (cont.)

## 10733.

*(b) If a groundwater sustainability agency develops multiple groundwater sustainability plans for a basin, the department shall evaluate whether the plans conform with Sections 10727.2, 10727.4, and 10727.6 and are **together likely to achieve the sustainability goal for the basin covered by the groundwater sustainability plans.***

*(c) The department shall **evaluate whether a groundwater sustainability plan adversely affects the ability of an adjacent basin to implement their groundwater sustainability plan or impedes achievement of sustainability goals in an adjacent basin.***



# Select Water Code Sections Related to Boundaries (cont.)

## 10733.4.

*(b) If groundwater sustainability agencies develop multiple groundwater sustainability plans for a basin, the submission required by subdivision (a) shall not occur until the entire basin is covered by groundwater sustainability plans. When the entire basin is covered by groundwater sustainability plans, **the groundwater sustainability agencies shall jointly submit to the department all of the following:***

*(1) The groundwater sustainability plans.*

*(2) **An explanation** of how the groundwater sustainability plans implemented together satisfy Sections 10727.2, 10727.4, and 10727.6 for the entire basin.*

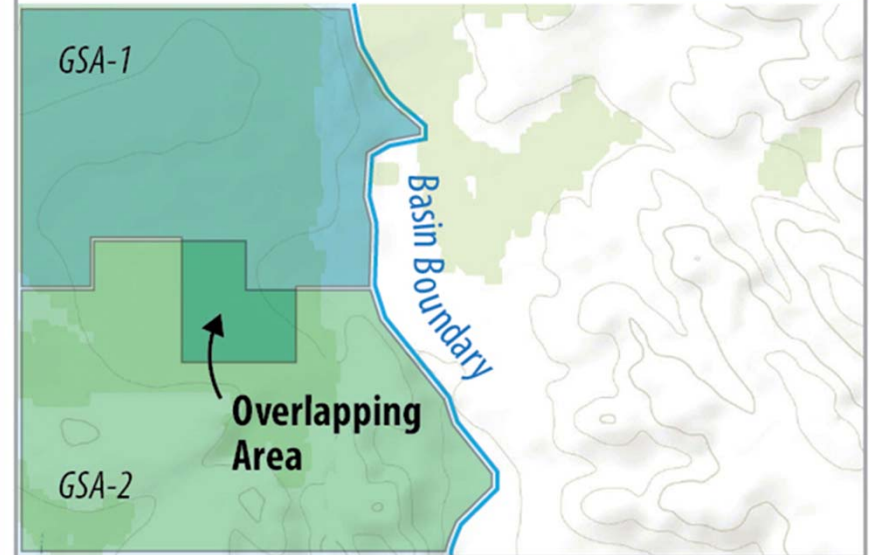
*(3) **A copy of the coordination agreement** between the groundwater sustainability agencies to ensure the coordinated implementation of the groundwater sustainability plans for the entire basin.*

# Overlapping Boundaries

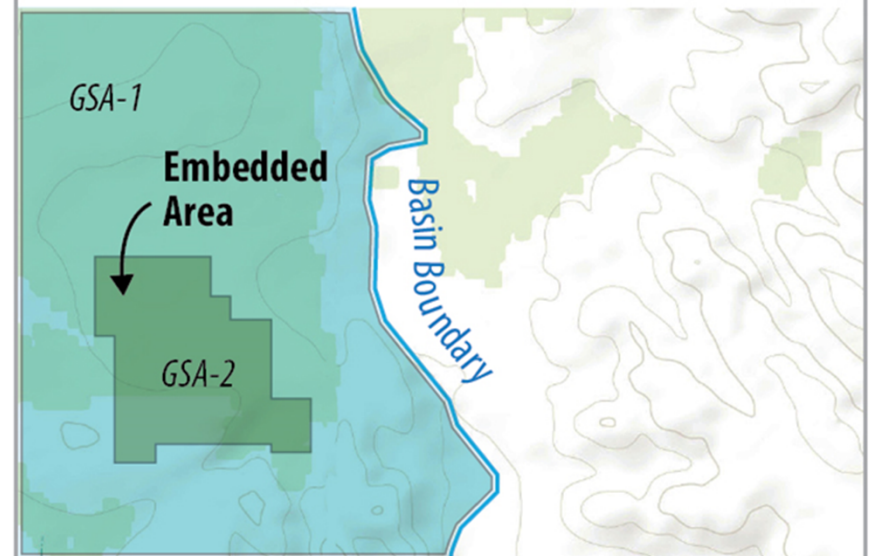
Overlapping areas involve **redundant coverage**:

- Along the boundaries of two GSAs where some small areas **overlap**.
- One small GSA is fully **embedded** within the boundaries of one or more larger GSAs.

Redundant Coverage: Overlapping Areas



Redundant Coverage: Embedded Areas



# Stakeholder Collected Issues Related to Overlapping Areas

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- What happens when two or more local agencies claim to be the GSA for the same area?
- If there are portions of a basin with overlapping GSAs, which GSA has authority and which GSA can assess fees?
- Who will intervene and make a determination as to what local agency(s) is the “correct” or “recommended” GSA is for areas of overlap before June 30, 2017?
- Should overlapping areas be resolved by the affected GSAs prior to submission of a single basin-wide GSP?
- If multiple GSAs submit multiple GSPs with overlapping areas, should DWR reject the plans outright and require that the GSAs coordinate and resubmit their GSPs to show no overlapping areas?





# Overlapping Area Considerations

- It will be important to clearly describe in a basin-wide GSP, or collection of coordinated GSPs and plans, that the GSA(s) can **successfully implement their respective plans** and reach the collective sustainability goal of the entire basin.
- **Overlapping GSAs** with inconsistent governance within a basin **could impede sustainable groundwater management**, as GSAs may have competing measurable objectives, water budgets, and may create financial uncertainty to implement the GSP.
- A **governance description**, evaluated as a requirement in the GSP regulations, could be used to address and resolve overlapping GSAs and illustrate that overlapping GSPs will not be permitted.



# Overlapping Areas Questions

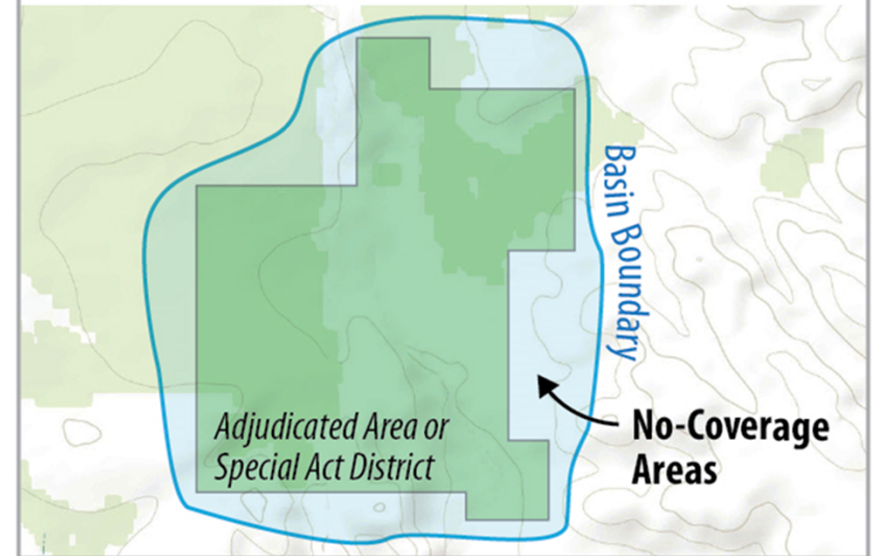
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- Should DWR require in a GSP(s) a section on GSA governance, which will allow local agencies to describe how overlapping GSAs are recommended for the basin or subbasin? Should a governance section be required even without GSA overlap?
- Is there any example of where overlapping GSPs would be effective in a basin or subbasin, assuming each GSP includes identical measurable objectives, sustainability goals, sustainable yields and water budget information?
- How would a GSA illustrate the technical, financial, and/or managerial capacity to implement their GSP?

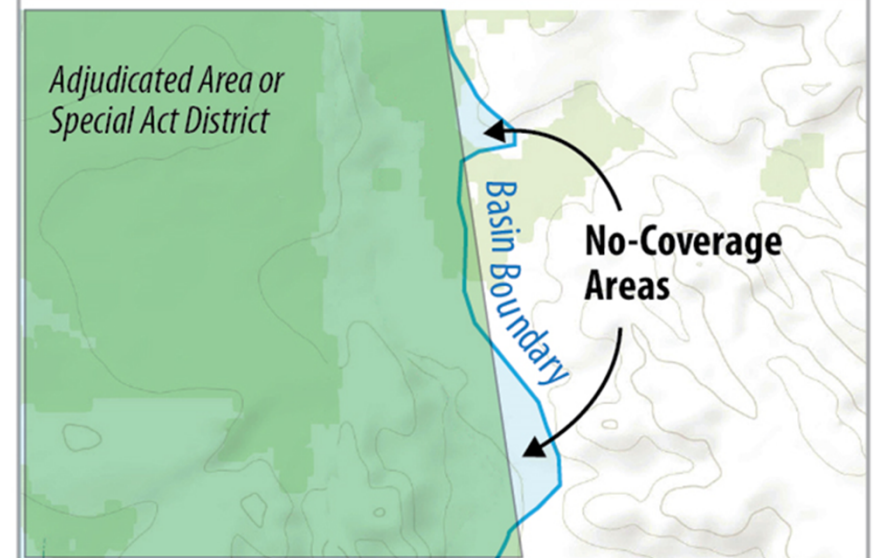
# Fringe Areas

- Fringe areas are **not intended to be unmanaged** areas.
- Could represent either **multiple minimal portions** of a basin or substantial portions of a basin.
- Could include **substantial portions** of a basin.
- There may not be another GSA-eligible entity (other than the county) that can manage the fringe areas.

No-Coverage Areas: Substantial Fringe Areas



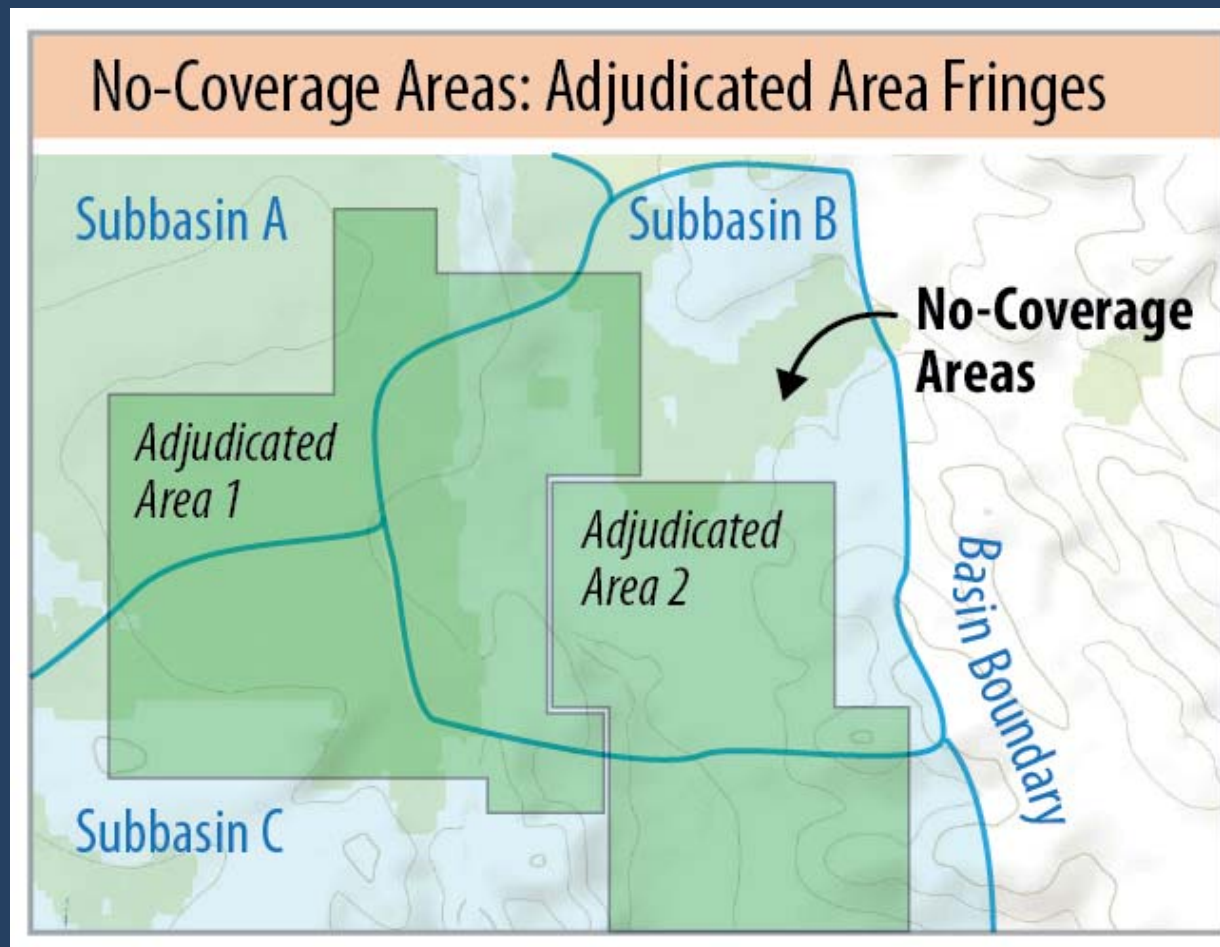
No-Coverage Areas: Minimal Fringe Areas





# Fringe Areas That Involve Multiple Adjudications

- In basins with multiple overlapping adjudicated areas, fringe areas could be substantial.



# Stakeholder Collected Issues Related to Fringe Areas

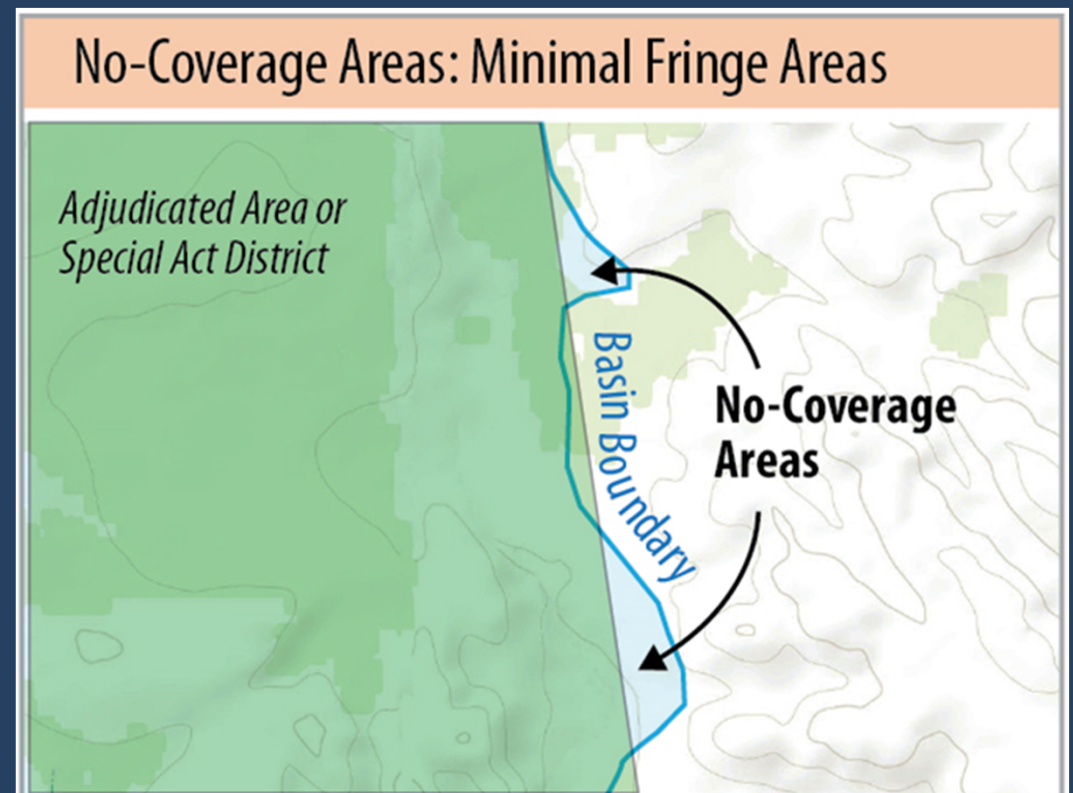


- If fringe areas fall below a fixed threshold for either size of area or volume of groundwater extraction, could they be dropped from further consideration as a fringe area?
- Can a local agency or GSA expand its boundaries to include fringe areas? What if those areas are outside of the GSA's jurisdiction?
- If a local agency knows that it could have fringe areas in its groundwater basin, should it submit to have its basin boundaries revised to match its jurisdiction during the basin boundary regulatory process?
- Can fringe areas be “passively managed”?
- If fringe areas exist in a basin, and the county elects not to manage these areas, will DWR review the GSP(s) submitted?

# Fringe Area Questions



- Should minimal fringe areas be allowed to conform to a lesser GSP standard?
- If the fringe areas only include de minimis extractors could these areas be informally managed by the appropriate local agency, GSA, or Watermaster through an adaptive management program?
- In cases (adjacent to Special Act Districts or adjudications) where there is little or no pumping and monitoring infrastructure would it be appropriate for a local agency to use the Special Act District's GSP, an Alternative GSP, or adjudication information to show compliance with SGMA?





# Topic 6: Intra Basin Coordination Agreements



# Topic Paper 6

## Intra Basin Coordination Agreements

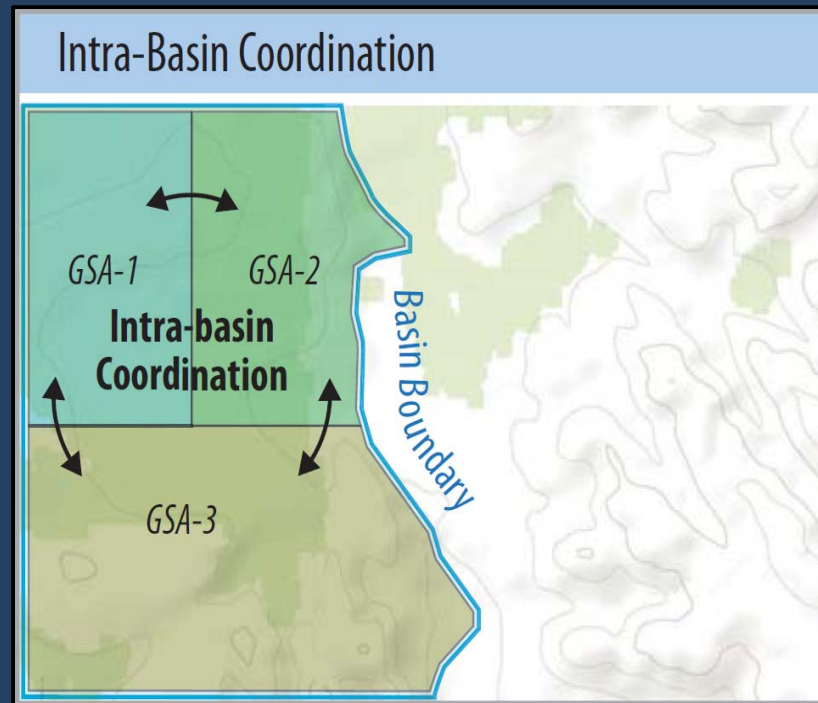


- **2<sup>nd</sup> Batch (Jul-Aug)**
  - Advisory Groups – July 21 though Aug 17
  - Public Mtg /Webcast – mid to late Aug



# Topic Paper 6

## Intra-Basin Coordination Agreements



### **Intra-basin Coordination Agreements:**

Agreements that will be formed between two or more GSAs when two or more GSPs are developed within the same groundwater basin

# Topic Paper 6: Intra-Basin Coordination Agreements



## Water Code Sections Related to Intra-Basin Coordination:

### § 10721. Definitions.

*(d) "**Coordination agreement**" means a legal agreement adopted between two or more groundwater sustainability agencies that provides the basis for coordinating multiple agencies or groundwater sustainability plans within a basin pursuant to this part.*

### § 10727 (b). Groundwater Sustainability Plans.

*(3) Subject to Section 10727.6, multiple plans implemented by multiple groundwater sustainability agencies and coordinated pursuant to a single **coordination agreement that covers the entire basin.***



# Topic Paper 6: Intra-Basin Coordination Agreements



## Water Code Sections Related to Intra-Basin Coordination:

### §10727.6. Requirements for Coordinated Plans, When Multiple Plans Cover a Basin.

*Groundwater sustainability agencies intending to develop and implement multiple groundwater sustainability plans pursuant to paragraph (3) of subdivision (b) of Section 10727 **shall coordinate with other agencies** preparing a groundwater sustainability plan **within the basin** to ensure that the plans utilize the same data and methodologies for the following assumptions in developing the plan:*

- (a) Groundwater elevation data.*
- (b) Groundwater extraction data.*
- (c) Surface water supply.*
- (d) Total water use.*
- (e) Change in groundwater storage.*
- (f) Water budget.*
- (g) Sustainable yield.*



# Topic Paper 6: Intra-Basin Coordination Agreements



## Water Code Sections Related to Intra-Basin Coordination:

### § 10733.4. Submittal of Plans to Department for Evaluation.

*(a) Upon adoption of a groundwater sustainability plan, a groundwater sustainability agency shall submit the groundwater sustainability plan to the department for review pursuant to this chapter.*

*(b) If groundwater sustainability agencies develop multiple groundwater sustainability plans for a basin, the submission required by subdivision (a) shall not occur until the entire basin is covered by groundwater sustainability plans. When the entire basin is covered by groundwater sustainability plans, the groundwater sustainability agencies shall jointly submit to the department all of the following:*

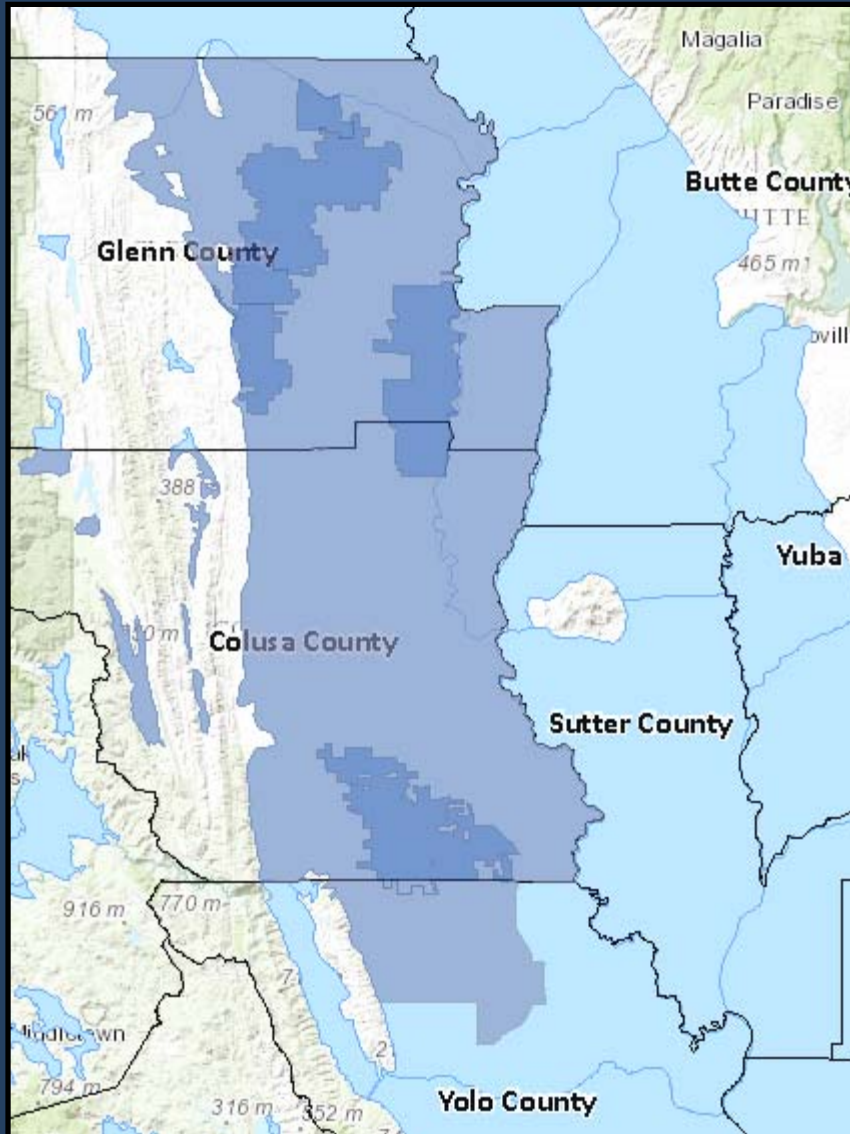
*(1) The groundwater sustainability plans.*

*(2) An explanation of how the groundwater sustainability plans implemented together satisfy Sections 10727.2, 10727.4, and 10727.6 for the entire basin.*

*(3) A **copy of the coordination agreement** between the groundwater sustainability agencies to ensure the coordinated implementation of the groundwater sustainability plans for the entire basin.*



# Topic Paper 6: Intra-Basin Coordination Agreements

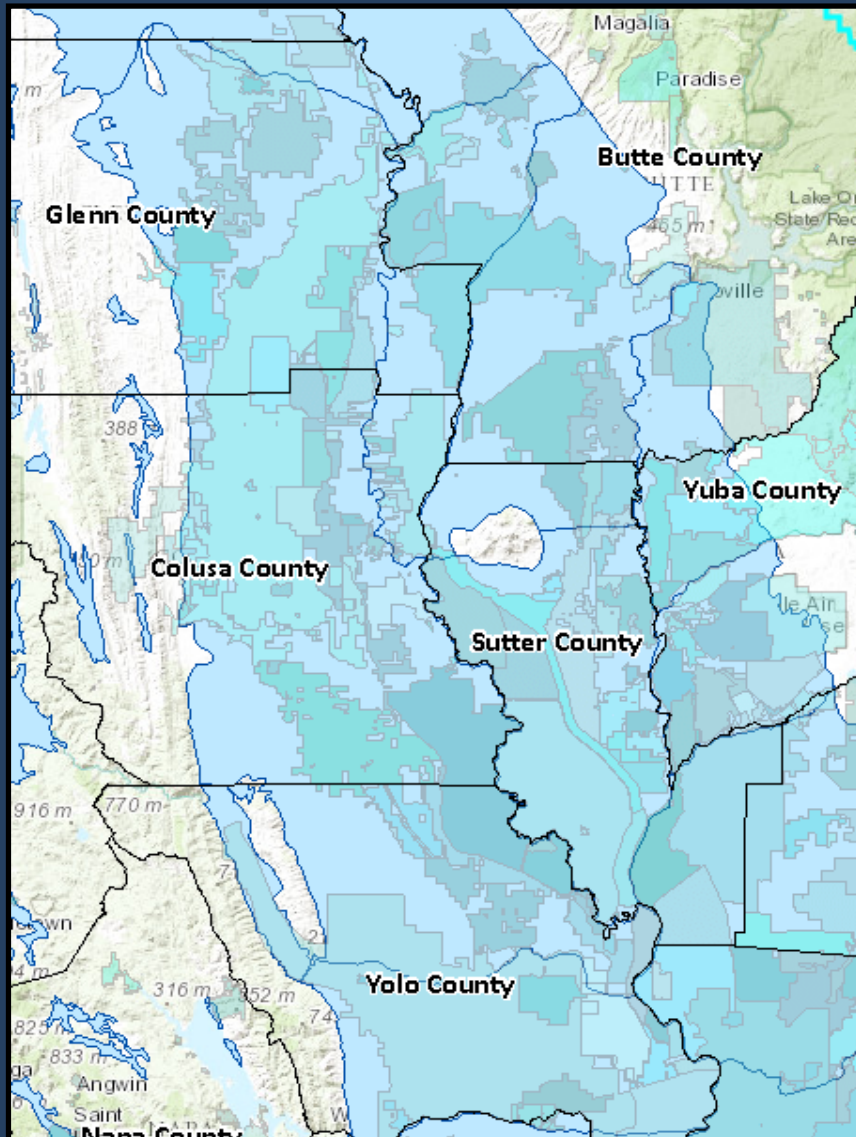


## Current Colusa Basin GSA Notices

1. Glenn County
2. Orland-Artois Water District
3. Provident ID
4. Princeton-Codora-Glenn ID
5. Colusa County
6. Colusa County Water District
7. Dunnigan Water District
8. ...to be continued?



# Topic Paper 6: Intra-Basin Coordination Agreements

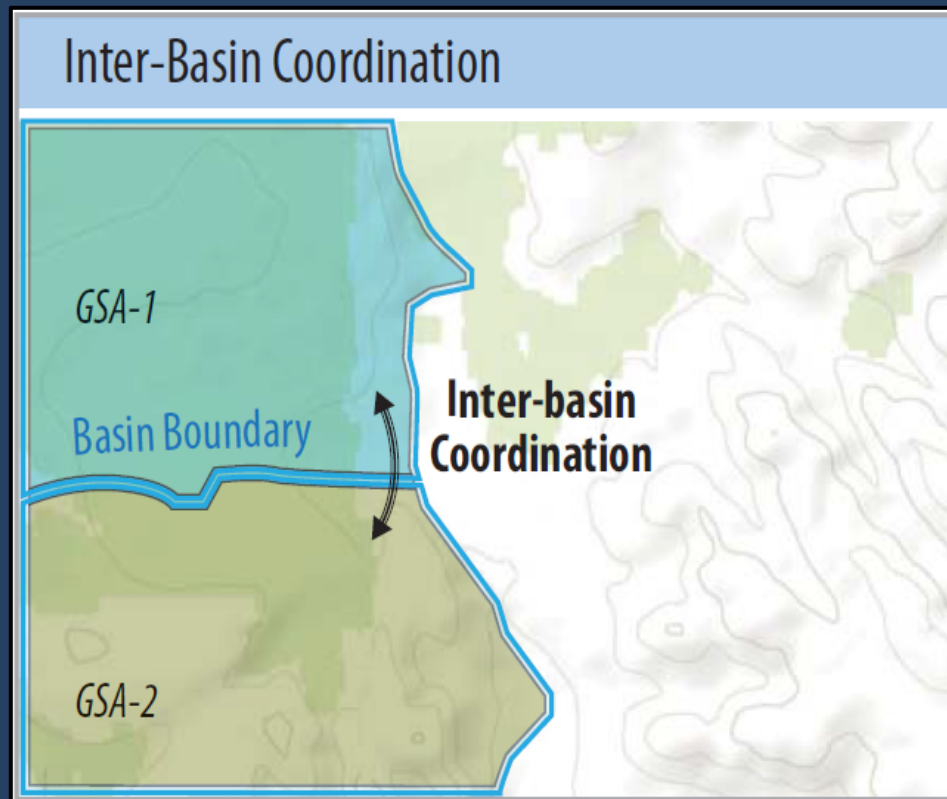


## Colusa Basin Local Agencies

Potential for many more coordination agreements  
( ~ 25-30 local agencies in Colusa Basin)



# Topic Paper 6: Inter-Basin Coordination Agreements



## *Inter-basin Coordination Agreements:*

Agreements that may be formed between GSAs within adjacent, ***hydrologically connected*** groundwater basins.



# Topic Paper 6: Inter-Basin Coordination Agreements



## Water Code Sections Related to *Inter-Basin Coordination*:

### § 10733.2. Plan Review and Implementation.

*(a) (1) By June 1, 2016, the department shall adopt regulations for evaluating groundwater sustainability plans, the implementation of groundwater sustainability plans, and **coordination agreements** pursuant to this chapter.*

*(2) The regulations shall identify the necessary plan components specified in Sections 10727.2, 10727.4, and 10727.6 and other information that will assist local agencies in developing and implementing groundwater sustainability plans and **coordination agreements**.*

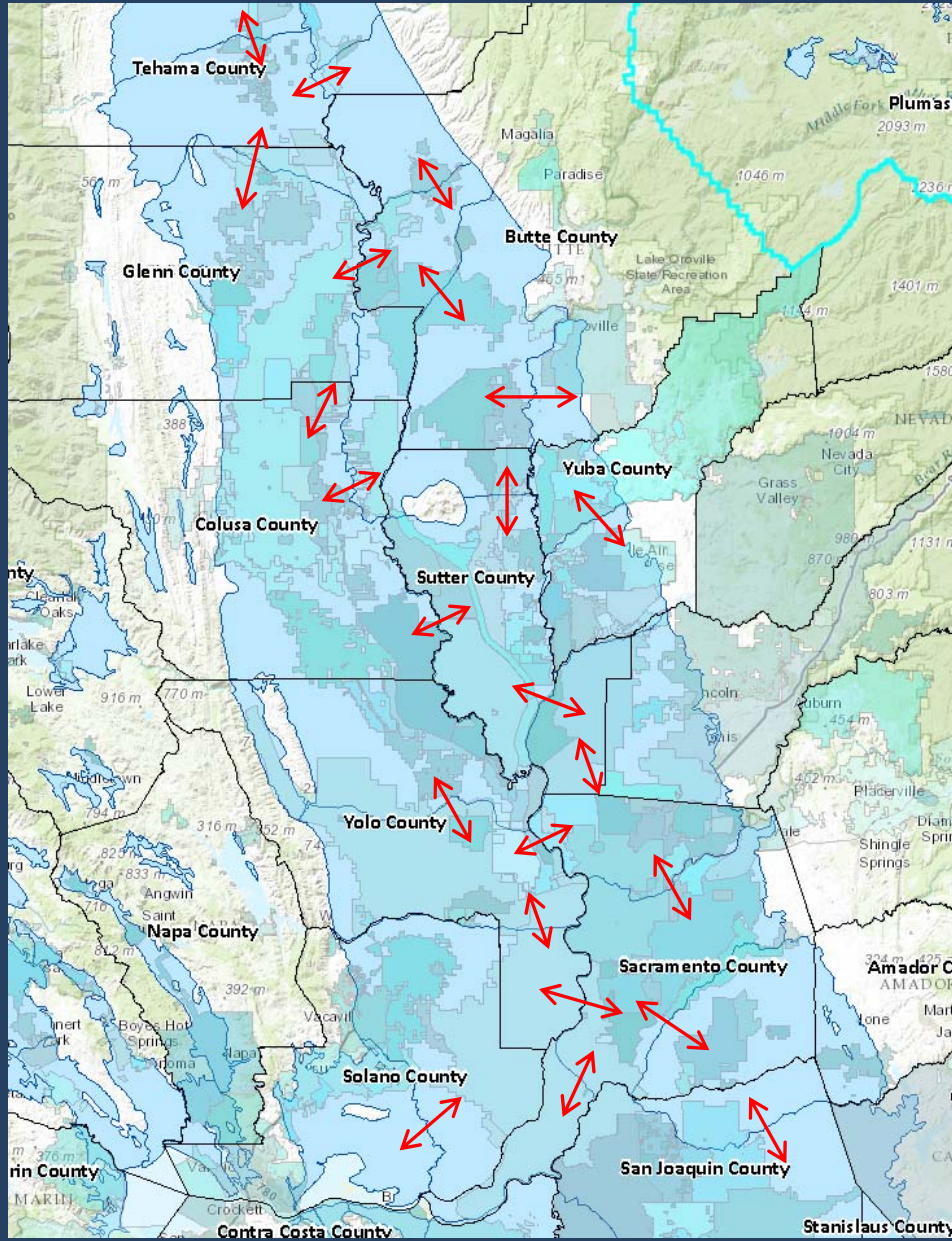
### § 10733. Department Review of Plans.

*(c) The department shall evaluate whether a groundwater sustainability plan **adversely affects the ability of an adjacent basin** to implement their groundwater sustainability plan or impedes achievement of sustainability goals in an adjacent basin.*





# Topic Paper 6: Intra-Basin Coordination Agreements



Depending on GSA/GSP size and development, the potential need for intra/inter-basin coordination could be extensive



# Topic Paper 6: Inter-Basin Coordination Agreements



## Potential Issues and Challenges

### Technical Challenges:

1. Based on SGMA requirements that the sustainability goal associated with one GSP not adversely affect or impede the sustainability goal of another GSP (§10733), should requirements for the sharing of data, methods, and coordination agreements between intra-basin GSPs (§ 10727.6), be similarly required for adjacent inter-basin GSPs?
2. To what degree should coordination agreements require use of the same data and methodologies for...
  - Groundwater elevation data.
  - Groundwater extraction data.
  - Surface water supply.
  - Total water use.
  - Change in groundwater storage.
  - Water budget.
  - Sustainable yield.



# Topic Paper 6: Intra Basin Coordination Agreements



## Potential Issues and Challenges

### Technical Challenges:

3. Regardless of agreement type, does the degree of coordination imply the need to coordinate data collection schedules and fully share groundwater data between GSAs?
4. How will the inherent variation in the degree and detail of groundwater information between basins be addressed in order to reach similar determinations of groundwater flux between basins?
5. If inter-basin coordination is not required, how would a GSA know if its proposed management practices would interfere with the sustainability goals of an adjacent GSA?

# Topic Paper 6: Intra Basin Coordination Agreements



## Potential Issues and Challenges

### Technical Challenges:

6. Modeling of agricultural demands can vary significantly between various models (C2VSIM IDC vs Modflow Farm Package). Does the requirement for intra and inter-basin coordination imply the need to use the same groundwater models within and between hydrologically connected basins?



# Topic Paper 6: Intra Basin Coordination Agreements



## Potential Issues and Challenges

### Considerations:

- 1. *GSA Formation*:** Formation of GSA area and governance structure needs to take into account the degree and need for GSA/GSP coordination within and between groundwater basins.
- 2. *Basin Boundary Modifications*:** Coordination of sustainable groundwater management responsibilities, within and between hydrologically connected groundwater basins or subbasins, is necessary when considering a basin boundary modification.
- 3. *Land Use Planning*:** Understanding the degree and need for coordination is needed to properly align land use planning activities between basins within the same city or county.
- 4. *Management Practices*:** Management practices relating to water transfers and conjunctive management will need to consider the sustainability goals of affected GSAs within and between basins.

# Topic Paper 6: Intra Basin Coordination Agreements



## Considerations:

5. **GSP Formation:** Would fewer GSPs with broader model and data sharing help facilitate coordination and successful implementation of individual GSA sustainability goals, without adversely affecting the ability of other GSAs within and adjacent to hydrologically connected basins to implement their sustainability goals?

