

SUSTAINABLE GROUNDWATER MANAGEMENT ACT



SGMA Overview

- Sustainability Defined
- Key Legislation
- SGMA Timeline
- SGMA: Local Overview
 - Groundwater Sustainability Agencies (GSA)
 - Groundwater Sustainability Plan (GSP)
 - Subbasins: Colusa, Corning, West Butte
 - Stakeholder Involvement/Outreach



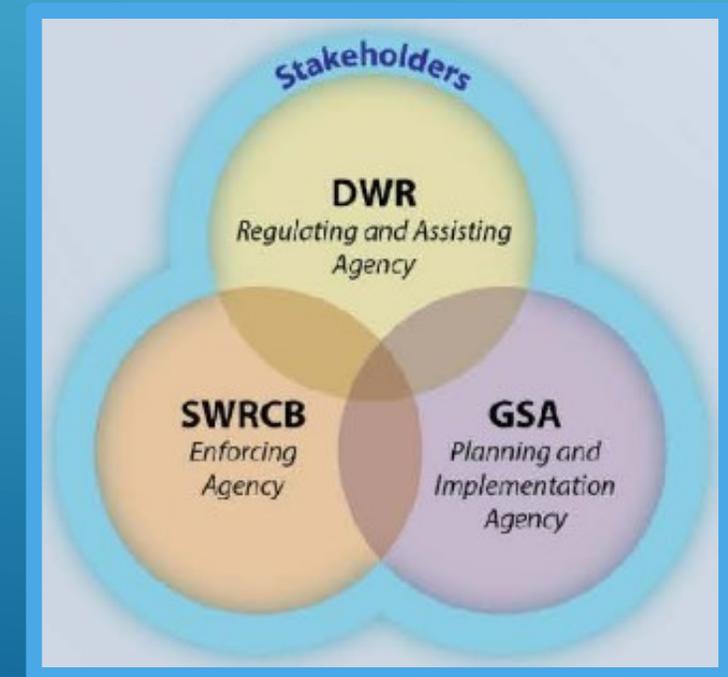
Sustainability: Manage groundwater to prevent undesirable results (significant and unreasonable):

- Chronic lowering of groundwater levels
- Reduction of groundwater storage
- Seawater intrusion
- Degraded water quality
- Land subsidence
- Depletions of interconnected surface waters

2015 is considered the baseline for undesirable results

Legislation-Regulatory Requirements-Rolls

- SGMA-3 Bill (2014) package-Emphasis on local control
- 20 years to reach sustainability
- Department of Water Resources has both regulatory and assistance roles
- State Water Resources Control Board has an enforcement role. They can intervene if GSAs are not formed or fail to adopt and implement compliant GSP.



SGMA Timeline

- 2017 Formation of GSA
- 2022 Completed GSP (2020 for basins in overdraft)
 - Every 5 years GSAs submit reports to meet interim milestones (groundwater levels, change in storage etc.)
- 2042 Sustainability Achieved (20 years to fully implement GSP and reach sustainability goal)

Step one

Groundwater Sustainability Agency formation (2017)
GSAs have formed in Glenn County.

Step two

Agencies with high-med priority designation must adopt Groundwater Sustainability Plans (2020-2022)

Step three

Groundwater Sustainability Agencies have 20 years to fully implement Groundwater Sustainability Plans (2040).

Groundwater Sustainability Agencies

Any local public agency that has water supply, water management, or land use responsibilities in a basin can decide to become a GSA.

Counties have a unique role in legislation and are the default GSA in “uncovered areas”

- GSAs are tasked with consideration of all beneficial uses and users of groundwater
- Act does not change existing surface water rights or groundwater rights

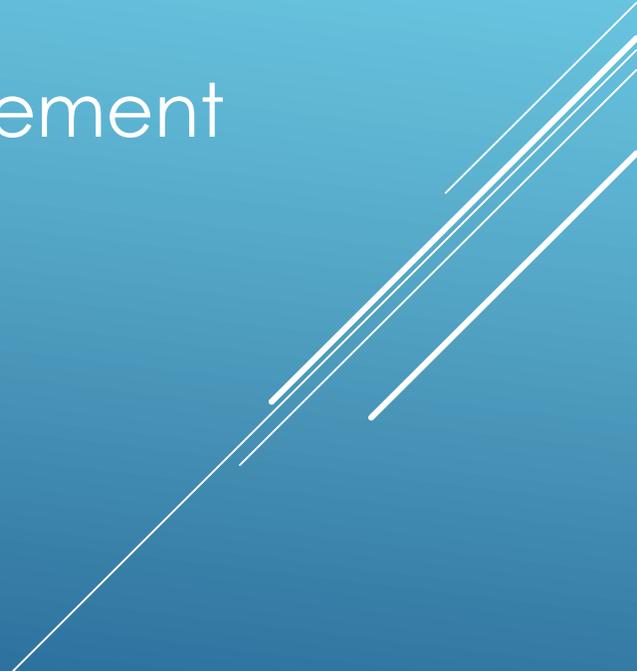
Water Code 10723.2. Consideration of all interests of all beneficial uses and users of groundwater

The Groundwater Sustainability Agency shall consider the interests of all beneficial uses and users of groundwater. These interests include, but are not limited to, all of the following:

- All Groundwater Users
- Local Landowners
- Disadvantaged Communities
- Tribes
- Environmental Uses
- County
- Federal Government
- Business
- Holders of Overlying Rights (agriculture and domestic)
- Municipal Well Operators and Public Water Systems
- Planning Departments / Land Use Agencies
- Surface Water Users (if connection between surface and groundwater)



Groundwater Sustainability Agencies (GSAs) are empowered to:

- Register and monitor groundwater wells
 - Require reports of groundwater extraction
 - Regulate groundwater extractions
 - Implement capital projects to meet goals
 - Assess fees to cover cost of groundwater management
 - Conduct studies
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Groundwater Sustainability Plan

Who: The plan identifies who will be working with GSAs and what they cover

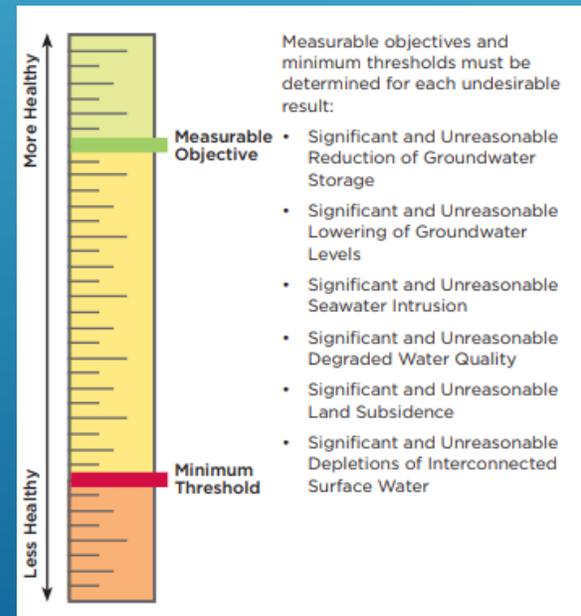
What: Define basin setting and characteristics

Where: GSA & Stakeholders define sustainability and it is tracked through monitoring to measure progress over time

Why: Implementing projects and management actions will help to achieve sustainability goals



- Identify what sustainable conditions are for the Basin
- Sustainability Goal-Defined In GSP, not numerical
- Minimum Thresholds-Can vary in time and space
- Measurable Objectives
- Uncertainty is Expected



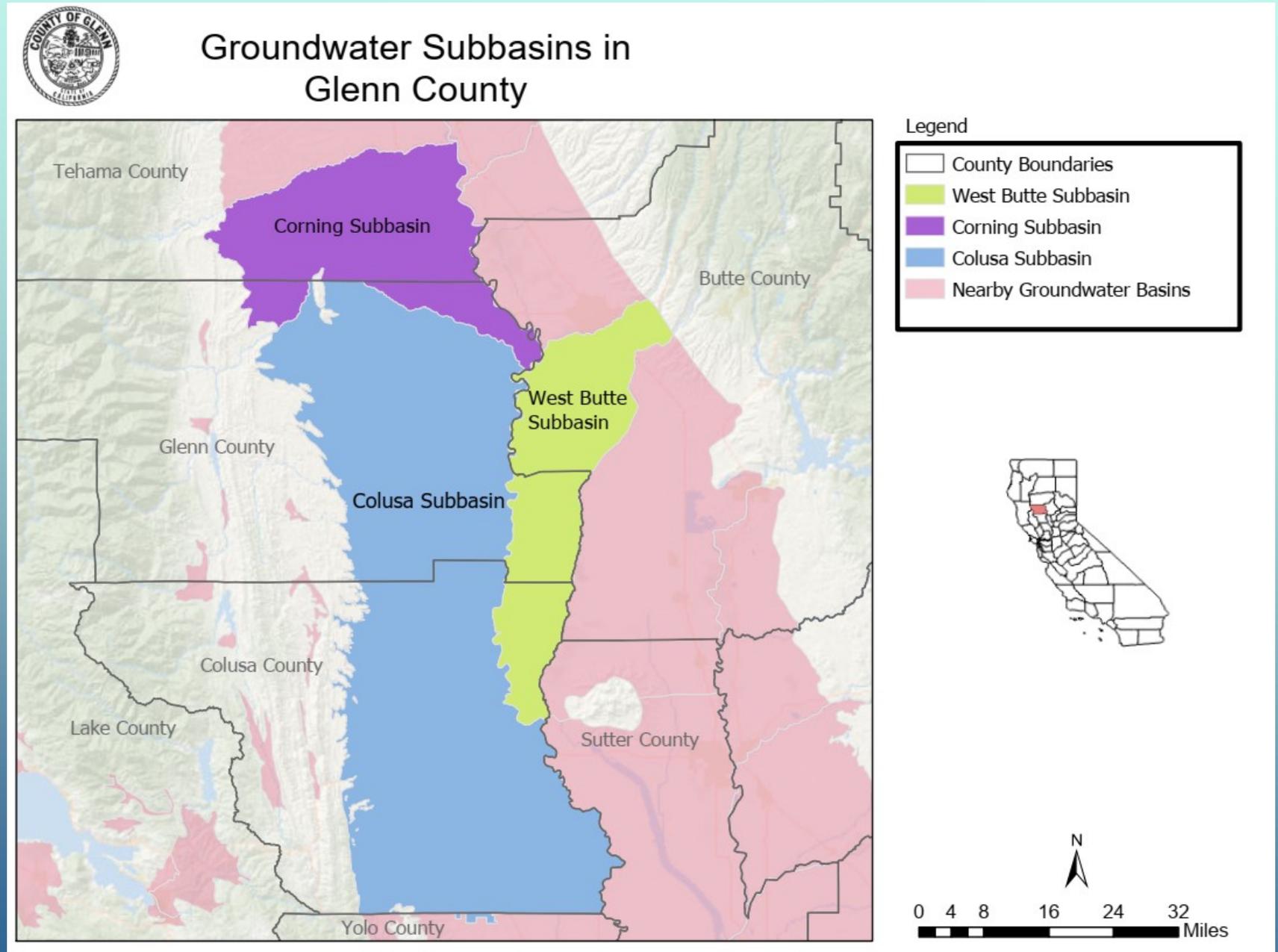
One GSP may not adversely affect an adjacent basin's ability to achieve sustainability

Water Budget

Hydrologic Conceptual Model

Local Overview

- Under SGMA groundwater basins are given a priority designation by Department of Water Resources. All medium and high priority basins must be managed under SGMA.
- A subbasin is created by dividing a groundwater basin into smaller units using geologic and hydrologic barriers or institutional boundaries.
- 3 Subbasin Subject to SGMA



Colusa Subbasin

➤ Spans Glenn and Colusa Counties

➤ 2 GSAs

➤ **Colusa Groundwater Authority**

➤ **Glenn Groundwater Authority**

Glenn Groundwater Authority Member Agencies

➤ City of Orland

➤ City of Willows

➤ County of Glenn

➤ Glenn-Colusa Irrigation District

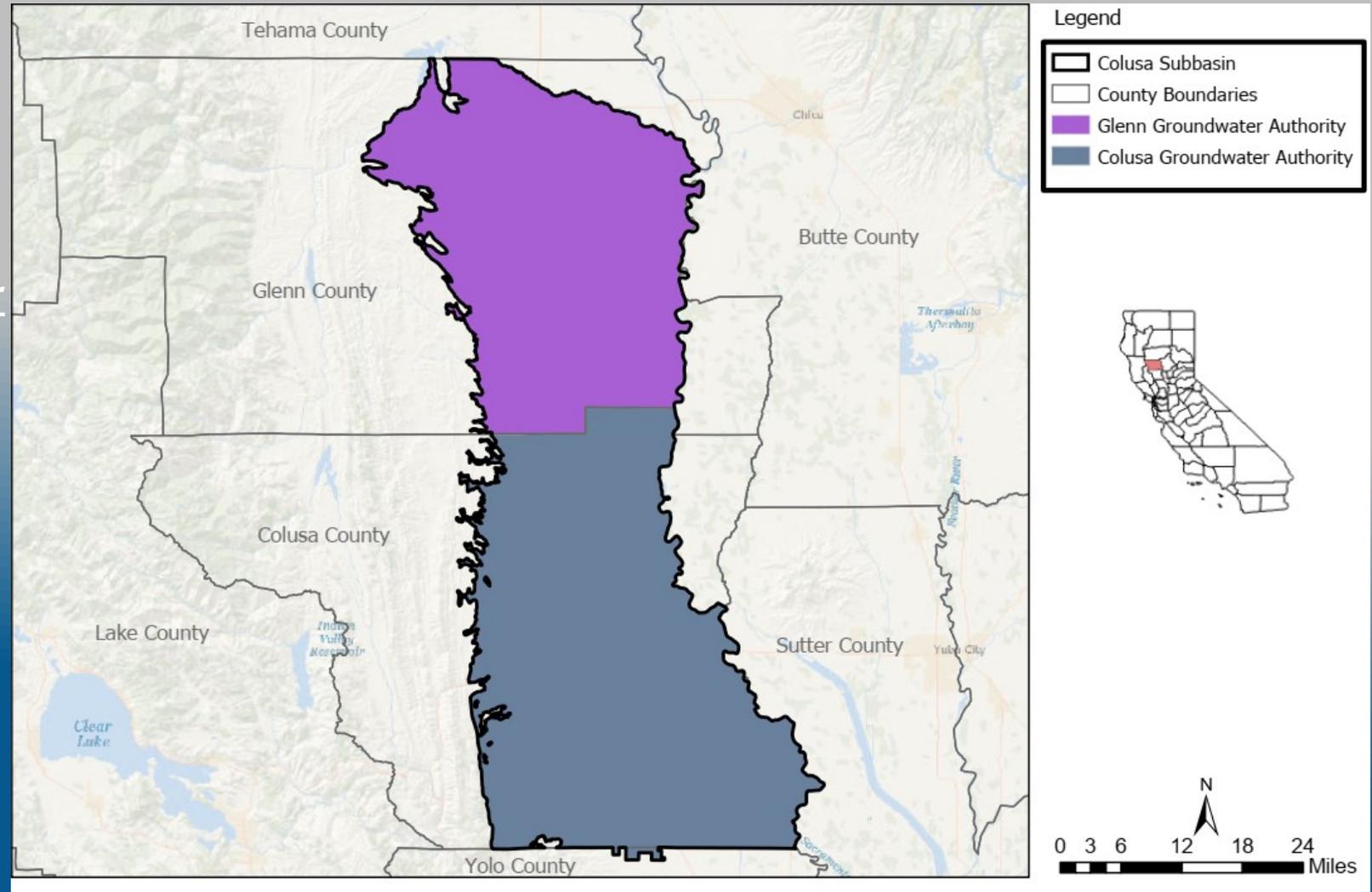
➤ Glide Water District

➤ Kanawha Water District

➤ Orland Artois Water District

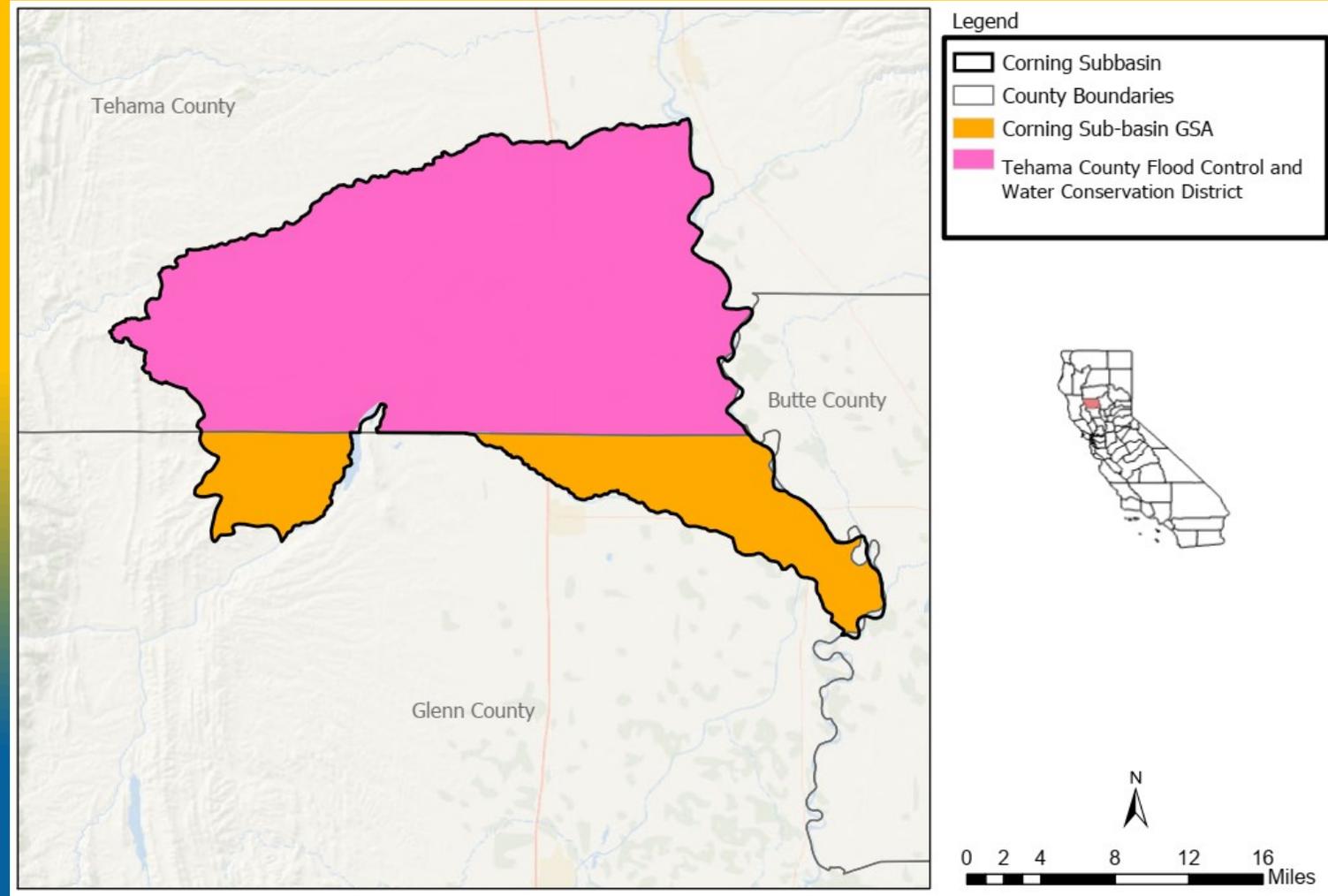
➤ Princeton-Codora-Glenn Irrigation District

➤ Provident Irrigation District



Corning Subbasin

- Spans Glenn and Tehama Counties
- 2 GSAs
 - **Corning Sub-basin GSA**
 - **Tehama County Flood Control and Water Conservation District**
- Corning Sub-basin GSA Member Agencies
 - County of Glenn
 - Glenn-Colusa Irrigation District



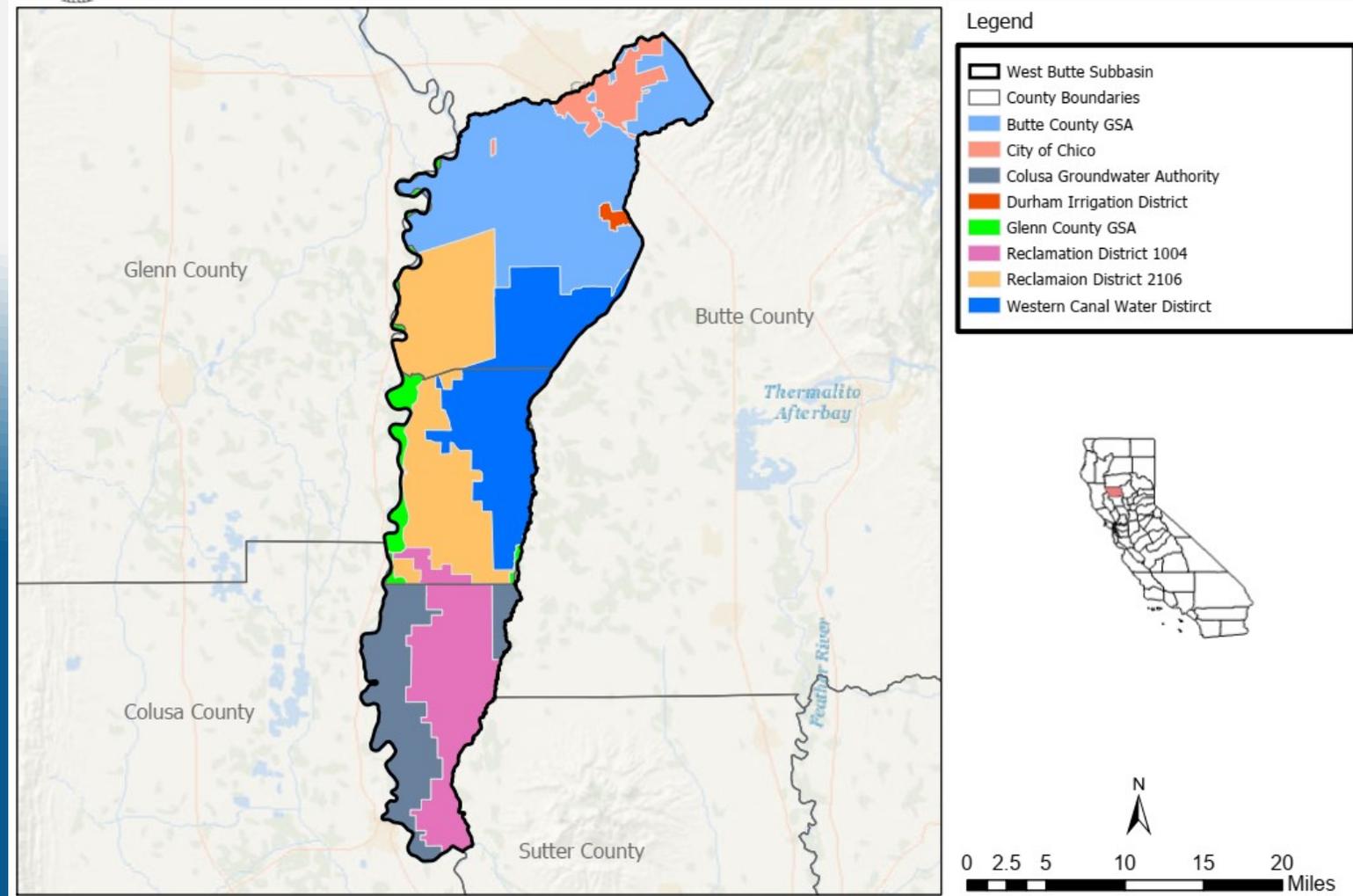
West Butte Subbasin

➤ Spans Butte, Glenn, and Colusa Counties

➤ **The agencies forming GSAs in West Butte Subbasin elected to maintain independent jurisdictional boundaries**

West Butte Subbasin GSAs

- County of Glenn
- Reclamation District 1004
- Reclamation District 2106
- Western Canal Water District
- Butte County
- Colusa Groundwater Authority
- City of Chico
- Durham Irrigation District

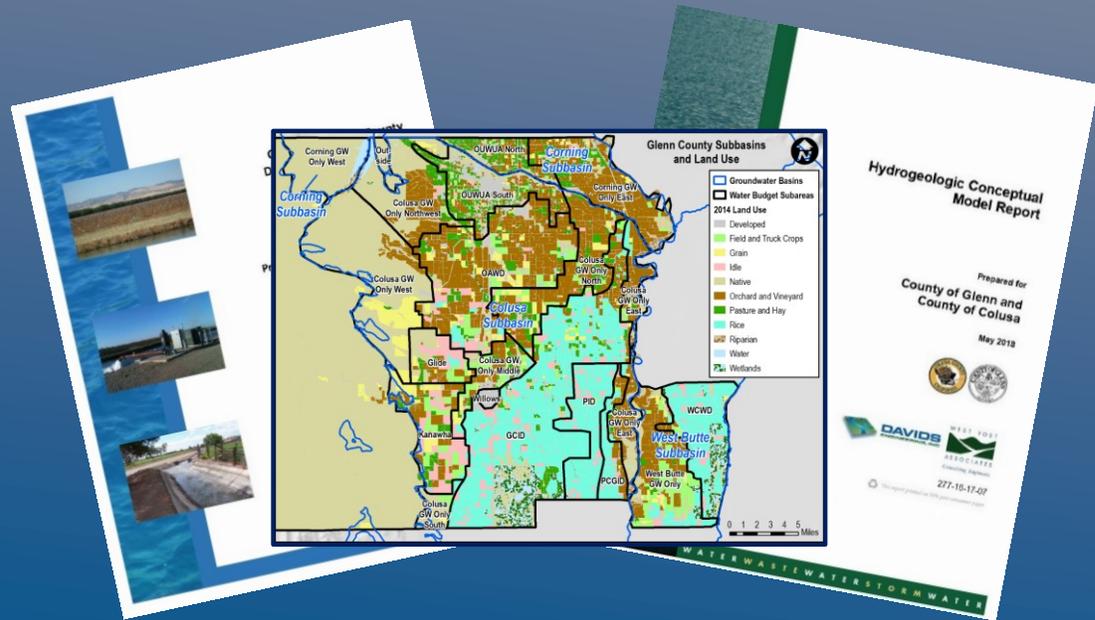


SGMA Related Activities

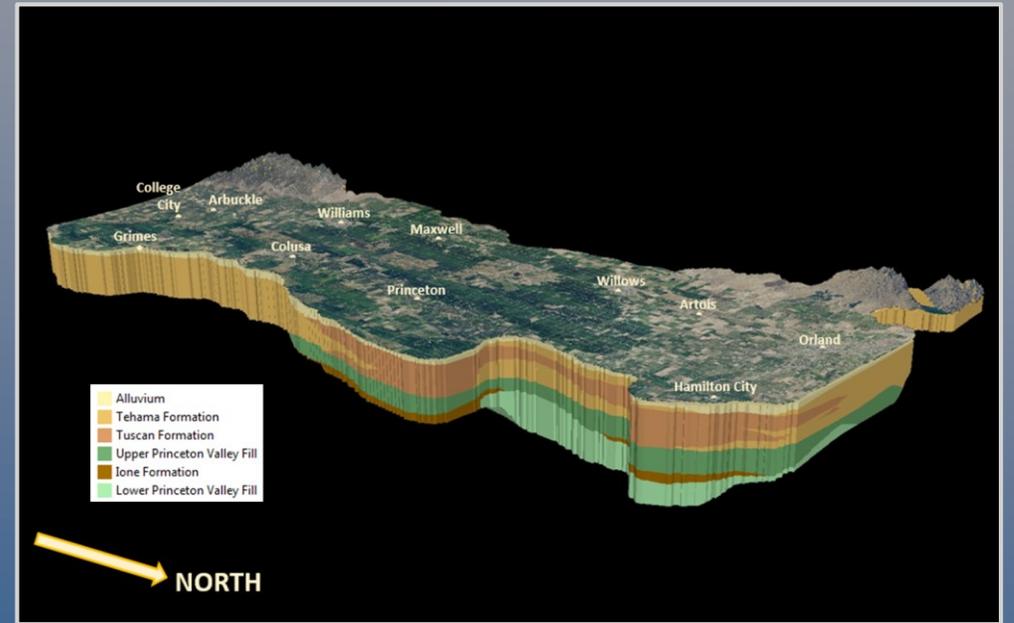
Data management system



Initial water budget



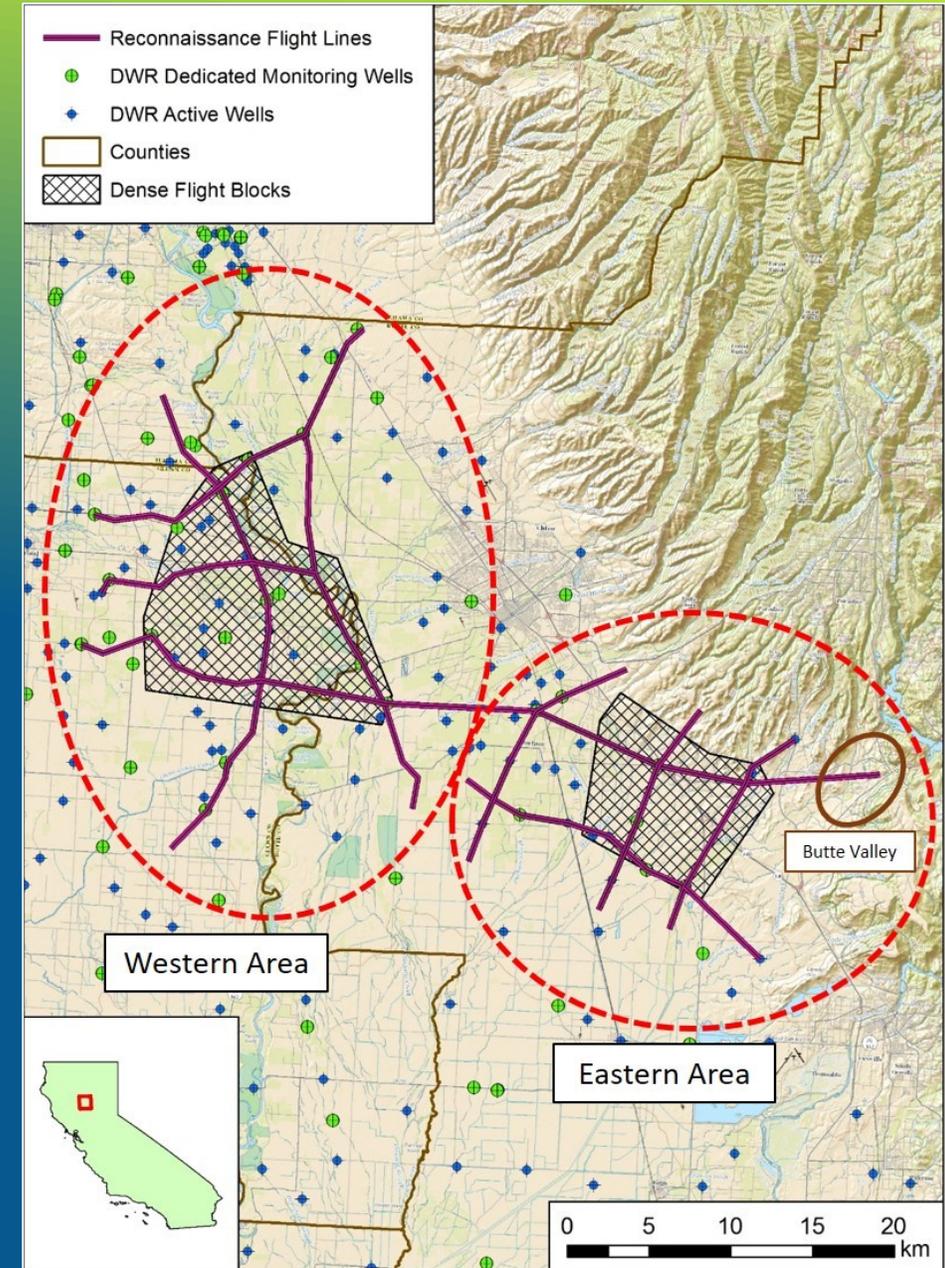
Hydrogeologic conceptual model



Glenn County was awarded a Prop 1 Counties with Stressed Basins grant in 2016 funded through DWR.

Characterization of stratigraphy using Airborne Electromagnetic (AEM) Method

- A Butte County led effort partnered with Glenn County to help support calibration efforts for the Airborne Electromagnetic Survey.
- Work conducted at CSU-Chico's Center for Water and the Environment (CWE) support AEM textural model, in conjunction with work being conducted at Butte County's Department of Water and Resource Conservation (DWRC) and Stanford University.
- Coordinated Tasks: Well Location Accuracy (Well Location Accuracy Codes), Updated ArcGIS Well Map, Excel Texture Logs, Digitizing WCR lithologic logs, and geophysical logs



Airborne electromagnetics is a well-established and proven geophysical method for mapping geologic information and establishing aquifer characteristics to make for a higher quality hydrogeologic conceptual model.

Traditional methods to resolve uncertainties are often expensive and not spatially dense.

Reduce uncertainty when correlating between wells.

geophysical
properties that we
measure



hydrogeologic information
that we want



Other countries where AEM has been deployed to characterize the groundwater systems include Denmark, Germany, South Africa, Botswana, Namibia, Ireland, Italy, Canada, Brazil, Mexico, Thailand, India, France, Norway, Sweden, and Russia.

Summary

- GSA's have formed in Glenn County
- GSA's will be working towards the submission of GSP's to be compliant with SGMA
- SGMA requires all GSAs within the county to include stakeholders in GSP development

Thank you!

Glenn County's Department of Agriculture, Water Resources Program will be facilitating stakeholder outreach, encouraging involvement and disseminating information regarding SGMA activity within the County for our community.

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