
OVERVIEW OF THE BASIN SETTING PROJECT

GROUNDWATER SUSTAINABILITY PLAN DEVELOPMENT

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Vina Subbasin Groundwater Sustainability Plan

Phase 1

**GSA Formation and
Coordination**

**(Oct 2014 through
July 2017)**

Phase 2

**Development
and Adoption of
Groundwater
Sustainability
Plans (GSPs)**

**(2017 to Jan
2022)**

Phase 3

**Early
Implementing
of GSPs
thru Water
Budgets &
Outcome
Based Metrics**

(Jan 2022)

Phase 4

**Sustainable
Groundwater
Management**

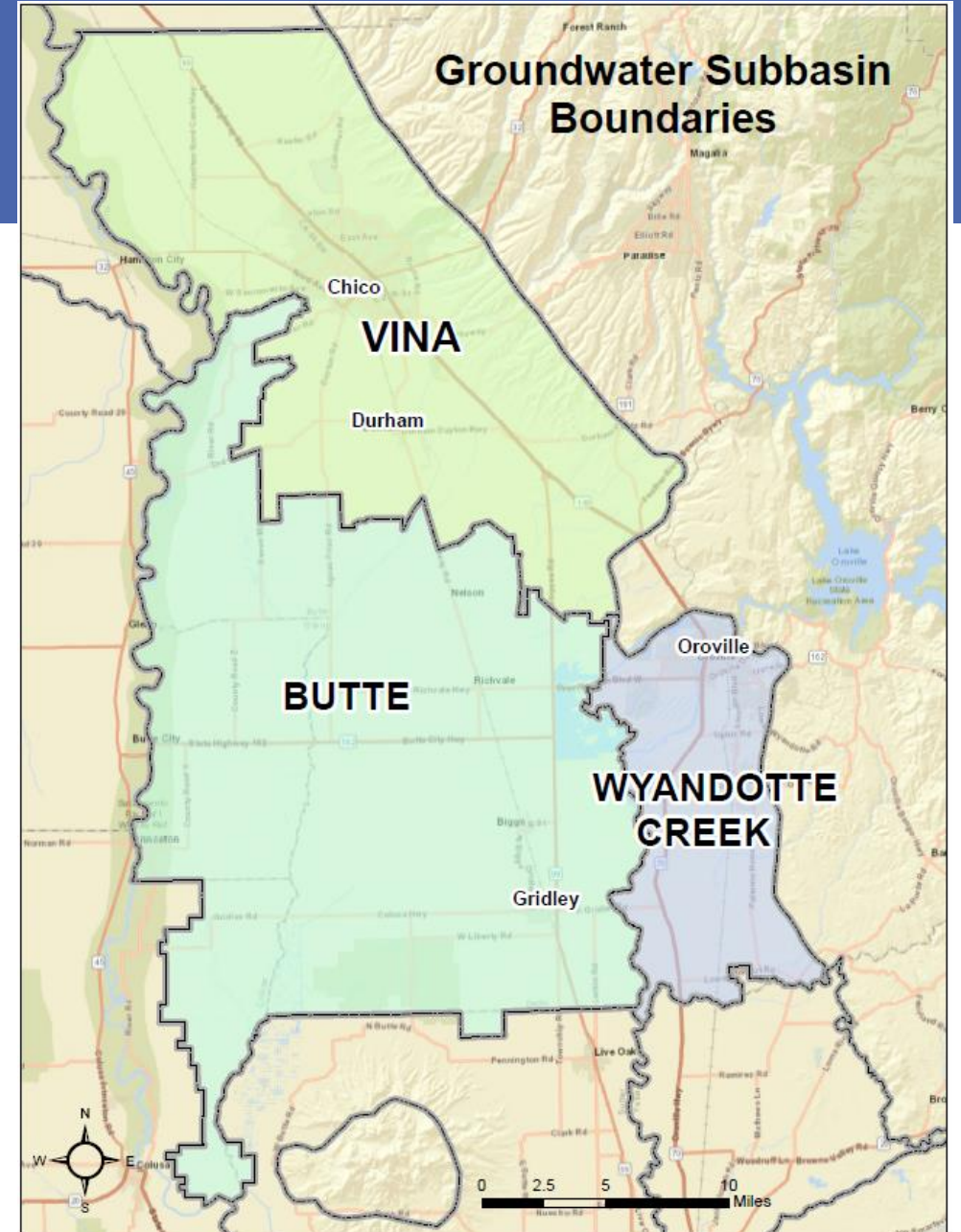
**(20 years from
2022)**

SGMA Groundwater Sustainability Plan Contents

- **I. Administrative Information**
 - §354.4. General Information
 - §354.6. Agency Information
 - §354.8. Description of Plan Area
 - §354.10. Notice & Communication
- **2. Basin Setting**
 - §354.14. Hydrogeologic Conceptual Model
 - §354.16. Groundwater Conditions
 - §354.18. Water Budget
 - §354.20. Management Areas
- **3. Sustainable Management Criteria**
 - §354.24. Sustainability Goal
 - §354.26. Undesirable Results
 - §354.28. Minimum Thresholds
 - §354.30. Measurable Objectives
- **4. Monitoring Networks**
 - §354.34. Monitoring Network
 - §354.36. Representative Monitoring
 - §354.38. Assessment & Improvement
 - §354.40. Reporting Monitoring Data to the Department
- **5. Projects and Management Actions**
 - §354.44. Projects & Management Actions

SCHEDULE & PLAN

- Single project for all three subbasins
- Contract with Davids Engineering (subcontractors: GEI and Woodard and Curran)
- Work by Consultant Team, GSA Staff & Local Expert Group
- Schedule: August 2018 - June 2020
- Funded by Prop I GSP Grant and in-kind staff time



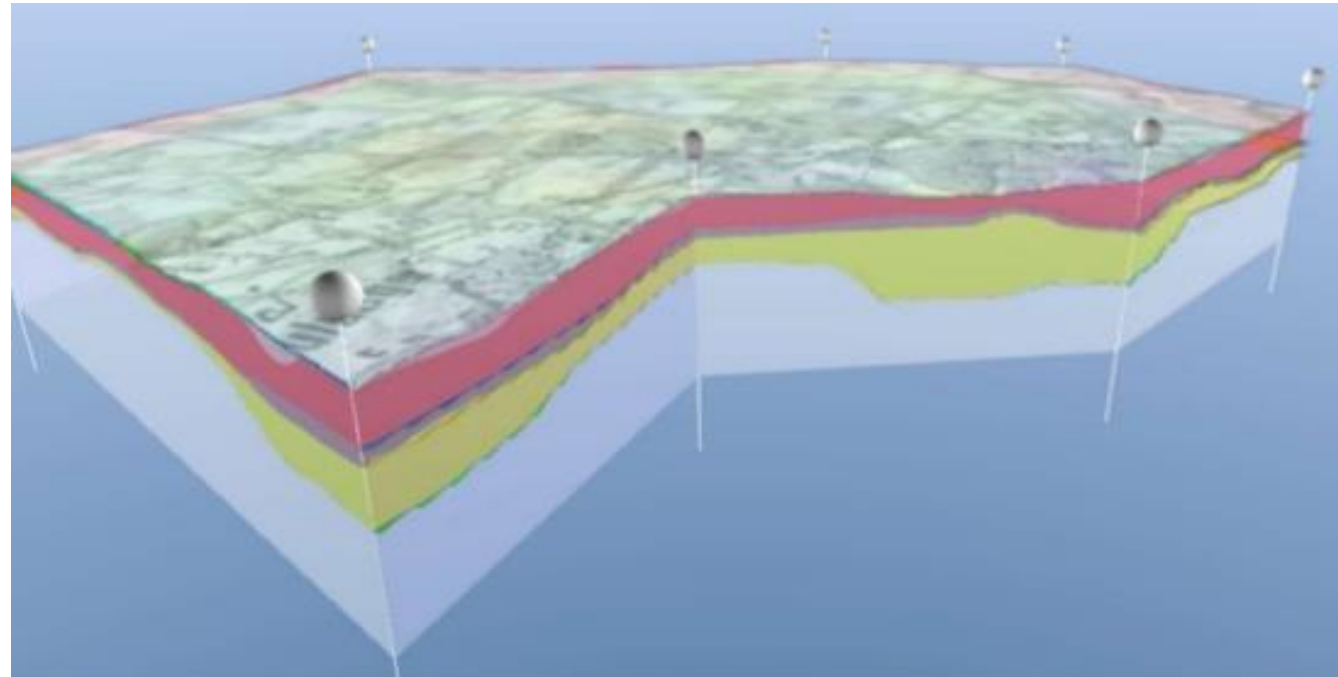
LOCAL EXPERT GROUP (LEG)

- Local Expert Group
 - Mix of academics, local farmers, GSA managers, and members of Butte County TAC
- Provide feedback and input on project approaches and results
- Have met multiple times since project start
- Coordination at technical level for all three subbasins



BASIN SETTING

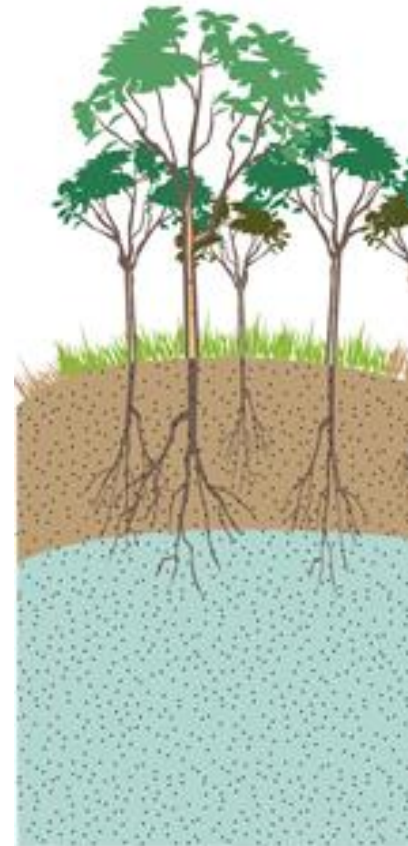
I. Hydrogeologic Conceptual Model (HCM) (Subbasin description, maps, and 2 geologic cross sections)



BASIN SETTING

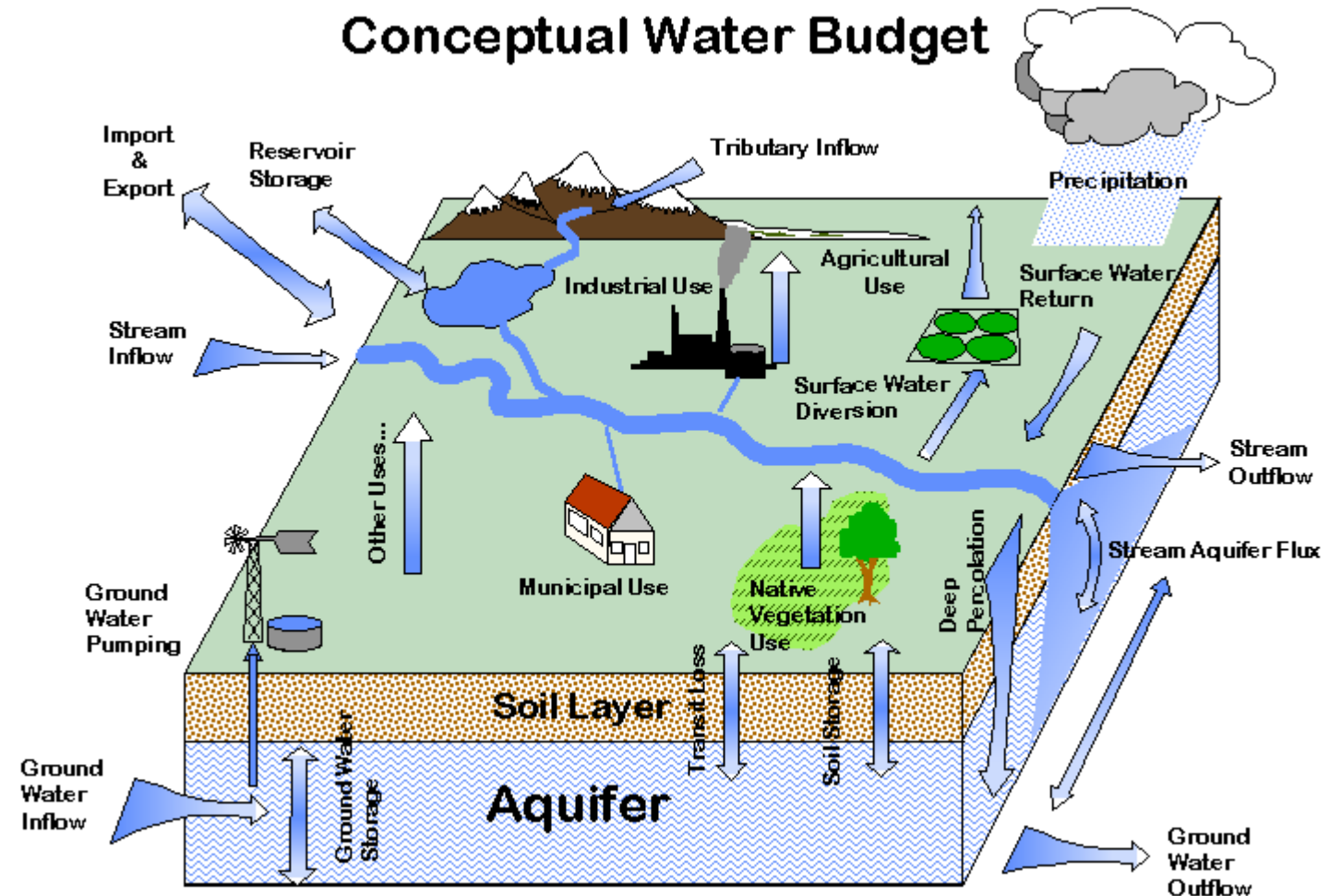
2. Current and Historical Groundwater Conditions

- Groundwater elevation maps, hydrographs, pumping patterns
- Groundwater Change in Storage
- Map of water quality issues
- Land subsidence map
- Identify interconnected surface water and groundwater, estimate quantity and timing of depletions
- Identify groundwater dependent ecosystems (GDEs)



BASIN SETTING CONTINUED

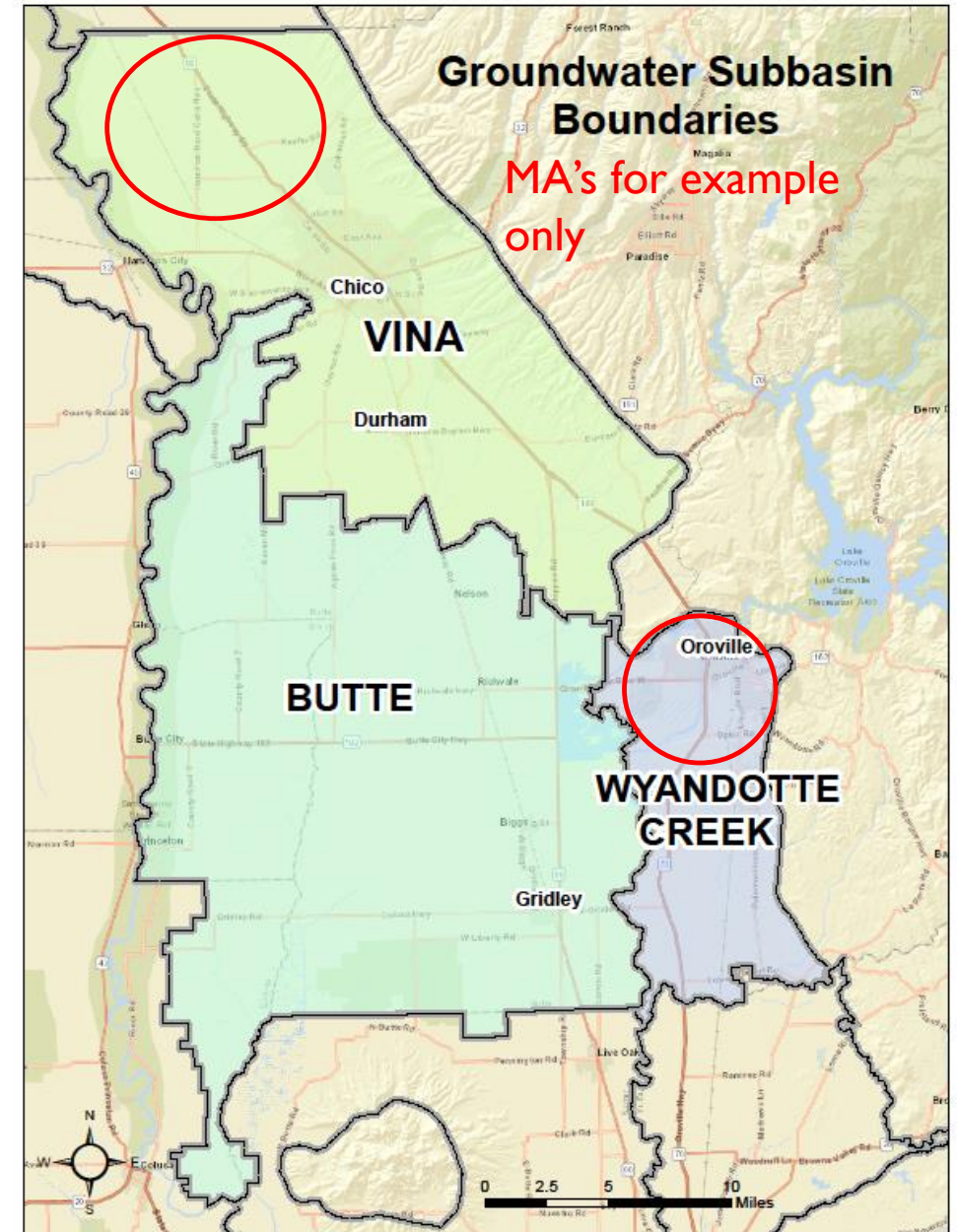
3. Water Budget Information for historical, current and projected scenarios
- Compile and report results from integrated hydrologic model
 - Includes inflows, outflows, change in storage, sustainable yield (based on sustainable management criteria)



BASIN SETTING

4. Management Areas

- Description/maps of Management Areas
 - areas with different minimum thresholds, measurable objectives, monitoring, or projects and management actions
 - based on differences in water use sector, water source type, geology, aquifer characteristics etc.



CONCLUDING THOUGHTS

- LOTS of work
- Funding - Prop I grant and in-kind staff time
- Analysis will build on & add to large foundation of existing data and studies
- Opportunity to enhance our understanding, monitoring networks, analytical tools
- Results provide foundation of technical information for all three subbasins
 - Supports future development of Representative Monitoring, Sustainable Criteria, Minimum Thresholds, Projects and Actions.

THANK YOU!

Questions? Contact Kelly Peterson:

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- **Extra slides**

INTEGRATED HYDROLOGIC MODELING

1. Compare Butte Basin Groundwater Model (BBGM), Sacramento Valley Simulation Model (SVSim), and local information/data
2. Select and refine modeling tool
3. Develop model scenarios and analyze results
 - Historical, Current, and Projected Water Budgets
 - Future conditions (consider climate change, land use changes, population, surface water availability)
 - Potential projects and management actions