

# **PUBLIC REVIEW**

## *Antelope Subbasin*

### **Sustainable Groundwater Management Act**

# **Groundwater Sustainability Plan (Chapter 1 - Draft)**

**December 2020**

**Prepared For:**

Tehama County Flood Control and Water Conservation District

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## LIST OF ACRONYMS & ABBREVIATIONS

|                     |   |
|---------------------|---|
| AB                  | Assembly Bill   |
| BOD                 | Board of Directors  |
| CASGEM              | California Statewide Groundwater Elevation Monitoring       |
| CCR                 | California Code of Regulations                              |
| CWC                 | California Water Code                                       |
| DWR                 | California Department of Water Resources                    |
| GMP                 | Groundwater Management Plan                                 |
| GSA                 | Groundwater Sustainability Agency                           |
| GSP                 | Groundwater Sustainability Plan                             |
| JPA                 | Joint Powers Authority                                      |
| MOA                 | Memorandum of Agreement                                     |
| SB                  | Senate Bill   |
| SGMA                | Sustainable Groundwater Management Act                      |
| TAC                 | Technical Advisory Committee                                |
| Tehama County FCWCD | Tehama County Flood Control and Water Conservation District |

## ES EXECUTIVE SUMMARY

### 1 INTRODUCTION

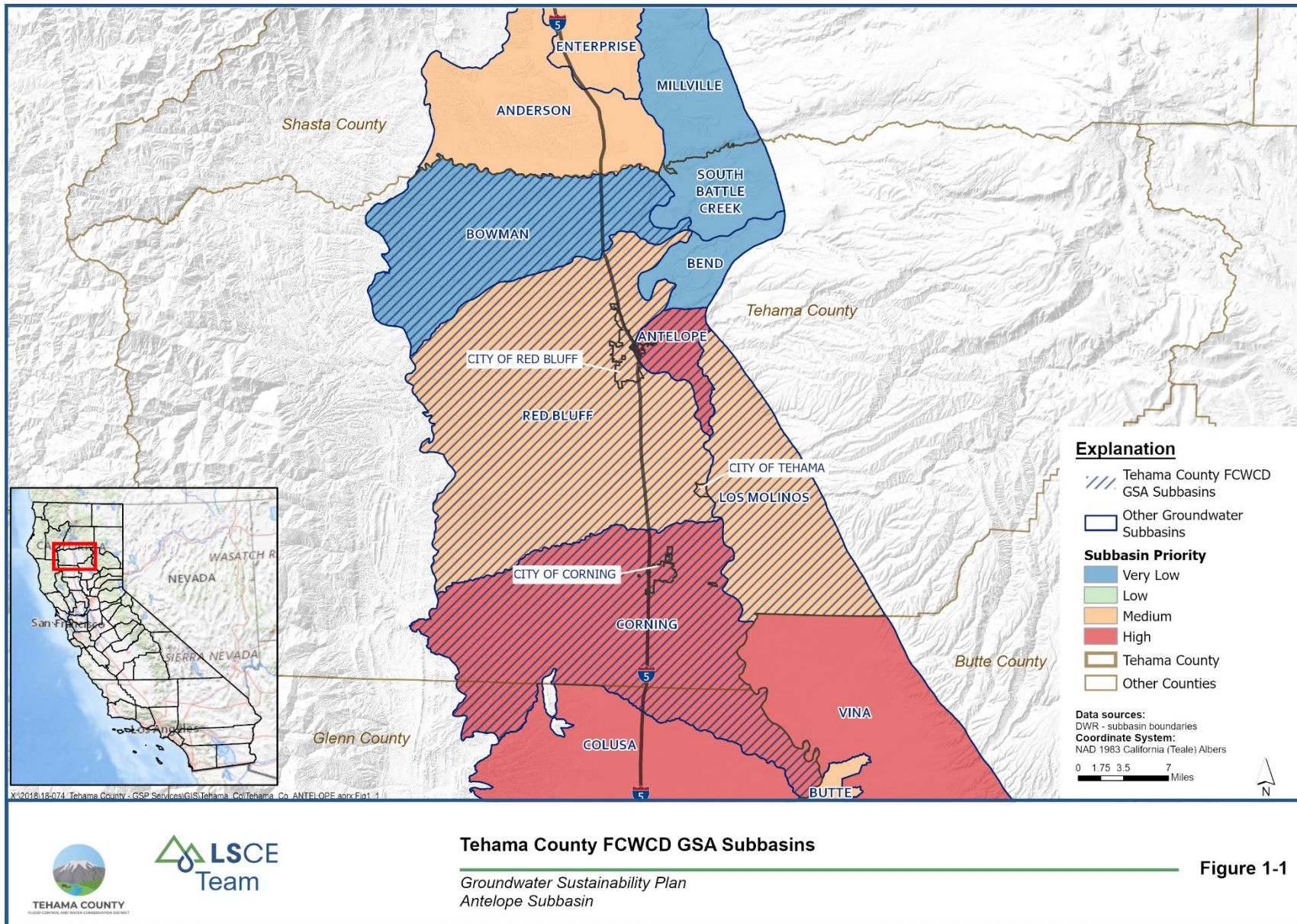
Groundwater serves as an important source of supply for agricultural, municipal, domestic, environmental, and industrial beneficial uses throughout Tehama County, which underlies approximately 1.9 million acres of the County. Agriculture in Tehama County relies on approximately XX acre-feet (AF) of groundwater annually to produce an array of commodities that contribute to the agricultural economies of the County. Groundwater also supports the majority of domestic, municipal, and industrial water use in and around the City of Corning, City of Red Bluff, and City of Tehama. Thus, the sustainable management of groundwater in the County is important for long-term prosperity.

The Antelope Subbasin, which is entirely located within Tehama County, is comprised of approximately 19,100 acres and relies on approximately XX AF of groundwater annually, has been identified by the California Department of Water Resources (DWR) as a high priority subbasin. Under the Sustainable Groundwater Management Act (SGMA) of 2014, high priority subbasins are required to prepare and be managed under a Groundwater Sustainability Plan (GSP, or Plan) by January 31, 2022 (CWC Section 10720.7(a)(1)) (Figure 1-1).

SGMA provides for local control of groundwater resources while requiring sustainable management of these resources. SGMA requires groundwater basins or subbasins to establish governance by forming local Groundwater Sustainability Agencies (GSAs) with the authority to develop, adopt, and implement a GSP. Under this Plan, GSAs must adequately define and monitor groundwater conditions in the Subbasin and establish criteria to maintain or achieve sustainable groundwater management within 20 years of GSP adoption without causing “undesirable results” as defined by SGMA: significant and unreasonable lowering of groundwater levels, loss of groundwater storage and supply, degradation of water quality, land subsidence, and surface water depletion. Sea water intrusion, while a SGMA-defined undesirable result, is not applicable to the Antelope Subbasin.

#### 1.1 Purpose of Groundwater Sustainability Plan

The purpose of this GSP is to optimize groundwater use and groundwater storage in the Antelope Subbasin while meeting the regulatory requirements set forth in the three-bill legislative package, Assembly Bill (AB) 1739 (Dickinson), Senate Bill (SB) 1168 (Pavley), and SB 1319 (Pavley), collectively known as the Sustainable Groundwater Management Act which became effective in California in January 2015 (Water Code §§ et seq). Under SGMA, all high or medium priority groundwater basins or subbasins must form a GSA to represent the subbasin or a portion thereof and submit an adopted GSP to DWR by January 31, 2022. The Antelope Subbasin (DWR Subbasin No. 5-021.54) of the Sacramento Valley Groundwater Basin was assigned a high priority designation by DWR and is required to submit a GSP. The Tehama County Flood Control and Water Conservation District (Tehama County FCWCD) (District), a local and regional authority, serves as the exclusive GSA for the Antelope Subbasin.





There are seven (7) subbasins within Tehama County. The Tehama County FCWCD is the exclusive GSA for six (6) of those subbasins: Antelope, Bend, Bowman, Los Molinos, Red Bluff, and South Battle Creek (**Figure 1-2**). The seventh, the Corning Subbasin, extends into Glenn County, and the GSP for that subbasin is being developed in a coordinated effort between the Tehama County FCWCD and Corning Sub-basin GSA. Both GSAs retain jurisdictional authority over the portion of the Corning Subbasin that is within their county. Of the seven (7) subbasins in the County, the Antelope, Corning, Los Molinos, and Red Bluff Subbasins are designated as medium or high priority and required to submit a GSP in January 2022 (**Figure 1-1**). The Bowman Subbasin was initially designated as medium priority and the District was awarded funding for the Bowman Subbasin under the Proposition 1, Round 2 grant. The District has elected to lead development of a SGMA compliant Plan for the Bowman Subbasin (subsequently, the subbasin's prioritization was changed by DWR to a very low priority) to be submitted in January 2022.

The GSPs for the Antelope, Bowman, Los Molinos, and Red Bluff Subbasins are being developed concurrently, and will be submitted as four (4) separate GSPs. The Corning Subbasin GSP will be submitted in a coordinated effort between the District and the Corning Sub-basin GSA.

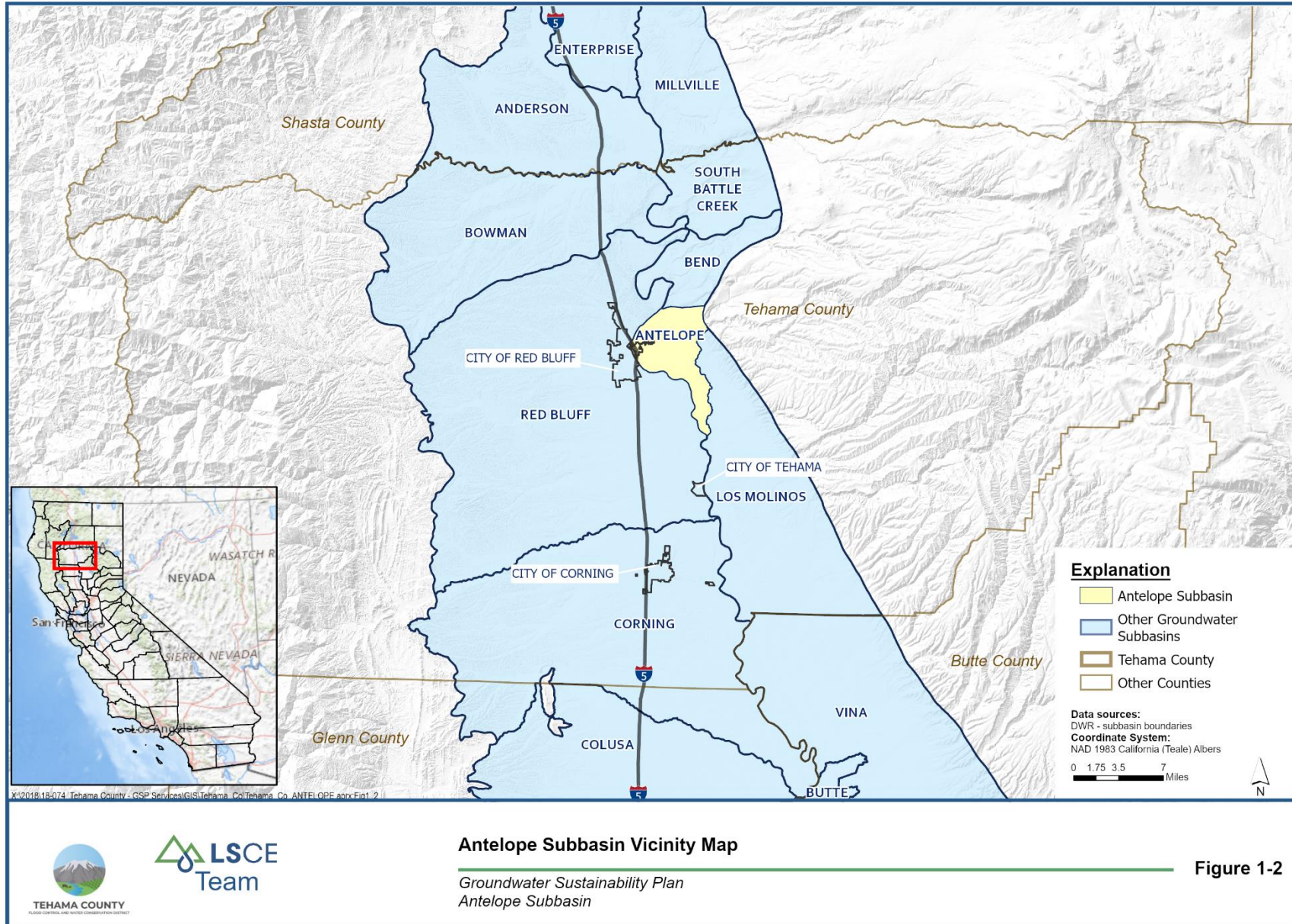
SGMA defines sustainable groundwater management as “management and use of groundwater in a manner that can be maintained during the planning and implementation horizon (50 years from 2022 through 2072) without causing undesirable results” (Water Code, § 10721(v)). Undesirable results, caused by groundwater pumping in the Subbasin, are recognized as:

- Chronic lowering of groundwater levels indicating a significant and unreasonable depletion of supply
- Significant and unreasonable reduction of groundwater storage
- Significant and unreasonable seawater intrusion
- Significant and unreasonable degraded water quality
- Significant and unreasonable land subsidence
- Depletions of interconnected surface water that have significant and unreasonable adverse impacts on beneficial uses of the surface water

Each applicable sustainability indicator will be addressed in this GSP and integrated into subbasin-wide monitoring programs based on existing hydrogeologic conditions and current management practices in the Subbasin. Measurable objectives and minimum thresholds have been set for each sustainability indicator based on an analysis of projected hydrologic conditions simulated by a numerical groundwater flow model. This GSP will be implemented over the next 20 years with the intention of establishing sustainable use of groundwater resources for all beneficial users in the Subbasin.

### 1.1.1 Justification for Management Area

Management areas are not being incorporated into this GSP for the Antelope Subbasin.



## 1.2 Sustainability Goal

The Tehama County FCWCD will manage groundwater resources responsibly and sustainably in order to maintain acceptable standards and prevent undesirable groundwater levels, groundwater quality, groundwater storage, depletion of surface water resources, and subsidence while recognizing the importance of maintaining groundwater supplies and quality for the beneficial users of groundwater within the Subbasin over the 50-year-planning and implementation horizon. As mandated under Title 23 of the California Code of Regulations (CCR) Section 354.24, the GSA within the Antelope Subbasin has established a “sustainability goal for the basin that culminates in the absence of significant and unreasonable undesirable results within 20 years of the applicable statutory deadline.” Specifically, this sustainability goal establishes that the Antelope Subbasin will be operated within its sustainable yield by 2042, or 20 years following GSP adoption and implementation in January 2022.

SGMA regulations define sustainable yield as “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” (CWC Section 10721(w)). Subbasin sustainable yield must therefore be determined in the context of the complete basin setting, which includes historical, current, and projected conditions regarding groundwater, surface water, and land use.

To achieve the sustainability goal, this GSP details the accounting of the Subbasin’s sustainable yield and establishes the sustainable management criteria to guide the District in sustainably managing the groundwater resources in the Subbasin. Monitoring networks, projects, and management actions are proposed to achieve and verify sustainable groundwater use. To facilitate review, **Table 1-1** aligns the regulations with this GSP’s corresponding section.



**Table 1-1: Sustainability Goal Development and Associated GSP Sections**

| Sustainability Goal Development              | 23 CCR Section | Requirement                                      | GSP Section |
|--|----------------|--|-------------|
| <b>Context, Basis for Goal</b>               | § 354.12       | Basin Setting                                    | 2.2         |
|  | § 354.14       | Hydrogeologic Conceptual Model                   | 2.2.1       |
|  | § 354.16       | Groundwater Conditions                           | 2.2.2       |
|  | § 354.18       | Water Budget                                     | 2.3         |
|  | § 354.20       | Management Areas                                 | 2.4         |
| <b>Establishment of Goal</b>                 | § 354.24       | Sustainability Goal                              | 3.1         |
|  | § 354.26       | Undesirable Results                              | 3.4         |
|  | § 354.28       | Minimum Thresholds                               | 3.3         |
|  | § 354.30       | Measurable Objectives                            | 3.2         |
| <b>Measures of Ensuring Goal Achievement</b> | § 354.32       | Introduction to Monitoring Networks              | 3.5         |
|  | § 354.34       | Monitoring Network                               | 3.5         |
|  | § 354.36       | Representative Monitoring                        | 3.6.8       |
|  | § 354.38       | Assessment and Improvement of Monitoring Network | 3.6.9       |
|  | § 354.44       | Projects and Management Actions                  | 4           |

### 1.3 Agency Information

The Antelope Subbasin is comprised of 19,091 acres within Tehama County in the northern portion of the Sacramento Valley Groundwater Basin (**Figure 1-2**). It is bordered by the Bend Subbasin (DWR Basin 5-021.53) to the north, the Los Molinos Subbasin (DWR Basin 5-021.56) to the south and east, and the Red Bluff Subbasin (DWR Basin 5-021.50) to the west. The Tehama County FCWCD was formed in 1957 by the Tehama County Flood Control and Water Conservation District Act and is based in Gerber, California (**Appendix 1-A Act of District Formation**). Upon formation, the Act defined the area of the District as “all that territory of the County of Tehama lying within the exterior boundaries thereof.”

Tehama County FCWCD is responsible for disseminating drought information, levee system management, providing emergency flood information, water resource management, groundwater monitoring, and sustainable groundwater management. The District provides this information and management for public use within the County. Groundwater information maintained and managed by the District includes monitoring wells that are part of the California Statewide Groundwater Elevation Monitoring (CASGEM) program, a Groundwater Management Plan (GMP), and compliance with SGMA.

#### 1.3.1 Organization and Management Structure of the GSA

The Tehama County FCWCD is governed by a five-member Board of Directors, these five directors are the same five members of the Tehama County Board of Supervisors. The Board of Supervisors members are elected officials within Tehama County, serving 4-year terms. The Tehama County Flood Control and Water Conservation District Board of Directors meetings, which are open to the public, are held the 4th

Wednesday of each month. Meeting agendas and minutes are available on the District's website: <https://tehamacountywater.org/>.

In June 2016, the District established the Tehama County Groundwater Commission to serve as an advisory commission to the Tehama County Flood Control and Water Conservation District Board of Directors for GSA related matters. The Commission consists of 11 members with one member from each of the following entities:

- City of Corning
- City of Red Bluff
- City of Tehama
- El Camino Irrigation District
- Los Molinos Community Services District
- Rio Alto Water District
- Five at-large members appointed by the Tehama County FCWCD Board of Directors

The five at-large commission members represent one of the five Supervisorial Districts, which include two private pumpers, two surface water agencies or districts, and one at large member within the County and are selected by the Tehama County FCWCD to represent various areas of groundwater interest. These five at-large members initially selected for the Commission had varying term expirations: two members with a one-year term, one member with a two-year term, one member with a three-year term, and one member with a four-year term. Thereafter, all positions are appointed for a term of four years. Members representing cities or districts were selected by their respective agencies and have no term expiration.

Groundwater Commission meetings, which are open to the public, are held the 4<sup>th</sup> Wednesday of each month, except holidays. Meeting agendas and minutes are available on the Tehama County meeting portal: <https://tehamacountywater.org/meetings/groundwater-commission/#meetings>.

The GSA Governing Body is the Tehama County FCWCD Board of Directors which has responsibilities that include, but are not limited to, the following:

1. Approve the final GSP and any future amendments, and all GSA ordinances, rules, regulations, and fees.
2. Provide primary responsibility for funding, resources, and staffing
  - Provide staff assistance to Groundwater Commission and Board of Directors throughout GSP development and implementation process
  - Where necessary, provide additional resources from FCWCD's existing funding or grant opportunities pursued by Tehama County FCWCD
  - Apply for and receive grants to fund GSA activities (with the Commission's recommendation), including responsibility for executing and implementing grant contracts and associated requirements

- Further revenue measures, if any, would be reviewed by the Commission prior to adoption by the Board of Directors
- 3. Decide on appeals, if any, from decisions of the Groundwater Commission on permits, similar entitlements, and enforcement matters
- 4. Confirm appointments of the five “Supervisory District Representative” members of the Groundwater Commission (upon recommendation of the Commission)

The Groundwater Commission’s responsibilities include, but are not limited to, the following:

1. Develop GSP and any future amendments, and all GSA ordinances, rules, and regulations, including holding public hearings and making final recommendations to the Board of Directors.
2. Conduct investigations to determine the need for groundwater management, monitor compliance and enforcement, propose, and update fees, and make final recommendations to the Board of Directors.
3. Review all proposed grant applications and advise Board of Directors regarding grant funding opportunities.
4. Issue permits or similar entitlements issued by the GSA e.g., well spacing (with appeal).
5. Make quasi-judicial decisions in GSA enforcement matters (with appeal).
6. Provide recommendations to the Board of Directors for selection of the five (5) representatives from each County Supervisory District

The AB3030 Technical Advisory Committee (TAC) also provides technical assistance as needed. The TAC provides input on groundwater management in Tehama County based on the District’s AB3030 GMP. The TAC consists of three agricultural pumpers, three water district representatives, one natural resources representative, and one representative each from the City of Corning, the City of Red Bluff, and the City of Tehama.

Contact information for the District’s GSP Manager is provided below:

Agency: Tehama County Flood Control and Water Conservation District

Address: 9380 San Benito Avenue  
Gerber, CA 96035-9701

Plan Manager: Ryan Teubert, CFM – Flood Control and Water Resources Manager

Phone: 530-385-1462

Email: rteubert@tcpw.ca.gov

### 1.3.2 Legal Authority of the GSA

Any local public agency that has water supply, water management, or land use responsibilities in a basin is eligible to become a GSA. A single local agency can decide to become a GSA, or a combination of local agencies can decide to form a GSA by using a joint powers authority (JPA), a memorandum of agreement (MOA), or other legal agreement (DWR, 2016). A timeline of the authoritative actions by the District for GSA formation and GSP submission is provided in **Table 1-2** below.

**Table 1-2: GSA Formation Timeline**

| Date                                       | Event   |
|--|---|
| <b>January 1, 2015</b>                     | SGMA became effective   |
| <b>June 2, 2015</b>                        | Public Hearing  |
| <b>November 3, 2015</b>                    | Public Hearing  |
| <b>August 17, 2015 – December 18, 2015</b> | <b>Letters of Support</b> were provided by local Cities and Districts: City of Corning, City of Red Bluff, City of Tehama, El Camino Irrigation District, Gerber Las Flores Community Services District, Los Molinos Community Services District, and Rio Alto Water District   |
| <b>November 3, 2015</b>                    | <b>Resolution No. 05-2015 Adopted:</b> A Resolution of the Board of Directors of the Tehama County Flood Control and Water Conservation District Electing to be the Groundwater Sustainability Agency for all those Portions of the Rosewood, Bowman, South Battle Creek, Red Bluff, Bend, Antelope, Dye Creek, Los Molinos, Corning, Vina, and Colusa Subbasins Located within Tehama County |
| <b>November 4, 2015</b>                    | <b>Notice of Intent</b> to Become a Groundwater Sustainability Agency for all eleven (11) Groundwater Subbasins located within Tehama County was submitted to DWR   |
| <b>February 11, 2016</b>                   | <b>Listing as an Exclusive GSA</b> for the following Subbasins or portions of Subbasins within Tehama County: Rosewood, Bowman, Red Bluff, Corning, Colusa, Vina, Los Molinos, Dye Creek, Antelope, Bend, and South Battle Creek  |
| <b>February 18, 2016</b>                   | <b>Jurisdictional Consolidation</b> of portion of Colusa Subbasin within Tehama County into the Corning Subbasin  |
| <b>June 7, 2016</b>                        | <b>Ordinance 2016-1 Adopted:</b> An Ordinance of the Tehama County Flood Control and Water Conservation District Board of Directors establishing the Tehama County Groundwater Commission   |
| <b>June 30, 2017</b>                       | GSA establishment deadline  |
| <b>September 27, 2018*</b>                 | <b>Jurisdictional Consolidation</b> of portion of Vina Subbasin within Tehama County and the Dye Creek Subbasin into the Los Molinos Subbasin   |
| <b>September 27, 2018*</b>                 | <b>Jurisdictional Consolidation</b> of the Rosewood Subbasin into the Bowman Subbasin   |
| <b>September 27, 2018*</b>                 | <b>Jurisdictional Consolidation</b> of portion of Millville Subbasin within Tehama County into the South Battle Creek Subbasin  |
| <b>January 31, 2022</b>                    | Adopted GSP Due to DWR  |

\*Following the consolidations on September 27, 2018, the number of subbasins in Tehama County was reduced from eleven (11) to seven (7).



### 1.3.3 Estimated Cost of Implementing the GSP

The GSA is responsible for the finances of GSP implementation, GSA staffing, contracting, and daily operations related to Antelope GSP implementation. The Antelope, Bowman, Los Molinos, and Red Bluff Subbasin GSP development costs were funded through Proposition 1 and 68 grants totaling \$2,998,160 (Proposition 1, Round 2 total was \$1,498,960 and Proposition 68, Round 3 total was \$1,499,200). The grant funding represents the cost of GSP development. Funding for the development of the Corning Subbasin GSP (~\$1 million) was awarded to Glenn County under Proposition 1, Round 2.

The Antelope GSP implementation estimated annual costs are **XXX** as shown in **Table 1-3** (in current dollars). Additional financial details are provided in Chapter 5 of this GSP. Also illustrated are the estimated annual operations and maintenance (O&M) costs (in current dollars) for all Antelope GSP projects and management actions described in Chapter 4. Project costs will be refined by the GSA as the GSP is implemented. The GSA will manage the financing of GSP implementation, GSA staffing, contracting, and daily operations related to Antelope GSP implementation.

**Table 1-3** provides a summary of the estimated capital costs (in current dollars) and the **average annual gross recharge benefit** anticipated at full implementation of each GSP project and management action. In total, Antelope GSP projects and management actions are estimated to provide a gross average annual benefit of about **XX AF** to subbasin recharge with an estimated average annual operating cost of **\$XX**. Annual operating costs include the direct cost of demand management as applicable but do not include additional indirect, or “multiplier,” effects on the Tehama County economy. The total capital cost of all projects and management actions implemented by the Antelope Subbasin GSP is approximately **XX** dollars. All costs are preliminary estimates that will be refined by the District. Additional information is provided in Chapter 5 of this GSP.

**Table 1-3: Summary of Antelope Subbasin Groundwater Sustainability Plan Projects and Management Actions**

| GSP      | Gross Average Annual Benefit at Full Implementation (acre-feet) | Estimated Cost | Estimated Average Annual Operating Cost (\$/year) |
|----------|---|----------------|---|
| Antelope |   |                |   |

### 1.4 GSP Organization

This GSP is organized according to DWR’s “GSP Annotated Outline” for standardized reporting (CA DWR SGMP, 2016) and DWR’s Elements Guide. To facilitate DWR review and assure compliance with all applicable GSP regulations, **Table 1-4** was prepared to cross-reference sections of this GSP to applicable sections and the GSP regulations. Terminology in this GSP has also been used in alignment with the SGMA definitions provided in California Water Code (CWC) Section 10721 and 23 CCR Section 351. These definitions are provided as **Appendix 1-B** of this GSP. Refer to the Elements Guide in **Appendix 1-C** for a

detailed breakdown of the required GSP elements and their location in this GSP. The structure of the GSP is as follows:

**Executive Summary:**

Provides a consolidated overview of the GSP.

**Chapter 1 - Introduction:**

Describes the purpose of the plan, Subbasin sustainability goal, agency formation and contact information, and the organization of the GSP.

**Chapter 2 - Subbasin Plan Area and Basin Setting:**

Section 1 provides a general overview of the Plan Area including a summary of the jurisdictional areas, relevant water resource monitoring and management programs, description of applicable general plan elements, and GSP notification and communication.

Section 2 describes the hydrogeologic setting of the Subbasin, current and historic groundwater conditions, and provides details on groundwater modeling and the water budget.

**Chapter 3 - Sustainable Management Criteria:**

Establishes the Subbasin sustainability goal to be achieved. This section also establishes measurable objectives, minimum thresholds, and undesirable results for each sustainability indicator, followed by a description of the proposed monitoring network to track and verify progress toward the Subbasin sustainability goal.

**Chapter 4 - Projects and Management Actions:**

Describes the programs and management actions the Tehama County FCWCD has determined will achieve the sustainability goal for the Subbasin.

**Chapter 5 - Plan Implementation:**

Includes an estimate of GSP implementation costs, schedule, and a plan for annual reporting and 5-year updates.

**Chapter 6 - References**

**Table 1-4: Cross Reference of GSP Regulations and Associated GSP Sections**

| Subarticle                           | Section                      | Paragraph | Requirement  | GSP Section       |
|--------------------------------------|------------------------------|-----------|--|-------------------|
| <b>1. Administrative Information</b> | 4. General Information       | (a)       | Executive summary  | Executive Summary |
|                                      |                              | (b)       | List of references and technical studies   | 6                 |
|                                      | 6. Agency Information        | -         | Agency information pursuant to CWC Section 10723.8, along with:  | App. 1            |
|                                      |                              | (a)       | Agency name and mailing address  | 1.3               |
|                                      |                              | (b)       | Agency organization and management structure, persons with management authority for Plan implementation                    | 1.3.1             |
|                                      |                              | (c)       | Plan manager name and contact information  | 1.3               |
|                                      |                              | (d)       | Legal authority of agency  | 1.3.2             |
|                                      |                              | (e)       | Estimate of Plan implementation costs and description of how Agency plans to meet costs                                    | 1.3.3, 5.1        |
|                                      | 8. Description of Plan Area  | (a)       | Maps of Plan area  | 2.1               |
|                                      |                              | (b)       | Written description of Plan area   | 2.1               |
|                                      |                              | (c)-(d)   | Identification of existing water resource monitoring and management programs, and description of any such planned programs | 2.1.2             |
|                                      |                              | (e)       | Description of conjunctive use programs  | 2.1.2             |
|                                      |                              | (f)       | Description of the land use elements or topic categories   | 2.1.3             |
|                                      |                              | (g)       | Description of additional Plan elements (CWC Section 10727.4)  | 2.1.4             |
|                                      | 10. Notice and Communication | (a)       | Description of the beneficial uses and users of groundwater in the Subbasin  | 2.1.5             |
|                                      |                              | (b)       | List of public meetings  | 2.1.5             |
|                                      |                              | (c)       | Comments and responses regarding the Plan  | 2.1.5             |
|                                      |                              | (d)       | Description of communication procedures  | 2.1.5             |

| Subarticle              | Section                            | Paragraph | Requirement  | GSP Section |
|-------------------------|------------------------------------|-----------|--|-------------|
| <b>2. Basin Setting</b> | 12. Introduction to Basin Setting  | -         | Information about the basin setting (physical setting, characteristics, current conditions, data gaps, uncertainty)  | 2.2         |
|                         | 14. Hydrogeologic Conceptual Model | (a)       | Description of the Subbasin hydrogeologic conceptual model   | 2.2.1       |
|                         |                                    | (b)       | Summary of regional geologic and structural setting, Subbasin boundaries, geologic features, principal aquifers, and aquitards   | 2.2.1       |
|                         |                                    | (c)       | Cross-sections depicting major stratigraphic and structural features   | 2.2.1       |
|                         |                                    | (d)       | Maps of Subbasin physical characteristics  | 2.2.1       |
|                         | 16. Groundwater Conditions         | (a)-(g)   | Description of current and historical groundwater conditions including: <ol style="list-style-type: none"> <li>1. Groundwater elevation</li> <li>2. Change in storage</li> <li>3. Seawater intrusion</li> <li>4. Groundwater quality issues</li> <li>5. Land subsidence</li> <li>6. Interconnected surface water systems</li> <li>7. Groundwater dependent ecosystems</li> </ol> | 2.2.2       |
|                         | 17. Water Budget                   | (a)       | Water budget providing total annual volume of groundwater and surface water entering and leaving the Subbasin, including historical, current, and projected water budget conditions, and change in storage   | 2.3         |
|                         |                                    | (b)-(f)   | Development of a numerical groundwater and surface water model to quantify current, historical, and projected: <ol style="list-style-type: none"> <li>1. Total surface water entering and leaving by water source type</li> <li>2. Inflow to the groundwater system by water source type</li> </ol>  | 2.3         |



| Subarticle                                | Section   | Paragraph | Requirement  | GSP Section |
|---|---|-----------|--|-------------|
| <b>2. Basin Setting</b>                   |   |           | 3. Outflows from the groundwater system by water use sector<br>4. Change in groundwater storage<br>5. Overdraft over base period<br>6. Annual supply, demand, and change in storage by water year type.<br>7. Estimated sustainable yield  |             |
|   | 20. Management Areas                                | (a)       | Description of management areas  | 2.4         |
|   |   | (b)       | Describe purpose, minimum thresholds, measurable objectives, monitoring, analysis  | 2.4         |
|   |   | (c)       | Maps and supplemental information  | 2.4         |
| <b>3. Sustainable Management Criteria</b> | 22. Introduction to Sustainable Management Criteria | -         | Criteria by which an Agency defines conditions that constitute sustainable groundwater management for the Subbasin   | 3           |
|   | 24. Sustainability Goal                             | -         | Description of Subbasin sustainability goal, including basin setting information used to establish the goal, sustainability indicators, discussion of measures to ensure the Subbasin will be operated within its sustainable yield, and an explanation of how the sustainability goal is likely to be achieved and maintained | 3.1         |
|   | 26. Undesirable Results                             | (a)       | Processes and criteria used to define undesirable results applicable to the Subbasin   | 3.4         |
|   |   | (b)-(c)   | Description of undesirable results, including cause of groundwater conditions and potential effects on beneficial uses and users of groundwater  | 3.4         |
|   | 28. Minimum Thresholds                              | (a)       | Establish minimum thresholds to quantify groundwater conditions for each applicable sustainability indicator   | 3.3         |

| Subarticle                                | Section  | Paragraph    | Requirement   | GSP Section |
|---|--|--------------|---|-------------|
|   |  | (b)-(d)      | Describe information and criteria to select, establish, justify, and quantitatively measure minimum thresholds                                      | 3.3         |
|   | 30. Measurable Objectives                            | (a)-(g)      | Establish measurable objectives, including interim milestones in increments of five years, to achieve and maintain the Subbasin sustainability goal | 3.2         |
| <b>4. Monitoring Networks</b>             | 32. Introduction to Monitoring Networks              | -            | Description of monitoring network, monitoring objectives, monitoring protocols, and data reporting  | 3.5         |
|   | 34. Monitoring Network                               | (a), (e)-(g) | Development of monitoring network to yield representative information about groundwater conditions  | 3.5.1       |
|   |  | (b)-(d)      | Monitoring network objectives   | 3.5.1       |
|   |  | (h)          | Maps and tables of monitoring sites   | 3.5.1       |
|   |  | (i)          | Monitoring protocols  | 3.6         |
|   | 36. Representative Monitoring                        | (a)-(c)      | Designation of representative monitoring sites  | 3.6.8       |
|   | 38. Assessment and Improvement of Monitoring Network | (a)-(d)      | Evaluation of monitoring network, including uncertainty, data gaps, and efforts to fill data gaps   | 3.6.9       |
|   |  | (e)          | Adjustment of monitoring frequency and density to assess management action effectiveness  | 3.6.9       |
|   | 40. Reporting Monitoring Data to the Department      | (f)          | Copy of monitoring data from data management system   |             |
| <b>5. Projects and Management Actions</b> | 44. Projects and Management Actions                  | (a)-(c)      | Description of projects and management actions to achieve and maintain the Subbasin sustainability goal   | 4           |