1. Roll Call

2. Review and Approve November 19, 2021, Meeting Minutes

3. Big Valley Groundwater Updates

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**Agenda Item 3.2 – Technical Support Services (TSS) Update**

**TSS General Application**
- One application per subbasin
- Includes general questions about SGMA process, current funding programs within the Basin (e.g., How many GSPs?)
- Applicants must describe "the most challenging technical needs of the Basin."

**Potential projects could include:**
- Monitoring well installation
- Groundwater level monitoring training
- Borehole video logging

**Next Steps**
- Coordinate with regional DWR contact
- Environmental screening
- Site visits

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4. Draft Groundwater Sustainability Plan (GSP) Public Comment Summary
Public Comment Process

- Multiple opportunities for public comment
- Section 1: July 26 – Sept. 20, Sept. 27 – Oct. 18
- Section 2: July 26 – Sept. 20, Sept. 27 – Oct. 18
- Section 3: Oct. 27 – Nov. 10
- Section 4: Oct. 29 – Nov. 10
- Section 5: part of public draft*
- Section 6: part of public draft*
- Section 7: part of the public draft*

- Draft GSP was available from November 12 through December 3
- After the GSP is adopted and submitted to DWR, there is a 75-day public comment window

*GSPAC reviewed prior to public draft release

Overview: Public Comments on Draft GSP

- 4 total commenters
  - One member of the public
  - Lake County Community Development Department
  - Big Valley Band of Pomo Indians

- About 67 total comments
- Comments and the associated responses will be part of final GSP and posted as “Supporting Information” on DWR’s GSP portal

Overview: Public Comments on Draft GSP

- Main themes and topics:
  - Updating basin characterization (cannabis, Kelseyville Area Plan)
  - Water quality, especially for drinking water users
  - GDE identification
  - Explanation of undesirable results as it relates to DACs, the environment, and tribes
  - Monitoring of interconnected surface water
  - Minimum Thresholds for depletion of interconnected surface water

Outline From December 2, 2021 Subcommittee Update

September – Model Development
November – Water Budgets
Today – Additional Topics & Discussion
- Frost Protection
- Stream Depletion
- Demand Uncertainty
- Discussion

5. Report on Additional GSP Technical Review Subcommittee Meetings

- Frost Protection Period assumed late-March through May
  - Vineyards: 4,300 ac
  - Pear Orchards: 1,500 ac
- Frost protection occurs when the minimum daily temperature is less than 32°F
  - Ranges from 0 to 25 days per year
- Weather Data
  - Western Weather Kelseyville (2010-2019)
  - PRISM Climate Group (1984-2009)
- Duration 4 hours per night
- Application 0.11 acre-in per hour
Frost Protection – Estimated Use

- Temperature data suggests that applied water for frost protection can vary significantly between years.
- Simulated values range from 0 AFY in "hot" years to 6,400 AFY in "cold" years (1,600 AFY average).
- Can exceed 30% of the total applied water for crop irrigation (12% average).

Stream Depletion – Background

- Gaining Stream: flow of groundwater into surface water.
- Losing Stream: flow of surface water into groundwater.
-Disconnected Stream (A): Stream is not hydraulically connected to the water table.
-Disconnected Stream (B): Stream is not hydraulically connected to the water table, no flow in stream.

Stream Depletion - Methodology

- **GSP Regulations**
  - "Identification of interconnected surface water systems within the basin and an estimate of the quantity and timing of depletions in those systems..."

- **Approach**
  - Comparison between calibrated model and a synthetic run with no groundwater pumping for irrigation to quantify stream depletion from groundwater pumping (1984-2019).

Demand Increase Scenario - Background

- **Evaluate Future Demand Uncertainty**
  - Model Addresses Climate Uncertainty
  - Wet-Moderate Warming
  - Dry Extreme Warming
  - Land Use
  - Difficult to predict
  - Vineyards & Orchards anticipated to be stable or decline
  - Emerging markets for commercial cannabis
  - Could be other unknown future markets.

- **Approved and Pending Cannabis Cultivation Permits (2021)**

Demand Increase Scenario - Methodology

- **Demand Increase**
  - Specified in Scenario C (Dry and Extreme Warming).
  - Specified as a percent increase to Scenario C agricultural pumping through additional wells:
    - 10% Increase
    - 20% Increase
    - 45% Increase
    - 90% Increase
  - Assumed no deep percolation (pumped water removed from Basin).

Demand Increase Scenario - Results

- **Groundwater Level Changes Big Valley North RMS**
  - Pumping Scenarios:
    - 10% Increase
    - 20% Increase
    - 45% Increase
    - 90% Increase

GSP Implementation & Finance Subcommittee Update

1. GSP Plan Implementation
   a) Implementation Summary
   b) Implementation Schedule
   c) Implementation Estimate Costs
   d) Options for Funding

2. Finance Discussion
   a) Introduction
   b) Purpose
   c) SGMA Provisions
   d) GSP Financial Assurance Planning
   e) Next Steps

Establish Revenue Needs (Operational and Implementation Costs)

Cost Allocation

Typical Groundwater Sustainability Plan Implementation Costs (Outside the Five-Year Update)

<table>
<thead>
<tr>
<th>Description</th>
<th>Annual Costs Outside the Five-Year Update</th>
</tr>
</thead>
<tbody>
<tr>
<td>GSA Administration</td>
<td>$20,000 - $45,000</td>
</tr>
<tr>
<td>Operation and Maintenance</td>
<td>$20,000 - $50,000</td>
</tr>
<tr>
<td>Project Management and Coordination</td>
<td>$70,000 - $140,000</td>
</tr>
<tr>
<td>Engineering and Consulting</td>
<td>$10,000 - $20,000</td>
</tr>
<tr>
<td>Legal Expenses</td>
<td>$10,000 - $20,000</td>
</tr>
<tr>
<td>Subtotal</td>
<td>$130,000 - $275,000</td>
</tr>
<tr>
<td>Monitoring Program</td>
<td></td>
</tr>
<tr>
<td>Water Level Monitoring</td>
<td>$10,000 - $20,000</td>
</tr>
<tr>
<td>Water Quality Monitoring</td>
<td>$10,000 - $20,000</td>
</tr>
<tr>
<td>Land Subsidence Monitoring</td>
<td>$5,000 - $15,000</td>
</tr>
<tr>
<td>Subtotal</td>
<td>$25,000 - $55,000</td>
</tr>
<tr>
<td>GSP Updates</td>
<td></td>
</tr>
<tr>
<td>Annual Report</td>
<td>$20,000 - $50,000</td>
</tr>
<tr>
<td>Updates to Integrated Hydrologic Model</td>
<td>$50,000 - $150,000</td>
</tr>
<tr>
<td>Updates to PMAs</td>
<td>$10,000 - $20,000</td>
</tr>
<tr>
<td>5-Year Periodic Updates</td>
<td>$100,000 - $250,000</td>
</tr>
<tr>
<td>Subtotal</td>
<td>$20,000 - $50,000</td>
</tr>
<tr>
<td>Outreach and Engagement</td>
<td>$5,000 - $10,000</td>
</tr>
<tr>
<td>TOTAL (not including PMAs)</td>
<td>$180,000 - $390,000</td>
</tr>
</tbody>
</table>

Notes:
1. These line items do not have an associated cost outside of the five-year update. SGMA requires these activities be complete as part of the five-year update. See Table 6-2 for those costs.
2. This refers to adaptive management actions costs including increased coordination activities and other actions associated with the specific triggers.

Key:
- GSA = Groundwater Sustainability Agency
- GSP = Groundwater Sustainability Plan
- N/A = Not Applicable
- PMA = Projects and Management Action

Average - $285K/year

Typical Groundwater Sustainability Plan Implementation Costs During the Five-Year Update

<table>
<thead>
<tr>
<th>Description</th>
<th>Annual Costs During the Five-Year Update</th>
</tr>
</thead>
<tbody>
<tr>
<td>GSA Administration</td>
<td>$130,000 - $275,000</td>
</tr>
<tr>
<td>Monitoring Program</td>
<td>$25,000 - $55,000</td>
</tr>
<tr>
<td>GSP Updates</td>
<td>$20,000 - $50,000</td>
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<tr>
<td>Updates to Integrated Hydrologic Model</td>
<td>$50,000 - $150,000</td>
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<td>Updates to PMAs</td>
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<tr>
<td>5-Year Periodic Updates</td>
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<tr>
<td>Subtotal</td>
<td>$190,000 - $440,000</td>
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<tr>
<td>Outreach and Engagement</td>
<td>$10,000 - $30,000</td>
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<tr>
<td>TOTAL (not including PMAs)</td>
<td>$355,000 - $800,000</td>
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</table>

Note:
1. Refer to Table 6-1 for details

Key:
- GSA = Groundwater Sustainability Agency
- N/A = Not Applicable
- PMA = Projects and Management Action

Average - $580K or $115K/year

Options for Funding

- Partner Pay-Go Cash Contribution
  - Budget re-allocations
  - Multiple budget sources
  - Staff re-allocations to new program or effort
- Prop. 218 Process
  - Follow new user-fee based charges for dedicated purpose
  - Charges must be proportional to level of service provided
  - Required notifications and protest criteria (> 50% protest to stop)
  - Up to five-year user-fee based charge schedule allowed for approval
- Parcel Based Tax
  - Typically based on average charge unit
  - Requires > 66% approval rate (may be difficult to achieve)
  - Parcel based charges need to be fair and acceptable to “customers”
  - Difficult to increase over time due to risk of updates not passing

Financial Assurance – Why It’s Important

State Policy for GSA/GSP non-compliance:
Annual Fee:
- Financial Assurance Plan – address equitable cost allocation issues for Big Valley interests.
### Options for Funding – Cost Per Acre.

<table>
<thead>
<tr>
<th>Details</th>
<th>Average</th>
</tr>
</thead>
<tbody>
<tr>
<td>Revenue Required</td>
<td>$400,000</td>
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<tr>
<td>Total Acerage</td>
<td>23,796</td>
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<tr>
<td>Irrigated Acerage</td>
<td>6,334</td>
</tr>
<tr>
<td>Non Irrigated</td>
<td>17,447</td>
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<tr>
<td>Cost/Ac. (GSP Wide)</td>
<td>$16.81</td>
</tr>
<tr>
<td>Cost/Ac. (Irrigated)</td>
<td>$63.15</td>
</tr>
<tr>
<td>Non Irrigated (Cost/Ac.)</td>
<td>$0.50/ac.</td>
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<tr>
<td>Cost (Non Irrigated)</td>
<td>$8,724</td>
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<tr>
<td>Irrigated (Cost/Ac.)</td>
<td>$61.77</td>
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<tr>
<td>Cost (Irrigated)</td>
<td>$391,277</td>
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<tr>
<td>Non Irrigated (Cost/Ac.)</td>
<td>$0.20/ac.</td>
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<tr>
<td>Cost (Non Irrigated)</td>
<td>$3,489</td>
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<tr>
<td>Irrigated (Cost/Ac.)</td>
<td>$62.60</td>
</tr>
<tr>
<td>Cost (Irrigated)</td>
<td>$398,255</td>
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</table>

### Options for Funding – Cost Per Well.

<table>
<thead>
<tr>
<th>Details</th>
<th>Average</th>
</tr>
</thead>
<tbody>
<tr>
<td>Revenue Required</td>
<td>$400,000</td>
</tr>
<tr>
<td>Total Wells</td>
<td>887</td>
</tr>
<tr>
<td>Irrigated &amp; Muni Wells</td>
<td>355</td>
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<tr>
<td>Domestic Wells</td>
<td>532</td>
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<tr>
<td>Cost (All Wells)</td>
<td>$460.06</td>
</tr>
<tr>
<td>Cost (Irrigation &amp; Muni)</td>
<td>$1,126.76</td>
</tr>
</tbody>
</table>

### Financial Assurance – Why It’s Important

State Policy for GSA/GSP non-compliance (include examples & Range of potential costs):

#### Sample Fee Comparison Example #1 (10 Acres)

- **SWRCB Fee:**
  - 1 Well = $300
  - 3.5 AF/ac = 35 AF * $40 = $1,400 (per year)

- **Local GSP Developed Estimated Fee:**
  - 10 acres * $16.81 = $168.10 (per year)

#### Sample Fee Comparison Example #2 (50 Acres)

- **SWRCB Fee:**
  - 1 Well = $300
  - 3.5 AF/ac = 175 AF * $40 = $7,000 (per year)

- **Local GSP Developed Estimated Fee:**
  - 50 acres * $16.81 = $840.50 (per year)

#### Sample Fee Comparison Example #3 (100 Acres)

- **SWRCB Fee:**
  - 1 Well = $300
  - 3.5 AF/ac = 350 AF * $40 = $14,000 (per year)

- **Local GSP Developed Estimated Fee:**
  - 100 acres * $16.81 = $1,681 (per year)

#### Sample Fee Comparison Example #4 (500 Acres)

- **SWRCB Fee:**
  - 1 Well = $300
  - 3.5 AF/ac = 1750 AF * $40 = $70,000 (per year)

- **Local GSP Developed Estimated Fee:**
  - 500 acres * $1.31 = $8,405 (per year)

### 6. GSPAC Input on GSP, Prior to Adoption

#### Public Draft GSP

<table>
<thead>
<tr>
<th>GSP Sections</th>
<th>Reviewed by GSPAC</th>
<th>Posted for Public Review</th>
<th>Public Review of Draft GSP</th>
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</thead>
<tbody>
<tr>
<td>Section 1 - Introduction</td>
<td>☑</td>
<td>☑</td>
<td>☑</td>
</tr>
<tr>
<td>Section 2 - Plan Area And Basin Setting</td>
<td>☑</td>
<td>☑</td>
<td>☑</td>
</tr>
<tr>
<td>Section 3 - Monitoring Network</td>
<td>☑</td>
<td>☑</td>
<td>☑</td>
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<tr>
<td>Section 4 - Sustainable Management Criteria</td>
<td>☑</td>
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</tr>
<tr>
<td>Section 5 - Projects And Management Actions To Achieve Sustainability Goal</td>
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<tr>
<td>Section 6 - Plan Implementation</td>
<td>☑</td>
<td>☑</td>
<td>☑</td>
</tr>
<tr>
<td>Section 7 - Notices and Communication</td>
<td>☑</td>
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<td>☑</td>
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<tr>
<td>Section 8 - References</td>
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</tbody>
</table>

#### Providing Guidance on GSP

- **GSPAC’s Role:**
  - To help identify and review resource materials
  - To assist in drafting GSP sections
  - To provide guidance for the Big Valley GSA Board of Directors

From the GSPAC Charter:

- “Products and recommendations of the group will be transmitted to the Lake County Board of Supervisors, as the standing Board of Directors for the BVGSA.”

- “The recommendations will identify the range of group perspectives and areas of agreement and disagreement on GSP related matters.”
7. Next Steps for GSP Development: GSP Adoption Process and Submission

9. Public Comments
   We always welcome written comments and feedback at water.resources@lakecountyca.gov

10. Future GSPAC Meeting Dates

11. Adjournment