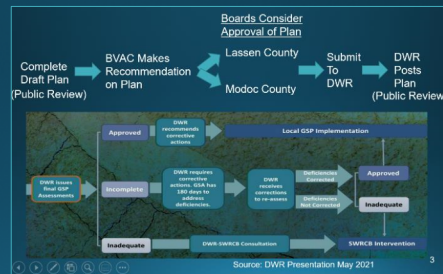


# Groundwater Sustainability Plan for Big Valley Groundwater Basin Lassen and Modoc Counties

# Advisory Committee Meeting 13

September 9, 2021



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# AGENDA

- Subject #1: Introduction of public comments received on GSP chapters during the August 14, 2021 Groundwater and Watershed Health Workshop
- Subject #2: Introduction of the Public Draft Groundwater Sustainability Plan (all chapters)
- Subject #3: Introduction of the draft “Notice of Intent to Adopt the Big Valley Groundwater Basin Groundwater Sustainability Plan

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## AGENDA

- Subject #1: Introduction of public comments received on GSP chapters during the August 14, 2021 Groundwater and Watershed Health Workshop
- **Review, discuss, and receive comment.**

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## SUBJECT #1: COMMENTS FROM AUG 14 WORKSHOP

Receive Public Comment

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## SUBJECT #2: DRAFT GSP

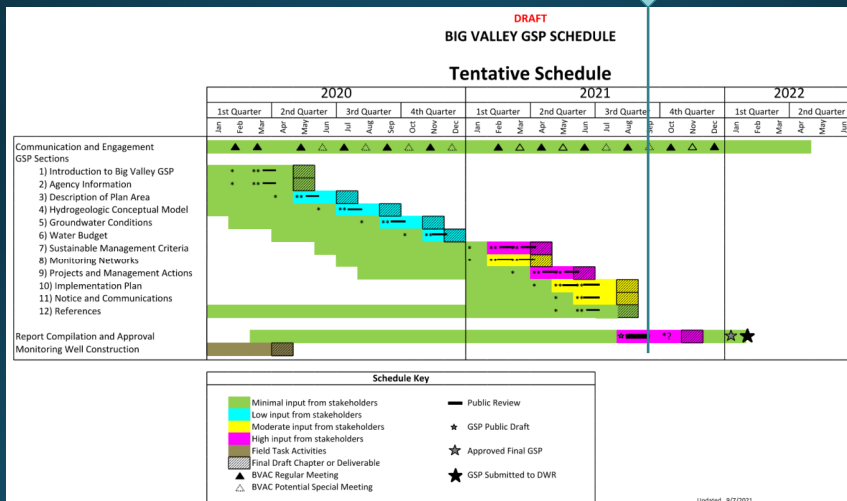
- Subject #2: Introduction of the Public Draft Groundwater Sustainability Plan (all chapters)
- **Review and receive comment on Draft GSP.**

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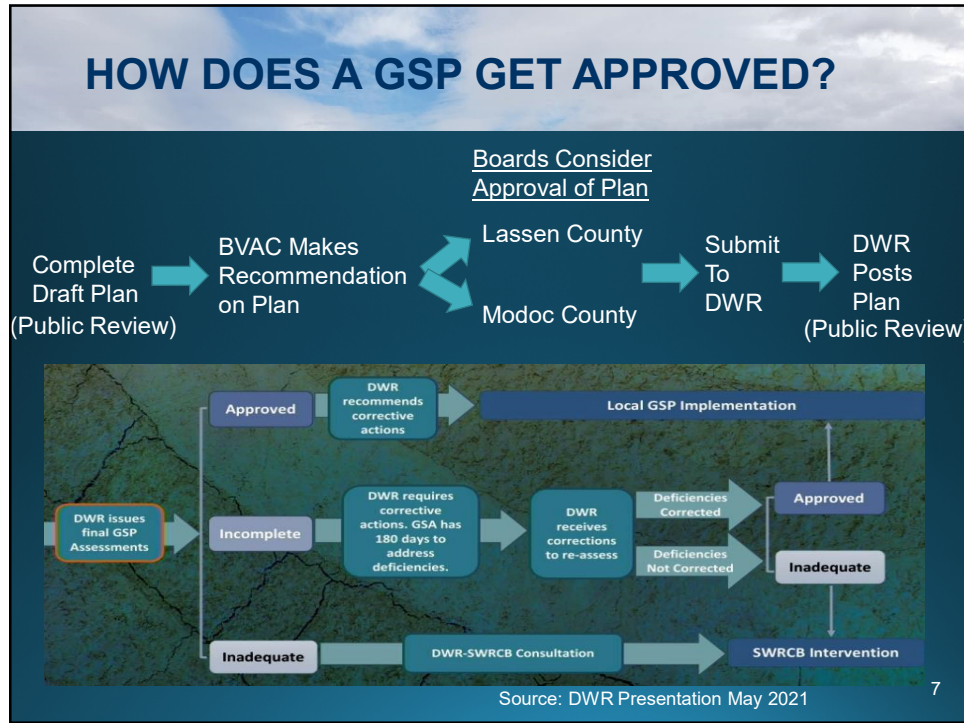
## SUBJECT #2: DRAFT GSP

TODAY



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## SUBJECT #2: DRAFT GSP

- Changes to GSP from “set aside” version.
  - Chapter 1 re-written to give a more robust introduction and set the stage for subsequent chapters. Much of this language was brought up from Chapter 7
  - Revised language regarding Basin Boundary Modification
  - Revised land use categories in Chapter 3 to be more representative of what’s happening in Big Valley
  - Revised Sustainable Management Criteria (Chap 7) to be more concise and refer back to content in Chapters 1-6.

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## SUBJECT #2: DRAFT GSP

### • Background

*“The Big Valley Groundwater Basin is located in one of the most remote and untouched areas of California”*

*“Farming and Ranching in Big Valley date back to the late 19<sup>th</sup> and early 20<sup>th</sup> century...”*

### • Chap 1 and 2

*“...the timber industry has been diminished...”*

### • Introduces Big Valley

*“... the climate sees extreme cold... low land use intensity and low value crops...”*

### • Big Valley shouldn’t be in SGMA

### • Sustainability Goal

Table 1-1 Big Valley Groundwater Basin Prioritization

Criteria	2014	2018	2019	Comments
2010 Population	1	1	1	
Population Growth	0	0	0	
Public Supply Wells	1	1	1	
Total # of Wells	1.5	2	2	
Irrigated Acreage	4	3	3	
Groundwater Reliance	3	3.5	3.5	
Impacts	3	3	2	Declining water levels, water quality
Other information	0	7	2	Streamflow, habitat, and other information determined to be relevant.
<b>Total Score</b>	<b>13.5</b>	<b>20.5</b>	<b>14.5</b>	<b>Medium priority each year</b>


*...to maintain a locally governed, economically feasible, sustainable groundwater basin and surrounding watershed for existing and future legal beneficial uses with a concentration on agriculture. Sustainable management will be conducted in context with the unique culture of the basin, character of the community, quality of life of the Big Valley residents...*

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## SUBJECT #2: DRAFT GSP

- Background
  - Chap 3: Plan Area
    - Location
    - Jurisdictions
    - Land Use
    - Wells
    - Existing regulatory programs
    - Climate



**Table 3-2 2016 Land Use Summary by Water Use Sector**

Water Use Sector	Acres	Percent of Total
Community <sup>1</sup>	250	<1%
Industrial	196	<1%
Agricultural	22,249	24%
State Wildlife Habitat <sup>2</sup>	14,563	16%
Managed Rangeland	54,792	60%
<b>Total</b>	<b>92,067</b>	<b>100%</b>

<sup>1</sup> Includes the use in the communities of Bieber, Nabesbar, and Arim  
<sup>2</sup> Made up of a combination of wetlands and non-irrigated upland areas  
<sup>3</sup> Includes the large areas of land in the Valley which have domestic wells interspersed

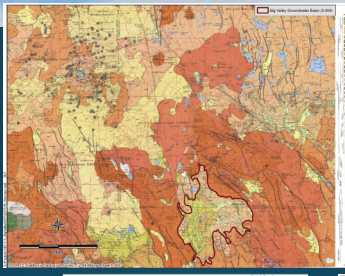
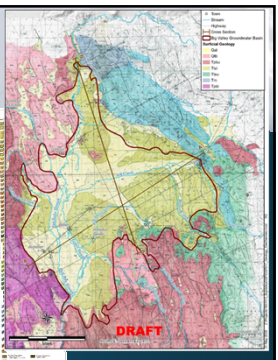
**Program**

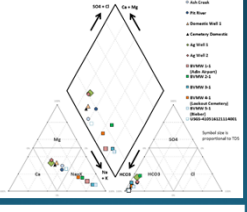
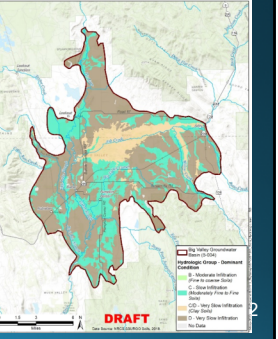
- Irrigated Lands Regulatory Program (ILRP)
- Waste Discharge Requirements (WDR) Program
- Central Valley Salinity Coalition (CVSC)
- Basin Plans
- Public Drinking Water Regulations
- Total Maximum Daily Load Program (TMDL) Program
- Local Agency Management Programs (LAMPs)
- Underground Storage Tank Site Cleanup Program (UST)
- National Pollutant Discharge Elimination System (NPDES)
- Nonpoint Source Program (NSP)
- Other

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## SUBJECT #2: DRAFT GSP

- Science
  - Chap 4
    - Geology
    - Basin Boundaries
    - Definable Bottom
    - Principal Aquifer
    - Soils

**Table 4-2 Aquifer Test Results**

Parameter	Units	BVMW 1-1	BVMW 2-1	BVMW 3-1	BVMW 4-1	BVMW 5-1
Thickness (b)	ft	50	40	50	30	50
Flow (Q)	gpm	8	8	8	8	8
Drawdown after 1 hr	ft	4.3	16.0	27.5	2.0	3.0
Transmissivity (T)	gpd/ft	3000	750	700	4200	4500
Storage (S)	unitless	1.5E-03	1.0E-03	3.0E-06	1.0E-01	2.0E-03
Hydraulic Conductivity (K)	ft/d	8	3	2	19	12

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## SUBJECT #2: DRAFT GSP

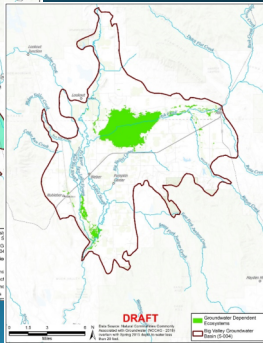
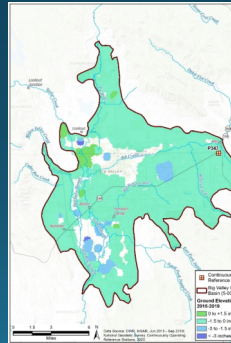
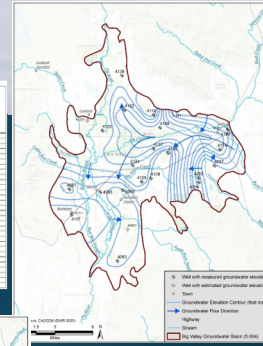
### • Science

#### • Chap 5

- Water Levels
- Change in Storage
- Water Quality
- Subsidence
- Surface Water / Groundwater and GDEs

Table 5-2 Water Quality Statistics

Parameter	Location	Unit	Min	Max	Avg	Std Dev	95th Pctl	99th Pctl	Notes
Temperature	Station 1	°F	55	65	60	5	62	64	
Dissolved Oxygen	Station 1	mg/L	2	8	5	2	6	7	
pH	Station 1		7.5	8.5	8.0	0.5	8.2	8.4	
Ammonia Nitrogen	Station 1	mg/L	0.0	0.5	0.1	0.1	0.2	0.3	
Nitrate Nitrogen	Station 1	mg/L	0.0	1.0	0.2	0.2	0.4	0.6	
Total Nitrogen	Station 1	mg/L	0.0	0.5	0.1	0.1	0.2	0.3	
Total Phosphorus	Station 1	mg/L	0.0	0.1	0.02	0.01	0.03	0.05	
Calcium	Station 1	mg/L	10	150	50	20	80	120	
Magnesium	Station 1	mg/L	0	50	10	5	20	30	
Total Hardness	Station 1	mg/L	10	160	60	25	100	150	
Sulfate	Station 1	mg/L	0	100	10	5	20	30	
Chloride	Station 1	mg/L	0	50	5	2	10	15	
Total Solids	Station 1	mg/L	0	200	20	10	40	60	



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## SUBJECT #2: DRAFT GSP

### • Science

#### • Chap 6

- Water Budget
- Sustainable Yield
- Average Overdraft

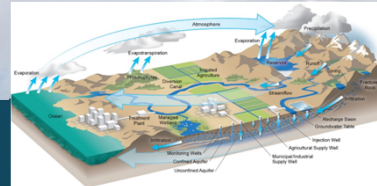
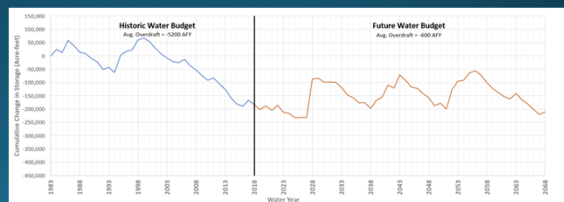


Figure 6-8 Average Groundwater System Water Budget 1984 to 2018 (Historic)

Flow Type	Origin/Destination	Component	Acre-Feet
Inflow	Between Systems	Recharge of Applied Water	13,133
Inflow	Between Systems	Recharge of Precipitation	3,601
Inflow	Between Systems	Managed Aquifer Recharge	-
Inflow	Between Systems	Groundwater Gain from Stream	24,037
Inflow	Between Systems	Groundwater Gain from Reservoir	596
Inflow	Between Systems	Conveyance Seepage	27
Inflow	Into Basin	Subsurface Inflow	3
Inflow	Into Basin	Total Inflow	39,395
Outflow	Between Systems	Groundwater Extraction	44,622
Outflow	Between Systems	Groundwater Loss to Stream	-
Outflow	Between Systems	Groundwater Loss to Reservoir	-
Outflow	Out of Basin	Subsurface Outflow	-
Outflow	Out of Basin	Total Outflow	44,622
Storage Change	DB/CM	Change in Groundwater Storage	(5,227)



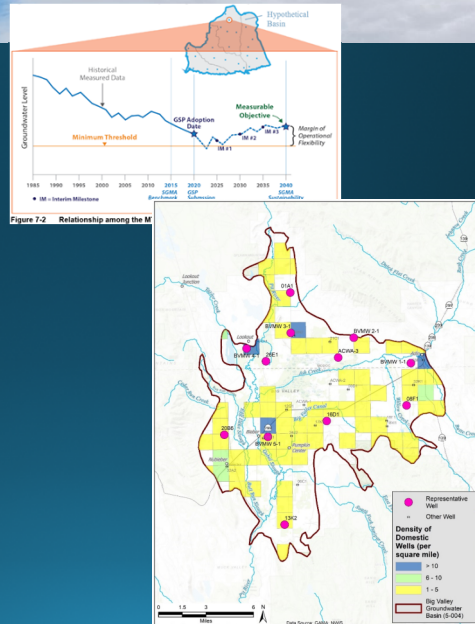
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## SUBJECT #2: DRAFT GSP

### • Planning

- Chap 7
  - Minimum Threshold
  - Measurable Objective
- Chap 8
  - Monitoring Network



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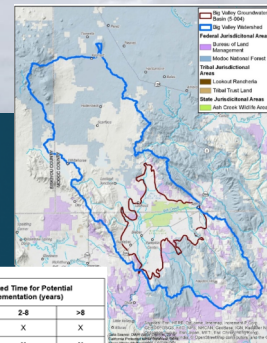
## SUBJECT #2: DRAFT GSP

### • Planning

- Chap 9
  - Projects and Management Actions

Table 9-2 Projects and Potential Implementation Timeline

No.	Category	Description	Estimated Time for Potential Implementation (years)		
			0-2	2-6	>6
1	9.1 Recharge Projects	AgMARS	X	X	X
2		Drainage and Basin Recharge	X	X	X
3		Ag Injection Wells			X
4	9.2 Research and Data Development	Stream Gauges	X		
5		Refined Water Budget	X	X	
6		Agro-Climate Station	X		
7	9.3 Increased Storage Capacity	Voluntary Installation of Well Meters	X	X	
8		Adaptive Management	X	X	X
9		Mapping and Land Use	X	X	
10	9.4 Improved Hydrologic Function	Expanding Existing Reservoirs		X	
11		Allen Camp Dam			X
12		Forest Thinning and Management	X	X	X
13	9.5 Water Conservation	Juniper Removal	X	X	X
14		Stream and Meadow Restoration	X	X	X
15		Irrigation Efficiency	X	X	
16	9.6 Education and Outreach	Landscape and Domestic Water Conservation	X	X	
17		Conservation Projects	X	X	
18		Public Communication	X		
19		Information and Data Sharing	X	X	
20		Fostering Relationships	X		
21		Compelling Efforts	X	X	
22		Educational Workshops	X		



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## SUBJECT #2: DRAFT GSP

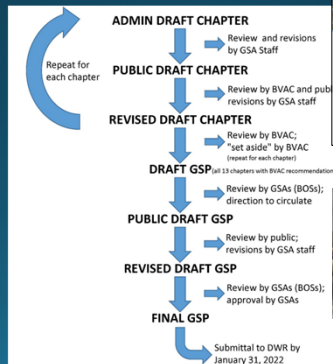
### • Implementation

- Chap 10
  - Annual Reports
  - 5-year updates
  - Projects and Management Actions
- Chapter 11
  - Decision making
  - Communication

Table 10-1 Annual Report DMS Data Types

Data Type	Collecting Entity	Data Source	DMS Tool
Water Levels	DWR	SGMA Data Viewer	Excel Water Level Tool
Precipitation	DWR	CIMIS	Excel Water Budget Tool
Evapotranspiration	DWR	CIMIS	Excel Water Budget Tool
Streamflow (gages)	USGS/DWR	CDEC	Excel Water Budget Tool
Streamflow (water rights reporting)	SWRCB	WRIMS	Excel Water Budget Tool
GIS Base Data <sup>1</sup>	GSAs	various	GIS Database

<sup>1</sup> Base data includes GIS layers such as the county boundaries, streams, roads, well locations, etc which generally don't change over time and don't need to be updated.



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## SUBJECT #2: DRAFT GSP

### What is next?

- Receive Public Comment at this meeting.
- BVAC will provide direction to staff and the consultant.
- Staff and the consultant will work with the chair and vice chair (per MOU) to implement the direction received today.
- A "Revised Draft GSP" will be presented at the regular October 6, 2021, BVAC meeting.
- The intent of the October meeting is for the BVAC to make a recommendation to the GSAs (Board of Supervisors) so the required noticing can be completed (next agenda subject).

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## AGENDA

- Subject #3: Introduction of the draft “Notice of Intent to Adopt the Big Valley Groundwater Basin Groundwater Sustainability Plan

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## SUBJECT #3: DRAFT NOI

- **Minimum legal requirements for consideration by the GSAs:**
  - Water Code section 10728.4 – 90 day Notice to Cities and Counties located in the Basin.
  - Adopt at a public hearing noticed in accordance with Government Code section 6066
    - Published two weeks in a row (with at least 5 days intervening).

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## SUBJECT #3: DRAFT NOI

- Receive Public Comment on Notice of Intent
- **Review and receive comment. Possible recommendation to the GSAs regarding language for the notice**

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## QUESTIONS OR COMMENTS FOR ITEMS NOT ON THE AGENDA



- GSA Staff and Consultants will be available after the meeting to talk, answer questions, and hear your concerns.

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