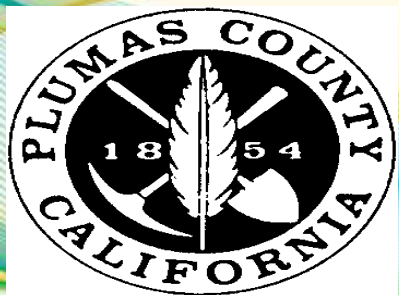


Sierra Valley Board Meeting

January 18, 2021



Agenda

- 3-Months look ahead
- Preliminary summary of surveys results
- Input data for model and data portal
- Questions?



3-months look ahead: technical work, TAC meetings, updates to the Board

TAC meeting	Key topics	Key goals	GSP chapter production
January	<ul style="list-style-type: none"> Summary of Water Quality and subsidence preliminary survey Introduction to Sierra Valley integrated hydrological model: review data and present model approach 	<p>Receive feedback on data used for developing the model</p> <p>Develop a general understanding on the model development</p> <p>More responses for surveys</p>	Technical team working already on Chapter 1 and 2, TAC will provide feedback and the Board will then review
February	<ul style="list-style-type: none"> Present suggested Monitoring Network and Sustainable Management Criteria for GW Quality and subsidence Overview of Groundwater Dependent Ecosystems (GDEs) approach Model development updates 	<p>Get final TAC direction on GW quality and subsidence</p> <p>Receive preliminary feedback on GDEs</p>	Based on TAC feedback, technical team will start drafting Chapter 3 for GW water quality and subsidence to be provided to the Board for review
March	<ul style="list-style-type: none"> Refinement of Groundwater Dependent Ecosystems (GDEs) approach Introduction to declining groundwater levels SMC: preliminary approach Water budget: historical, current and future conditions 	<p>Possibly get final feedback about GDEs and how to integrate that into the other SMCs</p> <p>Receive preliminary suggestions on groundwater levels SMC</p>	Technical Team working on Chapter 2

Agenda

- 3-Months look ahead
- Preliminary summary of surveys results
- Input data for model and data portal
- Discussion



Requested Input as Follow-up to December TAC Meeting

- Groundwater Quality Survey at www.surveymonkey.com/r/Z3W69Y8
- Subsidence Survey at <http://www.surveymonkey.com/r/ZZ8VDTY>
- 9 respondents (3 non-TAC members)

Groundwater Quality Survey – Constituents of Concern

	Needs SMC	In GSP, No SMC	Not in GSP
Arsenic	2	4	2
Boron	4	3	1
Chloride	1	1	1
Iron	0	3	2
Manganese	0	3	2
MTBE	2	1	1
Nitrate	4	3	0
TDS	2	2	0
Fluoride	0	1	2
Other	0	0	0

Comments indicated needing to collect more data prior to setting SMC

Asked about consideration of other environmental quality factors (e.g., instream flows)

Groundwater Quality Survey – Data Gaps & Additional Information

	Yes	No	Comments
Data gaps?	7	1	Private domestic wells in high density areas Some COCs not monitored No surface water data Data from outside the valley
Aware of Other Data Sources?	1	5	Could look at CASGEM
How to get Domestic Well Data?			Offer no cost testing to well owners (2) Use standard outreach/ask well owners (2) Use UCCE to work with ranchers Many landowners may be resistant

Groundwater Quality Survey – Best existing wells for annual reporting

- Identified specific wells in Chilcoot, Vinton, Beckwourth and Sierra Valley Central
- Sierra Brooks, Loyalton, Calpine, Sierraville water systems
- Survey respondent offered their well
- Areas of subsidence, industrial or highly populated areas

Groundwater Quality Survey – Additional Actions beyond monitoring and reporting

- Relationship of surface water to groundwater, monitoring of stream water quality
- Plan for drinking water wells with MCL exceedances
- Refer to Clean Water Act and other existing regulations
- Impacts from pumping rates, depths, locations
- Prevent water quality degradation

Subsidence Survey

	Yes	No	Comments
Noticed Effects of Subsidence?	1	6	Change in location and size of seasonal ponds No more artesian wells; increase in flooding during drought years
Should GSP consider private in addition to public infrastructure?	7	0	
Opinion on how much subsidence it too much?	5		0 inches 36 inches 24 inches 6 inches 1 inch

Subsidence Survey -

Preferred monitoring options for subsidence?

- Continued ground elevation surveys – 7
- Use of satellite InSAR data - 4
- Install extensometers - 2
- Installation of GPS stations - 3
- Use groundwater elevation as proxy - 3

Is there other information that should be considered?

- Subsidence trend
- Talk with people in areas with subsidence
- Evaluate burrowing mammal health

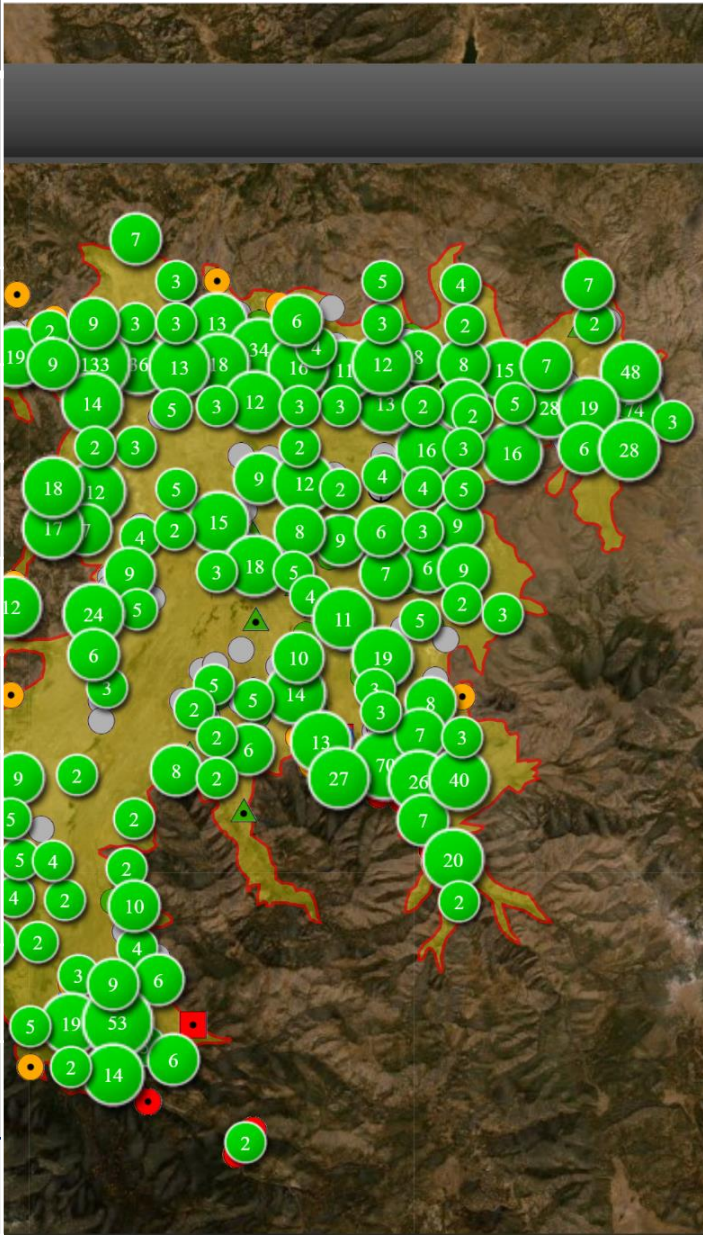
Agenda

- 3-Months look ahead
- Preliminary summary of surveys results
- Input data for model and data portal
- Discussion



SVGMD Database Update

Well Type	Number
Domestic Production Well	666
Unknown	607
Agricultural Well	132
Groundwater Monitoring Well	130
Stockwater Well	69
Municipal Well	60
Exploratory Boring	14
Industrial Well	9
Spring/Seep	7
Production Well	6
Heat Exchange Well	1
TOTAL	1701

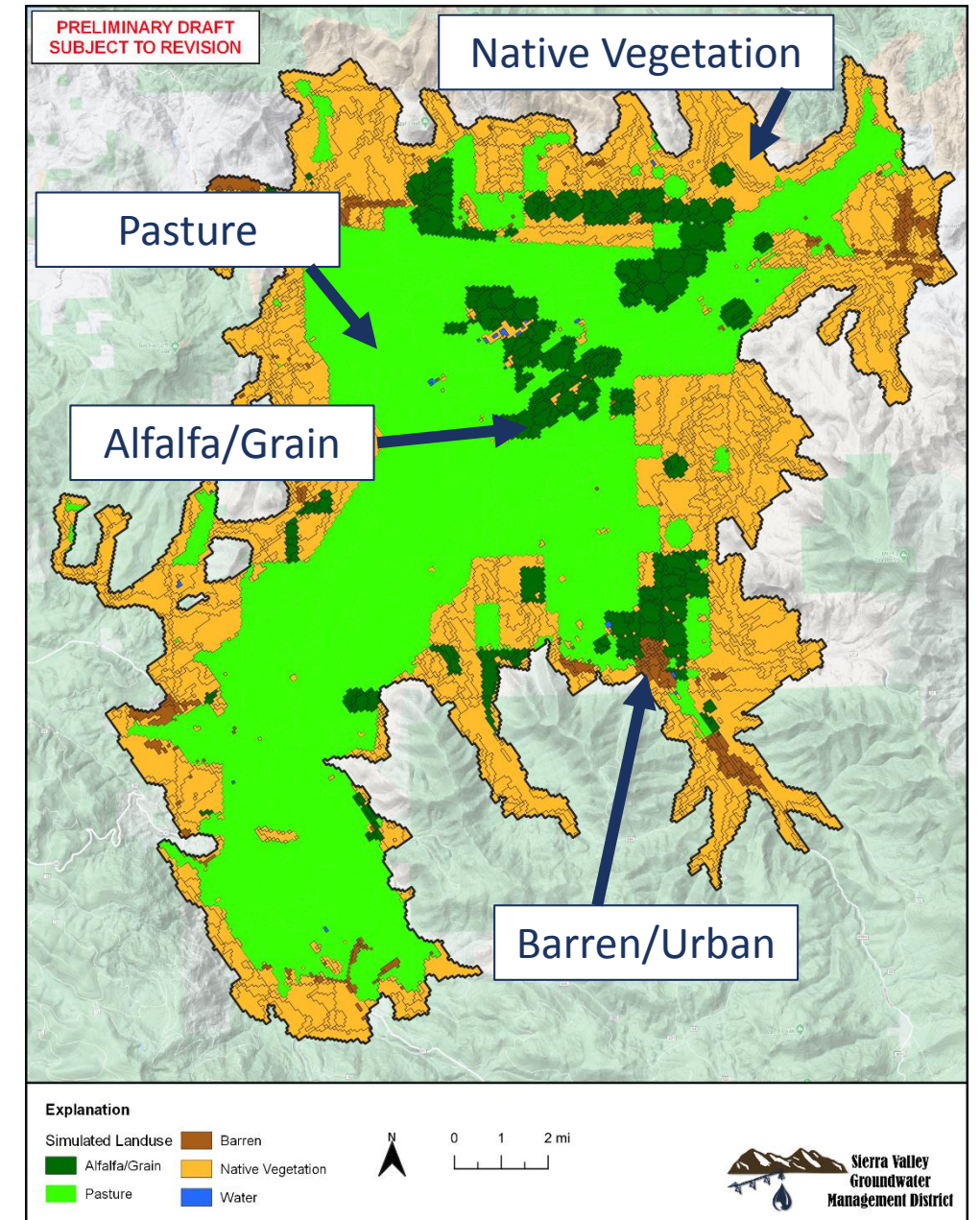


Currently in the SVGMD Database:

- 10,636 water levels at 145 wells
 - from publicly available database
- 21,605 water quality observations
- **0** pumping observations
 - pending data privacy concerns and Board approval

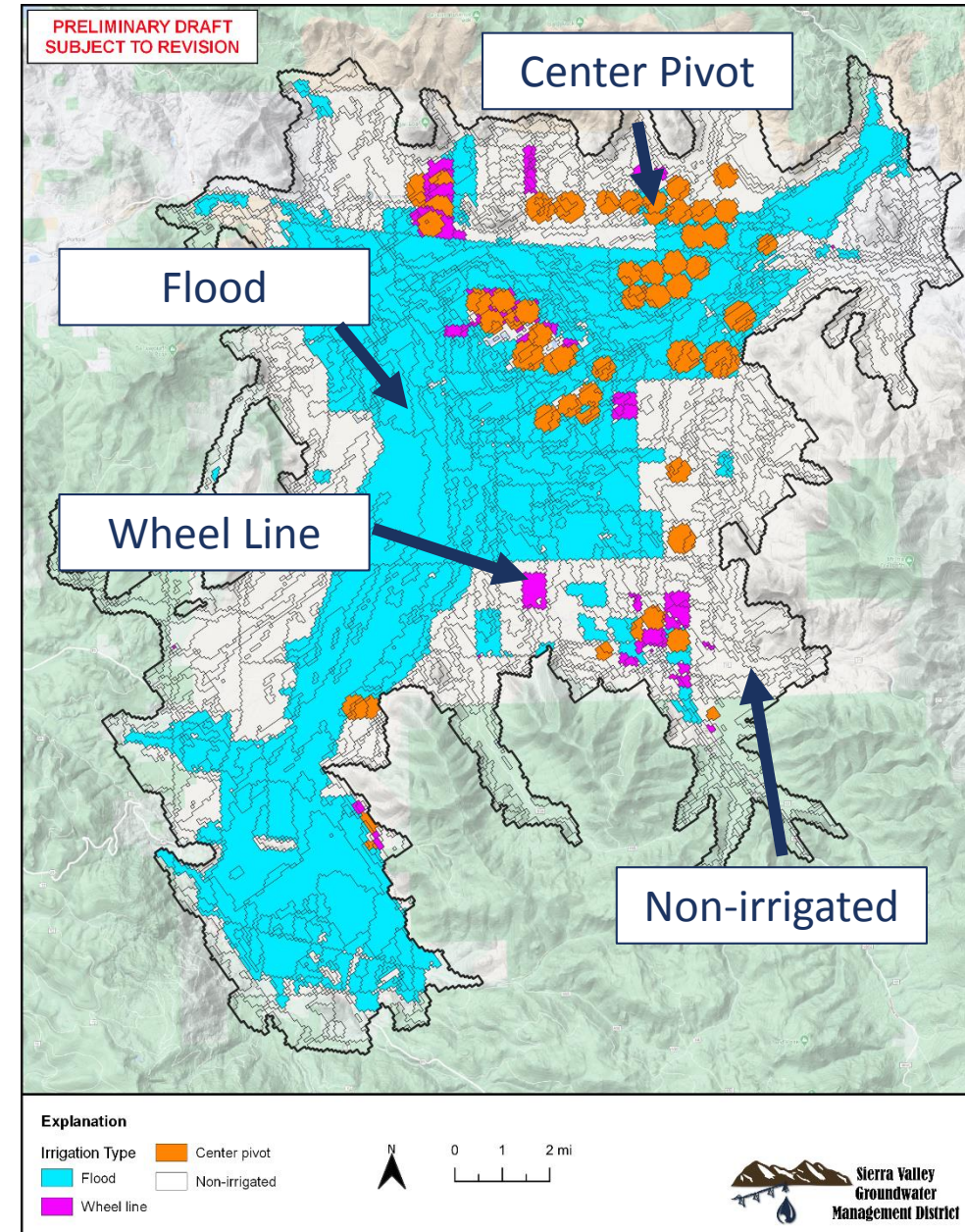
Soil-Water Budget Model - Land Use

Land Use	DWR Crop Mapping (acres)	SWBM/model (acres)	Percent Change
Alfalfa/Grain	10,990	11,189	1.79
Pasture	59,407	60,126	1.2
Native Vegetation	50,758	55,020	8.06
Barren	3,524	2,896	-19.56
Water	223	119	-60.82
Total	124,902	129,350	3.5



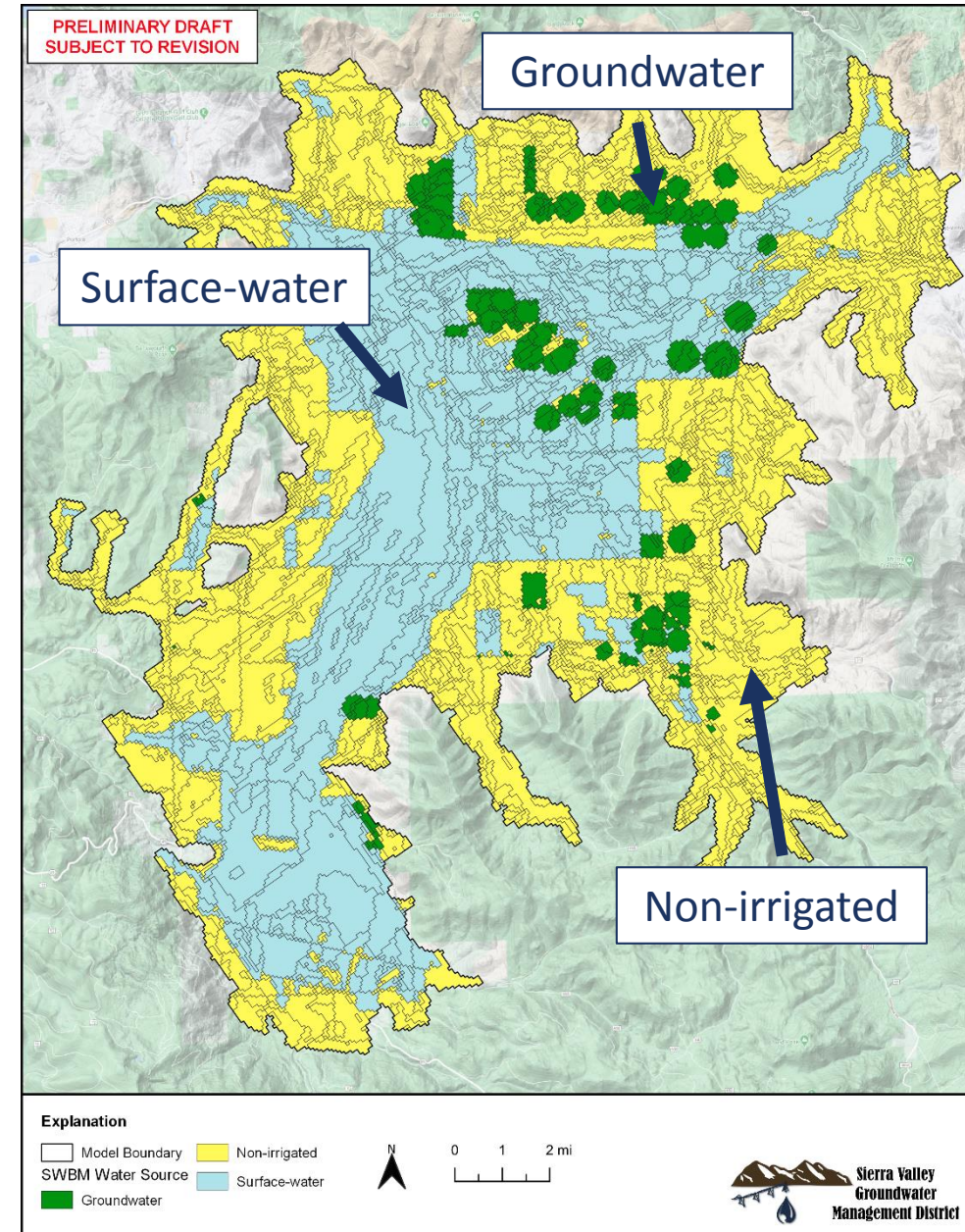
Soil-Water Budget Model - Irrigation Type

Irrigation Type	DWR Crop Mapping (acres)	SWBM/model (acres)	Percent Change
Flood	52,463	53,123	1.25
Wheel Line	1,894	1,940	2.4
Center Pivot	6,612	6,682	1.05
Non-Irrigated	63,933	67,605	5.58
Total	124,902	129,350	3.5



Soil-Water Budget Model - Water Source

Water Source	DWR Crop Mapping (acres)	SWBM/model (acres)	Percent Change
Surface-water	53,093	53,760	1.25
Groundwater	7,877	7,984	1.35
Mixed	0	0	0
Non-Irrigated	63,933	67,605	5.58
Total	124,902	129,350	3.5



Questions?

