

TAC Meeting

June 18, 2021





• Update on current model status

Aquifer system characterization and visualization

• Next Steps

Why do we need a model?

 Water budgets for the basin are <u>required</u> for the GSP. An integrated model provides them.

2.2.3 Water Budget Information (Reg. § 354.18)

- Description of inflows, outflows, and change in storage
- Quantification of overdraft (as applicable)
- Estimate of sustainable yield
- Quantification of current, historical, and projected water budget
- Description of surface water supply used or available for use for groundwater recharge or in-lieu use

2) Allows for evaluation of future conditions and "what if" scenarios.

The Sierra Valley Hydrogeologic System Model (SVHSM) is the combination of three different models.



Streamflow entering Sierra Valley (PRMS)

Recharge and pumping within the valley (SWBM)

Detailed groundwater levels and streamflow (MODFLOW)

Sierra Valley Hydrogeologic System Model (SVHSM) cake analogy





http://www.tomhovey.co.uk/the-great-british-bake-off

Each tier is a different flavor, but they all come together as a single cake.

3D Geologic Model

Please feel free to ask questions during the presentation

Future Work

- Optimize number of MODFLOW layers (resolution vs runtime)
- Perform sensitivity analysis and calibration
- Process water budgets (recent historical and future)
- Evaluate proposed project and management actions



