Sierra Valley Groundwater Sustainability Plan Development

Sierra and Plumas County, California

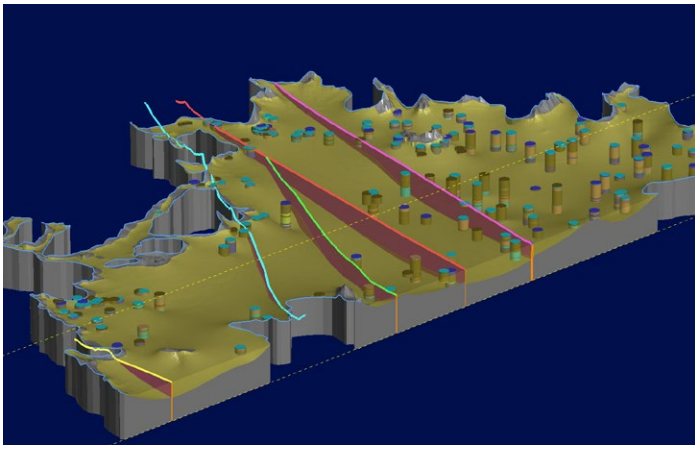
Client

Sierra Valley Groundwater Management District

Highlights

- SGMA BMP compliant
- Utilizing multiple modeling tools to evaluate alternative management scenarios and develop effective implementation plan
- Assimilating data collected by multiple agencies into single database accessible via an interactive online data portal

DBS&A is on a team working with the Sierra Valley Groundwater Management District (SVGMD) to develop a Groundwater Sustainability Plan (GSP) for the Sierra Valley groundwater basin, in compliance with the 2014 California Sustainable Groundwater Management Act (SGMA). Major components of the project include data collection and analysis; water level and water quality analysis; development of the agricultural and hydrogeologic (landscape, groundwater, and surface water) conceptual and integrated numerical flow model; and stakeholder engagement in compliance with SGMA best management practices (BMPs).



Interactive, three-dimensional geologic model of the Sierra Valley groundwater basin used to define the boundaries and parameterization for the integrated hydrologic model.

DBS&A is leading the data management system development and data collection tasks, including compiling and evaluating available data, identifying and prioritizing data gaps, and developing a data portal to provide decision-makers with rapid access to information needed to inform GSP development as well as daily operations. The web-based, interactive, data visualization application for the relational database that DBS&A developed facilitates stakeholder outreach, involvement, and data transparency.

DBS&A is also leading the development of the integrated hydrologic model to evaluate historical, current, and future groundwater and surface water conditions in Sierra Valley. The integrated surface water and groundwater flow model supports the GSP preparation process through implementation to evaluate groundwater basin sustainability. The integrated hydrologic model combines an upper watershed rainfall runoff model, an irrigated landscape soil-water budget model, and a groundwater/surface water model to simulate historical and projected future groundwater and surface water conditions in the basin. Water budgets produced by the model will help inform GSP development and implementation. In addition, the model will be used as a screening tool for evaluating predicted impacts from proposed changes to basin water management.