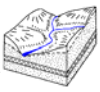


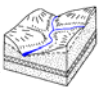
8 Recommendations

Consistent with the conclusions presented in the preceding Section 7.3.3, it is recommended that SLVWD recognize the following:

- SLVWD's Northern and Southern Service Areas both require a supplemental source of water in order to avoid continued and/or potential groundwater overdraft under current and projected future demand, and/or unprecedented rates of conservation. Specifically:
  - A North-South Intertie is needed to provide the Southern Service Area with a supplemental supply of water in order to lower Pasatiempo wellfield production to sustainable rates and replenish groundwater storage.
  - SLVWD will need to begin exercising its entitlement to a portion of the yield of Loch Lomond in order to avoid overproduction from the Quail Hollow and Olympia wellfields and contribute supplemental water to the South System via an intertie.
  - Relying on conservation alone would require unprecedented reductions in use of up to 15 percent over and above the 10 percent drought conservation already factored into the 2030 demand projections.
- SLVWD's demand projections for 2030 rely on ambitious reductions in system losses and per-connection usage; these assumptions should be confirmed or revised when possible.
- Optimizing conjunctive use in real time is more difficult than done conceptually for this report with perfect knowledge of an assumed climatic cycle. As such, SLVWD may need to formalize its conjunctive use practices, e.g.,
  - Maximize the use of stream diversions when available given SLVWD's limited capacity for surface-water storage. Achieving the average rates of stream diversion estimated in this report will not be possible without highly efficient diversion and treatment operations during periods of high flow.
  - Maintain groundwater storage at high levels when possible in anticipation of future drought.
  - Initiate demand management at the earliest signs of a potential drought so as to conserve groundwater storage.
  - Utilize available supplemental water (i.e., Loch Lomond) on a regular basis so as to conserve groundwater storage for drought use.

The following actions are recommended:

- Prepare a conceptual engineering design for a North-South Intertie in order to confirm its feasibility, including peak rates of conveyance implicit to the monthly analysis performed for this report.
- Similarly, prepare a conceptual engineering design for receiving a supplemental supply of water under SLVWD's entitlement to a portion of the yield of Loch Lomond. Confirm the feasibility of conveyance, needed treatment, and integration into SLVWD's existing system.
- Negotiate an agreement with the City of Santa Cruz consistent with SLVWD's entitlement to Loch Lomond and the feasibility assessment recommended above. Re-analyze the monthly conjunctive use scenarios presented in this report once the parameters of a supplemental supply are better defined.



- Address conveyance "bottlenecks" of the existing system that may limit SLVWD's ability to fully exercise conjunctive use, including:
  - Excessive backpressures in the 5-mile pipeline that limit diversions from Clear and Sweetwater creeks.
  - The capacity of the 6-inch line from the Lyon WTP to Boulder Creek and areas south that is too small, resulting in excessive friction losses, entrained sediment, and a limited potential to convey available stream diversions (e.g., to the South System via an intertie).
  - The 6-inch line from the Olympia wells to the Quail tanks that also is too small, resulting in excessive friction losses and a limited capacity to convey available Olympia groundwater when it is needed most during dry periods.
- Improve the groundwater monitoring network in the Olympia subarea in order to better document changes in groundwater storage as a function of groundwater production and recharge. Consider acquiring property in the vicinity of the proposed potential sites for additional Olympia wells.
- Assess potential environmental constraints associated with SLVWD's existing and planned use of stream diversions and pumped groundwater, and re-analyze the monthly conjunctive use scenarios presented in this report if and when environmental limitations are defined.
- Re-analyze the monthly conjunctive use scenarios presented in this report once projections of climate change suitable for planning purposes become available.