

Section 7

Conclusions and Recommendations

Increasing and competing demands from environmental, urban and agricultural water interests pose a challenge for county water managers. The Butte County Water Inventory and Analysis Report provides an estimate of existing demands (environmental, urban and agricultural) and corresponding surface water and groundwater supplies available to satisfy the demand. Supply and demand estimates from normal year and drought year scenarios reflect changes in water supply and management under differing hydrologic conditions. The results of this inventory will provide a viable basis for planning and will support information dissemination and consensus development among the county's stakeholders as further work is completed under the county's Integrated Watershed and Resource Conservation Program.

7.1 Conclusions

Butte County currently has adequate water resources available to meet demand within most areas of the county under normal hydrologic conditions. However, planning will be required to continue to meet the increasing and competing county water resource needs and to develop a further understanding of the resource as solutions to increasing statewide water demand are pursued. Managing the surface water and groundwater resources within the county is essential to the long-term economic and environmental health of the county.

With consideration of the results of the water inventory, the following conclusions are presented:

- The portion on the Sacramento Valley aquifer system under Butte County has recovered from the 1988-1994 drought. Long-term trends in groundwater storage indicate the basin groundwater aquifer is not in a state of decline. During normal to wet years, the aquifer system recharges to its maximum storage capacity by the following spring.
- Within the Foothill Inventory Unit and Mountain Inventory unit, overall groundwater supply is limited because groundwater occurs primarily in fractures and joints of the volcanic bedrock. Shallow, domestic wells could be susceptible to dewatering during periods of drought.
- Under the normal hydrologic scenario, Butte County currently has an adequate surface water and groundwater supply to meet current demands.
- Under the drought scenario evaluated, current demand can generally be met through increased groundwater extraction provided groundwater extractions are increased to offset reduced surface supplies.

- Under the drought scenario evaluated, additional groundwater wells and conveyance and distribution systems may be required to fully utilize the groundwater resource.
- Under the drought scenario evaluated, the Foothill Inventory Unit experiences water shortages.
- Future increases in demand will be associated with population growth and environmental regulatory requirements, both within and outside of the county.
- A significant amount of water supplied to meet demand remains available for use through deep percolation to groundwater and outflow to other areas.
- Environmental water use constitutes a substantial amount of water demand in the county, extending water demand past the typical irrigation season. The trend in environmental water has increased in the recent past due to regulatory requirements.
- Water quality is generally adequate to meet current needs, however groundwater nitrate contamination could threaten supply in areas with a high density of septic systems. Regulation of non-point source agricultural return water may become an issue in the near future.

7.2 Recommendations

With increasing pressure to meet current and projected water needs on a statewide level, northern California supplies will be evaluated as a component of the solution. A comprehensive Integrated Watershed and Resource Conservation Program is required to protect Butte County's interest and needs, as well as to adequately assess impacts of proposed state-initiated water resource projects. Initial key activities for formulating such a program would include:

- Facilitation and outreach with the county's stakeholders to develop water resource management goals and objectives and coordination of county interests with DWR and CALFED interests.
- Enhance the current land use, surface water monitoring, and groundwater monitoring data collection program for use in developing a long-range integrated watershed and resource conservation plan.
- Groundwater is an important water source to Foothill and Mountain areas, but the fractured geology makes it very difficult to characterize. Additional monitoring and assessment should be performed in these areas to enhance understanding of groundwater availability and movement.

- Enhance forecasting of agricultural, environmental and urban demand for use in developing a long-range integrated watershed and resource conservation plan.
- Assess the Butte Basin Water Users Association groundwater flow model for use in developing a long-range integrated watershed and resource conservation plan.