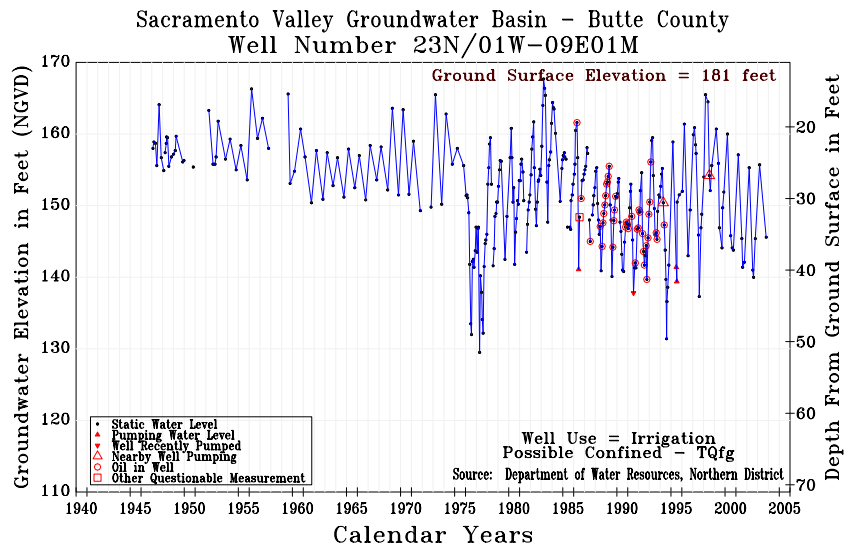


Vina Sub-Area (Well Number 23N/01W-09E01M):

The figure below is a hydrograph for well 23N/01W-09E01M, in the northern Vina Sub-area. The area surrounding this well is characterized by rural, agricultural land use supported by groundwater. This well is an irrigation well constructed in the confined portion of the aquifer system, with a groundwater level measurement record dating back to the mid-1940s. The groundwater levels in this well were monitored on a semi-annual basis until the mid-1970s, on a monthly basis from the mid-1970s to 1996, and are currently monitored four times a year during March, July, August and October.

The figure shows the seasonal and long-term changes in groundwater levels over time. At first glance it appears that the annual fluctuation in groundwater levels has increased since 1976. However, prior to 1976, summer groundwater level data were not collected. Comparison of the seasonal fluctuation of groundwater levels using spring-fall data indicates little change since the 1960s.



Hydrograph for Well 23N/01W-09E01M

The groundwater level time-history for this well is very similar to the key wells in the M&T and Durham Dayton Sub-areas. Groundwater levels have declined on average about two feet per-year since 1998. The reason for the decline is probably climate related. The overall record would suggest that when precipitation returns to a more normal pattern, that groundwater levels should recover. Currently, groundwater levels are near those recorded during the drought of the early 1990's. They are, however, higher than they were during the drought of 1976-77. An examination of the overall record reveals that long-term depletion of groundwater in storage is probably not occurring at this time. This sub-area needs to be watched carefully in the future, like many of the groundwater dependent sub-areas in the northern portion of the county.