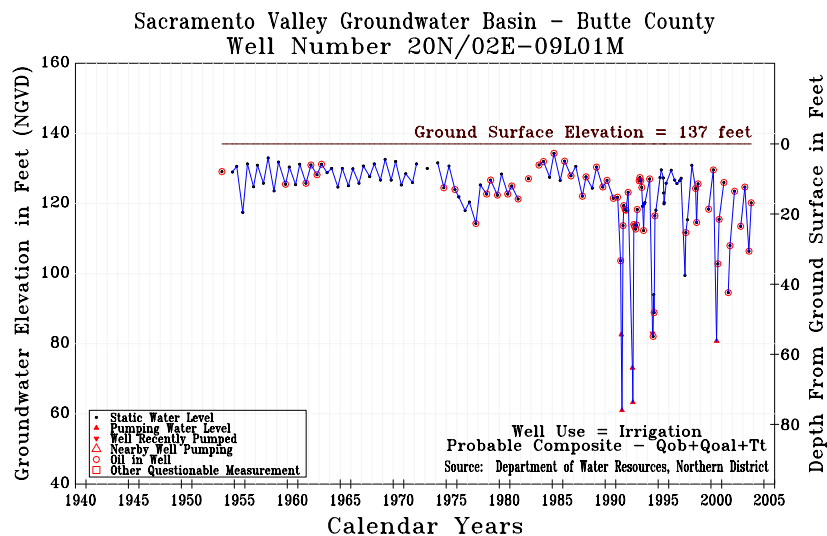


Esquon Sub-Area (Well Number 20N/02E-09L01M):

The figure below is a hydrograph for an active irrigation well 20N/02E-09L01M, in the southern portion of the Esquon Sub-area. The area surrounding the well consists primarily of rice production using both surface and groundwater. The well is a deep irrigation well with shallow casing, and a groundwater level measurement record dating back to the 1950s. Groundwater levels in this well represent a mixture of the unconfined and confined portions of the aquifer system. The groundwater levels in this well were monitored on a semi-annual basis until 1991, and on a monthly basis from 1991 to about 1994. Since 1994, this well has been monitored four times a year during March, July, August and October

The figure shows that the spring to summer fluctuation in groundwater levels averages 10 to 20 feet during years of normal precipitation, and up to 40 feet during the 1994 drought. Long-term comparison of spring to spring groundwater levels show a small decline in groundwater levels associated with the 1976-77 drought, followed by a similar decline associated with the 1986-94 drought. Groundwater levels in this well appear to recover from the 1986-94 drought to groundwater levels similar to those of the early 1980s. However, further long-term analysis of spring-to-spring groundwater levels indicates about a 5-foot decline in groundwater levels since the late 1950s.



Hydrograph for Well 20N/02E-09L01M

Since 2000, spring and fall groundwater levels have declined in this area at an annual rate of about one foot per-year. This is probably climate related and not from over utilization of the groundwater resource. The large downward spikes on the hydrograph that appear after 1990 are summer measurements that reflect the pumping and not static groundwater levels. Summer groundwater levels were not measured prior to 1990. The sub-area will probably fully recover when precipitation returns to a more normal pattern, but this sub-area should be closely watched in the future.