



### **Principles to Govern Calculation of Average Groundwater Quality**

For any given groundwater basin, sub-basin, or management zone ("waterbody") the following principles shall apply when estimating the average pollutant concentration for that waterbody.

- 1) The average concentration will be calculated by dividing the total estimated chemical mass in the saturated zone by the total estimated volume of water stored in the saturated zone.
- 2) The total estimated mass will be calculated using all readily available and reliable well data collected for not less than the most recent 5-year period and not more than the most recent 20-year period.
- 3) The total estimated volume of water in storage will be calculated using current water table depth. Only data collected in the most recent 5-year period may be used to represent "current" water table depth.
- 4) Where multiple data points exist for a single well, such data will be combined and averaged such that only a single data point is used to represent each well when developing water quality contour maps. This limitation does not apply to wells screened at different depths where the data can be discretely distinguished by depth.
- 5) Water quality data from wells outside the target waterbody may be used to develop more accurate contour maps for both water level and chemical concentrations inside the target waterbody.
- 6) Pollutant mass presently located in the vadoze zone will not be used to estimate the existing average water quality in the waterbody. However, pollutant loads presently in the vadoze zone that are expected to enter the saturated zone in the next 10 years may be used to estimate "projected ground water quality."
- 7) When allocating assimilative capacity to a discharger or dischargers, said dischargers must provide an engineering analysis documenting the total amount of assimilative capacity that will be consumed and the rate at which it will be consumed during term for which the discharge is authorized.
- 8) Waterbodies may be subdivided to smaller units (e.g. sub-basins or management zones), and more refined estimates of existing water quality developed, where necessary to facilitate site-specific regulatory strategies.



## **Principles to Govern Estimation and Allocation of Assimilative Capacity in Groundwater**

For any given groundwater basin, sub-basin, or management zone the following principles shall apply when estimating the availability of or allocating assimilative capacity for individual pollutants in that waterbody.

- 1) Assimilative capacity is evaluated and allocated on a pollutant-by-pollutant, waterbody-by-waterbody basis.
- 2) Assimilative capacity exists where the average concentration of a specific pollutant is less than the applicable water quality objective for that same pollutant such that additional mass of the pollutant may be added to the waterbody without exceeding that objective. Where there is insufficient data to develop a reliable estimate of average water quality, the Regional Board will presume that assimilative capacity does not exist.
- 3) Except for some physical water quality parameters (e.g. temperature, pH, radioactivity, etc.) assimilative capacity should be expressed in units of concentration and/or mass.
- 4) The Regional Board has the discretion, but not the obligation, to allocate any assimilative capacity that is available.
- 5) When allocating assimilative capacity, the Regional Board must do so in a manner consistent with the state antidegradation policy (Res. No. 68-16) and related SWRCB guidance. And, more specifically, regulated discharges cannot cause an exceedance of water quality objectives in any individual well even where assimilative capacity is shown to exist in the greater waterbody in which the well and the discharge are both located.
- 6) Where the Regional Board elects to allocate assimilative capacity to permit a discharge of a pollutant at a concentration higher than the applicable water quality objective in the receiving water, the amount of available assimilative capacity must be reassessed and updated every 5 years.
- 7) When reassessing the amount of assimilative capacity available, all prior allocations must be deducted from current water quality estimates to account for the inherent time lag associated with transport thru the vadoze zone.