Trial Consensus Recommendations

1) Most groundwater basins in the Central Valley are quite large and complex. A number of different land uses, water jurisdictions and recharge sources often overly a single aquifer. Because pollutant concentrations vary widely (both horizontally and vertically), it serves no practical regulatory purpose to characterize the "average" water quality in these groundwater basins. Large-scale mean values lack the resolution needed to assess standards attainment, allocate assimilative capacity, or establish appropriate waste discharge requirements.

2) It is more useful to evaluate groundwater quality on a scale commensurate with the regulatory and resource management decisions that must be made with the data. Therefore, large aquifers should be partitioned into much smaller "sub-basins" where existing pollutant levels can be described more precisely and fate and transport can be modeled more accurately.

3) Sub-basin boundaries can be defined both vertically and horizontally by a number of physical elements including, but not limited to: current and projected pollutant concentrations, soil porosity and storage characteristics, subsurface flow gradients and overlying land uses. It may also be appropriate to delineate sub-basin boundaries based on groundwater pumping practices, resource rights or management responsibility above and below the surface.

4) In practice, sub-basins are intended to describe areas where the "zone-of-influence" for waste discharges at the surface may overlap and effect groundwater quality in the production zones of the underlying aquifer. Defining where such interactions are likely, or unlikely, to occur will promote a more site-specific approach to permitting decisions.

5) The relevant regulatory question is whether actual or probable future beneficial uses of groundwater may be adversely affected in the "zone of influence" associated with a given waste discharge. The "zone of influence" includes all areas of the sub-basin where a discharge is expected to co-mingle with groundwater over the next 20 years.

6) To determine whether beneficial uses may be adversely affected, the Regional Board will consider the volume and quality of the waste discharge, the potential for dilution by other sources of surface recharge to the aquifer, distance and travel time to groundwater production zones, the availability of assimilative capacity in the receiving aquifer and the utilization rate of that assimilative capacity by all known sources. However, primary responsibility for gathering the data needed to evaluate these factors rests with waste dischargers not the Regional Board. In the absence of such data, the Regional Board is inclined to err on the side of caution by employing conservative assumptions when evaluating the potential effects of waste discharges on groundwater quality.

7) Assimilative capacity is available where existing water quality is better (lower concentration) than the established water quality objective. Assimilative capacity is determined on a pollutant-by-pollutant basis for each discrete basin or sub-basin. It is possible to have assimilative capacity for one pollutant and not assimilative capacity for another within the same sub-basin. Similarly, it is possible to have assimilative capacity for one or more pollutants in a given sub-basin and no assimilative capacity for these same pollutants in a different sub-basin that lies within the same larger aquifer. The Regional Board is not obligated to allocate assimilative capacity where it exists.

8) When establishing waste discharge requirements to protect groundwater uses, the Regional Board has broad legal discretion to select an appropriate water quality monitoring location (see illustration below) to serve as the official "point-of-compliance" including the authority to apply reasonable translators and other adjustments that recognize how water quality may change from the point of discharge (recharge) to the point of actual or probable beneficial use (extraction).