

Attachment D-1

SNMP Glossary of Terms

ALTERNATIVE COMPLIANCE PROGRAM (ACP): A program or project(s) designed to provide the same or higher level of intended protection to water users that may be adversely affected by the discharge. For example, where a discharge is unable to comply with water quality objectives for nitrate, the discharger may seek an exception and offer to provide a safe and reliable alternative water supply for nearby drinking water wells that exceed or threaten to exceed the primary MCL for nitrate. This approach is considered a form of Alternative Compliance because it assures protection of the beneficial use, where that use actually occurs, by other means. Alternative Compliance Programs may be used in conjunction with other non-traditional regulatory options (including, variances, exceptions, offsets, management zones and assimilative capacity allocations) to mitigate the adverse effects from a discharge until a feasible, practicable and reasonable means for meeting water quality objectives becomes available for certain regulated discharges.

ASSIMILATIVE CAPACITY (Groundwater): The positive difference between the current volume-weighted average concentration of a chemical constituent in a given groundwater basin, subbasin, or management zone and the relevant water quality objective for the same chemical constituent when the Average Concentration is less than the objective. When the Average Concentration is greater than the objective, no assimilative capacity exists. For the purpose of calculating available assimilative capacity, and in accordance with §9(c)(1) of the Recycled Water Policy (Resolution No. 2009-0011, as amended by Resolution No. 2013-0003), the most recent 5 years of available data should be used unless a different data set is approved by the Central Valley Water Board's Executive Officer. (See also State Water Board's Water Quality (WQ) Order No. 73-04). The SNMP generally relies on the most recent 10 years of available data to calculate available assimilative capacity.

AVERAGE CONCENTRATION (Groundwater): The mathematical mean concentration of a chemical constituent computed using the reasonably available, representative and reliable well data collected in a given basin, subbasin, or management zone during the most recent 10-year period. The Central Valley Water Board may authorize longer or shorter averaging periods where necessary and appropriate. Appropriate statistical tools and other quality assurance/quality control data may be used to identify and disqualify outliers, or to spatially and temporally de-cluster well data to reduce the potential for sampling bias when estimating a mean concentration. When computing the average groundwater concentration for a basin or subbasin, the computation is the volume-weighted average concentration for a specified volume of water representative of a specific portion of the aquifer system. See SNMP Attachment B, Section B.2.1.5 for links to documents for a more detailed description and examples of some technical methods previously accepted for use in estimating average chemical concentrations in groundwater.

BASELINE WATER QUALITY (Groundwater): The lowest volume-weighted average (mean) concentration of a chemical constituent consistently attained in a given groundwater basin or subbasin since the relevant water quality objective for that same constituent was established or

since October 28, 1968, whichever is later, unless the Central Valley Water Board has subsequently authorized a different water quality baseline consistent with the State Antidegradation Policy (Resolution No. 68-16). The phrase “baseline groundwater quality” is synonymous with the phrase “existing quality” as the latter term is used in Resolution No. 68-16.

BASIN: An alluvial aquifer or a stacked series of alluvial aquifers with reasonably well-defined boundaries in a lateral direction and having a definable bottom as defined by DWR Bulletin 118 (http://www.water.ca.gov/pubs/groundwater/bulletin_118/california's_groundwater_bulletin_118_-_update_2003_/bulletin118-glossaryrefs.pdf). See SNMP Section 2.4 for discussion of groundwater basins/subbasins in the Central Valley Region.

BEST EFFORTS: Applying the most effective and affordable methods generally available to achieve the highest level of water quality that can be reasonably achieved by reducing the discharge of pollutants or by mitigating the potential adverse effects of such discharges on the receiving waters. Best Efforts is conceptually comparable (but not legally synonymous) with other similar phrases commonly used to proscribe the most effective, efficient and affordable means for minimizing pollution, such as: Best Available Technology Economically Achievable (BATEA), Best Practicable Control Technology (BPT), Best Conventional Pollution Control Technology (BCT), and Best Management Practices (BMP). However, unlike the phrase BPTC, use of the term Best Efforts is not restricted to situations where receiving water quality is better than relevant water quality objectives (See also State Water Board WQ Order No. 81-5; State Water Board WQ Order No. 2000-07; State Water Board WQ Order No. 2000-11).

BEST MANAGEMENT PRACTICES (BMP): Structural or non-structural (operational) control techniques designed to reduce the discharge of pollutants into receiving waters, especially for non-point sources where conventional wastewater treatment technologies are not a feasible or practicable compliance option.

BEST PRACTICABLE TREATMENT OR CONTROL (BPTC): A widely-used or industry accepted method that is proven, cost-effective and reliable for reducing the mass or concentration of potential pollutants discharged to the receiving water to assure that pollution or nuisance will not occur, and the highest water quality consistent with the maximum benefit to the people of the State will be maintained. The phrase BPTC applies exclusively to situations where receiving water quality is better than relevant water quality objectives and an Antidegradation Analysis is being performed as required by Resolution No. 68-16 (See also Questions and Answers About State Water Board Resolution No. 68-16; Feb. 16, 1995: http://www.waterboards.ca.gov/water_issues/programs/dept_of_defense/docs/5g.pdf).

CONTAMINATION: Per CWC §13050(k), an impairment of the quality of the waters of the state by waste to a degree which creates a hazard to public health through poisoning or through the spread of disease. Contamination includes any equivalent effect resulting from the disposal of waste, whether or not waters of the state are affected.

CURRENT WATER QUALITY (Groundwater): The volume-weighted Average Concentration of a chemical constituent in a given basin, subbasin or management zone (See also State Water Board WQ Order No. 73-4 and Resolution No. 2009-0011).

EARLY ACTION PLAN: A plan that identifies specific activities, and a schedule for implementing those activities, that will be undertaken to assure immediate access to safe drinking water for those who are dependent on groundwater from wells that exceed the Primary MCL for nitrate (See also the SNMP Nitrate Permitting Strategy, Attachment A-2).

EXCEPTION: A special authorization, adopted by the Central Valley Water Board through the normal public review and approval process, that allows a discharge or group of discharges to groundwater, subject to various conditions, without an obligation to comply with certain water quality objectives that would normally apply to the given discharge for the period of the exception. Exceptions are limited to a specific term that is determined by the Central Valley Water Board (See also the SNMP Exceptions Policy, Attachment A-4).

FEASIBLE, PRACTICABLE AND REASONABLE: Capable of being accomplished in a successful manner within a reasonable period of time, taking into account economic, environmental, legal, social and technological factors. "In a successful manner" means avoiding significant and unacceptable adverse impacts.

INFEASIBLE, IMPRACTICABLE OR UNREASONABLE: Not capable of being accomplished in a successful manner within a reasonable period of time, taking into account economic, environmental, legal, social and technological factors. "In a successful manner" means avoiding significant and unacceptable adverse impacts.

LOWER PRODUCTION ZONE (Groundwater; see Figure D1-1): The remaining portion of a groundwater basin or subbasin's production zone excluding the upper zone. Wells constructed in the lower zone are generally used for municipal supply and/or crop irrigation purposes. The upper boundary of the lower zone varies based on well construction information for a given basin or subbasin (see reference citation in the definition of upper zone). Where the Corcoran Clay layer exists, and a significant proportion of domestic wells rely on water above the Corcoran Clay layer, the Corcoran Clay layer may define the lower boundary of the upper zone or the lower zone, pending the available well construction and groundwater use information. The groundwater beneath the Corcoran Clay is referred to as the lower aquifer system (See also SNMP Section 3.3.1.1).

MANAGEMENT ZONE (Groundwater): A discrete and generally hydrologically contiguous area of groundwater for which permitted discharger(s) participating in the management zone collectively work to meet the goals of the SNMP and for which compliance with water quality objectives is regulated and evaluated as a subdivision of a larger groundwater basin(s) or subbasin(s). Where management zones cross groundwater basin or subbasin boundaries, water quality conditions and compliance with water quality standards are assessed separately for each basin or subbasin. Management zones must be approved by the Central Valley Water Board (See also SNMP Groundwater Management Zone Policy, Attachment A-1).

NATURALLY-OCCURRING BACKGROUND CONCENTRATION: The average concentration of a chemical constituent that is likely to be present a given groundwater basin or subbasin without the influence of anthropogenic activities that may have occurred over time, accounting for temporal and spatial variability.

NUISANCE: Per CWC §13050(m), anything which meets all of the following requirements: (1) Is injurious to health, or is indecent or offensive to the senses, or an obstruction to the free use

of property, so as to interfere with the comfortable enjoyment of life or property; (2) Affects at the same time an entire community or neighborhood, or any considerable number of persons, although the extent of the annoyance or damage inflicted upon individual may be unequal; (3) Occurs during, or as the result of, the treatment or disposal of wastes.

OFFSET PROGRAM: Project(s) implemented in conjunction with, but separately from, a discharge that are designed to demonstrate that the combined cumulative net impact of both on the receiving water quality is better than what is expected to occur if the discharge complied with the WDRs that would normally be imposed in the absence of any Offset Program (See also the SNMP Offsets Policy, Attachment A-7).

PERCHED GROUNDWATER (see Figure D1-1): Groundwater that is supported by a zone of material of low permeability located above an underlying main body of groundwater with little or no hydrologic connectivity to the underlying main aquifer. In most cases, perched groundwater is excluded when characterizing the production zone, upper zone or shallow zone of the main aquifer which makes up a given DWR-designated groundwater basin or subbasin (see DWR 2003).

POLLUTION: Per CWC §13050(l), an alteration of the quality of the waters of the state by waste to a degree which unreasonably affects the waters for beneficial uses or the facilities which serve these beneficial uses. Pollution may include contamination.

PRODUCTION ZONE (Groundwater; see Figure D1-1): The portion of a basin, subbasin or management zone from which the vast majority ($\approx 90\%$) of groundwater is being pumped and utilized. The production zone is comprised of both an upper production and a lower production zone (See also SNMP Section 3.3.1.1).

RECEIVING WATER(S): A Water of the State into which pollutants are discharged.

SATURATED ZONE (see Figure D1-1): The area, below the land surface, in which all pore space between soil, sand and rock particles is filled with water. The saturated zone is below the unsaturated zone and excludes areas of soil moisture where water is held by capillary action in the upper unsaturated soil or rock.

SHALLOW GROUNDWATER ZONE (see Figure D1-1): The uppermost portion of the upper zone that generally encompasses the shallowest 10% of the domestic water supply wells in a given basin or subbasin. For regulatory purposes, the term "shallow zone" should be used in lieu of the phrase "first-encountered groundwater."

SUBBASIN: A subdivision of a groundwater basin created by dividing the basin using geologic and hydrologic or institutional boundaries. The California DWR has identified the groundwater basins or subbasins of the Central Valley Region in Bulletin 118 (See also SNMP Section 2.4).

TRIGGER(s): A concentration or level for a specific constituent (e.g. Nitrate, TDS) or parameter (e.g., electrical conductivity, pH) which, when equaled or exceeded, may require some dischargers to initiate certain actions or implement certain measures.

UNSATURATED ZONE (see Figure D1-1): The area, below the land surface, in which the pore space between soil, sand and rock particles contains varying degrees of both air and water in

ratios that inhibit extraction of significant or economic quantities of groundwater extraction. The term “unsaturated zone” is generally considered to be synonymous with the term “vadose zone.”

UPPER PRODUCTION ZONE (Groundwater, see Figure D1-1): The portion of a groundwater basin, subbasin or management zone from which most domestic wells draw water. It generally extends from the top of the saturated zone to the depth to which domestic wells are generally constructed (screened). The lower boundary of the upper zone varies based on well construction information for a given basin or subbasin. The Corcoran Clay layer may define the lower boundary of the upper zone or the lower zone, pending the available well construction and groundwater use information. The groundwater beneath the Corcoran Clay is referred to as the lower aquifer system (See also Luhdorff & Scalmanini Consulting Engineers and Larry Walker Associates [2016a] and SNMP Section 3.3.1.1).

VARIANCE: A special authorization, adopted by the Central Valley Water Board through the normal public review and approval process, that allows an NPDES-permitted discharge(s) to surface waters or a waterbody, subject to various conditions, without an obligation to comply with certain water quality standards that would normally apply to the given discharge(s) or waterbody. Variances are limited to specific terms governed by federal law and must also be approved by US EPA. Variances apply solely to surface waterbodies or discharges to those surface waters (See also Resolution No. R5-2014-0074).

ZONE OF INFLUENCE (Groundwater): The portion(s) of a basin, subbasin or management zone where a discharge or discharges is expected to migrate and co-mingle with the receiving water over time.

Note: Some terms and phrases in this glossary may have different meanings when applied to a surface water context. Examples include, but are not limited to: *Assimilative Capacity, Average Concentration, Baseline Water Quality, Current Water Quality, etc.* Therefore, it may be appropriate to expand this glossary to describe and define such differences at a later date.

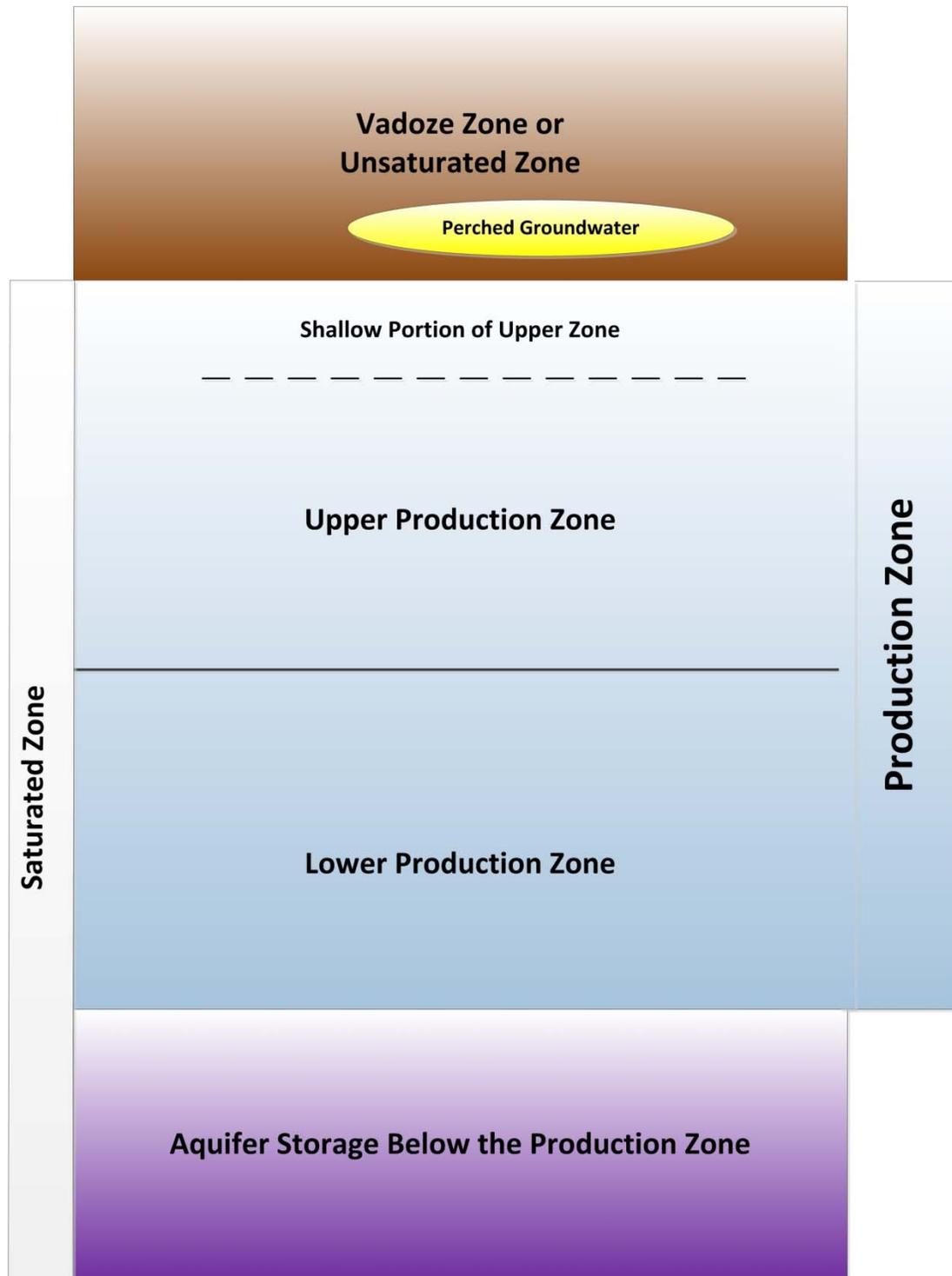


Figure D1-1. Subdivisions of a Groundwater Basin or Subbasin