Groundwater Level Conditions and Significant & Unreasonable Conditions

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Groundwater Level Conditions

Significant & Unreasonable Chronic Lowering of Groundwater Levels



Groundwater Level Conditions

Historical and Current Groundwater Levels











Santa Margarita Aquifer Groundwater Levels









Compare Scotts Valley Area Pumping and Groundwater Elevations in SVWD #10 (Lompico Aquifer)









Summary: Groundwater Elevation Impacts in the Basin

Significant & Unreasonable Chronic Lowering of Groundwater Levels

Impacts of Chronically Lowered Groundwater



Beneficial Users & Uses

Example Beneficial Users	Potential Impact
Residential	 Reduced well yield Well deepening required because wells go dry Increased pumping costs Changing groundwater quality Reduced land costs because groundwater is too deep
Industrial (Quail Hollow Quarry)	
Agricultural	
Small Water Systems	
Municipal	
Groundwater Dependent Ecosystems	 Groundwater level drops below root zone and plants die off Reduced baseflow in creeks that reduces aquatic habitat



Known Impacts on Wells

- In Scotts Valley area, shallow municipal wells screened in the Santa Margarita aquifer went dry in the 1990's. These were replaced with deeper Lompico aquifer wells
- Increased pumping costs in municipal wells screened in the Lompico aquifer because of lowered water levels
- Increased salinity in municipal wells screened in parts of the Monterey and Lompico aquifers that have experienced lowered groundwater levels (< drinking water standards)</p>

Are any of these Significant & Unreasonable impacts?

Significant & Unreasonable General Format of other GSPs

Lowering of groundwater levels that cause:

- Who is impacted
- Relative amount of users impacted
- What kind of impact
- Over what time period

Example Statements of Significant & Unreasonable Chronic Lowering of Groundwater Levels

Cuyuma Valley Basin

Significant and unreasonable reduction in the long-term viability of domestic, agricultural, municipal, or environmental uses over the planning and implementation horizon of this GSP

Salinas Valley Basin - 180/400 ft Aquifer

- Are at or below the lowest observed groundwater elevations. Public and stakeholder input identified historically low groundwater elevations as significant and unreasonable.
- Cause significant financial burden to local agricultural interests.
- Interfere with other sustainability indicators.

Delta-Mendota Basin

...depletion of the productive layers of the upper aquifer that would cause increased reliance on the lower aquifer and thus potentially accelerate subsidence.

Example Statements of Significant & Unreasonable Chronic Lowering of Groundwater Levels

Kings Subbasin

...when either the water level has declined to a depth that a new productive well cannot be constructed or when the water level has declined to a depth that water quality cannot be treated for beneficial use

Kern Basin

The point at which significant and unreasonable impacts over the planning and implementation horizon, as determined by depth/elevation of water, affect the reasonable and beneficial use of, and access to, groundwater by overlying users.

Santa Cruz Mid-County Basin

A significant number of private, agricultural, industrial, and municipal production wells can no longer provide enough groundwater to supply beneficial uses.

Significant & Unreasonable Guidance

Lowering of groundwater levels that cause:

- Who is impacted
 - specific users or just overlying users?
- Relative amount of users impacted
 - All, most, significant amount?
- What kind of impact
 - Have historical groundwater level declines negatively impacted beneficial uses & users, e.g., physical access to water, long-term viability, wells going dry or reduced yield, water quality, (GDEs to be discussed later)
 - Have historical groundwater level declines negatively impacted land use, property, or financial interests?
- Over what time period
 - Should this be limited by timeframe?

Thank you for your participation!