

Establishing Salinity Objectives to Protect AGR Uses in Groundwater Management Zones

Existing AGR Uses

Determine the commercial¹ cropping pattern for the land overlying the groundwater management zone⁹ during the previous 10 years.

Identify the acreage that is reliant on local groundwater or surface water as the primary source of supply for crop irrigation.²

Determine the EC level that will assure minimum adverse impact³ for 95% of the acres planted with commercial crops that are reliant on local groundwater as the primary source of supply for irrigation.

Specify limited exceptions to the EC objectives to allow for short-term changes in the quality of irrigation supplies caused by temporary drought conditions.⁷

Where existing water quality is already better (lower EC) than the threshold value that assures minimum adverse impact, the state antidegradation policy the state antidegradation policy shall apply.

Reasonably Probable Future AGR Uses

Determine the commercial cropping pattern for the land overlying the groundwater management zone during the previous 20 years.⁸

Identify those crops that are expected to be commercially viable using local groundwater or surface water, at its current average EC level, as the primary source of supply for irrigation.⁴

Assess whether there are factors⁵, other than water quality, that impose significant restrictions on expected yield and commercial viability of the less salt-tolerant crops.

Determine EC level that will assure reasonable protection⁶ for the commercially viable crops that are likely to be planted on the land overlying the groundwater management zone and are likely to rely on that groundwater as the primary source of supply for irrigation.

¹ U.S. Dept. of Agric. defines commercial agriculture operations as those which gross more than \$1,000/year. San Diego Regional Board used this definition to define exemptions to Conditional Ag Waiver (R9-2011-0020).

² Commercial crops that rely primarily on imported water for irrigation should not be included in the analysis where the EC levels in the imported water differ significantly from the measured values in local groundwater.

³ Minimum Adverse Impact = EC in irrigation water is estimated to cause no reduction in yield in 95% of all year OR no more than 5% reduction in yield in any single year using the Grattan-Isidoro (2006) model.

⁴ Expected yield for crops dependent on local surface and ground waters as the primary source of supply for irrigation should be calculated based on the existing average EC levels of those supplies.

⁵ Such factors include, but are not limited to: proper soil conditions, supportive climate conditions, access to adequate water supplies, etc.

⁶ Reasonable Protection = EC in irrigation water is estimated to cause no more than a 5% reduction in expected yield in 95% of all years using the Grattan-Isidoro (2006) model.

⁷ The definition of "limited exceptions" and "temporary drought conditions" is TBD.

⁸ A crop is considered reasonably probable and commercially-viable if it comprised more than 5% of the cultivated land overlying the groundwater management zone in any year during the previous 20 years or is likely to do so in the next 10 years given current planting trends.

⁹ A groundwater management zone may refer to an existing aquifer or groundwater basin or a discrete, well-defined subdivision of that aquifer or groundwater basin.

¹⁰ In the absence of site-specific data to the contrary, EC levels less than 700 uS/cm are presumed to pose no significant restriction on expected crop yield due to excessive salinity concentrations.