Proposed Undesirable Results for Degraded Groundwater Quality and Statement of Significant & Unreasonable Chronic Lowering of Groundwater Levels

> Presented by Georgina King, Montgomery & Associates Santa Margarita Groundwater Agency July 23, 2020

Objectives

Understand different approaches for developing Undesirable Results for Degraded Groundwater Quality; indicate preferred approach

Input on revision to Statement of Significant and Unreasonable Chronic Lowering of Groundwater Levels







These are Best Management Practices that has DWR has provided to help guide Sustainable Management Criteria development



Refresher slide of what Undesirable Results are



These are considerations discussed at previous Board meetings or provided in emails after the June Board meeting. These have been used to guide development of the degraded groundwater quality undesirable results.



A moving average allows for 1) more flexibility than just using single point exceedances of MT to define undesirable results, and 2) has the over time concept by using 10 years Two options: arithmetic and exponential. This slide shows the difference between the two options. Exponential moving average gives the most recent data points a higher weight in the average which results is less smoothing out than the arthmetric moving average. A 10-year average causes a lot more smoothing out than a shorter averaging period. The 10-yr average was selected because some of the water quality data are only collected every 10 years.





The exponential moving average is truer to the data with less smoothing than the arthmetric moving average.



Nitrate in this well has fluctuated over the years. The results in this example are fairly similar even though there is greater weight placed on the recent data for the exponential moving average.



The exponential moving average more quickly responds to the non-detects (square symbols) but also the spikes because it places more weight on the recent data



Example Undesirable Results for Degraded Groundwater Quality Undesirable results occur if <any> of the degraded groundwater quality RMPs' <10-year> <exponential moving averages> exceed their respective minimum thresholds.

ک ا

This is an example of what undesirable results for degraded groundwater quality could look like. The variables in < > can be changed to reflect more or less flexiability in avoiding undesirable results. At this point we'd like to hear Board input on what they'd like to see defining undesirable results for degraded groundwater quality.





Statement of Significant & Unreasonable Chronic Lowering of Groundwater Levels

Same as presented at June Board meeting

Significant and unreasonable chronic lowering of groundwater levels occurs if lowered levels materially impair groundwater supply or cause undue financial burden for a significant number of the Basin's beneficial users or uses.

Revision to the preliminary statement to reflect GDEs based on GDE information received earlier in the Board meeting today?



