

Comment/Response Summary: July 2019 Draft KRE/AID Management Zone Documents

No.	Commenter	Section	Comment	Response
Preliminary Management Zone Proposal Sections				
1	Walt Plachta, RWQCB	3.4	The methodology proposed for assessing groundwater conditions includes calculating an average nitrate concentration for each well for the years 2000-2018, and averaging those annual averages to identify a single value stated to represent recent conditions. This approach has the potential to significantly underestimate the current nitrate concentration in numerous wells, especially those which have more recently begun to exceed the MCL for nitrate. As a result, there may be numerous residences which are omitted from the described outreach efforts and are left unaware that their well is potentially unsafe to use as a drinking water source or that various methods of accessing safe drinking water have been made available to them.	The purpose of the Preliminary Management Zone Proposal is to provide an "initial assessment" of nitrate conditions that uses readily available data. The focus relies heavily on the previous CV-SALTS ambient nitrate dataset and established methodology for determining ambient conditions (e.g., see CV-SALTS 2016). CV-SALTS trend data has been added to the Initial Assessment section of the Proposal to identify areas where nitrate concentrations indicate degrading water quality, but this dataset is insufficient to get a good sense of where groundwater is degrading or improving. Although it may seem ideal to limit the nitrate data to only incorporate recent data (e.g. the last 5 years), that reduces the amount of data points needed to do a valid assessment of ambient nitrate across the entire Management Zone area, producing a map with potentially even more data gaps. A comparison of ambient post-2000 average well nitrate concentrations to maximum post-2000 well nitrate concentrations shows that the maximum nitrate is quite similar to the average nitrate, and underestimation of nitrate due to averaging occurs. Two additional figures (3-8, 3-9) were created and presented to address this comment - a trend map showing the CV-SALTS High Resolution trends analysis (for individual wells with significant trends and post-2000 data); and a maximum post-2000 nitrate map that compares the average-based interpolated ambient post-2000 nitrate to the maximum post-2000 nitrate for individual wells.
2	Walt Plachta, RWQCB	3.4	There appear to be a significant number of potential domestic wells in identified "gap" areas where insufficient data exist to do a spatial interpolation of ambient nitrate conditions. Identifying data to fill these gaps should be a high priority for the Management Zone. The Irrigated Lands Regulatory Program's on-farm drinking water supply well monitoring requirement and Groundwater Trend Monitoring Program should produce data for these areas in the near term, and should be incorporated in the assessment when they become available.	Agreed. The ILRP domestic well data would make an excellent addition to the dataset as is noted in Section 7 regarding updates to the groundwater assessment. As these data, or others, become available either during the development of the final Preliminary Management Zone Proposal or during development of the Final Management Zone Proposal they can be incorporated into the analysis.

Comment/Response Summary: July 2019 Draft KRE/AID Management Zone Documents

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3	Debi Ores, Community Water Center	3.2	In regards to how the Upper Zone is being measured - I'm confused by the way it is proposed to be calculated. The BPA defines the upper zone as, the portion of groundwater basin, sub-basin or management zone from which most domestic wells draw water..." yet the MZ proposal defines it as, "The depth of the Upper Zone includes the depth from the bottom of the vadose zone to the top of the Lower Zone. The depth of the Upper Zone is based on well construction information, as possible, and other comparable information that provide the best available indication of well depth. The determination of the Upper Zone depth gives the highest weight to domestic well depths." There is nothing in the BPA regarding giving domestic wells the highest weight, it is solely regarding where most domestic wells draw from. Further, the upper zone calculation is problematic for several reasons. First, we want to ensure that the upper zone is properly defined to be inclusive of domestic wells. Second, rural PWS are generally comparable in depth to domestic wells. USGS used small PWS as a proxy for domestic wells in some of its shallow groundwater inspections. Third, this table double counts PWS by including both Urban, Rural and DDW systems. It would be helpful to understand why this weighting method was chosen and how the upper zone definition might have changed if only the lower screening depth of domestic wells and rural PWS were used.	The delineation and development of the Upper, Lower, and Production Zones was already developed, peer-reviewed, and approved as part of the development of the Salt and Nitrate Management Plan and approval of the Central Valley Water Board Basin Plan amendment. This established methodology for dividing the aquifer into more meaningful units allows for the categorization of nitrate groundwater quality data for better characterization of the subsurface conditions. Please refer to Section 2 of CV-SALTS (2016): "Region 5: Updated Groundwater Quality Analysis and High Resolution Mapping for Central Valley Salt and Nitrate Management Plan, June 2016". (https://www.cvsalinity.org/committees/technical-advisory/conceptual-model-developments/171-updated-groundwater-quality-analysis-for-central-valley.html). This section describes the development and vetting that went into the role of the Corcoran Clay and the various weighting of well perforations and construction information.
Early Action Plan				
1	Walt Plachta, RWQCB	5.1.2.3.1	Assuming a long-term solution for addressing the drinking water needs of affected residents will take some time to develop/implement, it may be appropriate to repeat the assessment/outreach process on a regular basis. New tenants of properties may be unaware of existing water quality issues or alternative water supplies available to them.	Added two additional follow-up targeted outreach activities to address potential for new tenants or updated information. Modifications made to Section 5.1.2.3.1 (Mailout to Residents within EAP Area) and 6.1 (Implementation Schedule) to address this comment.
2	Joey Giordano, The Wine Group	Figure 2-2	Page 11 of the PDF, 2-5 of the document, Figure 2-2. Water System Type section in the legend only contains Community, Non-Community, and Non-Transient Non-Community. Is the "Transient Non-Community" classification implied to be included in "Non-Community" or was this type omitted? TNC sampling requirements typically include Nitrate, so I would hope that those are included under the greater "Non-Community" classification bucket.	All water systems with available data are presented in the figure. "NC" includes "TNC". The available documentation does not specify Transient Non-Community from the Non-Community category.
3	Joey Giordano, The Wine Group	Table 2-2	Page 13 of the PDF, 2-7 of the document, Table 2-2. Per our permit, Franzia Winery-Sanger is actually a NTNC PWS type, not a "NC".	Thank you for the clarification - the text has been updated to reflect the system type.

Comment/Response Summary: July 2019 Draft KRE/AID Management Zone Documents

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4	Joey Giordano, The Wine Group	Table 2-2	Page 14 of the PDF, 2-8 of the document, Table 2-2. Per our permit, Golden State Vintners only has 3 service connections, not the 10 indicated on the Table. This error is present in other subsequent tables.	Thank you for the clarification - the text has been updated to reflect the accurate number of connections.
5	Debi Ores, Community Water Center	Nitrate Impacted Areas	Nitrate impacted areas - While nitrate testing data dating back to 2000 might be the most recent information we have in certain areas, where it is not, using a 20-year averaging approach is inappropriate. Nitrate levels change over time and a 20-year averaging approach may mask areas which are currently out of compliance with the drinking water standards. We recommend a) using only the most recent well result to determine ambient nitrate concentration and b) development of a trend analysis using those wells with multiple test results. The latter will allow the identification of problem areas that may not yet be out of compliance, but where trends indicate a trend towards non-compliance.	The purpose of the Preliminary Management Zone Proposal is to provide an "initial assessment" of nitrate conditions that uses readily available data. The focus relies heavily on the previous CV-SALTS ambient nitrate dataset and established methodology for determining ambient conditions (see e.g., CV-SALTS 2016). CV-SALTS trend data has been added to the Initial Assessment section of the Proposal to identify areas where nitrate concentrations indicate degrading water quality, but this dataset is insufficient to get a good sense of where groundwater is degrading or improving. Although it may seem ideal to limit the nitrate data to only incorporate recent data (e.g. the last 5 years), that reduces the amount of data points needed to do a valid assessment of ambient nitrate across the entire Management Zone area, producing a map with potentially even more data gaps. Using the most recent nitrate data is not unreasonable, but also may provide an inaccurate value of nitrate if seasonal variability or anomalous data exists. A comparison of ambient post-2000 average well nitrate concentrations to maximum post-2000 well nitrate concentrations shows that the maximum nitrate is quite similar to the average nitrate. Two additional figures(3-8, 3-9) were created and presented to address this comment - a trend map showing the CV-SALTS High Resolution trends analysis (for individual wells with significant trends and post-2000 data); and a maximum post-2000 nitrate map that compares the average-based interpolated ambient post-2000 nitrate to the maximum post-2000 nitrate for individual wells.

Comment/Response Summary: July 2019 Draft KRE/AID Management Zone Documents

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6	Debi Ores, Community Water Center	Upper Zone Delineation	Upper Zone determination - In regards to how the Upper Zone is being measured - I'm confused by the way it is proposed to be calculated. The BPA defines the upper zone as, the portion of groundwater basin, sub-basin or management zone from which most domestic wells draw water..." yet the MZ proposal defines it as, "The depth of the Upper Zone includes the depth from the bottom of the vadose zone to the top of the Lower Zone. The depth of the Upper Zone is based on well construction information, as possible, and other comparable information that provide the best available indication of well depth. The determination of the Upper Zone depth gives the highest weight to domestic well depths." There is nothing in the BPA regarding giving domestic wells the highest weight, it is solely regarding where most domestic wells draw from. Further, the upper zone calculation is problematic for several reasons. First, we want to ensure that the upper zone is properly defined to be inclusive of domestic wells. Second, rural PWS are generally comparable in depth to domestic wells. USGS used small PWS as a proxy for domestic wells in some of its shallow groundwater inspections. Third, this table double counts PWS by including both Urban, Rural and DDW systems. It would be helpful to understand why this weighting method was chosen and how the upper zone definition might have changed if only the lower screening depth of domestic wells and rural PWS were used.	The delineation and development of the Upper, Lower, and Production Zones was already developed, peer-reviewed, and approved as part of the development of the Salt and Nitrate Management Plan and approval of the Central Valley Water Board Basin Plan amendment. This established methodology for dividing the aquifer into more meaningful units allows for the categorization of nitrate groundwater quality data for better characterization of the subsurface conditions. Please refer to Section 2 of CV-SALTS (2016): "Region 5: Updated Groundwater Quality Analysis and High Resolution Mapping for Central Valley Salt and Nitrate Management Plan, June 2016". (https://www.cvsalinity.org/committees/technical-advisory/conceptual-model-developments/171-updated-groundwater-quality-analysis-for-central-valley.html). This section describes the development and vetting that went into the various weighting of well perforations and construction information. All domestic well nitrate data is incorporated into the Upper Zone dataset which is used for identifying nitrate-impacted areas.
7	Debi Ores, Community Water Center	Water Filling Stations	Water Filling Stations - Looking at the map of the areas each of the 4 filling stations will cover, we are concerned that the area covering the majority of the nitrate impacted area within the Management Zone will become too busy for many people to be able to use in a reasonable amount of time. We suggest that for that area in particular that there be multiple filling stations which may entail multiple filling stations at the same location to ensure long wait times do not deter people from accessing the station.	Thank you for the comment. Four filling stations is a planning number; the EAP does not preclude adding more. Specifically, the EAP includes a monitoring component to determine if additional facilities needed (see Section 5.3.1). In addition, the periodic EAP review (Section 1.5) includes an assessment of the need for more facilities.
8	Debi Ores, Community Water Center	Outreach and Community Engagement	Outreach and community engagement - For this program to be successful, multiple types of community contact must be included. Social contacts such as clubs, schools and churches provide an excellent opportunity to inform residents of the interim water supply options. Additionally, social service providers such as the county departments of public health, senior services, and social service providers could easily include this option with the services already provided. We strongly urge the MZ committee to contract with a qualified 3rd party to conduct this engagement. Further, we urge that you a) engage qualified 3rd parties to conduct this engagement and b) that you not hold stand-alone meetings but contact people where they are already gathering, such as church, community events or shopping.	Thank you for the information/report. The intent of the Community Outreach section is to implement multiple types of community contacts, e.g., see Sections 5.2.3, 5.2.4, and 5.2.5.
9	Kings River Conservation District	5.1.1.2	Rather than have a specific requirement for DDW approval, we recommend that the document have a general bullet regarding obtaining all necessary approvals	Modified relevant bullets in 5.1.1.2 and related element in Table 6-1.