

## Santa Ana Regional Water Quality Control Board

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### LAKE ELSINORE/CANYON LAKE, DECEMBER 31, 2011 DRAFT AGRICULTURAL NUTRIENT MANAGEMENT PLAN – REGIONAL WATER BOARD STAFF COMMENTS

Dear Ms. Boldt:

We received the Western Riverside County Agricultural Coalition's (WRCAC's) December 31, 2011 transmittal of the Draft Agricultural Nutrient Management Plan (Ag NMP) submitted on behalf of confined animal feeding operators (CAFOs) and WRCAC member agricultural operators in the Lake Elsinore/Canyon Lake watershed. The Ag NMP is required pursuant to Task 5 of the Lake Elsinore/Canyon Lake Nutrient TMDLs.

In your transmittal of the draft Ag NMP, you indicate that additional work is being done to refine Section 2. Therefore, while we provide preliminary comments on Section 2 in this response, our review of the Ag NMP primarily focused on Section 1, Section 3 and the associated support documents. We will provide additional comments on the refined Section 2 if and as needed. We expect that all comments will be addressed to Water Board staff's satisfaction prior to Regional Board consideration of approval of the Ag NMP.

#### **Section 1 Background**

##### **Background and Purpose**

We note that this section refers to the fact that agricultural discharges are given a "wasteload allocation". As we are sure you are aware, non-point source discharges, including agriculture, septic systems and open space, are given load allocations (LAs) while point source discharges, including urban stormwater and CAFOs, are given wasteload allocations (WLAs). We understand that for the sake of streamlining the draft Ag NMP, the agricultural and CAFO discharges are grouped together in the WLA category. However, it would be useful to clearly acknowledge at the outset of the Ag NMP the atypical use of the TMDL terminology for the various types of discharges.

##### **Section 1.4.1: Purpose and Requirements**

The draft Ag NMP indicates that TMDL requirements are to be specified in both the pending Conditional Waiver for Agricultural Dischargers (CWAD) and the revised CAFO permit and that the expectation will be that the programs will be similar to what is stated in the MS4 Permit. We assume

that the implication is that both the CAFO permit and the CWAD will allow for the development and implementation of the Ag NMP as the agricultural equivalent of the Comprehensive Nutrient Management Plans (CNRPs) as the way to meet the respective wasteload and load allocations. If so, this should be stated clearly. If not, the intent needs to be clarified.

#### Section 1.4.4: Conceptual Framework

We note that the implementation of the Ag NMP will rely on both watershed-based BMPs and in-lake remediation projects, coupled with a monitoring program to evaluate progress. Regional Board staff supports this adaptive approach.

### **Section 2 – Ag NMP Implementation Program**

While we understand that WRCAC is continuing to work on Section 2, we'd like to offer some preliminary comments that may assist in the revision. In general, we found the formatting of this section to be somewhat disjointed. We believe that it would be more appropriate to include the specific Management Measures and Guidance Practices as part of an appendix.

#### Section 2.2.2: Watershed Based BMPs

We note that this section references the use of a "tiered pay-scale" based on what BMPs are actually on the ground. While we don't disagree with this approach and believe that it is appropriate depending on the watershed location and other factors that are identified, we are unsure how a pay-scale relates to the Ag NMP and the overall BMP approach that is proposed.

#### Section 2.2.3: In-Lake Remediation Activities

Consistent with the MS4 agencies, the agricultural operators intend to rely also on the Canyon Lake Hypolimnetic Oxygen System (HOS) to address excess nutrient loads (i.e., nutrient loads that exceed the agricultural and CAFO allocations) that are not reduced by implementing watershed-based BMPs. As indicated in our September 2, 2011 letter to Mr. Norton, the Lake Elsinore/Canyon Lake TMDL Administrator, Water Board staff is supportive of the proposed approach discussed in the draft Ag NMP to utilize the HOS to meet the agricultural nutrient load and CAFO dairy waste allocations. The HOS will provide both an alternative approach for the CAFO and agricultural dischargers to meet the specified nutrient allocations as well as providing direct in-lake water quality benefits.

The draft Ag NMP indicates that agricultural operators are "preliminarily committed" to the Canyon Lake HOS project and that actual implementation is contingent on planning, permitting and coordination with other agencies. While we are encouraged that, as indicated in the draft Ag NMP, WRCAC has budgeted to support the HOS (or other identified strategy), Board staff believes that the planning, permitting and coordination factors that affect or might affect implementation of the HOS should be identified, together with decision triggers and schedules. Further, if Phoslock™ and/or zeolite instead of the HOS are to be the planned project, then the Ag NMP needs to contain the same level of compliance analysis for these treatment options as that provided for the HOS in Section 3. While we note that the Phoslock™ and/or Zeolite addition is being considered, an analysis of their effectiveness is not presented in Section 3<sup>1</sup>.

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<sup>1</sup> We note that Section 2 does not specifically mention Zeolite addition as an option.

For Lake Elsinore, we understand that the agricultural operators will utilize fishery management activities to meet wasteload and load allocations. Regional Board staff is supportive of this approach.

#### Section 2.2.3: Monitoring Program

The draft Ag NMP indicates that the San Jacinto River Watershed monitoring provided data to assess compliance with the TMDLs, WLAs and LAs. This is not the case. Because there are too few watershed monitoring locations that are land-use specific, the existing monitoring program does not provide the data necessary to assess nutrient inputs from different land use sources and thus compliance with the WLAs and LAs assigned to these sources. At most, the existing monitoring program only provides data and information for the assessment of compliance with the TMDLs. It may be that a combination of monitoring data and modeling will need to be used to determine land-use specific nutrient loads. As indicated in our September 2, 2011 letter to Mr. Norton, Water Board staff remains concerned that there may not be adequate watershed data collected to assess compliance with the 10-year running average WLAs and LAs. To that end, we believe that a specific discussion of how agricultural/CAFO dischargers intend to demonstrate that implementation of the Ag NMP will fulfill its intended purpose to meet the WLA (for CAFOs) and LAs (for agricultural dischargers) should be included in the Ag NMP. We believe that this needs to include tracking of CAFO and agricultural loads over the Ag NMP implementation period. This monitoring/tracking program will also ensure that modifications to the Ag NMP are supported by real data.

Finally, as indicated in our September 2, 2011 letter, we continue to support reductions in the in-lake monitoring programs contingent on the demonstrations that the reductions are justified and that the resource savings will be used to implement specific in-lake and/or watershed projects. Accordingly, any proposed monitoring reductions must be accompanied by specific information about the amount of cost savings and where the monies will be used to support Ag NMP (or other discharger) implementation projects.

#### Section 2.4: Implementation Schedule

No mention is made of how often the agriculture and dairy operators intend to provide implementation status reports to the Regional Board. If the intent is to use the reporting program that would be required pursuant to the CWAD as the TMDL reporting, that should be indicated in the Ag NMP.

#### Section 2.5: Water Quality Standards Attainment

We are unclear on the intent of this discussion and believe that there may be some confusion about terminology. As a reminder, the TMDLs for both lakes specify numeric targets for dissolved oxygen, chlorophyll a, phosphorus and nitrogen. It is expected that if these targets are achieved, then water quality standards, including beneficial uses and water quality objectives, will be attained. Wasteload and load allocations are also specified and, if met, are expected to result in attainment of the targets. The TMDLs and allocations are specified as 10-year running averages. The targets for both lakes are specified as annual or seasonal averages. The targets were developed using water quality modeling, taking into consideration the extreme hydrological conditions that could occur in the watershed.

Is the intent of this discussion in the draft AgNMP to indicate that because of asymmetric hydrological conditions and nutrient loadings, the CAFO and agricultural allocations may not be met during heavy periods of wet weather and that, because of this, there may be periods of standards non-attainment during a 10 year period? Or is the intent to indicate that the extreme wet weather

conditions and the discharge of nutrients to Canyon Lake and/or Lake Elsinore would result in not achieving water quality standards in the lakes on a temporary basis? We see these as two different scenarios.

If the intent is to indicate that meeting the agricultural and CAFO allocations as a 10 year average may not be feasible, it does not necessarily follow that water quality standards will be violated. As stated above, the allocations are intended to meet the numeric targets and, thereby, to attain water quality standards. However, given uncertainty, it is possible for the allocations to not be met while the targets are achieved, such as through the implementation of the various watershed and in-lake projects. In such cases, it will be appropriate for TMDL compliance purposes to determine whether compliance with the targets is sufficient to attain standards. It may also be appropriate to consider appropriate revisions to the allocations. Reconsideration of the allocations would necessitate data on nutrient inputs by land use. At this time, there is no water quality monitoring or modeling program in place to determine land use nutrient loads and thereby assess compliance with the 10-year running average agricultural and CAFO allocations. We recommend that this be kept in mind when developing the revised monitoring program.

Finally, clarification of the definitions of "short-term" and "temporary" conditions in terms of the TMDLs/WLAs/LAs and in-lake numeric targets should be provided.

### **Section 3 - Compliance Analysis**

In general, we find that the analysis of expected nutrient reduction benefits from implementation of various BMPs is adequate. Board staff does have some comments and questions on the analysis that need to be addressed in the final Ag NMP submittal.

1. Table 3-1 – what data source was used for acreage amounts? Does the allocation/acre analysis include only WRCAC compliant properties or all agricultural and CAFO properties?
2. The Lake Elsinore TMDL includes an agriculture allocation. We understand that these agricultural activities are not covered by WRCAC. It would be useful to clarify why those agricultural properties are not covered by WRCAC and if appropriate, to indicate that they may be covered by WRCAC in the future.
3. Table 3-3 – We understand the difference between the WRCAC and non-WRCAC members; however we are unclear what facilities constitute the non-WRCAC "Dairy/Livestock" category. We believed that all CAFO facilities were WRCAC members. Does this category include poultry farms or other animal facilities? We recommend that a clarifying footnote be added.
4. Table 3-4 – Board staff is unclear on how the 2007, 2015 and 2020 existing loads were determined. We understand that the allowable loads were calculated by converting the LAs and WLAs in kg/yr to the loading per acre (kg/yr/acre). The acreages that were used for each year should be provided. Further, it is not clear how the loading amounts tabulated in Table 3-4 relate to the figures presented in Table 3-3. Additional clarity is needed.
5. We support the approach to use land use conversion data that are consistent with the data provided in the draft urban Comprehensive Nutrient Management Plan. We understand that as urbanization increases and agricultural uses decrease, the resultant agricultural total nitrogen

load will decrease and could be used to offset the CAFO total nitrogen load which does not decrease.

6. Section 3.3.1- CWAD Implementation. The draft Ag NMP indicates that agricultural nutrient discharges will be reduced upon implementation of the soon to be adopted Regional Board CWAD. We understand that implementation of specific BMPs by the agricultural operators (depending on their agricultural activities) will reduce nutrients. The Ag NMP indicates that currently, approximately 25% of agricultural operators are implementing BMPs; however, it is unclear if these operators are implementing the most effective BMPs *i.e.*, PAM, vegetated buffers or cover crops. If not, is the WRCAC expectation that these facilities would be implementing the preferred BMPs so that the specified reductions would occur? We note that some of the specific agricultural BMPs information is included in an Appendix that was not included with the draft Ag NMP submittal; this information may be contained in the appendix.
7. Table 3-6 – We understand that over time, the amount of manure spread in the watershed will be reduced, thereby reducing the amount of TP and TN that is discharged to surface waters. However, we are unsure how the TP and TN reduction amounts in Table 3-6 were calculated.
8. Table 3-8 – why were the CAFO loads not included in the determination of needed load reductions (see Table 3-4)? We understand that no reductions are required to meet the agricultural TN load allocation to Canyon Lake; is this also the case for CAFO TN discharges?
9. Section 3.4.1 In-lake Lake Elsinore, Table 3-9 should be identified as the Lake Elsinore Phosphorus In-lake sediment reduction requirement. The Ag NMP indicates that Anderson's 2006 study provided an estimate of TP reduction from carp removal. If the agricultural owners intend to rely on carp removal as an offset to TP discharges to Lake Elsinore, the Ag NMP should provide information on the proposed frequency for carp removal and compare that to the carp removal frequency discussed in the Anderson 2006 study. The Regional Board would need assurances that the removal frequency proposed in the Ag NMP would be adequate to achieve the specified reductions. Further, are there estimates of any reduction benefits to TN fluxes from carp removal that could provide a TN offset? We recommend including a similar table for TN to ensure that TN discharges to Lake Elsinore are adequately addressed.
10. 3.4.2 Canyon Lake – it is proposed that agricultural and CAFO owners partner with the urban dischargers to utilize the Canyon Lake HOS that is currently being planned as the primary strategy to address nutrient discharges. Regional Board staff support this approach. As we expressed to the urban dischargers as part of our review of their CNRP and as discussed above, we need assurances that the HOS project will move forward. If other treatment approaches such as Phoslock<sup>tm</sup> and zeolite are considered, an evaluation of TN and TP reduction effectiveness would need to be completed as was done for the HOS. Because the draft Ag NMP does not contain this analysis, Water Board staff cannot indicate support of those options at this time.
11. The PACE modeling efforts indicate that even with the implementation of the Canyon Lake HOS, East Bay water quality may not improve such that the numeric targets would be met in that portion of Canyon Lake. The draft Ag NMP needs to identify a strategy to address this section of the Canyon Lake. As you are aware, the TMDL specifies numeric targets for the lake as a whole and does not take into account the volume or areal representation of each monitoring location. Since East Bay is a smaller area of the entire Canyon Lake, it may be that

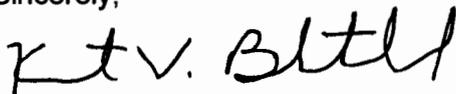
the water quality data collected from the East Bay station should not just be averaged with other station data but factored into the overall assessment of lake water quality based on volume or other metrics. Board staff would be willing to work with stakeholders to develop an appropriate methodology for assessing compliance with the Canyon Lake numeric targets based on volume or areal extent (or some other appropriate metric).

12. Section 3.5 – Uncertainty Analysis – Board staff understand that the Ag NMP presents a careful analysis of the expected nutrient load reductions using the best available data and information. The discussion in this section broadly indicates that numerous studies conducted to support TMDL development and subsequent to TMDL adoption contain errors and are flawed. We would not necessarily characterize these studies as flawed, but as expected, our knowledge of the watershed and nutrient-related science is better than when the TMDL was developed and will certainly improve as additional data are collected in the watershed. Board staff supports that effort since it will ensure that the appropriate decisions to improve water quality are made based on sound science.
13. References – there appear to be two reference sections.

The Ag NMP does not speak to enforcement and WRCAC's role. We understand that WRCAC serves as an advisory organization for CAFO and agricultural owners/operators and has no enforcement authority for ensuring that the Ag NMP is followed. However, Board staff would look to WRCAC for assistance in identifying those owners/operators who are not implementing the appropriate BMPs as specified in the Ag NMP and that will be required by the CWAD and CAFO permit. Some discussion of this tracking and the coordination of the enforcement approach should be discussed in the Ag NMP.

Please submit a final version of the Ag NMP addressing the questions and comments described in this letter to the Regional Board by July 31, 2012. We look forward to continuing to work with the WRCAC in developing a final draft of the Ag NMP. In the meantime, if you have any questions, please feel free to contact Hope Smythe at (951)782-4493, [hsmythe@waterboards.ca.gov](mailto:hsmythe@waterboards.ca.gov).

Sincerely,



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Executive Officer

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