STATE WATER RESOURCES CONTROL BOARD
EX PARTE COMMUNICATIONS REGARDING PENDING GENERAL ORDERS
DISCLOSURE FORM

Note: This form is intended to assist the public in providing the disclosure required by law. It is designed to document meetings and phone calls. Written communications may be disclosed by providing a complete copy of the written document, with attachments. Unless the board member(s) provided you with a different contact person, please send your materials to: commentletters@waterboards.ca.gov
Use of this form is not mandatory.

1. Pending General Order that the communication concerned:

   Eastern San Joaquin River Watershed Agriculutral Order

2. Name, title and contact information of person completing this form:
   Note: Contact information is not mandatory, but will allow the Water Board to assist you if additional information is required. If your contact information includes your personal residence address, personal telephone number or personal email address, please use a separate sheet of paper if you do not want that information posted on our website. However, this information may be provided to members of the public under the Public Records Act.

   Abby Taylor-Silva, Vice President of Policy & Communications
   Grower-Shipper Association of Central California, (831) 422-8844

3. Date of meeting, phone call or other communication: January 31, 2018

   Time: 8:00 a.m.

   Location: Via Phone Conference

4. Type of communication (written, oral or both):

5. Names of all participants in the communication, including all board members who participated:

   Kay Mercer, Kirk Schmidt, Abby Taylor-Silva, Norm Groot, Joaquin Esquivel, Phil Wyels

6. Name of person(s) who initiated the communication:

   Abby Taylor-Silva

7. Describe the communication and the content of the communication. *Include a brief list or summary of topics discussed at the meeting, any legal or policy positions advocated at the meeting, any factual matters discussed, and any other disclosure you believe relevant. The Office of Chief Counsel recommends that any persons requesting an ex parte meeting prepare an agenda to make it easier to document the discussion properly. Attach additional pages, if necessary.*

   Discussion of the attached documents.

8. **Attach a copy of handouts, PowerPoint presentations and other materials any person used or distributed at the meeting. If you have electronic copies, please email them to facilitate web posting.**

Agenda

Meeting of State Water Board Member Joaquin Esquivel, Kirk Schmidt, Abby Taylor-Silva, Norm Groot, Kay Mercer

January 31, 2018 @ 8:00 a.m.

Via Phone Conference

I. Welcome
II. Discussion of redline-track changes presented and AR alternative example.
III. Discussion of other matters of importance
IV. Adjourn

Proposed Language Changes for 2/7 (all of these sentences had amendments in the 1/21 redline draft and are therefore applicable to the discussion):

Proposed edits in red typeface and strikeout format.

- Page 21, footnote 64: For example, the ~~The~~ Central Coast Water Board agricultural regulatory program for individual growers provides an option for groups to perform a limited set of functions for the growers, but is not a full third-party based program as contemplated by this order. Aspects of this order that are precedential only for third-party based programs are therefore not applicable to ~~the Central Coast agricultural regulatory program.~~ Regional Board regulatory programs unless a third party group is put in place that meets all of the precedential requirements of this order, outlined in our description on pages 19-20.

- Page 31, footnote 87: We have clarified in the Modified Eastern San Joaquin Agricultural General WDRs that, where the WDRs require reporting by field, Members may report data for a portion of a field or for multiple fields provided that the reported area has (1) the same crop type, (2) the same fertilizer inputs, (3) the same irrigation management, and (4) the same management practices. For fields with multiple rotation of different crops in the same location in a single year all sources and amounts of nitrogen for the field should be reported along with total yield or nitrogen removed. …

- Page 31, footnote 87: In no case should a reported area exceed a total size of 640 acres and ~~different crop types must always be reported separately even if they are within the same reporting area~~ nitrate applied to all crops in the reporting area be consolidated so long as each crop nitrate removed, or yield if there is no known removal coefficient, is recorded and the cumulative total nitrate removed, or yield, is reported, along with total nitrate annually.

- Page 35, footnote 100, last sentence: We note also that the training for professionals certifying the INMP needs to continue to evolve to better incorporate the concepts related to irrigation and nitrogen management planning expressed in this order and recognized by the Expert Panel, as well as new research and innovation.

- Page 37, paragraph 1, last sentence: Second, the data made available to the Third Party and the Central Valley Water Board through the INMP Summary Report enables those entities to consider the range of nitrogen application values reported for similar crops, or for fields with multiple rotation of different crops in the same location to other multiple rotation fields in the same climatic zone, and allows the Third Party, or Regional Board if there is no third party, to identify outliers for follow-up actions with the goal of reducing over-application.

- Page 38, second paragraph, last sentence: A multi-year approach, which could include a consolidated field reporting of multiple crops in the same location, or multi-cropping-cycle approach, to a performance metric related to nitrogen management serves…

- Page 38-39, footnote 107: The Agricultural Expert Panel report recommends a "multi-year" A/R approach, and we are here extending that approach's concept to use the term "multi-cropping-cycle" as an alternate description that would apply to areas where multiple crop cycles are grown in the same location within a single growing season. We believe the Expert Panel's main concept

was that it takes multiple cycles of growing crops in order to cancel out appropriate variations in nitrogen application and removal that happen between individual cycles. The Expert Panel expressed this approach as "multi-year" since it is typical that only one crop cycle happens within a year. However there are instances within California agriculture where multiple crops with short growing periods will be grown in the same location within the span of a single year, and therefore the same variation canceling effect can be seen in a period shorter than a multiyear period. The regional water boards will need to use their discretion in how they implement the multi-cropping cycle period to ensure that it is appropriate to the circumstances. For the purposes of this order, since the growing conditions within the East San Joaquin Coalition's area of coverage are largely one-crop cycle per year, we will continue to use the term "multi-year" to encompass both the multi-year reporting as initially proposed if there is consolidated field reporting of multiple crops in the same location and multi-cropping-cycle concepts.

- Page 42, footnote 121: Published values for many crop coefficients are already available in the scientific literature and others are expected to become available in the near future. We acknowledge that some of these coefficients warrant further refinement based on regional characteristics, but we encourage the Third Party to start using available crop coefficients now to start calculating R values and to perform relevant analyses prior to the 2021 and 2023 deadlines, and work to refine the coefficients over time.

- Page 51-52: We note that there will not be anonymity associated with the data under our precedence where a regional water board is directly regulating growers and directly receiving grower data~~, such as in the Central Coast region.~~ unless a third party group is put in place that meets all of the precedential requirements of this order, outlined in our description on pages 19-20.

- Page 53: The requirement for follow up and appropriate training for AR data outliers and for identification of repeated outliers as set out above shall be precedential in for irrigated lands regulatory programs statewide, except that the regional boards will be responsible for the follow up and training for irrigated lands regulatory programs that directly regulate growers without a third-party intermediary.*
    - * On the Central Coast outliers should be determined by comparison of farms in a similar geographic area and similar soil type, also considering factors such climactic gradient conditions.

- Page 64: The Central Coast Water Board agricultural regulatory program for individual growers provides an option for groups to perform a limited set of functions for the growers, but is not a full third-party based program as contemplated by this order. Aspects of this order that are precedential only for third-party based programs are therefore not currently applicable to ~~the Central Coast agricultural regulatory program.~~ regions without a third party program unless such a program is created and is consistent with our description of the roles and responsibilities of a third party group as outlined in this order.

- Page 68: The development of the Groundwater Protection Formula, Values, and Targets shall be precedential for the third parties that proposed the methodology. The regional water boards have the discretion as to whether to apply this type of methodology in other areas of the state. This is not meant to be a regulatory limit on fertilizer use.

AR Alternative

The 2nd Draft ESJ Order requires all farms to track Nitrogen (N) inputs (A) from all sources and N removed at harvest (R). All sources include applied N, from fertilizer and compost, initial soil nitrate and nitrate in the irrigation water. R is calculated by a specific crop related coefficient times the pounds, or other measurement, i.e. bin or box, harvested.

Board member Steven Moore pointed out that the long term goal is to be able to estimate the amount of N remaining in the field that may percolate to groundwater and, with this information, estimate the potential for impairment.

The Expert Panel proposed tracking A and R as a method to reach this objective. The draft order mandates that each farm report A/R and A-R annually, then looks at a 3 year average. Over time this will show improvement in fertilization practices by the farmer and also determine outliers by comparing growers with the same crop based on comparison of A/R ratios. For 200 acres of almonds or canning tomatoes there is no problem applying this concept, however it does not produce usable data for multiple crop vegetable farms on the Central Coast.

The Revised 2nd Draft ESJ Order makes great strides in restating this concept for application to the Central Coast. For example

> "87 … Members may report data for a portion of a field or for multiple fields provided that the reported area has (1) the same crop type, (2) the same fertilizer inputs, (3) the same irrigation management, and (4) the same management practices. … Some growers in other regions engage in highly intensive cropping practices including multiple rotations of different crops in the same location within a single year, … The regional water boards have the flexibility to develop alternative reporting areas for these types for growers, as long as the regional water board determines that the alternative reporting area provides meaningful data and balance the level of detail with the reporting burden similar to the field approach." (pg. 31 redline)

> "A multi-year or multi-cropping-cycle[107] approach to a performance metric related to nitrogen management serves to simplify some of the inherent complexity of trying to perform a nitrogen balance on the basis of a single cropping-cycle and justly account for nitrogen present in its many varied states within a field and crop system." (pg. 38)

> "113 We recognize that the boundaries of a fields may change from year to year and that certain growers may not grow crops three consecutive years or the same crops for three consecutive years, but this level of imperfection in reporting does not detract from the overall usefulness of the data. In cases like these, the Third Party will be expected to make a good faith effort to report the available data in a meaningful way." (pg. 40)

However, this still does not reach the objective outlined by Board Member Moore for the following reasons:

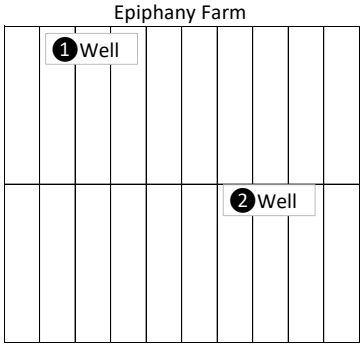
1. Tracking each crop shows the N directly applied to that crop, but does not consider that the N left in the ground by the first crop consumed by the following crop in the same season. Comparing the first crop of, say lettuce, to a subsequent lettuce planting may consistently show a lower A/R ratio for the second crop. To avoid this the Revised Order proposes a multi-cropping cycle in lieu of a multi-year concept. Yet, this fails to give credit for N uptake by subsequent

plantings of non-similar crops during the season, preventing overall determination of the impact of the whole ranch on groundwater conditions.

2. For a multiple cropped farm, especially those with multiple water sources, there is no practical way to accurately allocate the N in irrigation water to each crop.

An Alternative Approach

Let's use as an hypothetical a 200 acre mixed vegetable ranch (the "alternative reporting area") with 20 ten acre blocks and two interconnected wells. During the season each block on this ranch is planted 2.5 times, for 50 planted blocks (see last page). Well 1 draws water from the 400' aquifer and has an N concentration of 7 mg/L (NO_3-N), Well 2 is in the 180' aquifer and has an N concentration of 35 mg/L.



The farmer knows how much water is pumped from each well, which is then blended as it is applied during irrigation. The contribution of water from each well varies depending on location and size of any irrigation set. Irrigation with movable sprinkler pipes can cover multiple, or partial ranch blocks and crops, depending on temperature, soil and total well capacity.

In the current AR reporting, the grower would have to estimate how much water was applied to each of the 50 blocks and what proportion of water was from each well (because of the different nitrogen concentrations). Regulation should not be based upon subjective guess.

In the Alternative Approach to reporting N applied, we suggest the farmer instead measure and record total irrigation water applied to the ranch for year, soil N prior to the start of planting for the year and the total N applied to all of the crops. For a removed value, the grower records all harvest yields (Y), and where the coefficient is available the R per crop. After the end of the year the grower reports to the 3rd Party or Regional Board the total N applied from all sources and the total R <u>for the total reporting area (ranch)</u>, or if not all crops have R coefficients, the harvest yield for each crop, by crop not planting or block. If the data is submitted to a 3rd Party it is then processed and delivered to the Regional Board with anonymous identifier, if submitted directly to the Regional Board no anonymous identifier is used. There is no realistic way to determine N applied to each crop due to the inability to measure the volume of irrigation per block, so the total N applied to each block or planting is not determined, only total N applied at the ranch level. The report will show accurately both an A/R and A-R calculation for the 200 acre ranch. Should the Regional Board desire to validate the information submitted it can request the underlying R or Y information by block and crop.

<u>This produces exactly the same result as AR for a 200 acre almond orchard.</u> It achieves the goal of determining the amount of N remaining in the field that may percolate to groundwater and, with this information, calculate a loading. The record keeping requirements are similar. The data produced is more meaningful than independently tracking varied crops on overlapping blocks throughout the season. More importantly a three year AR tracking period produces meaningful data for analysis as the farmer continues to operate the same ranch year after year.

INMP: This method also makes the INMP (Irrigation and Nutrient Management Plan) relevant as a planning tool for the diversified vegetable farmer. Comparison of annual results can aid the grower in

demonstrating reduce N application over time. None of this is possible by tracking each crop without relation to subsequent plantings.

While this proposal solves the dilemma of accurately reporting A and R for a mixed vegetable operation, growing on the same ranch each year, it does not adequately address growers who farm in a different location each year, like the strawberry/vegetable rotation.

Suggested changes:

In order to implement a system that more accurately measures and reports the overall Nitrogen applied and removed for the whole field or ranch footnote 87 on page 31(redline version) would be modified as follows:

> "87 … Members may report data for a portion of a field or for multiple fields provided that the reported area has (1) the same crop type, (2) the same fertilizer inputs, (3) the same irrigation management, and (4) the same management practices. For fields with multiple rotation of different crops in the same location in a single year all sources and amounts of nitrogen for the field should be reported along with each crop and total yield or nitrogen removed. …
>
> … Some growers in other regions engage in highly intensive cropping practices, including multiple rotations of different crops in the same location within a single year, unpredictable crop types and harvesting based on rapidly-shifting market demand, and variable management practices adjusting to weather and field conditions. The regional water boards have the flexibility to develop alternative reporting areas for these types of growers, as long as the regional water board determines that the alternative reporting area provides meaningful data and balances the level of detail with the reporting burden similar to the field approach. In no case should a reported area exceed a total size of 640 acres, and ~~different crop types must always be reported separately even if they are within the same reporting area~~ nitrate applied to all crops in the reporting area be consolidated so long as each crop nitrate removed, or yield if there is no known removal coefficient, is recorded and the cumulative total nitrate removed, or yield, is reported, along with total nitrate annually.

If the above, or similar changes are incorporated in the final order the insertion of reference to a multi-cropping cycle in the last sentence on page 38 would be changed to:

> A multi-year approach, which could include a consolidated field reporting of multiple crops in the same location, or multi-cropping cycle, approach to a performance metric …

Footnote 107 on page 38 would be modified to provide for multi-year reporting as initially proposed if there is consolidated field reporting of multiple crops in the same location.

Comparison of A/R to establish outliers

Use of ranch based AR calculations makes comparison to other growers in a similar area relevant for determining outliers. The Central Coast has dramatic climate variations, which results in significant

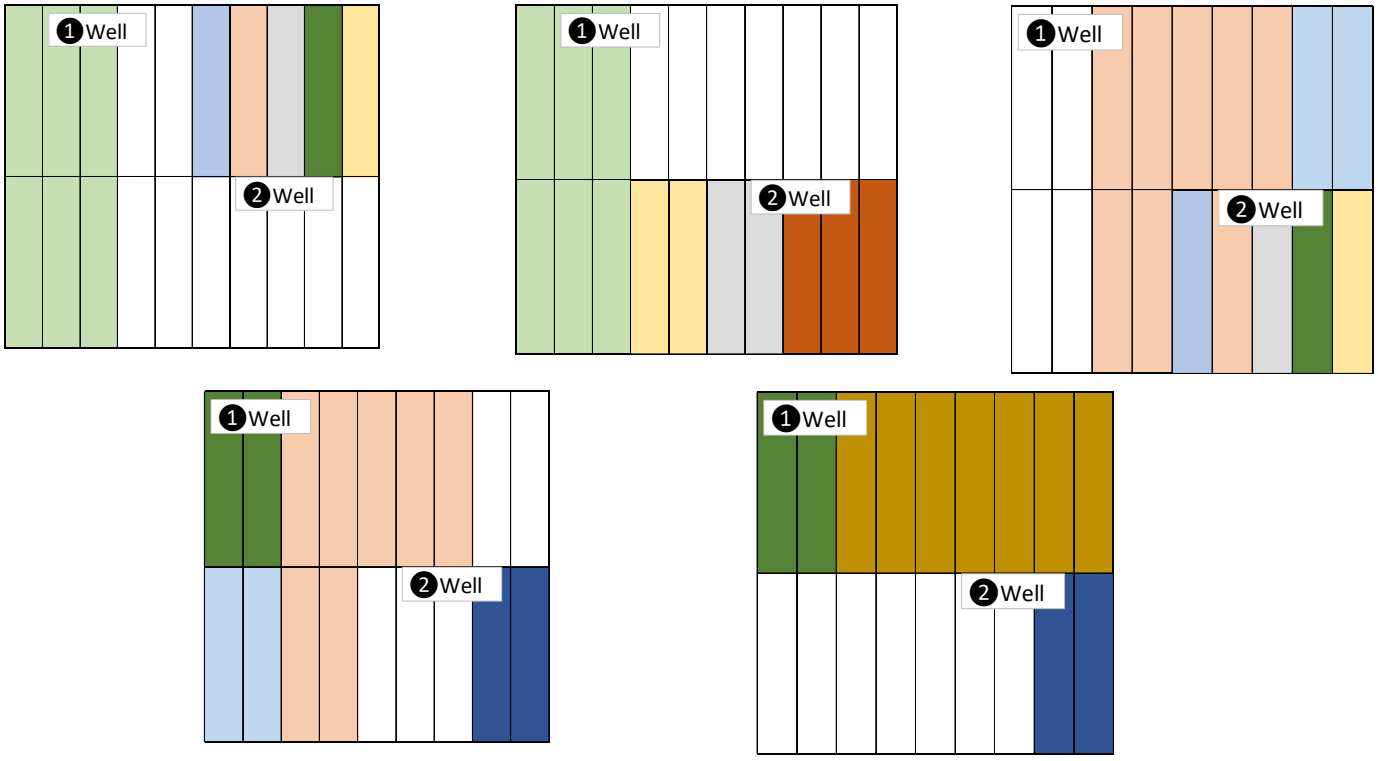
differences in irrigation requirements of similar crops depending on ETo. For comparison of ranch results to be relevant there must be a limitation on comparison only to other farms in a similar climatic zone.

Suggested changes:

The identification of outliers at page 37 would be modified as follows:

> Second, the data made available to the Third Party and the Central Valley Water Board through the INMP Summary Report enables those entities to consider the range of nitrogen application values reported for similar crops, or for fields with multiple rotation of different crops in the same location to other multiple rotation fields in the same climatic zone, and allows the Third Party, or Regional Board if there is no third party, to identify outliers for follow-up actions with the goal of reducing over-application.

Ranch crop planting sequence



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