

STATE OF CALIFORNIA
REGIONAL WATER QUALITY CONTROL BOARD
CENTRAL COAST REGION

SUPPLEMENTAL SHEET FOR REGULAR MEETING OF MARCH 17, 2011

Prepared March 4, 2011

ITEM NUMBER: 14

SUBJECT: Conditional Waiver of Waste Discharge Requirements for Discharges from Irrigated Lands (Order No. R3-2011-0006)

This Supplemental Sheet transmits three documents that are part of the Staff Report for the Staff Recommendation for an updated Conditional Waiver of Waste Discharge Requirements for Discharges from Irrigated Lands (Order No. R3-2011-0006) (Draft Agricultural Order):

- Staff Report Chapter 4.B. Summary of Public Comments on Draft Agricultural Order (Attachment 1 to this Supplemental Sheet)
- Staff Report Appendix D – Options Considered (Attachment 2 to this Supplemental Sheet)
- Staff Report Appendix E – Response to Comments (Referenced and linked to the Web in the Staff Report Chapter 4.B. Summary of Public Comments).

All documents related to the Agricultural Order Renewal, including public comments are available to Board Members and the public at the Water Board's Internet site:

http://www.waterboards.ca.gov/centralcoast/water_issues/programs/ag_waivers/ag_order.shtml

Summary of Public Comments (and Responses) on Draft Agricultural Order

The Staff Report Chapter 4.B. Summary of Public Comments and Responses is in Attachment 1. This section of the Staff Report should be inserted in the Staff Report on page 42 under the heading, **B. Summary of Public Comments on Draft Agricultural Order**, where the text says:

[NOTE TO READER: THIS IS A PLACEHOLDER FOR A SUMMARY OF COMMENTS. SUMMARY WILL BE PROVIDED AS A SUPPLEMENTAL SHEET TO THE WATER BOARD.]

Staff summarized the responses to the comments submitted because the comments were numerous and many of the comment letters addressed similar issues about the Draft Agricultural Order. In fulfilling staff's interest in replying to *all* comments, staff attempted to reply generally to all of the issues in all of the letters. To the extent that staff also responded to individual comments, those responses are compiled and contained as reference material in Appendix E which is at

http://www.waterboards.ca.gov/centralcoast/board_info/agendas/2011/march/Item_14/index.shtml.

Appendix E- Response to Comments is about 225 pages long so staff did not distribute paper copies. Paper copies can be made upon request. As a reference document, it is useful for an individual who needs to see more detail about a specific comment/letter/response. Staff followed a similar format- summary in the Staff Report and detailed comments and responses in an attachment- as staff used for the May 2010 workshop, when the Water Board received about 1200 comment letters on the February 1, 2010 Preliminary Draft Agricultural Order.

Staff Report Appendix D – Options Considered

This Appendix should be inserted in the Staff Report as Appendix D- Options Considered. It is attached to this supplemental sheet as Attachment 2.

The information in Appendix D- Options Considered is referenced throughout the Staff Report but is summarized and discussed most directly in the Staff Report Chapter 3. C. Justification For Staff Recommendations And Options Considered. Appendix D contains information from published literature, and information gathered through numerous discussions with agricultural representatives, environmental organization representatives, environmental justice organization representatives, technical experts, agency staff, farmers and other members of the public. Appendix D also discusses several options that staff evaluated to determine which regulatory tool, tiering criteria, conditions and requirements to recommend. Appendix D is over 100 pages, but it was part of the November 2010 documents, with revisions (few) as highlighted below. Staff evaluated a large body of information and considered a wide range of options, all of which are documented in Appendix D. Appendix D is best reviewed in context of the discussion presented in Staff Report Chapter 3. C. Justification For Staff Recommendations And Options Considered.

Changes made to Appendix D since November 2010 are highlighted in grey and include:

- Analysis of the Draft Central Coast Agriculture’s Alternative Proposal for the Regulation of Discharges from Irrigated Agricultural Lands, submitted by the California Farm Bureau Federation (see newly added Section VII);
- Information about other orders that contain individual waste discharge monitoring,
- References or weblinks to documents mentioned or cited,
- Additional option for nitrate reduction via Woodchip Bioreactors, as discussed at the February Board meeting.

Corrections

Draft Agricultural Order

- Page 23, Condition 63, add the phrase “,or as otherwise approved by the Executive Officer”, after the word “...professional”.
- Page 25, Paragraph 69, replace “Part G. 77” with “Part G. 80.”
- Page 25, Paragraph 70 and 71, add the word “applied” after the words “total nitrogen.”
- Page 33 - 34, Replace Tables 2 and 3 with Table 1 in Appendix C to the Staff Report (Time Schedule for Compliance).

Monitoring and Reporting Program

- Tier 1 MRP, Page 15, replace Table 4 with Table 2 in Appendix C to the Staff Report (for conditions relevant to Tier 1 Dischargers).

- Tier 1 MRP, Page 9, Condition 4, add the words “or under the supervision of”, after the words “...collected by...”. Add “or as otherwise approved by the Executive Officer,” after the words “...or other similarly qualified professional”.
- Tier 2 MRP, Page 9, Condition 4, add the words “or under the supervision of”, after the words “...collected by...”. Add “or as otherwise approved by the Executive Officer,” after the words “...or other similarly qualified professional”.
- Tier 3 MRP, Page 9, Condition 4, add the words “or under the supervision of”, after the words “...collected by...”. Add “or as otherwise approved by the Executive Officer,” after the words “...or other similarly qualified professional”.
- Tier 2 MRP, Page 20, replace Table 5 with Table 2 in Appendix C to the Staff Report (for conditions relevant to Tier 2 Dischargers).
- Tier 3 MRP, Page 13, Paragraph A.1.a., add the words “and demonstrate compliance with Basin Plan erosion and sedimentation requirements, including the presence of bare soil vulnerable to erosion and relevant management practices and/or treatment and control measures implemented to address impairments” after the words “wetland area habitat.”
- Tier 3 MRP, Page 13, Part 5, Paragraph A.2., replace the word “affect” with the word “effect.”
- Tier 3 MRP, Page 19, delete Part 6.B.3, from “3. Dischargers in the same...” to “...all dischargers in the group.” (because it is duplicative of part of previous Part 6.B.2.)
- Tier 3 MRP, Page 28, Table 5B., replace “ug/L” in column called Units with “mg/l”
- Tier 3 MRP, Page 28, replace Table 6 with Table 2 in Appendix C to the Staff Report.
- Tier 3 MRP, Page 15, Individual Surface Discharge Monitoring Parameters, Frequency, and Schedule, replace “Within six months of the adoption of the Order” with “By October 1, 2011”.
- Tier 3 MRP, Page 15, Individual Surface Discharge Monitoring B.1, replace “October 1, 2012” with “October 1, 2013”.

ATTACHMENTS

Attachment 1:

Staff Report Chapter 4.B. Summary of Public Comments on Draft Agricultural Order

Attachment 2: Staff Report Appendix D – Options Considered

[INSERT the following text at Page 42 in the Staff Report, Section 4.B. Summary of Public Comments on Draft Agricultural Order]

B. Summary of Public Comments on Draft Agricultural Order

In response to the November 19, 2010 draft staff recommendations for an updated Agricultural Order (2010 Draft Agricultural Order), the Central Coast Water Board received approximately 116 letters during the public comment period (November 19, 2010 – January 3, 2011). Individual comment letters are available at:

http://www.waterboards.ca.gov/centralcoast/water_issues/programs/ag_waivers/ag_order2.shtml.

This section includes general information about comment letters, a summary of key public comment topics and responses, associated changes made to the 2010 Draft Agricultural Order and Monitoring and Reporting Program (MRP), and general clarifications. Staff provided more detailed responses to comments than necessary, in replying to most of the specific individual comments submitted. In fulfilling staff's goal to reply to all comments, staff replied generally to all of the letters' topics as described in this section of the staff report. Appendix E contains the individual responses to many individual comments for reference and additional detail and is available at:

http://www.waterboards.ca.gov/centralcoast/board_info/agendas/2011/march/Item_14/index.shtml.

Staff reviewed all comments in order to consider changes to the 2010 Draft Agricultural Order and made several changes in response to create the recommended 2011 Draft Agricultural Order that is Appendix A. In some cases, staff further edited the 2010 Draft Agricultural Order after finalizing the responses to individual comments found in Appendix E. Therefore, some responses to comments may be inconsistent with the final changes that are in the 2011 Draft Agricultural Order. Additionally, much of the information presented below is also presented in more detail in Section 3.C. Justification for Staff Recommendations and Options Considered.

Key Public Comment Topics and Responses

The Central Coast Water Board received comment letters from numerous organizations and individuals, including agricultural industry organizations and representatives, technical assistance providers, rural residents in agricultural areas, environmental justice organizations, environmental organizations, State and local agencies, and the general public. The Central Coast Water Board also received many letters from individual growers. Most of the comment letters from individual growers were submitted by smaller (<100 acres) vineyard and orchard (e.g., avocado) growers who indicated that they were already implementing farm water quality management practices. For example, many individual growers indicated that they use drip irrigation, have minimal irrigation runoff, do not use chemicals known to cause toxicity, use minimal fertilizers, and are not located near an impaired creek or stream. Based on these comment letters and details about their operations, most individual growers who submitted comment letters would likely fall into Tier 1 of the 2011 Draft Agricultural Order.

Most comment letters included comments about a variety of topics, in many cases both supporting and objecting to specific elements of the 2010 Draft Agricultural Order. A few comments appeared frequently and more than half of the comment letters included comments

related to the following three topics of the 2010 Draft Agricultural Order: 1) tiers and tiering criteria, 2) impacts to drinking water and conditions related to groundwater, and 3) monitoring.

Below is a summary of these comment topics, associated responses, including related changes made to the 2010 Draft Agricultural Order. In addition, staff received several comments on legal issues, including consistency with the California Environmental Quality Act (CEQA). The responses to comments on CEQA issues are contained in Appendix H as an Attachment to the Subsequent Environmental Impact Report. As mentioned above, Appendix E contains the individual responses to many individual comments for reference and additional detail.

Tiers and Tiering Criteria

Many comment letters support the concept of tiers related to the threat to water quality. For example, the Monterey Bay National Marine Sanctuary (letter #99) indicated that the 2010 Draft Agricultural Order responded to the “need for further strategic prioritization of risk” by developing a “tiered approach for defining risk categories and scaled requirements in accordance with those categories” and “tiered monitoring requirements that correspond to risk categories and a phased approach when monitoring data must be reported”. In addition, the California Avocado Commission (letter #8) commended the Central Coast Water Board “on the tiering approach utilized in the 2010 Draft Agricultural Order”. Additionally, the California Association of Nurseries and Garden Centers (CANGC, letter #64) indicated that “in general, the tiered discharger format as defined in the 2010 Draft Agricultural Order is a workable program”.

A few comment letters objected to the concept of tiering. For example, a comment letter from environmental organizations (letter #85) commented that they preferred the February 2010 preliminary draft order, in part, because “the February Draft Order applied evenly to all dischargers and provided certainty to both regulators and the regulated community.” Nearly all comment letters had specific comments regarding tiers, including suggestions related to tiering criteria. A discussion regarding tiering criteria follows below.

Tiering Criteria - Impacts to Drinking Water wells

Comments: Many comment letters, agriculture and non-agricultural affiliations, acknowledge the severity of groundwater quality and nitrate impacts to drinking water sources. Many comment letters submitted by environmental organizations, environmental justice organizations, and rural communities (letters #20, #47, #85, #92, #93, #105), also suggest that impacts to drinking water wells should be included in the tiering criteria.

Response and Recommended Change: Protection of groundwater and drinking water supplies is among the Water Board’s and staff’s highest priorities for the 2011 Draft Agricultural Order. Staff agrees that impacts to drinking water wells should be included in the tiering criteria. Staff recommended a change to the tiering criteria (e.g., Tier 1 and Tier 2) to include proximity to public water system wells that exceed the drinking water standard for nitrate, consistent with criteria used by the Department of Public Health. In addition, staff also recommended adding a finding paragraph to the 2011 Draft Agricultural Order that says the Executive Officer may also consider impacts to small water systems and private domestic wells. See Staff Report Section 3.C for additional detail.

Tiering Criteria – Crop Type

Comments: Some comment letters suggest that crop type is not related to threat to water quality and should not be included in tiering criteria (letter #15, #33, #79, #83, and others). For example, the California Farm Bureau Federation (letter #79) states that “crop types do not equate to water quality problems”.

Response: There is substantial evidence that specific crops (identified in the 2011 Draft Agricultural Order finding 52) have the potential to load more nitrate to groundwater relative to other crops and pose a greater threat to water quality, especially drinking water. Several technical experts from the University of California agree with the concept of establishing tiers of growers based on crop type (letter #72). In addition, the agricultural proposal submitted by the California Farm Bureau Federation on December 3, 2010 (letter #2) recognizes similar crop types that have high nitrate loading potential (e.g., crops in the Brassica family, leafy greens, artichokes, beans, beets, corn, cucumber, daikon, leek, onion, pees, pepper, pumpkin, radishes, squash, strawberries, and tomatoes). The agricultural proposal also proposes to use the same nitrate loading risk factors and criteria as proposed in the 2011 Draft Agricultural Order.

Tiering Criteria – Size of Operation

Comments: Some comment letters suggest that the size of an operation is not related to threat to water quality and should not be included in tiering criteria (letter #15, #33, #79, #83, and others). Several of these comment letters also suggest that tiering criteria should be based upon the presence of irrigation runoff and the quality of individual discharges. Other comment letters indicate that the “order must deal with all or a very high percentage of the highest threat dischargers using toxic chemicals or high amounts of nitrates”, and further suggest that “the acreage criteria be edited to state “total irrigated acreage greater than or equal to 100 acres” (rather than 1000 acres). Additional comment letters indicate that “A substantial percentage of vegetable and strawberry acres are farmed by growers operating less than 1,000 acres; to place significant extra burdens on growers of 1,000 acres or more puts them at a substantial disadvantage with competitors whose water quality impacts may in some cases be more severe” (letter #72).

Response and Recommended Change: Staff prioritized larger operations that produce crops likely to load nitrate to groundwater and using chemicals known to cause toxicity. Staff acknowledges that operations less than 1000 acres may discharge similar or greater amounts of waste, and thus pose similar or greater risk to water quality. Staff found it reasonable to prioritize on a limited number of dischargers who discharge a relatively high level of waste or pose a high threat to water quality, specifically nitrate loading to groundwater. Staff also acknowledges that the use of chemicals known to cause toxicity by a larger operation may not have a significantly different risk to water quality compared to a smaller operation. In response to comments, staff recommended a change to the tiering criteria to remove acreage size relative to chemical use (Tier 3) and replace it with criteria related to the operation discharging to a waterbody that is impaired for toxicity or pesticides.

Tiering Criteria – Chemical Use

Comments: Some comment letters suggest that chemical use is not necessarily related to threat to water quality and should not be included in tiering criteria (letter #15, #79, and others). Several comment letters from both agricultural and environmental organizations also indicate that toxicity could be caused by a number of chemicals and that by targeting a few individual

pesticides, may prompt growers to switch to a different and potentially more toxic chemical. Several comment letters suggest that the tiering criteria should include any chemical which could cause toxicity in waters of the State. For example, the National Marine Fisheries Service (NMFS, letter #90) comments that pyrethroids should be included in tiering criteria, as the toxicity in the Central Coast region from pyrethroids is also well documented.

Response and Recommended Change: Staff considered including alternative or additional chemicals for use in tiering criteria. For example, staff considered using existing high risk or restricted use pesticides developed by the Department of Pesticide Regulation (DPR). At the time of staff's evaluation, many of the pesticides on these DPR lists were not in broad use locally and were not yet documented to cause toxicity or pesticide specific surface water or groundwater problems in the Central Coast region. Staff decided not to use general high risk or restricted use pesticide lists because they were not necessarily related to water quality problems in the Central Coast region and because such tiering criteria could result in an unnecessary burden to growers. Staff also considered including those specific pesticides that were in agricultural use and detected in surface waters in the Central Coast region. The list of pesticides detected in the Central Coast region is very extensive (more than 75 individual pesticides, see 2011 Draft Agricultural Order finding #69) and would result in a very complicated tiering process. At the time of the development of the 2010 Draft Order, staff had more information documenting impacts due to agricultural use of chlorpyrifos and diazinon, compared to pyrethroids. Staff acknowledges that pyrethroids are also a problem documented in the scientific literature and by monitoring efforts. In response to comments, staff recommended a change to the 2010 Draft Agricultural Order findings to state that the Executive Officer may also consider impacts from other pesticides documented in the future as sources of toxicity and impairments. See Staff Report Section 3.C for additional detail.

Tiering Criteria – Proximity to Impaired Waterbody

Comments: Some comment letters, from both agricultural and environmental representatives, suggest that proximity to an impaired waterbody should not be included in tiering criteria (letter #15, #79, #85 and others). For example, environmental organizations comment that 1000 feet is an inadequate distance and suggest that if hydrologic connectivity is present, it should be assumed that impacts to water quality may occur (letter #85). The National Marine Fisheries Service further suggests that the criteria should also include tributaries to impaired waterbodies (letter #90).

Response: Staff considers low-threat operations in unimpaired areas as lower priority for monitoring and reporting requirements in the 2011 Draft Agricultural Order, compared to operations in closer proximity (e.g., 1000 feet) to impaired water bodies. See Staff Report Section 3.C for additional detail.

Tiering Criteria – Sustainable Certifications

Comments: Several comment letters suggested that the Sustainable In Practice (SIP) vineyard certified operations should be considered as criteria for the lowest tier because of the reduced threat to water quality due to water quality requirements and verification standard to the SIP certification.

Response and Recommended Change: In response to comments, staff recommended a change to the 2010 Draft Agricultural Order tiering criteria to include SIP certified vineyards (or other certifications approved by the Executive Officer) in the Tier 1 criteria.

Impacts to Drinking Water and Conditions Related to Groundwater

Groundwater Sampling

Comments: Many comment letters, from agricultural and non-agricultural representatives, express general support for groundwater sampling as necessary to protect drinking water sources. Some members of the agricultural community indicate that groundwater sampling is too costly.

Response and Recommended Change: Protection of groundwater sources of drinking water is among the Central Coast Water Board's and staff's highest priorities for the 2011 Draft Agricultural Order. Groundwater sampling and reporting is necessary to ensure protection of beneficial uses and to provide information to domestic well users who may be impacted by polluted groundwater. In response to comments, staff recommended a change to the 2010 Draft Agricultural Order to remove the requirement to submit a separate Groundwater Report and reduced groundwater sampling frequency for Tier 3 Dischargers.

Groundwater Analytes

Comments: Several comment letters suggest that groundwater analyses for major cations and anions is not necessary and should not be required.

Response: Staff included recommendations for groundwater analyses of major cations and anions because these specific analytes characterize and distinguish the water-bearing zone. In addition, these analytes also assist in the confirmation of quality assurance and quality control of groundwater samples. Finally, the cost to analyze cations and anions is low compared to other analytes.

Groundwater Water Levels

Comments: Several comment letters suggest that the requirement to report groundwater levels is costly and overly burdensome.

Response and Recommended Change: In response to comments, staff recommended a change to the 2010 Draft Agricultural Order such that groundwater levels are only required when well construction allows for groundwater depth measurements.

Groundwater Protection Provisions

Comments: Several comment letters, agricultural and non-agricultural, express general support for the 2010 Draft Agricultural Order conditions requiring backflow prevention and proper well abandonment (letter #85, #93, #105, #215, and others). Some comment letters indicate that the timeframe in the 2010 Draft Order to install backflow prevention was too long and should be shortened.

Response and Recommended Change: In response to comments, staff recommended a change to the 2010 Draft Agricultural Order requiring backflow prevention devices to be installed within one-year, instead of three years.

Nitrate Hazard Index

Comments: Several comment letters suggest that staff inappropriately used the Nitrate Hazard Index developed by the University of California. For example, several comment letters noted that staff's use of the index disregarded soil type. Many comment letters support conditions for operations that grow crops with high nitrate loading risk. For example, technical experts from University of California and others support reporting of annual total nitrogen applied (letter #72).

Response: Staff consulted with technical experts regarding the use of the Nitrate Hazard Index. Staff modified the use of the index so as to simplify it so that individual growers would not have to characterize soil type at all farms/ranches. Staff concluded that not using soil type as part of the Nitrate Hazard Index does not significantly change the nitrate loading risk level of individual farms/ranches for the purposes of the 2011 Draft Agricultural Order. In addition, staff finds that growers irrigating with water already high in nitrate present an increased risk for pollutant loading to surface water and groundwater, and concluded that including irrigation water concentration in nitrate loading risk factors is reasonable.

Managed Aquifer Recharge

Comments: Several comment letters support the implementation of managed aquifer recharge and indicate that the 2010 Draft Agricultural Order may prevent these types of projects.

Response and Recommended Change: The Central Coast Water Board supports managed aquifer recharge that will result in the long term improvement of groundwater quality. In response to comments, staff recommended a change to the 2010 Draft Agricultural Order to include a finding that clarifies support of managed aquifer recharge projects.

Monitoring

Comments: Several comment letters objected to specific analytes for surface receiving water quality monitoring (e.g., Coliform). In addition, several comment letters objected to analytes and frequency for individual discharge monitoring. Finally, several comment letters state that the Monitoring and Reporting Program (MRP) should be simplified to clarify reporting requirements for lower Tiers.

Response and Recommended Change: In response to comments, staff recommended a different MRP for each Tier. In addition, in response to comments, staff recommended several changes to reduce monitoring analytes and frequency (see individual MRPs).

Clarifications

Based on staff's review of public comment letters, it is apparent that some comments result from a general misunderstanding of specific conditions. In most cases, staff edited the 2010 Draft Agricultural Order or MRP to provide additional clarification. The following is a list of clarifying statements to address these areas of misunderstanding:

Tiers

- Growers who have operations greater than 1000 acres are not automatically in Tier 3 – only those that grow crops with high potential to load nitrate to groundwater.
- There is no requirement specifying an area (e.g., 1000 ft buffer) where crop production is not allowed.

Groundwater

- There is no requirement in the 2011 Draft Agricultural Order or MRP to drill groundwater monitoring wells.
- There is no requirement in the 2011 Draft Agricultural Order that prevents recharge of groundwater. Requirements in the 2011 Draft Agricultural Order aim to prevent and minimize loading of pollutants (e.g., nitrate) to groundwater.

Discharge Monitoring

- Tier 3 Dischargers with no irrigation or stormwater runoff do not have to conduct individual discharge monitoring.

General Reporting

- The 2011 Draft Agricultural Order does not require growers to report the amount of irrigation water pumped or applied to their crops;
- The 2011 Draft Agricultural Order does not require growers to submit Farm Plans;
- The 2011 Draft Agricultural Order does not require growers to submit Irrigation and Nutrient Management Plans.

Management Practices

- The 2011 Draft Agricultural Order does not include conditions related to specific amounts of irrigation water a grower can apply;
- The 2011 Draft Agricultural Order does not specify conditions restricting the application of pesticides;
- All Tier 3 Dischargers do not have to develop an Irrigation and Nutrient Management Plan – only those that have high nitrate loading risk at any one of their individual farm/ranch.
- All Tier 3 Dischargers do not have to develop a Water Quality Buffer Plan – only those that are adjacent to or contain a waterbody impaired for temperature, turbidity, or sediment and only for those specific individual farms/ranches adjacent to or containing such a waterbody.
- Tier 3 Dischargers can propose and implement alternatives to the Irrigation and Nutrient Management Plan, and Water Quality Buffer Plan.