



December 22, 2017

Submitted via email: commentletters@waterboards.ca.gov

Felecia Marcus, Chair
State Water Resources Control Board
1001 I Street, 24th Floor
Sacramento, CA 95814

RE: California Rice Commission Comments to SWRCB/OCC Files A-2239(a-c):
Waste Discharge Requirements General Order No. R5-2012-0116 Eastern
San Joaquin River Watershed: Second Staff-Proposed Draft Order

Dear Chair Marcus:

On behalf of the state's 2,500 rice farmers, we offer the following comments relative to the impact of the Second Staff-Proposed Draft Order for the Eastern San Joaquin River Watershed WDR (Second Draft Order) on our members. The California Rice Commission (CRC) serves as the third-party to assist our growers in complying with water quality monitoring pursuant to the rice-specific Waste Discharge Requirements Order No. R5-2014-0032, adopted on 27 March 2014 (Rice WDR). Notably, the Rice WDR was not petitioned by any party and continues to ensure that surface and groundwater that leaves our fields does not adversely impact beneficial uses of water in the state of California.

Rice growers in the Sacramento Valley have demonstrated compliance with the groundwater and surface water requirements proposed in the Second Draft Order through our Rice WDR. Specifically, we have demonstrated no nitrate impact to groundwater or surface water from rice production. We have also extensively evaluated surface water discharges from rice fields with a highly specific representative monitoring program that reflects over 40 years of monitoring and the evaluation of 85 monitoring sites throughout the rice growing region.

The current Rice WDR accurately reflects the years of data, extensive monitoring and unique nature of rice production. Accordingly, we respectfully request that the State Water Resources Control Board (State Water Board) re-consider potential application of the Second Draft Order as it pertains to the Rice WDR.

Our comments focus on two significant duplicative and economically harmful elements encompassed in the Second Draft Order. We also address the issue of domestic well testing not currently part of the Rice WDR and provide you with a solution.

1. Groundwater and Surface Water Nitrate Precedent of the Second Draft Order should not apply to the Rice WDR

Groundwater

The CRC has demonstrated through its Groundwater Assessment Report (GAR) (See CRC's Request for Supplemental Evidence submitted on December 5, 2017), completed one year early and adopted concurrently with the Rice WDR, that nitrogen applications to rice fields do not impact groundwater nitrate.

Of greatest importance is the anaerobic nature of flooded rice fields, which do not transform nitrogen into nitrate. In addition, rice is predominantly grown on heavy clay soils that significantly reduce water movement from the field to groundwater. The lack of impact on groundwater was demonstrated through rigorous rice field monitoring by U.S. Geological Survey for 10 years. These data were provided in the GAR to both the Central Valley Water Board and to the State Water Board's Agricultural Expert Panel.

The State Board's own Agricultural Expert Panel noted in the final report to the State Water Board, "[t]his recommendation comes with the caveat that certain groups (such as the rice growers on clay soils) may be considered for exemption because of very unique chemical situations, and that the groundwater quality of some areas may be de-designated from beneficial uses related to drinking water." (See *Conclusions of the Agricultural Expert Panel, Recommendations to the State Water Resources Control Board pertaining to the Irrigated Lands Regulatory Program*, September, 9, 2014 p. 39.)

The Rice WDR, as adopted by the Central Valley Regional Water Quality Control Board (Central Valley Water Board) accurately reflects rice impact on groundwater (or lack thereof), as determined by the GAR. When it adopted the Rice WDR, the Central Valley Water Board also accepted and approved the Rice GAR. "Prior to the adoption of this Order, the California Rice Commission prepared a Rice-Specific Groundwater Assessment Report (Rice GAR), which was submitted to the Central Valley Water Board in April 2012. The Rice GAR has been subsequently revised (Final-Rice-Specific Groundwater Assessment Report, 2 August 2013) and satisfies the requirements of a Groundwater Quality Assessment Report as identified in this Order. Any modifications to the Rice GAR must be submitted to the Executive Officer for approval." (See Rice WDR, p. 5)

Further, the Central Valley Water Board specifically agreed with the findings of the Rice GAR and found that rice production in the Sacramento Valley does not impact nitrate levels in shallow groundwater.

“Due to the types of soil in rice fields (high clay and loam content with low permeability), the closely managed method of nitrogen application (liquid injection in the soil and immediate flooding), and the dynamics of nitrogen in flooded soils, the GAR found that groundwater in the rice region is generally of low vulnerability to contamination from rice farming. In regions farmed continuously to rice for decades, shallow groundwater is generally of high quality, showing low levels of nitrate and salinity. Soil conditions in rice fields do not favor transport of nitrate to groundwater, and irrigation and drainage water are generally less saline than in other areas of the Central Valley. Rice farming has thus been shown to be a weak source of groundwater contaminants, and there are no known high vulnerability areas (to shallow groundwater pollution from rice farming) in the CRC Coalition area.” (Rice WDR, Attachment A to Order R5-2014-0032, p. 28.)

However, even though the Rice WDR as adopted by the Central Valley Water Board clearly finds that rice production does not impact nitrogen levels in groundwater, the Second Draft Order would require the Central Valley Water Board, and thus by extension the CRC, to make this same demonstration again. Rather than accepting the current findings of the Rice WDR, the Second Draft Order essentially remands this issue back to the Central Valley Water Board. With respect to the CRC, its members and the Rice WDR, such a remand is unnecessary and a waste of public resources and time.

Surface Water

The Second Draft Order suggests that additional demonstrations regarding potential nitrogen impacts to surface water are also necessary before certification of irrigation and nitrogen management plans and submittal of nitrogen summary report requirements are not applicable to certain growers, and rice growers in particular. (Second Draft Order, p. 39.) The CRC disagrees with this suggestion because in fact such a demonstration has already been made. Specifically, a University of California Davis edge-of-field study¹ evaluated nitrogen concentrations in rice field outflows, as well as other constituents. With respect to nitrate, this study found that 97 percent of all observations of nitrate (NO₃) measured as nitrogen (N) were below 0.5 parts per million (ppm), or 0.5 mg/l. For the seven samples that were measured above 0.5 ppm, six were between 0.5 and 1 ppm, one was measured at 2.5 ppm, and one was measured at 9.52 ppm. (See p. 24.) In other words, all of the samples were below the applicable drinking water standard of 10 mg/l-N, and all but one sample were substantially below the drinking water standard. This study combined with known nitrogen management in rice fields clearly show that rice production practices do not impact surface

¹ *The Development and Implementation of Rice Field Management Practices to Improve Water Quality* Grant Number 04-183-555-0, published in 2011, as part of a CALFED Grant for Drinking Water.

waters with respect to nitrogen. (See, e.g., Rice WDR, Attachment A, p. 8.) As such, no additional demonstrations are necessary and the Second Draft Order needs to be revised to clearly indicate that this otherwise precedential language that pertains to Nitrogen Management Plans does not apply to the Rice WDR and the growers covered there under.

2. Surface Water Monitoring Program Findings Do Not Apply to Rice

The uniform application of the findings in the Second Draft Order that call into question the representative nature of surface water monitoring in the irrigated lands programs do not pertain to rice and CRC's surface water monitoring program. Thus, a Surface Water Expert Panel is unnecessary, at least with respect to application to the CRC's monitoring program.

Unlike the rest of agriculture, the rice industry has over 41 years of experience in monitoring surface waters to determine impacts from rice production. Working with UC Davis, the UC Cooperative Extension, the Central Valley Water Board, the Department of Pesticide Regulation and the Department of Fish and Wildlife, the rice industry developed a surface water quality program that represents 96 percent of rice field drainage. The current sites were developed over 41 years through assessment and environmental monitoring by UC Davis, the State Water Board and the Central Valley Water Board from 1976 to 1983, monitoring 85 sites throughout the region.

Using this long and rich data set, the CRC re-evaluated monitoring locations and data from these 85 sites in the report, *Basis for Water Quality Monitoring Program: Conditional Waiver of Waste Discharge Requirements for Discharges from Irrigated Lands for Rice (CWFR)* finalized 1 October 2004. (See Rice WDR, Attachment A, p. 12.) Then, in 2012, the CRC submitted a Surface Water Assessment Report (SAR). (Rice WDR, Attachment A, p. 15.) These evaluations, along with the comprehensive edge-of-field study performed by UC Davis, first demonstrate that rice farming has a low impact on surface water quality. For example, the edge-of-field study, the only of its kind to our knowledge, clearly demonstrates that rice drainage water contains low concentrations of various pollutants.

Second, the Central Valley Water Board has made significant findings in the Rice WDR based on past monitoring results that there is a low risk of aquatic toxicity from rice operations, and rice pesticides are a low risk for causing surface water quality problems. (See Rice WDR, Attachment A, pp. 17-19.)

Third, development of the Rice WDR program has evolved over four decades and is based on extensive evaluation of data and information collected from 85 sites. The current monitoring locations clearly represent a vast majority of rice drainage in the Sacramento Valley, and thus properly characterize rice drainage to

determine if it is impacting surface waters. The Rice WDR contains a well-documented description of the evolving program and why the current program is consistent with the intent and purpose of surface water monitoring programs. (See Rice WDR, Attachment A, pp. 12-23.)

In addition, 13 years of monitoring and supplementary evaluation through the Conditional Waiver for Rice (CWFR) and the Rice WDR have been completed. Again, this monitoring demonstrated that rice does not negatively impact beneficial uses in surface water.

Also, relevant to this discussion, is the robust nature of adaptive management contained in the Rice WDR, which is reflected in the Surface Water Quality Management Plan (SQMP), and Groundwater Quality Management Plan (GQMP) requirements, if triggered. Further, growers must report management practices they are implementing to protect water quality. (Rice WDR, p. 6.)

Pesticides are also thoroughly assessed in the Rice WDR. The Pesticide Evaluation Process now being implemented for all agricultural coalitions was first developed and implemented by the CRC. In short, pesticides are selected annually for the surface water monitoring program based on usage patterns, monitoring data and toxicity.

All of these factors combined demonstrate that CRC's surface water monitoring program does not suffer from the State Water Board staff's perceived inadequacies of irrigated lands receiving water monitoring as discussed in the Second Draft Order. The CRC program is reliable and effective in identifying water quality issues related to rice production: 1) monitoring locations are able to assess approximately 96 percent of rice acreage in the Sacramento Valley; 2) timing of sampling occurs relevant to pesticide usage patterns; 3) edge-of-field sampling indicates that rice farming has little impact on surface water quality; 4) exceedances trigger need for Surface Water Management Plans; and, 5) CRC effectively implements surface water quality management plans to quickly and efficiently address problems of concern (e.g., a high level of propanil was detected in 2009 and by 2012 the Central Valley Water Board determined that the management plan was complete because monitoring results no longer indicated that there was a problem or concern). Accordingly, CRC does not support the Second Draft Order's proposal to convene a Surface Water Expert Panel, and further, does not agree that it's surface water program should be subject to further modification based on comments in the Second Draft Order.

3. Domestic Well Testing

At this time, the Rice WDR does not require monitoring of domestic wells on agricultural lands. While we do not believe that rice production impacts nitrate

levels in groundwater, we would support the addition of this requirement to the Monitoring and Reporting Program that was adopted concurrently with the Rice WDR. Such a change can be made by the Central Valley Water Board's Executive Officer, after posting for public comment, so that this new requirement is properly and timely applied to rice acreage in the Sacramento Valley.

Conclusion

The Rice WDR, specifically developed to reflect the unique nature of rice production, meets all the requirements of the proposed Second Draft Order for discharge of nitrate to groundwater and surface water. The Rice WDR reflects a decade of data on rice field impacts on nitrate levels in groundwater. The Rice WDR and its associated Monitoring and Reporting Program contain a sufficient representative surface water monitoring program based on the most robust data set available in agriculture. Finally, it includes specific adaptive management practices to ensure that groundwater and surface water quality are maintained and improved, if such improvements are necessary.

The Central Valley Water Board has already made significant findings that the Rice WDR is sufficient to monitor and manage rice fields discharges to groundwater and surface water. Therefore, we believe that the current Rice WDR, with the addition of domestic well testing to the monitoring and reporting program, complies with all applicable State Water Board policies and requirements. No further changes to the Rice WDR are necessary, other than domestic well monitoring, as indicated. Accordingly, the Second Draft Order needs to be amended to clearly indicate that the precedential components of the Second Draft Order are not applicable to the Rice WDR. The State Water Board can achieve this result in several ways.

The easiest, most direct pathway, would be to clearly state upfront that the conclusions of the Second Draft Order, with the exception of domestic well testing, do not apply to the Rice WDR. For example, page 8 of the Second Draft Order, could be modified to indicate that the Rice WDR is an exception to the application of the precedential components of the Second Draft Order, except for domestic well testing, because the Central Valley Water Board has already found that for rice growers (1) nitrogen management is inappropriate because applied nitrogen is not expected to seep below the root zones in amounts that would, even over multiple decades, reach groundwater, and is further not expected to discharge to surface water; (2) rice production exhibits a low risk to impacts to surface water; and (3) the surface water monitoring program is reliable and effective.

Alternatively, the Second Draft Order could be amended to state that the State Water Board has reviewed the Rice WDR, Rice GAR, Agricultural Expert Panel Report, and results from an edge-of-field study and has found that due to the unique circumstances surrounding rice production, and supporting data and information,

the precedential components of the Second Draft Order do not apply to the Rice WDR, except for the need to add domestic well testing.

CRC appreciates the State Water Board's consideration of these two options, and looks forward to seeing revisions to the Second Draft Order that accomplishes this intended course of action.

Sincerely



Tim Johnson
President & CEO

