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State Board Set to Adopt Revised ESJWQC Order in January

A concerted effort by water quality coalitions at a December 6 State Water Resources Control Board workshop in Sacramento has many hoping for substantial changes to the Waste Discharge Requirements (WDR) for the East San Joaquin Water Quality Coalition (ESJWQC). While members of the State Water Board listened intently and had numerous questions for the six ag panels, it remains to be seen if any substantial changes will make it into the final WDR set for adoption on January 23, 2018.

The scheduled adoption hearing date is preceded by a December 22 deadline for written comments where the coalitions and other interested groups are providing detailed arguments for the proposed changes.

Still unclear at press time is whether the State Water Board will accept requests to "slow down the process" of adopting the revised WDR or Order. Because the revised WDR has precedential requirements for all Irrigated Land Regulatory Programs in California, it will be essential that the State Water Board have enough time to consider all suggestions and concerns. Many coalition representatives expressed skepticism that having only 30 days between the written comment deadline and final adoption date will not give State Water Board staff and attorneys adequate time to incorporate the numerous edits and changes being suggested. An extension was given for written comments but whether that will transfer to a delay in the adoption hearing is unknown.

A substantial change to this version of the State Water Board draft WDR (released October 10, 2017) is including what are called "precedential" sections that will apply not only to other coalitions in the Central Valley but to other regions of the state with Irrigated Lands Regulatory Programs such as the Central Coast. In the first draft of the WDR released in 2016, the State Board declared the entire Order would be precedential whereas the second draft qualifies how precedential is defined with some provisions having more flexible timelines and approaches. It also provides Regional Water Boards with discretion on how some precedential components will apply to various areas of the State.

A statewide precedential component expected to take years to develop for many crops is creation of target ranges or multi-year ratios of applied nitrogen divided by removed nitrogen (A/R). The State Water Board expects that these multi-year A/R ratio target values would be calculated based on data reported by growers and reflect "real-world farming practices rather than estimates derived from isolated field studies."

The State Water Board also maintains that such targets for A/R will account for year-to-year variations because they will be based on averaging multiple years of A/R ratios. The proposed Order also requires the Central Valley Water Board to report periodically to the State Water Board on its progress in developing target multi-year A/R ratios although it acknowledges that it is too early "to predict exactly how these ranges may be used."

State Water Board Process for Adoption

The State Water Board acts as the appellate for any challenge brought against a regulation adopted by a Regional Water Board. The initial petitions against the ESJWQC WDR were filed shortly after its adoption in December 2012. In response to the petitions, the State Water Board revised the Order and in February 2016, released the next version to a critical reception by agricultural organizations. After holding two public workshops and accepting written comments, State Water Board staff went back to work revising the language with a second revised WDR released on October 10, 2017. Three public workshops were held in November and December 2017 with written comments due on December 22 (delayed from an initial December 15 deadline). At press time, the State Board had set the adoption date of January 23, 2018.

If adopted, the new provisions will go into effect immediately for the ESJWQC while the Central Valley Regional Water Board will have up to five years to adopt the precedential provisions for other coalitions in the Central Valley.

The next step for groups who strongly oppose the new WDR is filing a petition in a Superior Court. That could lead to more changes or acceptance of the program as written, depending on the decision by the Superior Court judge. A judge has the option of "staying" any new provisions until a decision is handed down. Or the judge can allow the State Water Board Order to proceed until the court has issued it final decision, which can contain detailed changes on the challenged components of the WDR.

Summary of Expected Changes

Despite a concerted push by the agricultural community and water quality coalitions, several provisions are likely to be adopted as written by the State Water Board on January 23, 2018. The major proposed changes include:

- Requiring all coalition members to annually monitor domestic wells on their parcels that serve residences, shops or other facilities beginning in 2019. When a domestic well exceeds the nitrate drinking water standard, the laboratory analyzing the water sample must provide notice to the Regional Water Board within 24 hours. Growers are required to notify users of the well water if results exceed the nitrate drinking water standard. Unlike the first draft Order, water quality coalitions will not be involved in following up with members to ensure sampling is completed. Rather the Regional Water Board will be charged with the responsibility.
- Irrigation is added to the existing Nitrogen Management Plan (now called the Irrigation and Nitrogen Management Plan or INMP) with requirements to record total water applied to a crop and estimated Evapotranspiration (ET) each year.
- All members, regardless of groundwater vulnerability designation, must have their INMP certified by a professional (Certified Crop Advisor (CCA), agronomist, etc.), or complete a self-certification course. The INMP is kept in farm records and only needs to be produced should there be a Regional Water Board inspection.
- All members must eventually submit an INMP Summary Report that includes selected information from the INMP such as nitrogen applied and yield. For growers in low vulnerability areas, the requirement begins in 2021.

Some Good News in Revised Order

When the first revised WDR was released in February 2017, the State Water Board heard one message loud and clear from agriculture: that if all grower data on fertilizer applications and yields had to be reported directly to the Regional Water Board and posted on a public website, then the coalitions in the Central Valley would dissolve. Through numerous staff workshops and meetings with agricultural representatives, State Water Board staff finally got the message. Their latest proposal has the coalition reporting nitrogen fertilizer applications and yield using an "anonymous identifier." Coalitions assign the anonymous identifier to each field and remove the grower's name, address and assessor parcel number (APN) when reporting the information to the Regional Water Board. Should the Regional Water Board have a justifiable reason, it can request the individual member's identifying information from the coalition. However, the summary reports will be submitted by coalitions with all data labeled with an anonymous identifier.

Frequency of submitting the annual Farm Evaluation (FE) is being extended in the revised order to once every five years for growers in high vulnerability areas. After the 2018 FE is turned in to the coalition, the next report is not due until 2021, then every five years after that date. For small acreage growers, the first Farm Evaluation is due in 2021. During the 2016 public workshops, coalitions pointed out how most farming practices don't change from year to year and that a reduced reporting frequency was justifiable.

New Reporting for Fields in Management Plans

If surface or groundwater monitoring by coalitions finds exceedances of water quality standards, that watershed or groundwater sub basin is put into a Management Plan. The first Management Plans were put in place in the East San Joaquin Water Quality Coalition in 2006 when several pesticides were found in multiple waterways. For groundwater, Management Plans were put in place following completion of the Groundwater Assessment reports in 2014. The Groundwater Management Plan was approved in July 2017 with deadlines set to complete performance goals laid out in the document.

In the current WDR, Management Plans trigger additional outreach efforts, tracking of newly implemented management practices, and require annual updates to the Regional Water Board on progress made to improve water quality. Some coalitions developed management practice surveys to determine which practices growers are implementing to protect water quality.

The revised draft Order now requires submission of a separate Management Practice Implementation Report (MPIR) for members located in either a surface or groundwater Management Plan. The Central Valley Water Board, with input from the coalitions, will have discretion to determine appropriate reporting frequency for the MPIR based on the life cycle of the management practices being implemented to address problems. Frequency of submitting the MPIR is likely to be annual, possibly more frequent under certain circumstances. Included in the MPIR will be a summary of irrigation and nitrogen application practices which were previously reported in the Farm Evaluation.

Coalitions Charged with Evaluating Members Nitrogen Use Data

A significant change for grower reporting requirements in the new Order is the removal of any calculations on Nitrogen Management Plan Summary Reports derived from what is now being called the Irrigations and Nitrogen Management Plan (INMP). Currently, growers must calculate Applied over Yield (A/Y) on their Nitrogen Management Plan Summary Report.

If the proposed Order is adopted, growers will submit nitrogen application and yield data on their INMP Summary Report. Coalitions will then use that data to calculate an estimate of the nitrogen use efficiency for each field. This efficiency will be determined by converting the yield for each field to a number representing nitrogen removed from that field. Nitrogen removed is calculated from the total amount of crop material removed from a field multiplied by a crop-specific coefficient. While some crops such as almonds, walnuts and pistachios have relatively accurate nitrogen removal numbers per pound of yield, accurate information has yet to be developed for most other crops.

Another new requirement of the draft Order is that the coalitions must develop crop-specific coefficients representative of the amount of nitrogen removed per pound for each crop where information is lacking. The proposed Order requires that crop coefficients be developed for 95% of the acreage by 2021 and 99% of the acreage by 2023. From these crop-specific coefficients, coalitions would then calculate the nitrogen applied over nitrogen removed ratio (A/R ratio) for each field and the nitrogen applied minus nitrogen removed difference (A-R difference) for each field.

Another analysis to be performed by the coalitions is examining management practice implementation data to assess if growers are implementing appropriate practices for optimal nitrogen use efficiency. Most of these practices are known to agronomists, University Cooperative Extension and commodity groups and will serve as the basis for performing this evaluation. Analyzing this data will also assist in developing and recommending effective management practices in coming years.

Nitrogen Application "Outliers" To Receive Special Attention

Most growers in Central Valley water quality coalitions are in their first or second year of reporting nitrogen applications for fields located in high vulnerability areas. In the Nitrogen Management Plan "Summary Report", growers provide the amount of nitrogen applied and perform a calculation of their applied nitrogen compared to their yield (A/Y). Then using a statistical analysis, the coalition compares the A/Y for each field or management unit to the A/Y of all other management units of the same crop grown in the coalition region. This analysis produces "outliers" or data points that lie outside the normal range compared to other data points.

In the proposed Order, coalitions will continue to perform this analysis. However, latitude is now being given to the coalitions to calculate multi-year Applied nitrogen over Removed nitrogen ratios (A/R) and Applied nitrogen minus nitrogen Removed (A-R) values. The State Board acknowledges the definition of "outliers" is imperfect and that determining "target values" still needs to be developed in conjunction with the Regional Water Board and coalitions. In fact, no definition of outliers is

(Continued on next page)

Nitrogen Application "Outliers" To Receive Special Attention *(Continued)*

included in the revised Order. They are leaving it up to the coalitions to propose a definition to the Regional Water Board in coming years. The coalition may choose to set a standard, approved by the Central Valley Water Board, that applies annually for a period of years to determine outliers or may propose and seek approval of a specific standard set each year. Highlighted in the draft Order is that a coalition member will not be identified as an outlier based on high applied and removed (AR) data solely due to application of nitrogen in irrigation water pumped from an aquifer with elevated nitrate levels.

As in the current program, coalitions are being charged with informing members identified as outliers that they are potentially over-applying nitrogen to their fields. Following receipt of notification, after the new Order is adopted, these growers must either attend additional INMP self-certification training in person or work with an irrigation and nitrogen management plan specialist for certification of the next INMP prepared following notification. These growers must also report on the next annual INMP Summary Report that they were notified as outliers for reported AR data. The INMP Summary Report will then be expected to reflect additional or improved management practices implemented to address potential over-application of nitrogen.

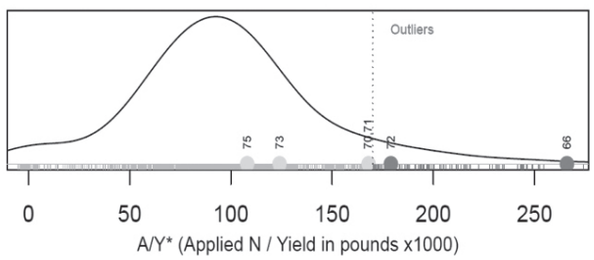
Should a grower meet a predetermined trigger, such as three consecutive years of high A/R ratios, the coalition will be required to submit non-anonymous reports of that member's information to the Regional Water Board, likely leading to follow-up by the agency.

The bell curves below illustrate how the East San Joaquin Water Quality Coalition is communicating information about potential outliers to members who grow almonds.

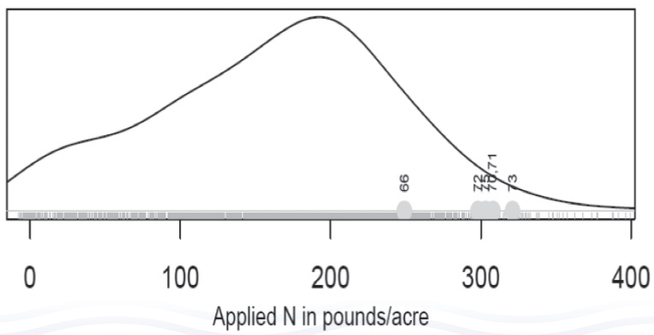
How Do Your Management Units Compare To All Other Almonds Growers?

835 Coalition members reported on **2143** Almonds Management Units.
Median A/Y* = **97** A/Y* values larger than **170** are considered outliers.
Median A = **171** pounds/acre

Your A/Y* Compared To All Other Almonds Growers



Your Applied N Compared To All Other Almonds Growers



Fields in Low Vulnerability Areas Getting Similar Requirements As High Vulnerability

Growers with fields in low vulnerability areas have fewer reporting requirements under the current WDR but that is about to change with the new draft Order. Numerous comments were made in the public workshops in November and December criticizing this change, especially in regards to crops such as irrigated pasture and in sub basins with no groundwater nitrate problems. Whether the State Water Board heeds the suggestions won't be known until final adoption of the order on January 23, 2018.

A summary of changes for growers with fields in low vulnerable areas:

- Required to participate in one outreach event per year organized by the coalition (may be done remotely i.e. online video of event);
- Starting in 2020, the Irrigation and Nitrogen Management Plans (INMPs) must be certified by a Certified Crop Advisor (CCA) or Agronomist (with the option of self-certification);
- Must submit INMP Summary Reports of their INMP beginning in 2021;
- Should the watershed or sub basin where fields are located be placed in a Management Plan, members must submit a Management Practice Implementation Report (MPIR);
- Frequency of submitting Farm Evaluations will be extended to once every five years (same as high vulnerability areas).

Trainings Continue for Grower Certification of Nitrogen Plans

Central Valley Coalitions are holding their third year of meetings where growers are being trained to certify their own Nitrogen Management Plans (NMPs, soon to be INMPs). The training meetings are becoming regular events as growers in high vulnerability groundwater areas choose to write their own plan rather than obtain a sign-off by a CCA or trained agronomist, as is now required. If the current draft order is adopted as written, that requirement will be expanded to growers in low vulnerability areas as well.

Since the inception of the program in 2015 through November 2017, a total of 53 training sessions were organized and 2,342 growers were certified to write their own plans. Thirty-two CCAs received trainings that enabled them to instruct at these grower meetings. The CCA training events, taught by Terry Prichard and Larry Schwankle of the University of California, were funded by a grant from the California Department of Food and Agriculture, Fertilizer Research and Education Program (FREP). The grant is also funding the Coalition for Urban Rural Environmental Stewardship (CURES) to assist in organizing CCA training and grower courses, grade assessment tests and distribute results to growers. Each coalition selects the trained CCAs to perform certification classes in their regions. The FREP grant also supports a website with locations and times of grower trainings: www.curesworks.org/grower-Training/. A grower can attend any course to obtain the certification; it need not be a meeting scheduled in their coalition region.

After passing the test, a grower can certify the NMP for his own property and lands that are leased by the member. The NMP self-certification is valid for three years as long as a grower attends three hours of Continuing Education (CE) courses covering crop nutrition. The first grower meetings with CE credits began in Spring 2017 and continue to be added in 2018. CURES maintains a webpage of all courses approved for CE credits www.curesworks.org/cecourses/ and is encouraging organizations and companies to apply for CE credits for their events at the following website: www.curesworks.org/continuing-education/

Coalitions Undertaking Program for Grower Certification of Sediment and Erosion Control Plans

Central Valley water quality coalitions are in the second year of holding trainings that enable growers to self-certify their Sediment and Erosion Control Plans (SECP). These plans are required of growers who have the potential to discharge storm water or irrigation drainage into waters of the State. The existing requirement, unchanged in the new proposed Order, is that a professional such as an engineer must develop and approve these farm specific plans.

The trainings enable growers to participate in the training, take a test, then develop their own plan. The Central Valley coalitions hired an engineering firm to develop the training curriculum that was approved in early 2017 by the Regional Water Board. The firm, Provost and Prichard, worked closely with the Natural Resources Conservation Service (NRCS) and coalition leads to develop the curriculum. Courses were held by various coalitions in Spring 2017 and are expected to continue. Contact the coalition in your region for dates of the next events.

State Acreage Fees Increase for 2017-18; New Approach Being Considered

The State Water Board acreage fees jumped for the first time in two years to 86 cents per acre, beginning what many hope is not a trend in the wrong direction. The state fees, paid by growers in all farming regions of the state with Irrigated Lands Regulatory Programs, are included in annual dues of water quality coalitions then paid to the State Water Board each year. When the program started in 2004, State Water Board fees were 12 cents per acre.

A proposal being considered by State Water Board staff on encouragement of several organizations is adjusting acreage fees under a plan they call "Ag Land Fee Alternative." The outcome could be an annual fee that is based on one or more of the following factors:

- Fee tiered by acres
- Per acre fee with minimum/maximum by grower
- Fee based on threat to water quality and/or complexity
- Regional fee i.e. by WDR or Coalition
- Commodity based fee

Also being considered are discounts or surcharges based on the third party, watershed, environmental benefit or impact, wetlands or irrigated pasture. An initial briefing by State Water Board staff was held in December on the potential approaches with continued discussions, workshops and a hearing expected before a formal proposal is presented to the State Water Board in 2018. The State Water Board staff pointed out that whatever fee scheme is developed, it must be revenue neutral meaning any reduction in fees for one group must be offset by increases for other fee payers.

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Watershed Coalition News

Ask The Water Board

Watershed Coalition News poses questions of interest to the Central Valley Water Board. This column is written by Sue McConnell, Program Manager for the Irrigated Lands Regulatory Program, regarding a new approach being considered for groundwater monitoring in the Central Valley

What is the Central Valley Groundwater Monitoring Collaborative (CVGMC)?

The Central Valley water quality coalitions approached us about developing a regional trend monitoring program in lieu of individual coalition trend monitoring programs. In support of the idea, we modified the General Orders to allow the agricultural coalitions to develop a regional approach for characterizing groundwater quality across the Central Valley. Envisioned as a program initially involving the Central Valley agricultural coalitions, the regional monitoring program is expected to eventually include other programs with a groundwater monitoring element.

Why does the Water Board like this approach?

A coordinated Central Valley effort will likely result in more effective and efficient monitoring compared to pursuing separate programs conducted independently in the same areas. The approach should provide a more coordinated and cost-effective assessment of groundwater quality in the Central Valley.

What is a trend monitoring program supposed to accomplish?

Initially it will establish current groundwater water quality conditions relevant to irrigated agriculture and then help to develop long-term groundwater quality information that can be used to evaluate the regional effects of irrigated agriculture and its practices.

What are the next steps?

The CVGMC initiated the process by submitting a conceptual work plan on October 31, 2017. The Water Board conditionally approved the work plan and requested additional information. CVGMC is proposing a phased approach where it will first submit to us a Technical Work Plan due May 2018. This work plan will outline a coordinated approach for monitoring and reporting by all participants to meet requirements of their General Orders and describe how data quality assurance will be maintained. It is expected that each Coalition will be responsible for performing groundwater monitoring in their own region by Fall 2018.

What is envisioned as the end product of CVGMC?

After initiating the CVGMC, a coordinated report will be provided to the Central Valley Water Board that characterizes groundwater quality across the entire Central Valley (or the portions of the Central Valley encompassed by CVGMC participants). Individual chapters in this report will describe trends in groundwater quality in each coalition region. Another section will characterize groundwater quality across all participating regions. Each chapter will use consistent formatting with common maps, figures and text to facilitate review by Water Board staff and other interested parties.

What other agencies might benefit from such a regional monitoring program?

My understanding is the Central Valley coalitions have already had conversations with representatives from the dairy industry, Publicly Owned Treatment Works (POTWs), food processors, the oil and gas industry as well as CV-SALTS participants. The coalitions also see value in working with relevant Groundwater Sustainability Agencies (GSA) once their plans are submitted to the Department of Water Resources (DWR) in 2020.