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Subject: **Agricultural Expert Panel Draft Report**

Dear Jeanine:

Thank you for the opportunity to provide comments on the Draft Recommendations of the State Water Resources Control Board (SWRCB) Nitrate Expert Panel (Panel) pertaining to the Irrigated Lands Regulatory Program.

The State Water Resources Control Board (SWRCB) should be commended for how they convened and facilitated this process. Additionally, the Nitrate Expert Panel (Panel) should be applauded for their hard work. They acted diligently to discharge their mandate and to provide SWRCB with thoughtful and useful information to address the questions put before them.

There has been great interest in this process and it has been closely observed through meeting attendance and participation in public comment opportunities. Please accept the following comments.

The regulatory cart has been put before the technical horse.

There is no doubt that regulation has proceeded rapidly and in a vacuum. It has also preceded technical abilities and capacity. Consequently, there is tension, or rather dissonance, between the regulatory requirements being imposed and the implementation ability that exists in the field. The Nitrate Expert Panel Draft Recommendations reflect this dissonance.

In the past, regulatory response to agricultural input regarding technical deficiencies often has been that the regulated community is “stonewalling” and that the regulations will drive the innovation necessary to meet implementation challenges. There was an “if we build it (a regulation), then, innovation will come” mentality. However, this attitude did not acknowledge that, in the past, innovation was driven by very different circumstances with point-source regulated communities. Here, the challenges of implementation are much different than with point source regulated entities. Basic technical information is lacking. The dissemination of information is much more difficult. The regulated community has limited ability to recoup expenses being imposed by the regulations. And resiliency of the agricultural economy is being taken for granted, if not overestimated.

The Nitrate Expert Panel Draft Recommendations provide an opportunity for the regulators and the regulated community to “think outside the Point Source box” to create non-point source driven regulations that 1) meet regulatory mandates, 2) deal with technical constraints, 3) address the inherent differences between point source and non-point sources challenges, and 4) facilitate the type of problem-solving dialog necessary to address complex problems. The regulators are encouraged to step back and seriously consider these recommendations and consider how/if they might be used to improve existing regulations.

New Regulatory Paradigm:

On Page 16, The Panel recommends “that a new paradigm be developed and proposes a framework in Section 3.2. In summary, the new paradigm places emphasis on training/education and irrigation and nitrogen management plans, and concise reporting.” This recommendation is going to find support among the agricultural communities, particularly, in regions where agriculture has not felt that their voices were heard or where regulations were not based perceived to be based upon input provided by the technical community.

Unfortunately, while the discussion of a new paradigm shift ensues, growers on the Central Coast are being asked to report data that is based upon criteria that the Panel has found to have questionable technical validity. For example, on Page 21 3.2.1. iii. Key Point Summary for Vulnerability and Risk, E, The Panel states: “Using the hazard index of conditions above ground such as with [Nitrate Hazard Index] NHI, or an index based on groundwater nitrate levels, are both poor proxies to answering two basic questions on the farms/fields: Are the nitrogen and water needs of the crop(s) being managed in a reasonably good manner?” This echoes concerns in the Central Coast agricultural community that tiering and regulatory triggers based upon technically flawed criteria will instigate reporting of incomplete, inaccurate or inappropriate data that will be misinterpreted or misrepresented to the public.

What should be reported?

The Highlighted box on Page 23 discusses the components of an Irrigation and Nutrient Management Plan (INMP). The point is made that these plans should be used for management only and NOT for reporting purposes

The Panel further lists data necessary for a comprehensive and useful Irrigation Nutrient Management Plan:

1. How much Nitrogen [not nitrate] is being applied from all sources
2. Residual Nitrogen [not nitrate] in the soil
3. How much Nitrogen [not nitrate] is removed, by crop type
4. The distribution uniformity of existing irrigation systems
5. The volume of water applied

The use of Nitrogen on this list rather than nitrate is somewhat confusing. Somehow, the Panel Draft Recommendations should be amended to reflect that nitrogen fertilizer programs currently use nitrate as the indicator for fertilizer adjustments and that growers cannot currently measure all forms of nitrogen in real time. Ideally, in the future, technology will evolve so that growers will be able to measure all forms of N and predict conversion of insoluble N forms to readily available form such as nitrate.

For example, it is currently impossible to precisely manage a short-season vegetable crop with high nitrogen requirements that increase geometrically throughout the season that possess maximal N demand just prior to harvest with existing technologies. A grower MUST know with some level of certainty when all forms of N will ultimately be converted to available forms of N for plant uptake. Without knowing more about the amount and timing N availability, the grower will either overestimate the amount of N that will be available and the crop will be short of N at a critical time and yield and quality will be compromised. Or the grower will underestimate the amount of N that will eventually be available and once insoluble forms of N are converted and the amount of N exceeds crop uptake needs, N will leak from the system.

Along these lines, the panel uses the term “irrigation schedule” in a general sense. This term needs further definition. It is obvious that perennial and field crops are able to establish irrigation schedules for days, or even weeks, in advance, depending on crop needs or water availability. Unfortunately, in cool season vegetables, scheduling is impacted by factors shared by other crops as well as other dynamics such as well capacity, temperature, precipitation, wind, harvest schedules, labor availability, and soil moisture holding capacity of the soil. Consequently, irrigation scheduling changes constantly, almost on an hourly basis. Therefore, scheduling is a rough estimate, at best, and measuring water application becomes a monumental effort involving many inter- and extra-operational moving parts.

In addition, please note the difficulties of reporting yield. Cool season vegetables are not harvested in uniform units. For example, romaine lettuce may be harvested as many different SKUs depending on the contract. It may be harvested as whole heads in varying carton sizes or cut for romaine hearts, single leaf, field chopped for the salad market or cut and process cut for other markets. Converting these different SKUs into a uniform yield is extremely difficult and exceeds most growers' capacities, at this time.

No doubt, Irrigated Lands Regulatory Programs are forcing growers to collect information in ways that businesses are not currently structured to do. Consequently, The Water Boards should heed the Panel's Draft Recommendations to phase in

compliance requirements so that growers may build data collection systems that cause the least amount of operational upheaval and lessen the need for staffing increases.

Panel recommendations to simplify and streamline reporting requirements should be seriously considered.

New Production Paradigm:

Indubitably, growers will be required to change how they farm. Much more precision is going to be necessary. However, regulators and the public need to acknowledge that, in some cases, basic knowledge about nutrient and irrigation management simply does not currently exist. Also, grower-level knowledge may be inadequate and/or industry and operational infrastructure may not exist to support data collection and reporting requirements. Growers need more and better inputs and data management tools in the future than exist at present in order to implement expected changes necessary to protect water quality while simultaneously sustaining a viable operation.

The bottom line is that as knowledge is gained and as innovations are developed, the grower paradigm surrounding farming practices and water quality protection is going to change. However, driving these operational and industry-wide changes too quickly or inappropriately could actually cause irreparable damage rather than desired evolution in the industry.

Poor Proxies

It is true that the NHI [nitrate hazard index] or indices based on groundwater nitrate levels are poor proxies for determining true risk from nitrogen. True risk comes from a variety of factors. More would be gained from asking all growers to ascertain their own risk and respond to that risk than is gained by using poorly conceived surrogates of risk that trigger uneven actions or unequal reporting of information.

Inconsistent Purposes of Irrigation and Nutrient Management Planning

When members of the agricultural community discuss Irrigation and Nutrient Planning, they tend to have a production-oriented focus. However, this is not the purpose of the Irrigation and Nutrient Planning and Reporting functions imposed by the Water Boards. That purpose is to regulate the use of inputs that may impair surface water and groundwater and associated beneficial uses. There is some doubt whether the regulation is concerned with the success or failure of agricultural operations and production. These two functions have very different end-goals.

Differing goals create dissonance for a professional who may be asked to certify a plan. What is being certified? That the plan is a good plan for maintaining agricultural production? The consultant is trained to do this. Are the consultants being asked to certify that the plan will result in protecting water quality for a variety of beneficial uses? That is NOT the training of most professionals certifying the plans. The consultants seem to intuitively sense this as they work on these plans. Unless there is some effort

to understand and integrate these goals, these plans are likely to have questionable degrees of success in meeting either goal.

The Nitrate Expert Panel has tried to dissonance. They tried to convey agricultural logistical and operational difficulties to the State Water Board. This creates a tremendous opportunity for the Water Boards. It is hoped they will keep an open mind and try to fully understand that a lot more work needs to be one to strategically integrate water quality and production goals.

Certainly! It will be easy to show early surrogate improvements through nitrogen fertilizer reductions and better irrigation water management. But, it will take time, effort and many mis-starts in order to successfully incorporate resource goals while maintaining viable farming operations. The Water Boards are encouraged to take the long-view and accept the recommendations of the Panel, incorporate recommendations where necessary and implement science-based regulation in strategic phases that move the industry towards water quality improvement and more precise, less impactful farming operations

The Use of First Encountered Groundwater

Page 21, 3.2.1iii, Key Point Summary for Vulnerability and Risk, D. “The Panel does not believe that extensive monitoring of “First encountered groundwater” for nitrate is appropriate because of all of the uncertainties involved in interpreting results.” Regulatory and activist communities are currently using first encounter drinking water data to make implicit and explicit hydrogeological conclusions about groundwater contamination, contaminant transport, and grower management practice. The State Water Board should heed the recommendations of the Panel and subsequently provide stronger guidance to the Regional Boards about data interpretation of drinking water well sampling data.

Certifications:

In general, Panel members are encouraged to consider a wide variety of certifications rather than narrowly focus on Certified Crop Advisor Certifications. For example, the American Society of Agronomy offers multiple certification programs. These were not mentioned in the Draft Recommendations.

It should be noted that when the Pest Control Advisor (PCA) program was initiated in the 1960s, there were consultants and vendor employees who were “grandfathered” into the program. Many could not meet the minimal education requirements and they were granted licenses with ever-increasing continuing education requirements. Many of these “grandfathered” PCAs became the most respected PCAs in the industry because of their practical field knowledge and expertise.

Additionally, it should be noted that the issues of liability were very different in the 1960s than today. Currently, my clients are having difficulty with finding consultants to write required INMPs. Initially, vendors and consultants were willing but their enthusiasm waned when they begin to understand the details of the Central Coast

INMP requirements and potential liabilities that will be incurred by writing, certifying and implementing the plans.

Training:

There are +/- 87,000 farms in California. There are 4,000+ PCAs and associated vendors and consultants. The panel's discussion of education and outreach needs to better emphasize the enormity of shifting awareness, increasing education and changing grower practices to such as large population. It would be good to see the education and outreach recommendations incorporate more input from industry, trade associations, University of California Cooperative Extension and Non-Governmental Organizations about what resources they could contribute to this monumental education and training effort.

The Use of Milestones:

The Panel should include a discussion of milestones associated with each aspect of potential or recommended future practices. Without some assignment of a potential time frame for action, then, regulators, policy makers, activists or members of the public may mistakenly assume that each recommendation may be implemented in the immediate future.

Liability:

The Panel and Water boards have been provided verbal and written testimony regarding liability concerns, which are not limited to fear of regulatory enforcement, but encompass fears about third party actions. There is concern about retrospective second-guessing of Irrigation and Nutrient Management Plan decisions and recommendations. Fears also stem from the potential for media demonization, third party lawsuits, and that regulatory creep that may create situations that compromise the integrity of the professional agronomists or qualified consultants in the future.

Specific Clarifying Questions:

1) Page 19, 3.2.1.ii, The Concept of Risk - The Panel states in the second paragraph "The risks defined in *Items 2 and 3* involve different processes, time scales and solutions. Further their assessment serves different purposes. Therefore, to effectively assess these risks, they need to be separated." This paragraph is confusing. Are the risks separated in this document? Are they addressed at another place in the document? If so, could that discussion be noted? If the separate risks are not addressed in this document, perhaps, the Panel should explain why they are not addressed.

2) Page 19 3.2.1.ii, Establishing Areas of High Priority for Action/Attention - "However, risk level may be considered in the administration of responsibilities of growers to the coalitions". It is unclear what this statement means. I would respectfully request that the Panel reword this statement to clarify the recommendation.

3) Page 23, 3.2.1. ii. Establishing Areas of High Priority for Action/Attention – “...The Panel believes that future efforts should focus on the following four areas: ... 4. Internal (private) review and assessment of the impacts...” Please clarify what is “internal (private) review and assessment”? Is it a Coalition? A third party audit? A review by a third party consultant or trade association or NGO?

Requesting that the SWRCB take action on the Central Coast Ag Waiver:

Questions have been asked about how the Panel Recommendations will be used to inform the current Irrigated Lands Regulatory Programs. It is my understanding that SWRCB may take 3 courses of action: 1) do nothing, 2) pursue a protracted and difficult statewide policy relative to nitrate and 3) impose some guidelines on regional boards and when/if those are ignored, then, the state will step in with their own order.

The Agricultural Community has grave concerns regarding the Central Coast bases for Tier designations and triggers for various reporting requirements. The Nitrate Expert Panel has confirmed those concerns. Consequently, the State Water Board is being asked to seriously consider the recommendations of this Nitrate Expert Panel and to require the Regional Water Boards to reconsider and amend their Irrigated Lands Regulatory Programs to align with the recommendations made by the Nitrate Expert Panel that was convened through legislative direction.

In closing, The Nitrate Expert Panel Draft Recommendations offer the Water Boards an opportunity to greatly improve the technical justifications and implementation of their current and future regulatory programs. Water Boards are encouraged to seriously consider Panel recommendations and incorporate them into existing and future regulations.

Thank you for consideration of these comments.

Most Sincerely,

Kay Mercer
President