

# SUSTAINABLE AG WATER CORPORATION

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December 15, 2017



Ms. Jeanine Townsend  
Clerk to the Board  
State Water Resources Control Board  
1001 I Street, 24th Floor  
P.O. Box 100  
Sacramento, CA 95812-0100

Re: Review of General Order No. R5-2012-0116  
2<sup>nd</sup> Draft East San Joaquin Order

Dear Ms. Townsend:

The Sustainable Ag Water Corporation, a California non-profit corporation, (SAWC) was established by Salinas Valley growers. It is made up of 19 Growers, Shippers and Land owners in the Salinas Valley representing about 150,000 irrigated acres. The purpose of SAWC is to promote and assist in the development of a sustainable water supply for the Salinas Valley. It submits these comments in response to the 2nd Draft ESJ Order under consideration by the State Water Quality Control Board (State Board).

The Salinas Valley is within the jurisdiction of the Central Coast Regional Water Quality Control Board (Region 3). The Salinas Valley, and the Central Coast, produces the vast majority of summer vegetables, strawberries, cane berries in the country, with over 300 commercial crop varieties grown each year. Farm operations presently enrolled in the Region 3 Ag Order range in size from 300 farms of 5 or fewer acres to thousands of acres. Many single farm parcels grow multiple crops on the same block during each season, averaging 2.5 crops per block per year. For example a 200 acre farm may have 20 blocks ranging in size between 1/4 acre and 20 acres, with over 50 individual crops per year. The crops grown in prior or subsequent years may have no relation to that grown in the current year. Individual crops, like romaine lettuce, may be harvested from the same planting in a variety of ways, i.e. bins for processors, boxes for wholesale distribution and cello pack romaine hearts for retail sales.

Region 3 has structured their Ag Orders so that each grower enrolls directly with Region 3. There are no coalitions serving as intermediaries between the growers and Region 3. State ILRP Fees are collected by Central Coast Water Quality Preservation, Inc., the entity that conducts surface water monitoring in compliance with the Ag Order, and remitted to the State Board.

The State Board has focused on nitrate (N) impairment to groundwater as a primary objective of the 2nd Draft ESJ Order. In many regards the Draft Order relies on the Nitrate Expert Panel report for guidance. This resulted in three key precedential requirements; 1) nitrogen Applied vs Removed (A/R) ratios, 2) multi-year A/R for each farmer by field, and 3) determination of Nitrogen Removed Coefficients by 2021. As this order is based on review of the existing Region 5 ESJ Order, it is more relevant and applicable to Central Valley crops. The farming practices in the Central Coast, with the exception of vineyards, have little relationship to those considered in the Draft Order.

1. **Applied Removed Ratio.** This is based on determining Removed by multiplying the harvest yield by an N coefficient. There is no data to establish the N coefficient for all but a handful of Central Coast crops. There are over 300 significant commercially grown crops on the Central Coast and many more specialty crops, like basil and turmeric. The Draft Order provides:

“The requirement for use of coefficients for conversion of yield to nitrogen removed values shall be precedential statewide. In determining the appropriate coefficients, the regional water boards must approve the values, but may rely on their own research or on the research of the third party, including a review of the scientific literature, and further may consider for approval coefficients evaluated by other regional water boards.” (Draft Order, pg. 38)

This is an overwhelming task given the lack of existing research and the limited number of science professionals working in this field. Devotion of all the available researchers to this task will prevent other needed agricultural research.

There are other significant hurdles to applying A/R ratios given the Central Coast cropping patterns.

- a. **Multiple crop rotations.** Many spring vegetable crops are followed by one or more successive plantings of different crops in the same block. Fertilizer applied to the first crop may be used by the second or later crops resulting in a higher A/R ratio for the first and much lower for the subsequent plantings. The proposed methodology does not allow for averaging N across all of the crops in the block each season, potentially biasing the results against the first crop.
- b. **Tiny plantings.** There are many farms which grow numerous varieties of specialty crops simultaneously with multiple rotations. Many greenhouse vegetable farms may have a crop equal to the size of one greenhouse bay, about 1/8 acre.
- c. **Organic Farms.** Organics range in size from large operations like Earthbound and Lakeside Organic to a multitude of 5 to 10 acre operations growing for weekly farmer's market sales. (See attachment A) Organic farmers growing for farmers' markets typically plant a row, or bed, of a variety each week, and harvest a row a week. If they bring 20 crops to market each week for a 30 week market season, this would be 600 crops to track and report individually.
- d. **Commercial plant nurseries** may have over 3,000 varieties of plants (see attachment). As the plant is sold with the pot more N will be removed, but calculating coefficient for all these varieties will be a herculean task. Transplant nurseries grow millions of transplants for up to 30 days on contract for delivery to

- farms, again with no existing N removal research on any of the varieties as the actual harvest will take place months later on another farm.
- e. **Cut flowers.** Flower growers need not only multiple varieties, but multiple colors or sub-varieties.
  - f. **Cannabis.** This is an up and coming agricultural crop throughout the Central Coast. The recently adopted State Water Board cannabis regulations do not consider N demand, much less the requirement for a removal coefficient for the multitude of flower varieties. Research may be problematic given the Federal status of the crop.
2. **A/R reporting** is by 1) individual operator, 2) APN, which is assumed to mean the contiguous farm, and 3) township. This is self-explanatory for orchards or single annual crops planted on the same field each year. However when applied to Central Coast vegetable crops the results will be distorted and skewed by the planting cycles.
- a. **Transitory farms.** Farmers not only grow a variety of crops on a single farm, many operations do not farm in the same location year after year. A significant number of vegetable farm operations rotate with other crops. Comparing or averaging A/R results per crop, like lettuce, across several years becomes meaningless if the crop is not grown on the same field. If one year the crop is grown on a sandy soil and the following on a clay soil the amount of water and N used will be significantly different each year. The yield will also change. Therefore averaging will actually misrepresent the efficiency of the farmer's practices. The logic of a multi-year A/R ratio is that it "provides a reliable measurement of the nitrogen left in the field." (pg. 35) If the grower is not on the same field it becomes a meaningless metric.
    - i. **Strawberry rotation.** The Pajaro Valley, lower Salinas Valley and Santa Maria Valley have many strawberry farms. Strawberries are grown on an annual rotation, followed by a vegetable crop the following year. Again the logic for a multi-year A/R ratio is eliminated with this rotation for both the vegetable and strawberry farmer.
  - b. **Climatic, soil and water** variations make it very problematic to compare a farm with the same crop in Castroville with one in King City, even though both are in the same county. There can easily be a 20° temperature difference between the two. Castroville could be on recycled water while King City may have a higher salt content requiring a salt leaching fraction. Soils will also vary. Comparing the results will be regularly prejudicial to King City with a consistently higher A/R ratio. It would be better to only compare the same crop if it is grown in the same township.
3. **3 year average.** A three year average for perennial crops reduces the influence of seasonal spikes that may impact the harvest. For the reason state above it is not a statistically relevant formula to measure the success of a grower in reducing N applied.
- a. **Organics.** Three year averages may also result in a structural prejudice against organics as organic farms may harvest only 60% of the yield of conventional farms due to uneven crop growth, loss to pests and a higher percentage of non-marketable crops due to disfigurement. This will result in organic farms appearing to be outliers due to lower yield, therefore lower removal rates.

## Recommendations

The Region 3 existing Ag Order (v 3.0) is scheduled for replacement in March, 2020. At that point Region 3 will adopt Ag Order v4.0 as a new waiver or a general WDR for commercial agriculture. The precedential nature of many of the elements of the Draft Order will limit the ability of Region 3 to craft regional regulations which are applicable to local conditions, while being consistent with the intent of the Draft Order. The results of a rote application of provisions meaningful for almonds to kale may make the future standards arbitrary and irrational as applied.

The goal of the 2<sup>nd</sup> Draft ESJ Order is to reduce excess nitrate fertilizer. The Expert Panel recommended use of an A/R ratio. However there are other regulatory approaches that can reach the desired result with less impact on Central Coast growers. The Draft Order provides that risk based reporting requirements, like the Region 3 Tiered reporting requirements, should be phased out and all growers must report, even in low vulnerability areas, or low tiers. Additional time will be allowed to bring all farmers into this scheme. (pg. 25) Uniform application of reporting standards is *precedential*. However, the Order gives Regional Boards discretion in design:

“But we leave open the possibility that risk-based designations continue to be used for differentiating surface water protection requirements and for phasing in groundwater protection requirements. We also decline to direct a uniform set of criteria for risk designation and leave the regional water boards with considerable discretion to design reasonable frameworks for differentiation and prioritization. In addition to the high/low vulnerability approach of the Eastern San Joaquin Agricultural General WDRs, such criteria may, for example, include the risk-based tier designations in the Central Coast irrigated lands programs or possibly categories based on farm-size” (pg. 25)

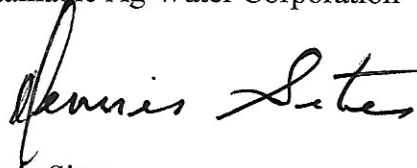
Given this latitude SAWC proposes the following transitional changes to the Draft Order to allow Region 3 time to conduct the necessary research to fairly administer the precedential regulatory requirements.

1. **Total Nitrogen Applied (TNA).** Region 3 continues to use TNA as set forth in the existing Ag Order 3.0 until research on the 30 largest crops, by acreage planted, is completed prior to switching to A/R. Most all Tier 2 and Tier 3 growers, the largest farms, growing strawberries and most vegetables already report TNA annually. This has allowed Region 3 staff to determine over-use outliers in the same way as the proposed A/R ratio in a less costly and cumbersome format.
2. **Small Farms.** Growers of minor crops, not the 30 largest crops by acreage, and existing Tier 1 farmers under 50 acres report Total N applied by farm and not by crop. This solves the problem of the crops shown in Attachment A. It will also allow comparison of fertilization practices to determine outliers.
3. **A/R scoring** should be by a) grower and b) township for the comparison to be reasonable. The transitory nature of farming on the Central Coast results in irrelevant A/R comparisons. This can be rationalized if the comparison is limited to similarly situated farms, that is farms in the same proximity, or township.
4. **Certified Sustainability Programs** which have irrigation and N audits should be the equivalent to A/R and TNA and can be used in lieu of A/R or TNA, i.e. the sustainable program under development by the Strawberry Commission. Many farmers already participate in audited food safety and sustainability programs. The format is adaptable to N fertilizer as well. This allows commodity groups to propose best practices and, with

audited results, determine if the grower qualifies for the certified program. Growers who cannot meet the standards would have to continue submitting data directly to Region 3. This would reduce the compliance burden on both Region 3 staff and the grower.

Wise and prudent use of nitrate fertilizer is important to protecting groundwater. The production of a wide variety of nutritious and affordable produce is important to society. Both objectives can be accomplished by allowing greater flexibility in the application of the 2<sup>nd</sup> Draft ESJ Order to Region 3 farmers.

Sincerely  
Sustainable Ag Water Corporation

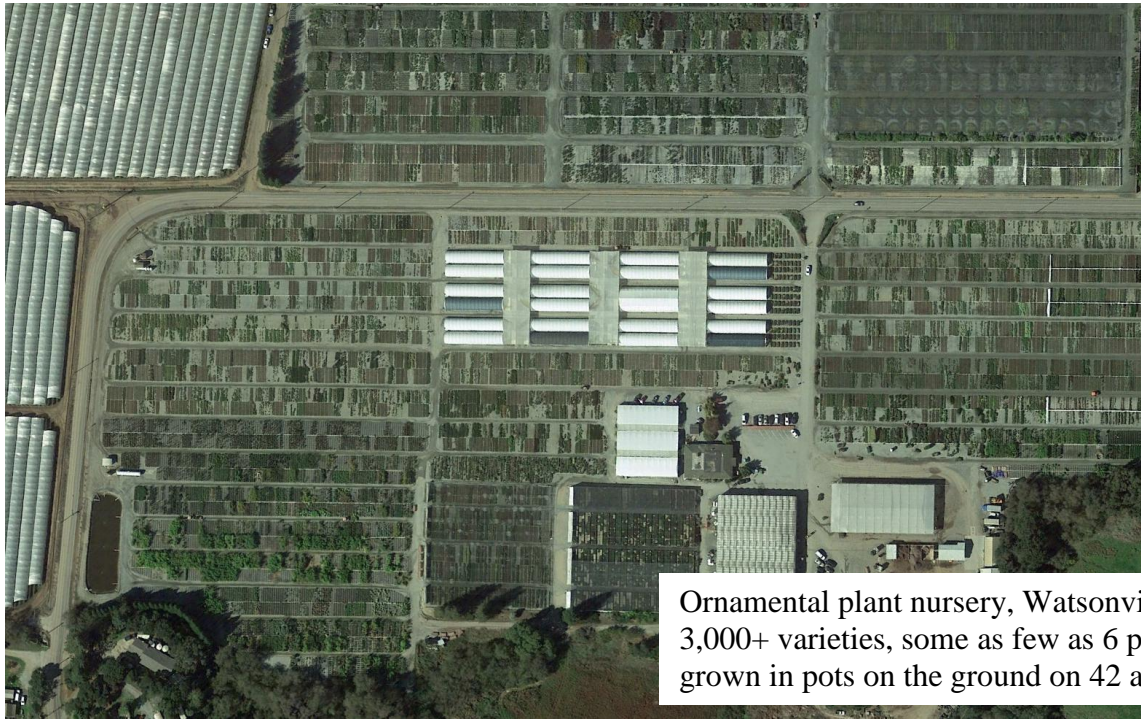
A handwritten signature in black ink that reads "Dennis Sites". The signature is written in a cursive style with a large, looping initial "D".

Dennis Sites  
Executive Director

Attachment A

SAWC ESJ 12-7-17.docx





Ornamental plant nursery, Watsonville  
3,000+ varieties, some as few as 6 plants  
grown in pots on the ground on 42 acres



Organic farm, multiple crops each on  
only one bed, planted weekly, grown  
and harvested weekly for farm stand  
and farmer's market



Flower farm in  
Lompoc