

**From:** Linda Graham [Linda.Graham@bbklaw.com]  
**Sent:** Monday, September 27, 2010 4:59 PM  
**To:** Joe Karkoski (jkarkoski@waterboards.ca.gov); ILRP Comments; 'khart@waterboards.ca.gov'  
**Attachments:** 5365586\_1.pdf; 2010-0927 P&P Memo to David Orth.pdf; Fig 1 For P&P Memo to David Orth.pdf; Fig 2 for P&P Memo to David Orth.pdf; Table 1 for P&P Memo to David Orth.pdf

Ms. Smith,

Please find the SSJVWQC submittal attached along with pertinent documents referenced.

Thank you,  
Linda Graham

*Linda Graham, Legal Secretary to  
William Thomas, Seth Merewitz, Anthony Van Ruiten  
Best Best & Krieger LLP  
400 Capitol Mall, Suite 1650  
Sacramento, CA 95814  
(916) 551-2083 direct line*

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**SOUTHERN SAN JOAQUIN VALLEY WATER QUALITY COALITION**

***Kaweah River Sub-Watershed  
Kern River Sub-Watershed  
Kings River Sub-Watershed  
Tule River Sub-Watershed  
4886 E. Jensen Avenue  
Fresno, California 93725  
(559) 237-5567***

September 27, 2010

VIA ELECTRONIC MAIL

<p>ILRP Comments Ms. Megan Smith 630 K Street, Suite 400 Sacramento, CA 95814</p> <p>Joe Karkoski California Regional Water Quality Control Board, Central Valley 11020 Sun Center Drive, Suite 200 Rancho Cordova, CA 95670-6114</p>	<p>Katherine Hart, Chair Cheryl K. Maki, Vice Chair Julian C. Isham, Board Member Karl E. Longley, Board Member Sandra O. Meraz, Board Member Dan Odenweller, Board Member Robert G. Walters, Board Member California Regional Water Quality Control Board, Central Valley 11020 Sun Center Drive, Suite 200 Rancho Cordova, CA 95670-6114</p>
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**RE: SSJWQC RESPONSE TO IRRIGATED LANDS PROGRAM DRAFT PEIR**

Dear Ms. Smith, Mr. Karkoski, Board Chair Hart and Board Members Maki, Isham, Longley, Meraz, Odenweller and Waters:

The 2000+ page CEQA alternative document is long, unclear, disjointed, repetitive and has its meaningful components totally camouflaged by voluminous content. The document analyzes the five alternatives that have been identified for over a year and which captured the broad extent of options for the long-term Irrigated Lands Regulatory Program (ILRP). These alternatives have been analyzed, vetted through the interested parties and have become familiar to Board members. The five alternatives have also been evaluated under an economic analysis, unfortunately an analysis with significant flaws, to determine the economic impact of each alternative. The CEQA review did not evaluate what has become the preferred staff alternative. Similarly, the Economic Analysis<sup>1</sup> also did not evaluate the recently developed staff alternative. The staff preferred alternative is actually a misnomer as it was not even referenced in either

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<sup>1</sup> ICF Jones and Stokes, 2010, *Technical Memorandum Concerning the Economic Analysis of the Irrigated Lands Regulatory Program*. Prepared for the Central Valley Regional Water Quality Control Board.

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the CEQA or Economic Analysis, but instead was merely attached thereto as an appendix. As discussed below we believe that is improper because the staff is trying to reverse this entire process and focus only on the staff preferred alternative, we will therefore commence these comments addressing the staff preferred alternative and then discuss the Draft Programmatic Environmental Impact Report (DPEIR).

## **I. Long-Term Irrigated Lands Regulatory Program Staff Report / Recommended Program Alternative**

Notwithstanding the extensive environmental review and lengthy period of analysis, the Regional Board staff has recently come forward with what it envisions is their regulatory program to be included under the long-term ILRP. In recent weeks staff has concentrated its efforts on what was first known as a “staff straw proposal.” The staff straw proposal has been offered in multiple iterations during its short life and is now presented in ILRP Long-Term Program Development Staff Report (Report) as the Recommended Program Alternative (RPA) – even though it is not one of the five alternatives analyzed under the DPEIR. When it first emerged as a straw proposal, the agricultural, agribusiness, and agricultural water quality coalitions were in strong opposition to this late-arriving alternative, and in particular voiced significant opposition to consideration of this proposal if it was not going to be subjected to a full CEQA analysis. Notwithstanding this strong opposition, Regional Board staff has persisted in their efforts to implement this staff straw proposal by selectively mixing and matching elements from identified alternatives to arrive at the RPA. This approach circumvents CEQA and violates the due process and public notice rights of landowners and agricultural operations subject to the regulations. The law does not allow a lead agency to avoid CEQA analysis by belatedly developing a program alternative by arbitrarily choosing and mixing certain elements from EIR proposed alternatives.

### **A. Groundwater**

1. Staff seeks to have the long-term ILRP program expand to include not only the existing surface water waiver, but also the very complex area of groundwater. The Report wrongfully asserts that virtually all irrigated agricultural lands, including those that do not drain to surface waters of the state, shall be considered as discharging to groundwater. (Report at p. 143 et seq.) As coalition representatives have pointed out many times, this is simply factually incorrect. By example, lands that are farmed many hundreds of feet above groundwater and use drip irrigation constituting only a few inches of irrigation water during the summer months coupled with annual winter rainfall of less than ten inches have absolutely no percolation or discharge to groundwater whatsoever, much less have the capability of carrying a contaminant from the surface many hundreds of feet to underlying underground water, which itself may be decades or hundreds of years old, and may have originated dozens of miles away.

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a. Attached to these comments are documents from water engineering experts in the southern sectors of the region that point out that there are considerable areas with deep underlying groundwater (hundreds of feet below) which have no reasonable risk from overlying efficiently irrigated crops in this desert region. (See Exhibit I.)

b. This expert evaluation points out that the staff preferred alternative/report predicates this extreme position on several unfounded assumptions, which are either improper or yet to be established. It concludes that the Regional Board should adopt Alternative 2, without such extreme unestablished assumptions and then set about to study the complex area of percolation to groundwater in the Tulare Lake Basin.

2. The incorrect position that all irrigated lands discharge to groundwater leads to the erroneous conclusion that the Regional Board has jurisdiction over all lands and under that alleged jurisdiction the Regional Board has regulatory authority over all irrigators. This assertion of jurisdiction and the requirement that all irrigators must comply with ILRP restrictions ignores the limitations on Regional Board authority to discharges that affect the water quality of waters of the state. (Wat. Code § 13000 et seq.) This assumption of discharge attempts also to shift the burden of proof from the Regional Board to the farm owner or land operator to disprove the erroneous postulation (that all irrigated lands discharge waste to groundwater). This is also inconsistent with the burden expressly outlined in California Water Code section 13267, which states that the Regional Board “shall provide a written explanation of the need for such reports and shall identify the evidence that supports requiring reports.” (Wat. Code, § 13267, subd. (b)(1).)

3. A fundamental limitation on the Regional Board’s authority to regulate irrigation practices is that the activity must result in a “discharge of waste” that impacts water quality. Simply because it would be “difficult to determine” whether individual irrigated lands are creating a discharge of waste does not eliminate the Regional Board’s statutory obligation to only regulate activities that actually create a discharge of waste. The general notion of groundwater vulnerability is not a surrogate to establishing jurisdiction and cannot be used as the basis for (1) assuming discharge to groundwater aquifers or (2) placing virtually all parcels in Tier 2. To do so would be unreasonable because landowners would be faced with the burden of trying to “prove” a negative, which if achievable at all, could only be done at unreasonably great expense.

4. The RPA indicates that the Regional Board anticipates that the authority to regulate discharges to groundwater would increase their regulatory jurisdiction over an additional two million acres. This is certainly an incorrect number as there are more than two million additional irrigated acres in the Southern San Joaquin

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Valley Water Quality Coalition alone, none of which drain to surface water. This error is indicative of the failure of the Report to accurately address the realities of groundwater or reflect the actual impacts of the RPA.

5. The Regional Board has the regulatory obligations to: (1) advance a factually correct ILRP, and not merely allege improper facts just to satisfy a zeal for regulation; and (2) carry the burden to clarify for those who have had no previous connection to the ILRP, that they may now have an exposure to this new long-term ILRP. The RPA also fails to comply with the Porter-Cologne requirement of notifying the person potentially discharging. (Wat. Code, § 13263(f).) By not developing and publishing evidence or an applicable standard (as to whether groundwater discharges occur) concerning the lands potentially affected under the new proposed long-term ILRP, there has not been effective regulatory notice, nor the required CEQA notice. (Pub. Resources Code, § 21092, subd. (b)(1); CEQA Guidelines, § 15072, subd. (f)(1)-(6).)

6. In the RPA, first encountered groundwater is identified as the basis by which tiers will be assigned. However, first encountered groundwater is an improper standard to use when evaluating water quality impacts. It should not be used to judge water quality impacts because the term does not accurately reflect groundwater conditions in the Central Valley. First encountered groundwater in most areas is not and has never been of suitable quality for either drinking or agriculture use.

7. The approach to evaluate groundwater, as proposed in the staff Report, fails to take into account the assimilative capacity of soil. There is considerable treatment of water that occurs as the water makes its way through the soil profile. In many areas it can be reasonably expected that there will be significant dilution and attenuation of constituents prior to reaching any groundwater extraction point. In addition, the Report fails to consider that the assimilative capacities of lands covered under the program varies greatly. Indiscriminately using first encountered zone measurements may produce inconsistent and inaccurate results. Because there is a significant possibility that a dilution of constituents will occur before discharge reaches the level at which it is put to beneficial use, and a substantial likelihood that groundwater data collected at the first encountered zone will bear little relationship to the actual impact on beneficial uses in that area, determining compliance with water quality objectives in the first encountered zone is inappropriate.

#### B. Grandfather Status

1. In the many meetings with Regional Board staff and with those responsible for crafting the DPEIR and the RPA, it has been indicated that existing grower participants in the coalitions would be grandfathered in and not have to reapply under the new long-term ILRP. It has also been agreed to in principal that the long-term ILRP would begin with the existing coalitions (should the coalitions continue to be

willing to implement the ILRP on behalf of the Regional Board). The long-term ILRP program as presented in the RPA does express that current participants would be grandfathered in (Report at p. 144), but it fails to put in writing, what has been stated to us, that the long-term ILRP would commence with the existing coalitions. We find this language to be problematic especially when contrasted with the language that the Regional Board staff believes there will be 8 to 12 new orders. (Report at p. 145) This would not be consistent with the five major coalitions in existence today.

2. In contrast to the treatment of the existing coalitions, the Report recommends that greenhouses and entities with operational spills (water districts) will be jettisoned from ILRP coverage. (Report at pp. 142-156.) This provision will have a major impact on greenhouse operations and it does not appear that these amendments have yet been vetted back to greenhouse operators. Water districts have also been eliminated from coverage under the long-term ILRP without suitable replacement coverage.

3. The Report also confirms that managed wetlands (including federal refuges) are expressly covered by the ILRP. However, this is a change from how the Regional Board currently deals with refuges. Northern refuges participate in the coalitions and are covered under the existing ILRP, but the southern refuges are not. Regional Board staff should take appropriate steps to have a uniform policy regarding these managed wetlands.

4. The Southern San Joaquin Valley Water Quality Coalition (SSJWQC) does not have extensive water quality issues. The Report indicates that there are 686 waste water combination exceedances that have resulted in management plans across the region. The Report discusses total exceedances in the Central Valley and across the Tulare Lake Basin. It points out that there have been only a total of 12 exceedances in the entire Tulare Lake Basin, and only five of those exceedances are attributed to agriculture. Specifically, even though it is the largest of the coalitions, the SSJWQC has only two required management plans of the 686 across the entire region. The Report also indicates that across the entire SSJWQC, there is only one water segment having a 303d listing. (Report at p. 20.) This data is supportive of the argument that the current ILRP is working and that coalition participants are entitled to be grandfathered into any new program and that any new regulatory requirements applicable to the Tulare Lake Basin be moderate.

5. The Report states that most coalition groups have no regulatory authority over members. (Report at p. 9.) This is an inaccurate statement in respect to the SSJWQC that is largely managed by water districts and water experts. Member water districts have a certain amount of regulatory authority over the delivery of water and discharge of water in their districts. As an important example, our member districts

have been very aggressive in removing agricultural drains to control discharges. This is the most direct way to control problematic discharge and has been imposed by these districts – this is not a regional requirement, but demonstrates both commitment and the importance of local control.

#### C. Unreasonable Timelines

1. In respect to timelines, the RPA indicates that (a) within the first three months of adoption there would have to be a declaration of involvement, (b) by 12 months the Regional Board would issue responses or approvals and (c) within 30 months all that are to be required to do so would be enrolled.

2. These are unreasonable timelines. The regulatory expansion to include groundwater issues will require each coalition to struggle with and determine if they can possibly implement the terms of the long-term ILRP. This evaluation process will certainly take more than three months to understand all the issues and ramifications. Thirty months is extremely optimistic for the coalition to be able to convince growers who have never been part of the waiver, that they may have to become part of the ILRP if, in fact, there is a demonstrable potential that their irrigation water may percolate to groundwater.

3. Implementation of the long-term ILRP will be further impeded and delayed because of the complexity associated with the proposed mix of general waste discharge requirements (WDR) and waivers, a mix between groundwater and surface water regulations, a mix of low and high priority (Tier 1, Tier 2) areas, and the expansion of all these provisions to groundwater.

4. The Report appropriately indicates that Porter-Cologne authority allows some reasonable degradation of waters if the purpose behind the discharge has an over-riding “maximum benefit to the people of the State.” (Report at p. 66.) Clearly, agriculture is an important economic engine of the State and certainly of the Central Valley. Therefore, the significant and important public benefits associated with agriculture need to be factored in when assessing exceedances and developing timelines for achieving water quality objectives. For the reasons stated above, the program implementation timelines and the timelines for achieving objectives included in the RPA are unreasonable.

#### D. Internal Inconsistencies

1. The Report indicates that a coalition could be comprised of a mix of high and low priority areas. This mix would be based on exceedances and risks, and could vary independently between surface water and groundwater. Yet, there is one reference that indicates that if there is a mix of high and low priority that the area would

be deemed “high priority” for all purposes. (Report at p. 151.) This seems to be internally inconsistent, and also inconsistent with the overall notion that low priority areas will have less regulatory rigor.

2. The three year phase-in referenced on page 143 seems to be in direct conflict with other stated timelines of 18 and 30 months. (See point “C” above.)

E. Prohibition of Discharge

1. The Report advances the regulatory option that there would be a “prohibition of any discharge” if a farmer is not appropriately signed up under the ILRP. Such a prohibition is essentially a death penalty not just to that farm operation, but any other farm operation situated down gradient that might rely on tail water from the targeted farm. Consequently, such a prohibition would in most every instance be a very inappropriate remedy. The problem is compounded when associated with the regulatory expansion to groundwater, which raises the likelihood that it is going to take a multi-year process to convince even those growers that may actually have a potential to percolate to closely associated groundwater to sign up under the waiver, and there is very little chance to get those who have no such potential (and are therefore outside the jurisdictional scope of the Porter-Cologne), to subject themselves to this regulation. Consequently, it is easy to anticipate that there are going to be many farmers in this category, particularly relative to groundwater.

2. This also raises a second issue, how does the Regional Board intend to impose the remedy of a prohibition to discharge if the alleged discharge is by percolation to groundwater.

F. Low Threats to Water Quality

1. The Report indicates on page 149 that there would be a separate category for areas that have no or little impact to state water. Further, the Report references the Existing Conditions Report which expressly indicates that there are areas that have no such impact. This raises the possibility of a no threat or low threat component. It seems that some areas with isolation from surface water and having no reasonable connection to groundwater would qualify under this provision. This would also be true of mountain valley areas with limited agriculture that have either no, or very limited, potential impact to surface water. Therefore, it seems such areas need only advance to the Regional Board very modest monitoring proposals. This is expressly provided in Water Code § 13269(3), which states the Regional Board may waive monitoring requirements for discharges that do not pose a significant threat to water quality.

G. Tiering



1. SSJWQC representatives understand the RPA proposes to categorize lower risk areas as Tier 1 and higher risk areas as Tier 2. Presumably, Tier 2 will be limited only to areas which have management plan requirements. The relevant question is how will the determination between areas be made and what is the process to determine the extent of those categories. In order to be able to appropriately evaluate the RPA, SSJWQC representatives need the opportunity to sit down with the Regional Board staff and determine the isopleths of what would be regarded as the nitrate groundwater area and the impact areas leading to our groundwater and affecting our two management plans. The designations between Tier 1 and Tier 2 classifications should be clearly defined in the RPA.

a. The RPA should also be clarified to specify whether general water constituents such as dissolved oxygen, electrical conductivity, pH, and other pathogens possibly unrelated to agricultural irrigation would be utilized to classify lands into Tier 2. We believe they should not be equally treated with contaminant issues. These problems are not directly tied to agriculture and not likely to be resolved by agricultural management practices.

2. Under the long-term ILRP Prioritization Scheme Example set forth in Figure 23 (Report p. 161), it appears as though very few if any areas will be Tier 1. In the portion of the diagram marked "Area A" it refers to exceedances without distinguishing if these are irrigated agricultural related exceedances, which trigger management plan requirements, as it does in the "Area B" diagram. It simply says "Surface Water Objectives exceeded" and "trending degradation of surface water attributable to." First, this reverses what should be the regulatory burden – that an area be categorized as Tier 1 unless a demonstrated problem moves it to Tier 2. Under this scenario multiple fecal coliform exceedances resulting from a wastewater treatment plant would still compel a determination as a Tier 2 area.

#### H. Monitoring

1. Attachment C of the Report deals with groundwater management plans and requires groundwater monitoring and the evaluation of the effectiveness of any management practices that are employed to address an impairment. The RPA, however, does not make any attempt to clarify the level and intensity of such monitoring, nor how monitoring would be designed to track the effectiveness of management practices where problem constituents many have been applied in prior decades. The lack of detail on this major requirement is a fatal flaw in the RPA.

2. The Report indicates that Tier 2 groundwater monitoring would include establishment of baseline and trend data and evaluation of changes in management practices. The Report is silent on how Regional Board staff believes this could possibly be achieved. In addition, the Economic Analysis omits any discussion of

the requirement of groundwater monitoring which will involve significant cost.

3. The Report indicates that groundwater monitoring would be required, however, it is completely silent as to what would be considered an acceptable level of monitoring, therefore this provision is impossible to evaluate. Additionally, the Economic Analysis did not evaluate the cost or number of new monitoring wells that would be compelled by this provision. The Report is unclear as to the specifics of groundwater monitoring itself. It indicates that baseline, trend and impairment monitoring would all be required, particularly in respect to nitrates and pesticides, but does not state how this would be accomplished. In order to evaluate both the impact and the cost associated with the RPA, the Regional Board has to bring clarity to these questions regarding the adequacy of existing monitoring in each specific area, and what additional monitoring would have to be implemented. Implementation cannot be left to a “trust us” basis.

4. The RPA goes on to indicate consequences if there is “insufficient progress.” The Report discussed under item 3 above, is unclear as to what would constitute sufficient or insufficient monitoring. The lack of clarity results in an inability to properly assess the economic impacts of the RPA, and further demonstrates the insufficiency of the Economic Analysis. Additionally, the inherent uncertainty does not allow the Report to provide reasonable regulatory notice.

5. Appendix B of the Report suggests that there needs to be some means by which to identify the source of nitrate problems. It expressly recognizes that any leaching of nitrates can be significantly influenced by irrigation methods, rainfall, soil composition, depth of groundwater, etc., and is not exclusively related to the amount of nitrogen applied. These realities need to be reflected in the long-term ILRP requirements.

6. Appendix B of the Report discusses nitrate impacted areas, and expressly evaluates Kern County (Appendix B at p. B-25). On page 33, it states that only two of 17 wells in Kern County had exceeded nitrate standards, and also indicates on page 34 that the Tulare study of nitrates shows exceedances of the nitrate maximum contaminant level (MCL). The Report also states that the Tulare study is presently being reevaluated. Therefore, further clarification on the impact of these monitoring results is needed.

7. Appendix B on page B-43 sets forth the extreme position that up to 50% of nitrate applications can reach groundwater, but indicates that experts are highly divided in this area, therefore no particular conclusion can be reached. Consequently, this discussion should be deleted from the Report.

#### I. State Anti-Degradation Policy

1. The Report references the State anti-degradation policy on page 57, and discusses its application to high quality waters of the State. However, the Report fails to address the many foundational issues associated with the policy before it determines how it will be applied. In place of a meaningful analysis the Report simply states that “[g]iven the complexity of determining baseline quality in the long-term ILRP context...any antidegradation analysis...will assume that at least some of the waters into which agricultural discharges occur are high quality waters because unpermitted degradation has occurred since 1968.” (Report at p. 61.) This assumption is conclusory and lacks factual support.

2. Specifically, the Report implies that application of the antidegradation policy is triggered merely because the long-term irrigated lands program will authorize the continuation of agricultural discharges to surface and groundwater. (Report at p. 63.) However, application of the State’s antidegradation policy in this manner is improper. The antidegradation policy is triggered when Regional Board action may cause degradation to high-quality waters. It is not triggered when Regional Board action does not cause degradation.

3. The Report also seeks to apply the best practical treatment or control (BPTC) of a discharge under a WDR. This attempt to force additional regulatory requirements on dischargers fails in application because even though the upper elevation source of some Central Valley waters may be of high quality, the waters receiving agricultural discharges are not high quality waters as the term is used in State Water Resources Control Board Resolution No. 68-16. The Report attempts to redefine “high quality waters” using the concept of “baseline condition.” (Report at p. 60.) There is no legal basis for this approach. The Report admits as much when it states the “term ‘baseline’ is not used in the state or federal antidegradation policies but is a significant concept for application of the anti-degradation law” under the RPA. (Report at p. 60.)

4. The antidegradation policy of the ILRP must be consistent with SWRCB Resolution No. 68-16 in its application to high quality waters of the state. Regulatory requirements concerning discharges to lower quality and impacted waters must reflect a different standard.

5. Further, even if BPTC of a discharge is required there are limitations to its application. The BPTC approach to pollution control is based on adopting the best technology for pollution control available at a reasonable cost and operable under normal conditions. BPTC is derived from the phrase “best practical control technologies” referred to in Sections 301(b) and 304(b) of the Clean Water Act (which does not extend to agricultural non-point waters). In these sections, best practical control technologies is referred to when discussing the control of point source effluent from private operations. In application, BPTC refers to the best practical control

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technology currently available. The staff proposal on page 152 indicates that existing management objectives on Tier 1 lands will be considered as BPTC. Accordingly, The Report needs to clearly define the term and recognize that even though BPTC is the preferred approach, it has significant limitations on its application.

6. The associated tributary rule which has applicability in many other regions of the state has limited application in SSJWQC area because regional waters are tributary only to the valley floor sinks which are not sources of municipal water. (Water Quality Control Plan for the Tulare Lake Basin at p. II-4.)

#### J. Groundwater Management Plans

1. The Report recognizes that in many areas current groundwater quality programs are already in place (e.g., SB 1938, AB 3030, Integrated Regional Water Management Plans (IRWMP), etc.). (Report at p. 88.) However, the Report also calls for new local groundwater management plans to be developed within 18 months. (Report at p. 154). This, like other timelines addressed above in section C, is wholly unreasonable. The SSJWQC is largely covered by such plans which the Legislature has codified in statute as being the means by which groundwater quality should be addressed. Therefore, the development of new groundwater management plans may be unnecessary in most of the SSJWQC area. At most, the upgrade of existing plans would be all that is needed to fully conform to any new water quality program. Based on SSJWQC participant experience in developing SB 1938 and IRWMPs, it is very clear that 18 months is a wholly insufficient time frame. Any Regional Board ILRP should be consistent with these existing provisions of law and be based on local groundwater control and have realistic time frames for compliance.

2. It remains somewhat unclear if the Regional Board has the authority to go beyond the statutorily created multi-jurisdictional local plans (SB 1938 and IRWMPs) in its water quality efforts. If the proposition holds that the Regional Board does have some additional authority, some of the items discussed immediately below will need to be included as part of the RPA. Any additional provisions required under the long-term ILRP program will certainly take more than 18 months to complete, given the multi-disciplinary and multi-agency steps necessary to make amendments to these existing plans (which took years to develop).

#### K. Nutrient Budgeting and Irrigation Efficiency

1. The Report states that under certain situations groundwater programs would require nutrient budgeting and irrigation efficiency. (Footnote 60 of the Report, at p. 154.) It is uncertain, whether the Regional Board has the authority to demand specific on-farm practices. The Regional Board is not the agronomic or fertilizer agency of the State as that authority is vested expressly in the California Department of

Food and Agriculture. The application of fertilizer is a necessary agronomic feature, and is entirely distinct from the dairy program which involves applying a waste product to the land, and, thus, offers a jurisdictional nexus to the Regional Board.

By way of example, the Regional Board is without authority to tell Chevron how to operate a refinery or a high tech firm how to manufacture or clean their equipment. Using the same line of reasoning the Regional Board does not have authority to dictate to a farmer what to grow or how to grow it. The Regional Board's jurisdictional authority starts at the discharge point.

2. Beyond these legal and jurisdictional questions, the Report does not define nor explain how (1) regulatory nutrient budgeting would occur or (2) how irrigation efficiency would be determined or how a particular irrigation practice would be either prohibited or mandated (Report at p. 154). The environmental effects from just these two major uncertain actions in the RPA were not addressed under any alternative evaluated under the DPEIR. Correspondingly, the economic impacts from these major actions may be substantial (hundreds of millions), but were not evaluated whatsoever in the Economic Analysis.

3. In respect to nitrogen, the Report identifies the total tonnage of nitrogen fertilizer applied by agriculture in California. However, this gross number is meaningless without: (1) limiting tonnage to that applied in the Central Valley; and (2) reflecting an appropriate agronomic calculation as to how much nitrogen was taken up by the crops it was applied to across the Central Valley. The Report on page 20, recognizes that there is a long lag time between the use of a soil amendment and its ultimate detection in the event that any is leached into a groundwater aquifer. The Report should delete any discussion of nutrient budgeting as it fails to cite any regulatory authority to regulate nutrient applications and does not even attempt to address any of the CEQA or economic impacts associated with such an action. The economic impacts associated with limiting a farmer's yield on a crop due to nutrient budgeting limitations or irrigation efficiency restrictions has been totally ignored.

4. The Economic Analysis indicates that annual agricultural production in the Central Valley region is approximately \$13.33 billion. In 2007 the value of agricultural production in Fresno, Tulare, Kern and Kings Counties alone was \$16.07 billion. The overall value of California agriculture in 2007 was \$25.83 billion, excluding livestock operations. Again this type of inaccurate statement of facts is indicative of the weaknesses inherent throughout the CEQA documents. (Economic Analysis at p. 3-6.)

#### L. Agricultural Management Practices

1. The Report indicates that there should be an identification of (1)

existing agricultural practices and (2) what agricultural practices would have to be amended or enacted in certain areas. (Report at p. 150.) Any farm operation would involve several dozen to hundreds of separate management decisions during the course of the year for each field. Coalitions clearly cannot be obligated to identify the hundreds of thousands of management decisions and management practices that are involved across the millions of acres in each coalition. The scope of management practices should be limited to identification of particular management practices that are directly related to a water quality problem.

#### M. Compliance Timelines and Enforcement Actions

1. The RPA states that water quality exceedances should all come into basin plan objective compliance within five to ten years. (Report at p. 159). This (like other timelines discussed above in sections C and J) is wholly unrealistic even as to surface water. In areas where issues exist in surface water like dissolved oxygen, pH, pathogens, salinity, etc., and water quality improvement efforts are underway and have been for years, it is unrealistic to assume because the Regional Board creates another program that these issues are going to somehow magically improve under a new specified timeline.

2. The proposal states that if any objectives are not reached within the applicable five to ten year period, then all growers in the coalition would be compelled to prepare individual farm management plans. Such a policy would only be justified if certain conditions were found to exist. First, if it was determined that the individual farmer was directly responsible for causing the impairment. Second, if specific management practices were identified as causing the problems, and those identified practices could be modified to cure the problem. Third, that the required individual farm management plan would be more effective than a collective, coordinated approach through the coalitions. (Report at p. 155.) The RPA apparently makes the assumption that individual farm management plans may be more effective than broader monitoring and management plans with the strength of the coalition behind it. That assumption is not supported in the Report, and likely cannot be supported. Instead, it is apparently offered merely as a retaliatory penalty.

3. The compliance timelines, as stated above, are problematic overall, but are especially troublesome when dealing with groundwater quality. Groundwater issues are typically decades in the making and may be the result of legacy pesticides, or water constituents such as pH, dissolved oxygen, salinity.

#### N. Coordination of Existing Programs

1. The proposal states that there should be coordination between the ILRP, diary program, Surface Water Ambient Monitoring Program, Department of

Pesticide Regulation, etc. (Report at pp. 156-57.) Such coordination is meritorious and has been stressed for years by SSJVWQC, particularly regarding coordination with the dairy program and other Regional Board programs dealing with *Escherichia coli* (*E.coli*) and fecal coliform. The Regional Board has been reluctant to fully coordinate these programs, and this needs to happen.

2. The Report at page 33 discusses *E.coli*, which has no basin plan objective level. Fecal coliform does have a 200 colonies per hundred milliliters of water objective. There have certainly been pathogen detections in some of the water column samples, but a University of California study indicated that much of the pathogen is not attributable to irrigated agriculture. This point was omitted from the RPA. The RPA also fails to acknowledge that there should be a high level of coordination between other Regional Board programs dealing with these pathogens and the ILRP.

3. The RPA infers that the bright/clear line between the dairy program and the ILRP is going to be eliminated or significantly altered. The RPA, however, is unclear as to how this will occur, and does not address the confusion that could arise if it is not done properly.

#### O. Outside Party Participation

1. The language concerning "other interested parties" (Report at p. 154) appears to improperly open the door for negotiations on surface and groundwater management plans to other uninvolved parties. Management Plans and Monitoring and Reporting Program Orders have historically been approved by the Executive Officer and do not require multi-party negotiations. This language regarding public input also appears on page 155.

2. The RPA suggests that the public would be involved in determining the Tiering of an area. "Third-party groups and the Central Valley Water Board would identify low and high-priority areas in the development of watershed/area/commodity-specific implementation mechanisms during the 3-year transition period. The Central Valley Water Board intends to use existing information in this prioritization. However, there will be the flexibility for third-party groups and other interested parties to provide additional information during the process." (Report at p. 151)

3. The Report also appears to indicate that when the coalitions identify their priority areas within the first three years of transition, that there would be public input on those determinations as well. (Footnote 57 of the Report at p. 151.) This type of input is not required under the law and is unnecessary. It will delay and complicate development of required documents and certainly cause even extended timelines to be missed. It may also detrimentally affect participation.

4. In all of the Regional Board's other programs, individual dischargers are not required to have management plans reviewed periodically by other interested parties. Typically, when dischargers are required to submit special studies or management plans, the plan is submitted for Regional Board review and comment, revised based on Regional Board comments, and then implemented. The same methodology should apply to this program.

P. Tributary Rule

The Report indicates it will focus on waters that are tributary to areas having aquatic life and would treat these as priorities. Due to the tributary rule, the Report asserts that it would transpose such standards to upper basin waters. The tributary rule was previously discussed above in Section I., but it is noteworthy that this particular reference indicates that this would not involve "agricultural drains". (Footnote 66 of the Report at p. 159.) The Regional Board needs to clarify what is considered an agricultural drain as it applies to this section of the Report and agricultural return flows.

Q. SQMP/GQMP and FWQMP Requirements

1. Several elements of the proposed requirements for SQMP/GQMPs fail to account for the possibility that irrigated agriculture may not be the predominant source of the identified exceedances. (Appendix D at pp. D-1 and D-3.) The program should state that only if irrigated agriculture is identified as the predominant source of the pollutant discharge should the Surface and Groundwater Quality Management Plan be required to [numbers correspond to subsections in the Regulation] (4) identify practices to address the constituents of concern, (5) evaluate the effectiveness of management practices, (6) describe the grower outreach strategies, (7) track management practice implementation, (8) prepare a monitoring plan to track water quality, and (9) describe a schedule and milestones for the action taken. There is a real possibility that inputs from other point and non-point sources are contributing to the exceedances identified at monitoring sites, and identification of irrigated agriculture as the predominant source of the exceedances should be a prerequisite before any regulatory action is required.

2. The Report states that at a minimum, plans would describe those practices needed or currently in use to achieve water quality protection. (Appendix D.) We disagree with the use of this as a proper reflection of the applicable standard. The goal of FWQMPs should be to control discharges of pollutants to the maximum extent practicable. This approach is consistent with reasonable protection of water quality and also consistent with reasonable protection of water quality and also consistent with the requirements and standards imposed on municipal stormwater discharges.

3. Appendix D also includes his very troubling statement: "In addition to the minimum elements described above, the Executive Officer may require



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ground or surface water quality monitoring to evaluate the effectiveness of the practices implemented by the grower.” No criteria is discussed as to how the Executive Officer would establish a need for additional monitoring or the basis by which practices would be evaluated. In addition, the DPEIR fails to account for and analyze potential environmental and economic impacts associated with such additional monitoring requirements. As a result, the economics impact assessment greatly underestimates the RPA and its potential impact to agriculture.

R. Summary of Comments on the Staff Preferred Alternative

The RPA (staff proposed alternative) was not properly reviewed as required under CEQA, including its potential economic impacts. Instead it was belatedly included only as an appendix to the Report. This subjects the entire proposal to legal challenge which would result in the CEQA analysis not meeting the court ordered deadline. (See discussion below.) Additionally, there are many specific problems with the above identified components of the staff proposal, which will face challenge if the staff proposal is advanced. The Board should adopt Alternative 2 and avoid these problems.

**II. Draft Programmatic Environmental Impact Report**

A. The DPEIR Does Not Describe or Analyze the RPA

1. The DPEIR includes five proposed alternatives. However, it does not include a description or analysis of the RPA discussed in the Report. The RPA apparently combines elements of the five identified alternatives to belatedly develop the Report included only as an appendix, which they are now calling an alternative. The RPA is now the proposed project and must be analyzed. The DPEIR does not make any attempt to analyze the environmental or economic impacts that would result if all of the identified elements were combined with each other, which is how they would be implemented if the RPA were selected.

2. A draft environmental impact report (EIR) must include a general description of the proposed project’s technical, economic, and environmental characteristics. (State CEQA Guidelines, § 15124(c).) The project description must be stable, accurate, and consistent throughout the EIR. “An accurate, stable, and finite project description is the sine qua non of an informative and legally sufficient EIR.” (*County of Inyo v. City of Los Angeles* (1977) 71 Cal.App.3d 185, 193.) “A curtailed or distorted project description may stultify the objectives of the [CEQA EIR] process. Only through an accurate view of the project may affected outsiders and public decision-makers balance the proposal’s benefit against its environmental cost, consider mitigation measures, assess the advantage of terminating the proposal (i.e., the “no project” alternative) and weigh other alternatives in the balance.” (*Id.* at pp. 192 93.)

3. The DPEIR does not mention the RPA anywhere in its text. The RPA is only presented in the appendix. In *Vineyard Citizens for Responsible Planning v. City of Rancho Cordova* (2007) 40 Cal.4th 412, the Supreme Court reaffirmed that key pieces of the CEQA analyses cannot be buried in the appendices. Here, the RPA - *the proposed project itself* - is recommended by Regional Board staff for implementation by the Regional Board. This is a blatant violation of *Vineyard*, and it results in serious errors in the environmental analysis. An EIR is required to analyze the environmental impacts associated with any proposed mitigation measures. (State CEQA Guidelines, § 15126.4(a)(1)(D).) Thus, the DPEIR suffers from both substantive and procedural flaws that are fatal.

#### B. Cumulative Impacts of the RPA Have Not Been Analyzed

1. The RPA is “a conglomeration of elements presented” in the five alternatives that are analyzed in the DPEIR. The RPA was not analyzed, whatsoever, in the DPEIR. Further, no attempt has been made to analyze the effects of the combined components of this alternative. Compounding this error, the DPEIR does not identify “any projects or programs adequately similar in nature, location, and type to result in a meaningful comparative analysis.” “A cumulative impact consists of an impact which is created as a result of the combination of the project evaluated in the EIR together with other projects causing related impacts.” (State CEQA Guidelines, § 15130(a)(1).)

2. In contravention of State CEQA Guidelines section 15130, the DPEIR employs neither a list nor a summary of plans and projections approach to the cumulative impacts analysis. In fact, the DPEIR does not identify a single program, policy, plan, or project to be included in the cumulative impacts analysis. Instead of analyzing the cumulative effects of the project together with other projects causing related impacts, the DPEIR concludes that there are no other projects - and analyzes the cumulative impacts of the project, standing alone. This analysis cannot withstand scrutiny. Other programs and projects that have the potential to affect water quality in the program area include United States Environmental Protection Agency’s (EPA) recent action banning pesticide application in certain areas, and numerous pending Nation Pollutant Discharge Elimination System (NPDES) and other permit actions.

#### C. Alternative 1 Is Not A True “No Project” Alternative

1. The DPEIR asserts that alternative 1 constitutes the “No Project” Alternative, which the DPEIR defines as “full implementation of the present program.” This description is inaccurate and misleading. In actuality, Alternative 1 is the “no additional regulation alternative.” A “No Project” Alternative is intended to reflect what would happen absent any Regional Board action. In this case, no action results in no waiver program whatsoever. The existing waiver constitutes a Regional Board action just as all of the proposed actions included in the other alternatives of the DPEIR do.

2. “The no project analysis shall discuss the existing conditions at the time the notice of preparation is published, . . . as well as what would be reasonably expected to occur in the foreseeable future if the project were not approved, based on current plans and consistent with available infrastructure and community services.” (State CEQA Guidelines, § 15126.6(e)(2).) When the existing conditions include implementation of a program or rule that will expire unless some affirmative action is taken, the “No Project” scenario must consider the expiration of that program or rule and its associated ramifications. (See, e.g., *Sherwin-Williams Co. v. S. Coast Air Quality Management Dist.* (2001) 86 Cal.App.4th 1258, 1280 [SCAQMD properly defined the “No Project” scenario as “not adopting the proposed amendments to Rule 1113, but instead allowing the expiration of the current product variances for some of the coating categories, and maintaining the current version of Rule 1113 as amended by a 1990 court order”].) In contrast, when an agency must act affirmatively to extend an existing program or rule, that itself is a project that must be analyzed under CEQA. (*Sunset Sky Ranch Pilots Assn. v. County of Sacramento* (2009) 47 Cal.4th 902, 909 [county’s decision not to renew a conditional use permit that was expiring is not a project under CEQA, but the renewal of the permit would be].)

3. The lack of an accurate “No Project” Alternative constitutes a fatal flaw for the DPEIR. The “No Project” Alternative is a mandatory component of an EIR. The purpose of this requirement is “to allow decisionmakers to compare the impacts of approving the proposed project with the impacts of not approving the proposed project.” (State CEQA Guidelines, § 15126.6(e)(1).) In this case, no such comparison is possible because the “No Project” Alternative is fundamentally inaccurate.

D. The Environmental Analysis is Flawed Due to Inaccurate Baseline Conditions

1. The Environmental Setting fails to describe accurately the existing environmental conditions, even at a programmatic level. “Knowledge of the regional setting [of the project] is critical to the assessment of environmental impacts . . . . The EIR must demonstrate that the significant environmental impacts of the proposed project were adequately investigated and discussed and it must permit the significant effects of the project to be considered in the full environmental context.” (State CEQA Guidelines, § 15125(c).) Toward that end, the DPEIR “must include a description of the physical environmental conditions in the vicinity of the project, . . . from both a local and a regional perspective. This environmental setting will normally constitute the baseline physical conditions by which a lead agency determines whether an impact is significant.” (Id. at § 15125(a).)

2. First, the “Existing Setting” chapter is, by its own admission, incomplete. For example, the description of the existing conditions related to surface

water makes no mention whatsoever of the amount of surface water currently being diverted or the amount being used for irrigation by participants in the ILRP. Likewise, there is no indication of how much water is returned to stream systems after agricultural use, and how much of that water is derived originally from groundwater basins or surface water sources. Absent this information about the existing physical conditions, it is not possible to determine whether the long-term ILRP will cause significant impacts on water supplies, stream systems, or the fish, wildlife and plants dependent on those systems.

3. The DPEIR attempts to overcome the gaps in the “Existing Setting” chapter by adding a discussion of environmental setting to each of the impact analyses. This is confusing to the reader because these supplemental discussions of the “existing setting” are not entirely consistent with the description provided in the “Existing Setting” chapter. Moreover, even the supplemental discussions in the impact analyses are improperly truncated.

4. To the extent the DPEIR relies on the “No Program” Alternative to represent the existing baseline conditions, this is improper in this case. The “No Program” Alternative misstates what will occur absent any Regional Board action. Because neither this nor any of the other attempts in the DPEIR to describe the environmental setting is legally adequate, the EIR lacks any accurate baseline against which to judge the environmental impacts of the proposed program.

E. The DPEIR Fails to Evaluate the Reasonably Foreseeable Effects of the RPA on the Environment

1. “In evaluating the significance of the environmental effect of a project, the lead agency shall consider direct physical changes in the environment which may be caused by the project and reasonably foreseeable indirect physical changes in the environment which may be caused by the project.” (State CEQA Guidelines, § 15064(d).) “An indirect physical change in the environment is a physical change in the environment which is not immediately related to the project, but which is caused indirectly by the project. If a direct physical change in the environment in turn causes another change in the environment, then the other change is an indirect physical change in the environment.” (State CEQA Guidelines, § 15064(d)(2).)

The DPEIR fails in this requirement because the DPEIR acknowledges that irrigation costs would increase under the alternatives analyzed, and result in less water being used, crop patterns may change and some land going out of agricultural production, but it does not analyze the impacts from these changes. It does not consider what impacts will be caused by the reasonably foreseeable result of less irrigation, such as less water returning to stream systems and diminished flows at certain times of year, and less irrigation water reducing the amount of groundwater recharge that would otherwise occur, particularly in the San Joaquin Valley where many of the surface

water delivery systems were built with the intent to increase local groundwater basin recharge.

2. Similarly, the DPEIR acknowledges that the program will result in the conversion of agricultural lands to other uses, but it fails to analyze the reasonably foreseeable impacts associated with that conversion, such as climate change impacts, and conflicts with existing land use regulations and zoning.

3. The RPA cumulative impacts were not analyzed whatsoever. The DPEIR does not analyze the reasonably foreseeable impacts related to nutrient management restrictions which will impact cropping patterns. It also suggests regulatory action to restrict certain irrigation practices (i.e., a 2 acre-foot limit or no row crop irrigation), which would have major environmental, economic and even community impacts. All of these direct and indirect impacts resulting from the implementation of the program must be analyzed in the DPEIR. None, however, was acknowledged whatsoever.

F. The DPEIR Fails to Address the Long-term ILRP's Potential Impacts on Land Use

1. A draft EIR must "discuss any inconsistencies between the proposed project and applicable general plans and regional plans," including habitat conservation plans and natural communities conservation plans. (State CEQA Guidelines, § 15125(d).) While the DPEIR acknowledges the requirement to evaluate its consistency with General Plans and Habitat Conservation Plans (HCPs), it makes no attempt to analyze these impacts even in a qualitative manner. Its characterization as a programmatic document does not wholly excuse undertaking the required environmental analysis. The DPEIR should evaluate the extent to which adopted General Plans within the long-term ILRP area designate agricultural land uses that would be undermined by the increased irrigation costs imposed by the long-term ILRP and the resulting loss of agriculture. Likewise, the DPEIR must discuss whether and how adopted HCPs in the long-term ILRP area rely on agricultural land uses and how the increased irrigation costs imposed by the long-term ILRP, and the resulting loss of agriculture, would affect those plans.

2. Even more egregiously, the DPEIR utterly fails to analyze the long-term ILRP's land use impacts. The DPEIR acknowledges that agricultural lands are a resource that must be analyzed under CEQA, and it also admits that many jurisdictions have adopted land use plans, regulations, and zoning ordinances to protect agricultural uses. Yet the DPEIR completely fails to analyze, even at a programmatic level, whether the long-term ILRP will conflict with any of these land use plans, regulations, or zoning ordinances. Again, the DPEIR's status as a programmatic document is not an excuse to omit any discussion of these potentially severe impacts – which is the faulty path taken

by the DPEIR.

G. The DPEIR Fails to Identify the Environmentally Superior Alternative

1. The DPEIR adopts a NEPA-like approach and analyzes each of the alternatives presented in detail. However, the DPEIR ignores the CEQA requirement to identify the environmentally superior alternative. (See State CEQA Guidelines, § 15126.6(e)(2).)

H. Alternative 2 is the Superior Alternative

1. Among the five alternatives, Alternative 2 is the best option to strengthen the existing surface water ILRP and expand the ILRP to groundwater. The DPEIR confirms that Alternative 2 is the superior alternative. The Report evaluates the proposed alternatives on pages 96 through 105 (and in other locations), and finds that Alternative 2 was superior to all other alternatives. The only issue raised in the Report concerning Alternative 2 dealt with groundwater. The Report stated, when discussing groundwater monitoring under Alternative 2, that “feedback mechanisms would not include groundwater quality monitoring to determine whether practices implemented would be maintaining and/or restoring beneficial uses or the highest reasonable groundwater quality.” (Report at p. 112.) This criticism is inaccurate as the statutorily created local groundwater quality management plans specifically require such monitoring and Alternative 2 expressly calls for monitoring to be included in the newly created groundwater management plans. Therefore, Alternative 2, without reservation, is the superior alternative.

### III. Economic Analysis

A. Economic Analysis is Flawed and Fails to Adequately Address Economic Impacts

1. The Economic Analysis is extremely disappointing and inadequate. The analysis shows only very narrow differences in the economic impacts between the five alternatives, and has no analysis of the RPA whatsoever. To begin with, the Economic Analysis states that Alternative 1’s (misnamed the no project alternative) costs would include the administration and management of water quality information. (Economic Analysis at p. 2-23.) Since it is the “no project alternative” it is assumed that existing programs would remain in place with no changes or additions. This assumption coupled with the fact that virtually all dischargers have implemented the management practices necessary to satisfy current ILRP requirements, one would expect the cost of Alternative 1 to be significantly lower than all other alternatives. However, management practice costs for Alternative 1 are listed at \$450,581,233. The costs for Alternative 2, 3, and 4, which are aggressive expansions of the ILRP, are listed at approximately

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\$452,449,969 each. (Economic Analysis Figures 2-18-2-21.) The analysis indicates only a cost difference of \$1,868,736 between the current ILRP and Alternatives 2 through 4. Given the fact that any of the alternatives, including the RPA, would require significantly more practices than are currently being implemented, the costs of the alternatives and the RPA as compared to Alternative 1 have to be significantly higher. (Economic Analysis at p. 2-3.)

The economic impact differences between the alternatives is significant and this fact is not apparent from this analysis. Beyond that, the other alternatives also deal with groundwater as opposed to Alternative 1 which does not. The costs associated with the monitoring and reporting of groundwater quality are significant, and lead will lead to total costs under the other alternatives significantly higher than those of Alternative 1, perhaps as much as four times higher. The economic evaluations are wholly defective.

2. The Economic Analysis fails to satisfy CEQA because it does not contain an accurate discussion of the economic and social impacts of the proposed project. (See State CEQA Guidelines, § 15131, subd. (a), 15382.) Where an EIR identifies significant environmental impacts, the related economic and social impacts are relevant. The requirement to consider secondary and indirect environmental effects is mandatory. (*Citizens Association for Sensible Development of Bishop Area v. County of Inyo* (4th Dist. 1985) 172 Cal.App.3d 151, 170.) When non-environmental factors are determined to be significant, the EIR must explain the reasoning used to reach its conclusions. Here the costs associated with the proposed alternatives, over \$450,000,000 is significant. The Economic Analysis fails to accurately analyze or explain the basis for its conclusions. (See State CEQA Guidelines, § 15131, subd. (b).)

3. Focusing only on groundwater: (1) dealing with nutrient requirements; (2) imposing additional groundwater monitoring; or (3) amending irrigation practices to meet new efficiency standards are just a few examples of components that vary greatly between alternatives and will have a huge impact on the cost of a given alternative. These impacts were totally ignored. Costs related to these requirements could easily reach into the dozens or hundreds of millions of dollars. It is not stated, but these costs are apparently to be borne by the affected landowners. If only a thousand farmers had to drill only two monitoring wells at a cost of \$200,000, the total cost for this component approaches one-half billion dollars. If 500 farmers had to restructure their irrigation system in only four of their 20 fields at a cost of \$40,000 per field, that is \$400,000,000. These impacts have also been totally ignored in the document. When SSJVWQC addressed the environmental consultants at the field hearings, they affirmatively acknowledged that these issues are potential regulatory requirements and the costs may be significant, however, they said they could not address those impacts because the Regional Board staff proposal was so imprecise as to what

would actually be required that they could not evaluate the impact. This reflects both regulatory notice problems and the inadequacy of the Economic Analysis.

4. Further, the Economic Analysis did not specifically analyze the RPA, even though they (the Regional Board staff – not the experts actually performing the Economic Analysis) have selected a number of \$492,000,000 in costs. They also assert an assumption of how much agricultural land would likely be forced out of production and how many jobs would be lost if the RPA were implemented. Yet, they do not deal with any of the big ticket items or set forth any of their assumptions which makes the environmental analysis nearly useless.

5. The Report gives some approximation of the values to drill additional wells, and indicates that new wells would cost between \$76,000 and \$1,000,000. If the 45 communities that have impaired drinking water drilled new wells, that cost would be between \$20 and \$47 million to merely drill additional wells across these communities. (Report at p. 50.)

6. Appendix B of the Report also addresses monitoring well costs, and indicates on page 21 that they anticipate 5,000 additional monitoring wells. If these 5,000 new wells averaged only \$10,000 each (a significant underestimate of the anticipated cost), this would result in \$50 million in additional costs. Actual well costs to deep aquifers may cost 10 to 20 times this amount - therefore, the greater part of a billion dollars. This was completely ignored in the Analysis.

7. The Report indicates that the Regional Board staff proposes to augment their force and increase staffing to as many as a total of 48 staff members. Even Alternative 2 is determined to lose five jobs in the Tulare Lake Basin, versus Alternative 4 which would cost \$511 million with 12 jobs lost. As discussed above, the economic analysis is woefully inaccurate, and significantly under estimates the cost of all the alternatives – particularly if coalitions do not continue to administer the waiver. A real possibility again totally ignored..

8. Neither the RPA nor the Economic Analysis makes any assumption on compliance, enforcement or other costs which will be significant under all of the alternatives.

#### **IV. Conclusion**

The ability of irrigated agriculture to comply with the terms of any new program is dependent on the Regional Board adopting a reasonable and practical program that properly applies designated beneficial uses and interprets narrative water quality objectives. The agricultural coalitions signatory to this document appreciate the opportunity to comment on the DPEIR, RPA and associated documents. However, there



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remain significant issues of concern and areas of disagreement concerning the DPEIR and the RPA. We reiterate that Alternative 2 provides the necessary protection for water quality while allowing the various agricultural entities the ability to assist growers and the Regional Board in developing reasonable programs for the protection of surface and groundwater in the Central Valley. Alternative 2 has been analyzed in the DPEIR and therefore is less vulnerable to a CEQA challenge than the RPA, which was not been analyzed in the DPEIR. We ask the Regional Board to carefully consider the comments provided above and recommend Alternative 2 as the preferred alternative.

Respectfully submitted,

DAVID ORTH, Coordinator, Southern San Joaquin Valley Water Quality Coalition  
Kaweah River Sub-Watershed  
Kings River Sub-Watershed  
Tule River Sub-Watershed  
Kern River Sub-Watershed

And On behalf of :

Arvin-Edison WSD  
Belridge WSD  
Berrenda Mesa WD  
Buena Vista WSD  
Cawelo WD  
Delano-Earlimart ID  
Henry Miller WD  
Kern County Water Agency  
Kern Delta WD  
Kern-Tulare WD  
Lost Hills WD  
North Kern WSD  
Olcese WD  
Paramount Farming Company  
Rosedale-Rio Bravo WSD  
Semitropic WSD  
Shafter-Wasco ID  
Tehachapi-Cummings CWD  
Wheeler Ridge-Maricopa WSD

Attachments



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## **MEMORANDUM**

To: David Orth – Coordinator Southern San Joaquin Valley Water Quality Coalition

From: Michael (Mike) Day, CA Registered Civil Engineer C39494  
Linda Gomez Sloan, CA Professional Geologist 8299  
  
John Schaap, CA Registered Civil Engineer C61754, CA Registered Agricultural Engineer AG563.

Subject: Review of Proposed Environmental Impact Report (PEIR) for Irrigated Lands Regulatory Program (ILRP) of Central Valley Regional Water Quality Control Board (Regional Board)

Date: September 27, 2010

### **INTRODUCTION**

Pursuant to a request from Ernest Conant of Young-Wooldridge, Provost & Pritchard Consulting Group, Inc. (P&P) staff and Ken Schmidt of Kenneth D. Schmidt & Associates (KDS&A) reviewed the subject document with respect to lands in Kern County that would potentially become subject to regulation under the proposed ILRP. This memo summarizes P&P and KDS&A<sup>1</sup> findings, and focuses primarily on technical issues (as opposed to policy or legal issues). The below comments and findings pertain to the Kern County portion of the area covered by the PEIR, in particular, and they often apply to other areas to the North as well.

### **GENERAL COMMENTS**

In general, the PEIR is severely lacking in technical detail, making it difficult to comment on specific or detailed items. In particular, there are underlying assumptions “built in” to the document for Alternatives 2, 3, 4, and 5, which are also in the Staff’s preferred alternative that are not explicitly stated, which are particularly troubling, but more importantly, difficult to evaluate by PEIR authors let alone a third party

The assumptions built in to the document include:

- 1) Regulation by the Regional Board is the only alternative to solve water quality problems in waters of the State;

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<sup>1</sup> Ken Schmidt, CA Professional Geologist 1578, and Certified Hydrogeologist 176, reviewed the PEIR and participated in the preparation of this memo with respect to hydrogeology issues

- 2) All irrigated lands within the boundaries of California's Department of Water Resources (DWR) Bulletin 118 groundwater basins discharge or have the potential to discharge to groundwater;
- 3) The cited economic model correctly designates irrigated land vs. other land uses.
- 4) Deep percolation from irrigated lands always occurs in quantities large enough to transport significant amounts of contaminants below crop root zones;
- 5) Deep percolation from irrigated lands always has the potential to transport contaminants that would impact water supply wells;
- 6) All groundwater underlying irrigated lands, or underlying other areas that could be potentially impaired by "discharge" from irrigated land is high quality waters of the State with beneficial uses that should be protected from any degradation or contamination with any constituent of concern;
- 7) Specific constituents of concern are not designated or differentiated that would be subject to ILRP regulations. It should be noted that constituents of concern are managed differently by agricultural operations and behave differently in the environment.

Further observations include:

- 1) There is a presumption that DWR Bulletin 118 groundwater basin boundaries are accurate;
- 2) No consideration or specific analysis of water and/or contaminant transport mechanisms in the root zone, vadose zone, and/or groundwater has been done to designate or differentiate areas that would be subject to ILRP regulations;
- 3) No consideration or specific analysis of agronomic science, groundwater hydrology and/or geochemistry has been done to designate or differentiate areas that would be subject to ILRP regulations, and in particular, these considerations may include:
  - a. Mechanisms of contaminant volatilization, transport or capture in or above the crop root zone;
  - b. Moisture content of vadose zone sediments;
  - c. Clay layers that impede or inhibit groundwater movement;
  - d. Groundwater depth;
  - e. Piezometric water surface levels and gradients;
  - f. Naturally occurring constituents beyond the control of irrigated agricultural land operators;
  - g. Historically used (legacy) chemicals (many of which are no longer used and/or used differently now) in soils, vadose zone, or groundwater which are beyond the control of irrigated agricultural land operators.
- 4) No consideration of other immediate/adjacent factors; for example well construction and surrounding land use, farming and irrigation practices, hydrogeology, geochemistry, contaminant source and transport has been considered with respect to public water supply wells and/or domestic wells whose water would need to be protected from contamination. And, no consideration was given to alternatives besides regulating irrigated lands for protecting those wells;

- 5) Economic analyses lack in reality regarding monitoring and compliance requirements and responses\results to the regulation of irrigated lands;

## FINDINGS

P&P and KDS therefore submit the following findings for why these assumptions should not be made:

- 1) Irrigation itself is not a waste discharge to groundwater. Consider the fact that surface water used in most parts of Kern County is of a quality that, when used in irrigated agriculture, improves groundwater quality (if deep percolating water reaches it). Waters from the Friant-Kern Canal and Kern River originate from Sierra Nevada Mountain rain and snow melt runoff, and are consistently of excellent/high quality. Waters from the California Aqueduct also originate from Sierra Nevada runoff, and while higher in minerals, is also of better quality than groundwater in many areas. Water quality data for these three primary surface water sources for Kern County irrigated agriculture are provided in Table A to illustrate this point. Furthermore, deep percolation from irrigation is in fact an important groundwater recharge activity in some areas with suitable soils and groundwater conditions, and is necessary to maintain a water balance. Regulations to improve irrigation efficiency in those areas, thereby limiting deep percolation, would exacerbate already chronic water supply shortages and groundwater overdraft conditions as well as limit dilution of groundwater constituents with higher quality surface water
- 2) Moisture deficient sediments underlie some lands, particularly in western parts of Kern County, effectively acting as a barrier between downward percolating water and groundwater until the moisture deficient soils become saturated. These sediments have a significant capacity to absorb water. This phenomenon was investigated, identified, and became an important factor influencing construction of the California Aqueduct and other canals constructed later in Kern County Areas with substantial underlying moisture deficient soils should be excluded from the ILRP for groundwater protection purposes.
- 3) The DPEIR utilizes DWR Bulletin 118 boundaries, which have been found to be very general when reviewed by hydrogeologists with access to more well driller's logs than were available to DWR geologists setting boundaries. A more current and careful review of groundwater basin boundaries is needed to assure that some irrigated lands which do not overlie groundwater are not inappropriately included in the ILRP for groundwater protection purposes.
- 4) Irrigating areas which overlie shallow groundwater and/or poor quality groundwater commonly referred to as "brackish water", which is unsuitable for drinking is not a hazard that should be protected against factors that improve its quality. Much of Kern County should be excluded from the ILRP for this reason. A map prepared by Kern County Water Agency is provided with this memo (**Figure 1**) which shows areas in Kern County generally considered as having useable groundwater, and the remainder having unsuitable brackish

groundwater. Note, however that the map was not specifically prepared for this purpose, is now somewhat dated, and should not be explicitly taken as definitive boundaries for the ILRP.

On this point it should be noted that large areas of the Western portion of the San Joaquin Valley in particular, but a few other areas as well, have excessive, naturally occurring saline-sodic soils and first-encountered groundwater with high salt content (sodium, chloride, etc), boron, nitrates, and in some cases arsenic, selenium, molybdenum, nickel, and other trace elements. These areas have been well documented in numerous studies (Rector 1983).

As an example, total dissolved solids (TDS) values in groundwater and around the Lost Hills Anticline and the Antelope Plain were reported by Wood and Davis (1959) to range from 2,200 to 10,900 ppm in the 1950's. DWR found high concentrations of nitrates in groundwater in the San Joaquin Valley in the 1960's. In more recent years the interagency San Joaquin Valley Drainage Program (Swain, 1990) found salinities frequently exceeding 20,000  $\mu\text{S}/\text{cm}$  in shallow groundwater in the perched zone of the basin-rim zone, generally located at the lower end of alluvial fans and the adjacent basin trough. Figure 2 shows lines of equal Total Dissolved Solids (TDS) concentrations in the Lost Hills area, based upon Kern County Water Agency data from 1997.

Note that levels of salinity alone render brackish groundwater unsuitable for drinking or irrigation. Further, concentrations of nitrates, arsenic, selenium, and other trace elements exceeding drinking water standards are often found in these same areas.

It is remarkable that all of the known areas with brackish groundwater in Kern County are currently designated by the Regional Board in the Tulare Lake Basin Plan as having beneficial use (though the CV-SALTS basin plan amendment process rightly has this under review).

- 5) In addition to the brackish waters discussed in item 5 above, many areas of Kern County have naturally occurring constituents in the soil, underlying sediments, and/or groundwater viewed by the Regional Board as contaminants that are beyond the control of the operators of irrigated lands. Regulations proposed in the draft PEIR would not address this situation.
  - One example of such are irrigated lands which previously were swamp and overflow areas. Many of these areas have soils and underlying groundwater with naturally occurring high levels of organics and/or nitrates. This is due to previous and continuing decomposition of the vegetative matter in swamp and overflow land soils and underlying sediments.
- 6) Crop, soil, vadose zone, and/or groundwater uptake of potential contaminants effectively mitigates pollution in many cases.

Many of the constituents of concern identified in the ILRP PEIR are already sometimes effectively removed or transformed to other harmless states through a variety of processes in the soil and/or underlying and neighboring areas that will continue to occur regardless of ILRP regulation. The Regional Board staff's preferred alternative for the ILRP advances unnecessarily expensive regulations that would not always be the most effective way to address many constituents of concern.

Concerning nitrates, nitrogen is often applied to irrigated agricultural lands in organic or inorganic forms as an essential fertilizer, and goes through many complex processes that ultimately remove or immobilize all or most of it before it can reach groundwater. Crops use nitrogen (N) to manufacture proteins, chlorophyll, and other essential plant biochemicals necessary for their growth. Plants acquire N primarily from soils within the root zone. Most of the N in soil is a part of the soil organic matter. For prevention of a long-term decline in the soil organic matter, N must be added at least at rates that will replace the N removed in the harvested crop and replace losses of N below the root zone, which for practical purposes are not completely avoidable in all cases for sustained periods. The use and fate of nitrogen in agriculture is more completely described by Chang, et. al (2005) and Hantzsche et. al (1992).

The following mechanisms which already occur through normal agricultural operations have been identified by the above mentioned authors to remove nitrogen from agricultural fields or immobilize it.

- Removal in plant material through harvesting;
- Ammonia volatilization from the soil surface;
- Ammonia and other nitrogen gases volatilizing from plant surfaces;
- Denitrification loss of nitrate and nitrite as  $N_2$ ,  $N_2O$ , and NO gasses;
- Binding of nitrogen in sediments;
- Leaching of nitrate and nitrite beyond the root zone.

Since nitrogen is a significant crop input and operating cost, farmers are motivated to manage this resource appropriately. Leaching is the only potential nitrogen threat to groundwater, and can only happen if nitrogen is available in a mobile form, and if water is percolating below the root zone. Best Practicable Treatment and Control (BPTC) (if that regulatory approach were to be applied) for leaching of nitrogen includes appropriate timing and applications of fertilizers, and good irrigation efficiencies. Our knowledge of Kern County irrigated agriculture suggests that these things are happening in most of Kern County already. The Regional Board staff's preferred ILRP alternative would not necessarily be the most cost-effective way to reduce nitrates in drinking water wells in particular. Based upon experience, P&P and KDS believe potable water wells can often more economically be protected from existing and future nitrate contamination by changes that cause them to be fed by deeper groundwater zones of higher quality (i.e. deepening or replacement with screens tapping waters with safe nitrate levels below protective clay layers), by water treatment to remove nitrate, or through service by bottled water..

Concerning pesticides and herbicides, many of the constituents of concern discussed in the PEIR have been banned and/or are no longer used in the Central Valley. Most pesticides and herbicides used in the Central Valley today have very short half-lives, and they volatilize, degrade into harmless forms, and/or bind to soil or sediment without becoming a threat to groundwater. Regulation of pesticides and herbicides for groundwater protection should be coordinated through the Department of Pesticide Regulation versus what is proposed in the PEIR by the Regional Board.

- 7) Most irrigated lands in Kern County have no leaching, or leaching that is well below the most extreme BPTC regulation proposed in the ILRP.

In addition to the findings discussed above, irrigation is otherwise not a significant threat to groundwater quality in many parts of Kern County because irrigation efficiencies are very high and deep percolation either does not occur, or happens in such low quantities that regulation under the ILRP would do nothing to reduce it. A number of references illustrate this point, and are described below:

From Fall 2000 through 2006, irrigation scheduling and soil moisture monitoring demonstrations and irrigation evaluations were conducted by the University of California Cooperative Extension in 132 fields over 11,994 acres with 30 different growers covering 14 different crops, 11 different soil textures and 9 different irrigation system types in Kern County. Data collected from these sites indicated that the average on-farm application efficiency was 95%. (Sanden, 2008, with interim results published in Sanden, 2006). In many of the fields, efficiencies of 100% were measured. These indicate no runoff or deep percolation. Burt et al (2008) discusses regulated deficit irrigation (RDI) practices, which are widespread in Kern County, and produce no deep percolation. This practice may not be sustainable for long periods of time; nevertheless, it is widely employed.

Sanden, Burt, and their co-authors conclude that farmers are already highly motivated to conserve water, control pumping power costs, minimize fertilizer and other inputs, and thus there is little, if any, "wasted" water to conserve. It follows logically that if no water is being lost to deep percolation, then there is very little groundwater pollution potential.

High irrigation efficiencies represent best practicable treatment and control (BPTC) for irrigation in areas that have become subject to that standard (also proposed in some of the Alternatives in the ILRP). Since that is already widespread in Kern County, regulation won't reduce deep percolation significantly.

- 8) Clay layers in many parts of the groundwater system underlying the Central Valley, and Kern County in particular, prohibit or greatly inhibit the downward movement of water in many areas, and thus isolate deeper waters with beneficial uses from contamination by possible percolating water from irrigated lands (Croft

1972, Metz 1991, Page 1986, Rector 1983). Where there may be percolation, time of transport considerations render many of the proposed ILRP regulatory actions ineffective.

Lake bed deposits have been identified in the subsurface, the A through F clays, that act as aquitards that retard vertical groundwater flow. The most regionally extensive E clay separates unconfined to semiconfined groundwater above the clay from confined groundwater below the clay. Its thickness ranges from about 10 feet near its edge to more than 160 feet beneath the Tulare Lake bed (Croft 1972; Metz 1991, Page 1986).

The aquifer above the A clay is comprised of interbedded lenses of sand and clay; typical of deposits under flood plain conditions. The combined thickness of clay beds in the near subsurface provides a uniform barrier to deep percolating water; forming a perched groundwater condition (Rector 1983).

- 9) Water moves through soil due to two types of forces –gravity and capillary tension. Capillary forces pull water from wet areas into dry areas in any direction. Gravity pulls water downward. Capillary forces vary greatly in magnitude depending on the water content in a given soil and by soil texture. Capillary forces dominate flow conditions in unsaturated soils, while gravity only governs flow in saturated soil conditions (Gardner 1979). With this background, we note the following:
- Surface evaporation and transpiration can create extremely dry near-surface soil conditions in more arid areas, such as many areas in the southern San Joaquin Valley;
  - Soil moisture content generally increases with depth, so capillary forces can tend to wick water from moist, deep percolation areas toward the adjacent near-surface dry soils rather than downward. This is more likely where more thickness of unsaturated sediments is present between the surface and deep groundwater;
  - Similarly, alternating layers of coarse- and fine-grained sediments can serve as capillary breaks that also act to retard downward movement of groundwater.

## **CONCLUSIONS**

Based upon these findings, P&P and KDS make the following conclusions:

- 1) The Regional Board should adopt Alternative 2 subject to the following conditions.
- 2) The Regional Board should conduct scientific studies which eliminate the erroneous assumptions and incorporate consideration of the various matters discussed above in selectively identifying and designating specific irrigated lands which properly belong in the ILRP with respect to regulations that would protect groundwater with beneficial uses.



- 3) After accomplishing item 2 above, the Regional Board should re-visit, and revamp Alternative 2 with regulations working through existing coalition groups, with appropriate consideration of existing Groundwater Management and Integrated Regional Water Management Planning Agencies; and involve carefully selected experts from appropriate scientific disciplines related to irrigated agriculture, hydrogeology, and pollution control, having practical, local knowledge.

## LIST OF ATTACHMENTS

Table 1: Water quality data for three primary surface water sources for Kern County irrigated agriculture.

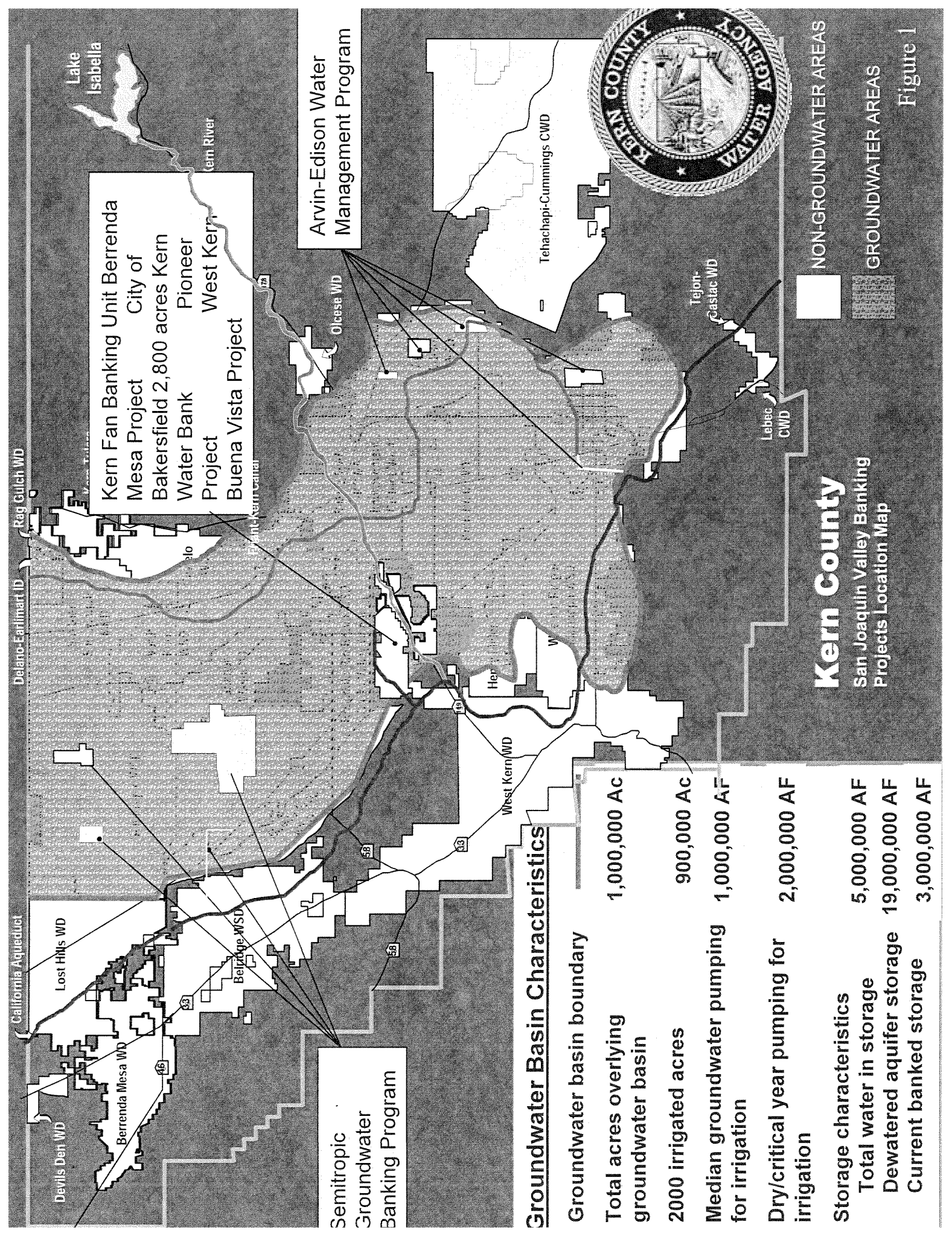
Figure 1: Map illustrating areas in Kern County generally considered as having unsuitable brackish groundwater.

Figure 2: Total Dissolved Solids in Groundwater Above the Corcoran Clay in Lost Hills Area

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Kern Fan Banking Unit Berrenda  
 City of  
 Bakersfield 2,800 acres Kern  
 Water Bank  
 Pioneer  
 Project  
 West Kern  
 Buena Vista Project

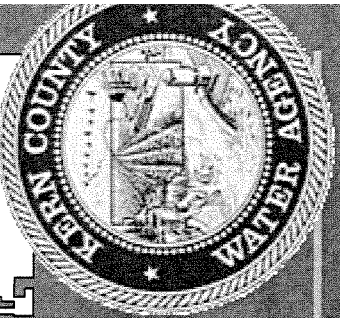
Arvin-Edison Water  
 Management Program

Semitropic  
 Groundwater  
 Banking Program

**Groundwater Basin Characteristics**

Groundwater basin boundary	1,000,000 AC
Total acres overlying groundwater basin	900,000 AC
2000 irrigated acres	1,000,000 AF
Median groundwater pumping for irrigation	2,000,000 AF
Dry/critical year pumping for irrigation	5,000,000 AF
Storage characteristics	19,000,000 AF
Total water in storage	3,000,000 AF
Dewatered aquifer storage	
Current banked storage	

**Kern County**  
 San Joaquin Valley Banking  
 Projects Location Map



NON-GROUNDWATER AREAS  
 GROUNDWATER AREAS

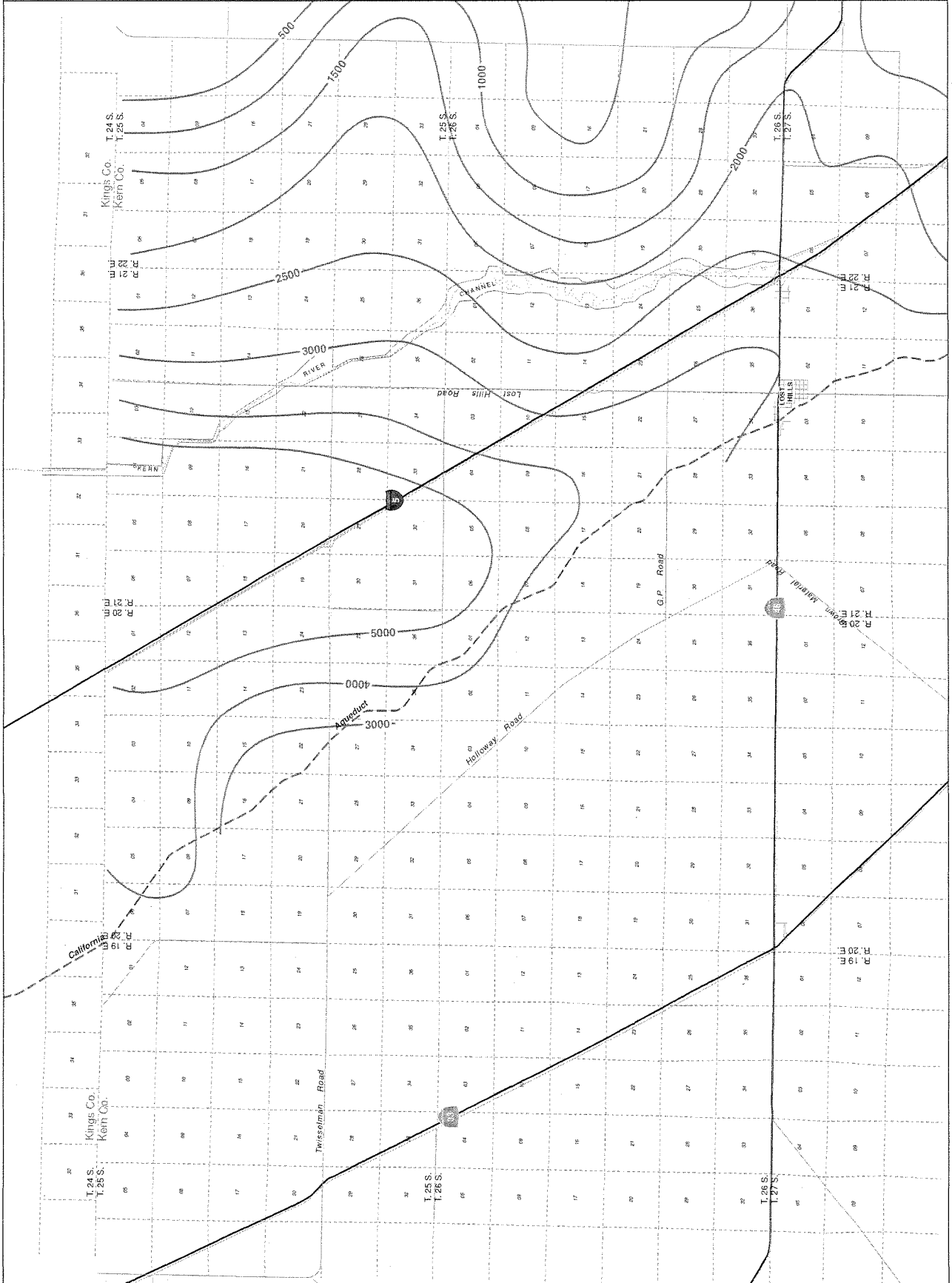
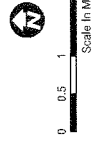
Figure 1

**Legend**

- Kern County Roads
- California Major Roads
- California Appendix
- Section Boundary
- Total Dissolved Solids
- Final Value Contour (ppm)

\*Data is from July 1997, as shown in Plate 2 of KCWA Water Supply Report 1999, May 2003

**Figure 2**  
Groundwater Quality  
Unconfined Aquifer



**Table 1. Water Quality Summary of Surface Water Sources in Kern County**

**State Water Project (California Aqueduct) Water Quality  
Check 21**

	Alkalinity (mg/L as CaCO3)		B (mg/L)		Ca (mg/L)		Hardness (mg/L as CaCO3)		Mg (mg/L)		Na (mg/L)		NO3 (mg/L)		Cl (mg/L)		SO4 (mg/L)		TDS (mg/L)		EC (uS/cm)		pH	
	Sum	Win	Sum	Win	Sum	Win	Sum	Win	Sum	Win	Sum	Win	Sum	Win	Sum	Win	Sum	Win	Sum	Win	Sum	Win	Sum	Win
Max	106	92	0.6	0.5	84	70	354	278	35	25	99	130	8.8	7.7	133	126	364	298	722	593	1030	883	8.4	8.2
Avg	72	76	0.2	0.2	21	22	101	109	12	13	46	59	2.2	3.0	59	76	47	54	251	286	436	518	7.7	7.7
Min	41	53	0.1	0.1	13	13	57	66	6	7	22	22	0.2	0.4	27	20	20	19	139	137	237	234	6.9	7.1

Maximum, Minimum and 10 year averages for the period between 1/1/1994 and 12/31/2003

Win = Winter (October through February) Period

Sum = Summer (March through September) Period

**Friant-Kern Canal Water Quality  
Mile Point 122.05**

	Alkalinity (mg/L as CaCO3)	B (mg/L)	Ca (mg/L)	Hardness (mg/L as CaCO3)	Mg (mg/L)	Na (mg/L)	NO3 (mg/L)	Cl (mg/L)	SO4 (mg/L)	TDS (mg/L)	EC (uS/cm)	pH
Avg	n/a	0.07	4.6	n/a	0.8	3.8	0.7	4.2	3.7	45		7.03

Average annual samples for the period 1957 through 2004

**Kern River Water Quality  
KCWA ID4 Source Water**

	Alkalinity (mg/L as CaCO3)	B (mg/L)	Ca (mg/L)	Hardness (mg/L as CaCO3)	Mg (mg/L)	Na (mg/L)	NO3 (mg/L)	Cl (mg/L)	SO4 (mg/L)	TDS (mg/L)	EC (uS/cm)	pH
Avg	66	0.23	15.9	50	2.6	13.6	1.4	5.3	11.0	112	159	8.04

Average annual samples for the period 1998 through 2004