San Joaquin County & Delta Water Quality Coalition

Comments on the Draft WDR

October 3, 2013
CVRWQCB
Workshop
Stockton, CA

Grower Panel Members

- Richard Rodriquez, Owner Richard Rodriquez Farms, diversified row crops and trees
- Charles Rivara, Director California Tomato Research Institute and tree farmer
- Joe Valente, Farm Manager Kautz Farms, wine grapes and cherries
- Michael Wackman, SJC & DWQ Coalition

Grower Panel Issues

- Overview of Current Management Practices
- Individual Reporting under the WDR
- Cost of Regulatory Compliance
- Usefulness of Nutrient Management Budgets
- Certification Requirement for NMP

Current Management
Richard Rodriguez, Row Crop Grower

Effects on the Small Farmer

- Additional paperwork must be minimized to only what is necessary
- Landlord relations will be difficult
- Current regulatory pressures have caused a reduction in acreage and employment
- Regulations that increase overhead favor large factory farms

Current Management
Richard Rodriguez, Row Crop Grower

Returns on row crops cannot justify significant additional per acre fees

- Corn farmers often net $150 per acre. $10 per acre to cover administrative costs is 7% of the margin – for one regulation. This does not include the cost of the individual reporting, certifications or new management practices.

Current Management
Richard Rodriguez, Row Crop Grower

- Individual Reporting Should be Coordinated with “Fields” Used for Pesticide Use Reports
  - This is logical for farms with multiple crops and provides useful information for evaluation

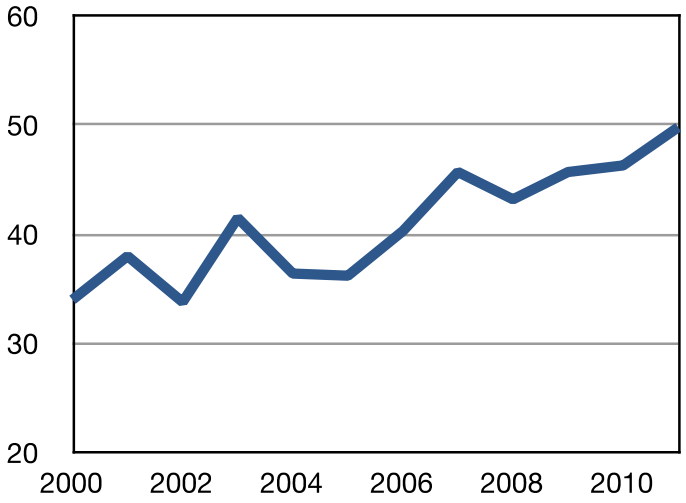
Chuck Rivara, Tomatoes and Orchards

Evolving Management Practices:

- Tomatoes: conversion from furrow to drip; continuous monitoring soil moisture & nutrients – 20% yield improvement
- Orchards: drip and micro-sprinkler facilitated nutrition – yield and tree health gains

Management practice change is driven by

- Increases in productivity
- Reduction in cost
- Not by annual reporting obligations



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Production

Chuck Rivara, Tomatoes and Orchards

Fertilizer application rates set through established crop use curves, soil reserves and in season sampling

- Tomatoes– soil sampling, yield projections
- Tree Crops- yield curves, application history

Evolving fertilizer management
- fertigation, remote sensing

Research is needed on nitrates and fate of nitrogen
- How nitrates travel through soil
- Whole farm issues for crop management

The importance of research and education

Education on management practices is most effective when tailored to specific crops and locations.

Chuck Rivara, Tomatoes and Orchards

Frequency of changes in nitrogen strategies for most crops: SLOW

- Evolution not revolution
- Example: Drip Irrigation Caused Major Change in Nitrogen Application Method and Amount

Research and development

- Almond Board leading the development of crop use curves, nitrogen fate in permanent crops
- Most crop organizations “get it” :
- Need for use of modern analytics to evaluate current use patterns

Wild Cards: Varying soil textures within a field, weather events

Joe Valente, Wine Grapes and Orchards

Examples of Current Nitrogen Planning

- Kautz Farms has different plans for 50+ different fields based on years of experience.
- Plans are drastically different for different fields, even though fields grow the same crop and are close to each other
- Plans are adjusted during the year based on weather and crop response
- Plans do not change much from year to year

			FERTILIZER GRAPES CHERRIES				2013			
			UN - 32 8 GALLONS PER ACRE = 25.6 UNITS							
FIELDS		ACRES		Gallons 1st	Gallons 2nd		Gallons 3rd		FIELDS	
1- 2 - 3...		130		1,000	1,000	UN-32	600		2	
4		40		320	320	UN-32	250		4	
6		4		32	30	UN-32				
7		20		160	0	UN-32				
11		35		300	0	0				
12 - a		25		200	200	UN-32				
12 - b		25		200	0	0				
13 - 13a		70		560	500	UN-32	300		13	
14-14a-45		74		400	14-45 400	UN-32				
15		40		300	0	UN-32				
16		40		320	300	UN-32				
18		32		256	250	UN-32	150		18	
17 - 19		40		320	300	UN-32				
21		18		145	0	UN-32				
24 - a		75		600	0	0				
24 - b		75		600	400	UN-32				
27		63		500	0	0				
28		50		400	300	UN-32	300		13	
30		34		0	300	0				
31 - a		50		400	400	UN-32	300		31a	
31 - b		50		400	400	UN-32	300		31b	
32 - a		50		400	400	UN-32	300		32a	
32 - b		50		400	400	UN-32	300		32b	
33		18		0	150	0				
34 -a-b-c-d-e		85		680	600	UN-32				
35		10		0	80	0				
37		32		250	0	0				

Joe Valente, Wine Grapes and Orchards

- Certified Nitrogen “Budget” Templates for Each Field Are Excessive and Costly

- If a Budget is required, farmers Are in the Best Position to Self-Certify Growers have years of experience with a given field that paid consultants do not

Regular Grower Education is More Useful and Less Costly than Outside Certification

- Example: Pesticide Applicator’s License requires 6 hours of education every three years.

- Farmers learn about new research and how they can improve their operations

- Farmers apply what they learn in the field

Nitrogen Management Plans
Mike Wackman

- Will “NMP” Budgets under the WDR make better farmers?
  - NO, what is the purpose of an estimated budget? Just a paper trail.

- Will paying someone to certify the NMP plan improve water quality?
  - No, just sets up an unnecessary expense.

- If “budgets” are necessary, farmers are in the best position to certify them.
  - Years of experience with the specific soil/water at issue
  - Years of education related to farming

Nitrogen Management Plans

- How will the information about actual application ratios will be compared to groundwater quality trend data

- Spend the money on research and education – not third party certification and paperwork
  - Determine if current practices are protective of water quality
  - Determine if new practices will improve not only water quality but farming efficiencies
    - To get farmers to really buy into new practices – need to be effective and improve their ability to farm
  - Educate growers about the results of the research

Questions?

Panel 2 - Specific Drafting Issues

- Jennifer Spaletta, Spaletta Law PC
- Michael Johnson, Michael L Johnson LLC
- Jack Hamm, SJCRCD President

Summary of Comments

Drafting Issues

- Defining Groundwater Subject to Regulation
- Complying with the Anti-Degradation Policy (Resolution 68-16)
- The Rationale for a Second Phase GAR for the Delta Area
- Process for Setting Trigger Limits
- Relevance of DPR Groundwater Protection Areas for “High Vulnerability” Groundwater
- Impact of Current Definition of “High Vulnerability” Surface Water Areas (EC, DO, PH)

Cost Control

- The Existing Cost Study Underreports the Cost Impact of the WDR
- We Must Control Costs to Maintain Participation
- Frequency of individual reporting impacts third party costs to process and report information
- We can reduce reporting frequency, and reduce costs, without impeding the quality of information obtained or its usefulness.

Drafting Issues – 1

Groundwater Subject to Regulation

- Findings, Page 2 #5: “This Order is not intended to regulate…water quality of soil pore liquid within the root zone.”

- Should be amended because soil pore liquid below the root zone is also not subject to regulation.

- Only discharges that threaten the quality of “waters of the State” are subject to regulation.

Drafting Issues – 2

The Anti-degradation Policy

To avoid future litigation, the Board should add text to the order to explain how it complies with the policy:

- Page 50 of Att. A states: "Central Valley communities depend on irrigated agriculture for employment."
- Expand to include job statistics and economic contribution.
- Explain why increased reporting and monitoring is not consistent with the maximum benefit to the people of the state – because it will unduly increase costs to farmers (who must operate in a purely competitive industry) and cause a loss of farmland and jobs.
- Explain how the order has been crafted to reduce costs when possible while still allowing the Board to collect the information needed to assess on farm management practices and whether these practices are meeting performance standards.
- Explain that board has concluded that additional monitoring and reporting would be duplicative and/or that the burdens on the industry out-weigh any potential benefits.

Drafting Issues - 3

Second Phase GAR for Delta

- The Draft WDR allows the Coalition an extra year to complete the final GAR for the Delta, but requires a preliminary “high” and “low” vulnerability designation within one year.

- We requested this time because we know the Delta lands are different than the rest of the Coalition area and very little data currently exists.

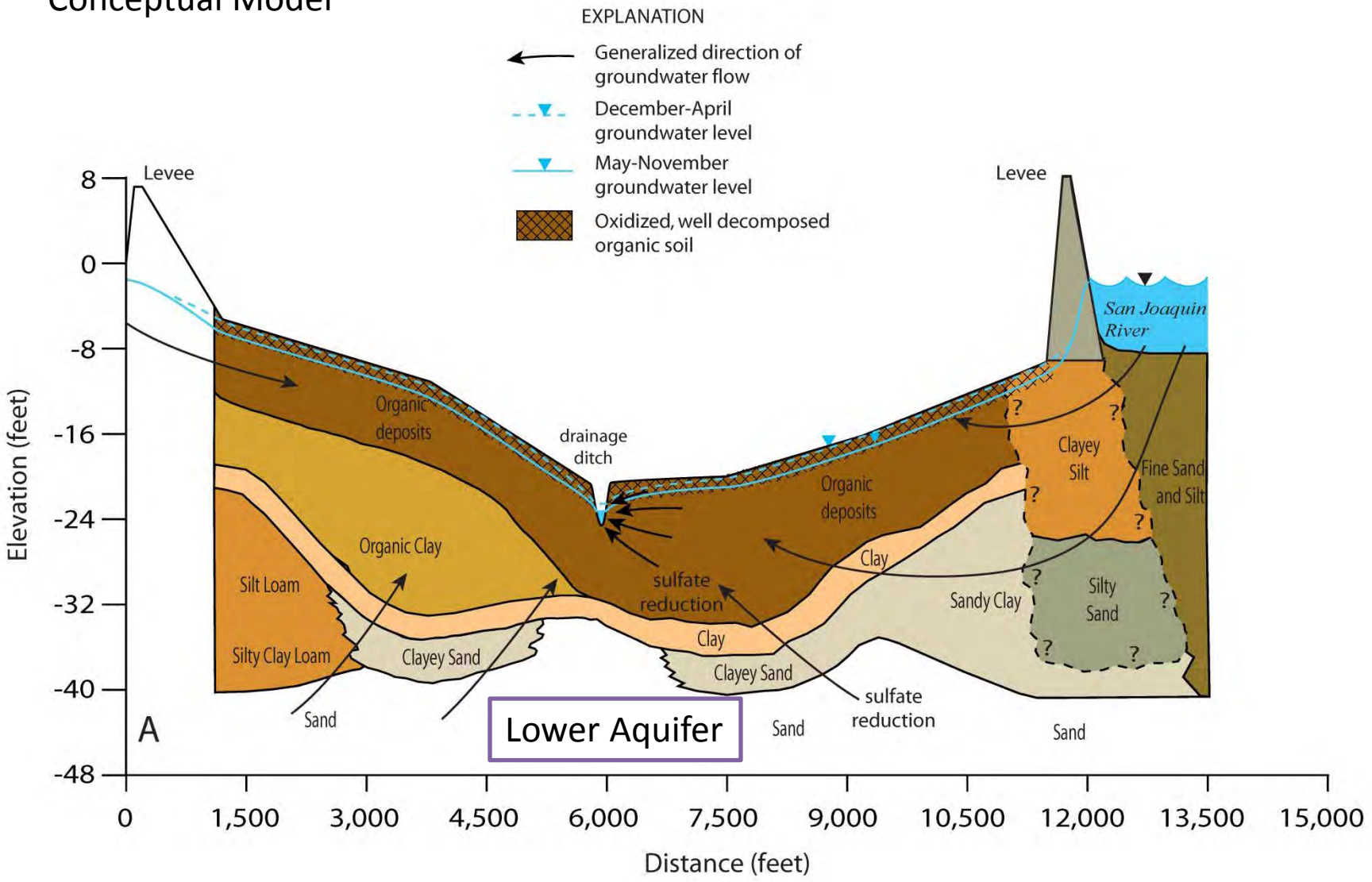
- Delta Groundwater is rarely used for drinking water (residential wells on islands are 300-400 feet deep, well below artesian conditions and any agricultural influence)

Mike Johnson

How do surface water and groundwater interact in the Delta?

- Land surface elevation for most of the Delta in the Coalition service area is below sea level.
- A lower aquifer underlies organic deposits and fine-grained mineral materials.
- Water seeps under and through Delta levees from adjacent river channels and enters the island groundwater system.
- Networks of drainage ditches collect groundwater.
- To keep the islands arable, drain water is pumped back into the river channels.

Conceptual Model

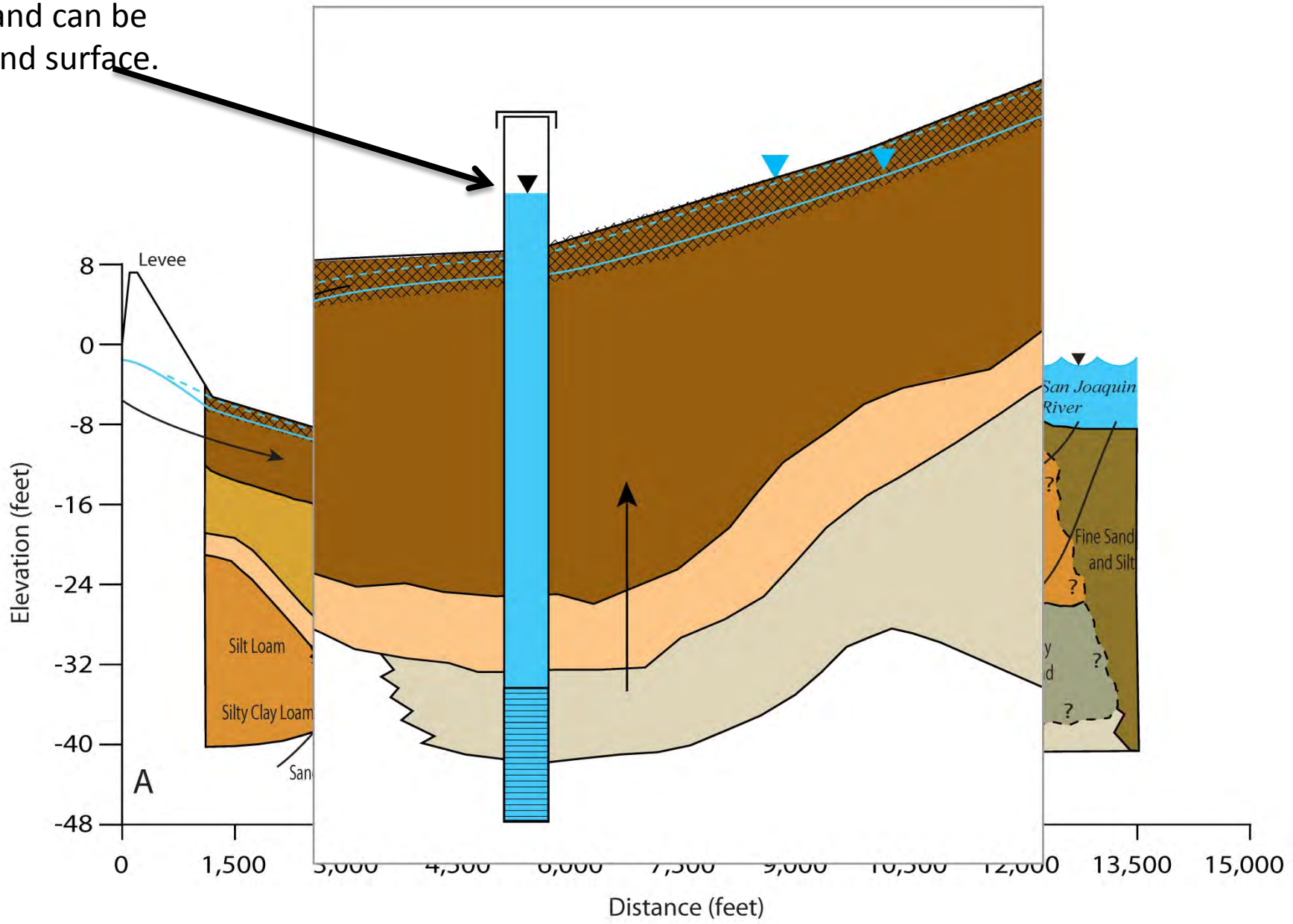


From Deverel, Steven J., David A. Leighton and Mark R. Finlay. 2007a, Processes Affecting Agricultural Drain-water Quality and Organic Carbon Loads in California's Sacramento-San Joaquin Delta. San Francisco Estuary and Watershed Science. Vol. 5, Issue 2 [May 2007].
Article 2. http://repositories.cdlib.org/jmie/sfews/vol5iss2/art2

Artesian Conditions in the Delta

- An **artesian well** is one in which the groundwater level in the well is higher than the top of the formation where the well is screened.
- In most of the Delta, where land-surface elevation is below sea level, pressure is transmitted from adjacent river channels through the sands and silty sands of the lower aquifer.
- Because surface layers of peat, clay and silt impede upward movement of water into the organic deposits, groundwater remains under pressure in the lower aquifer.
- Wells screened in this lower aquifer are artesian.
- In some Delta artesian wells, groundwater level can exceed land surface elevation.

Water level in well screened in the lower aquifer is above the aquifer and can be above land surface.



Artesian Conditions in the Delta, continued

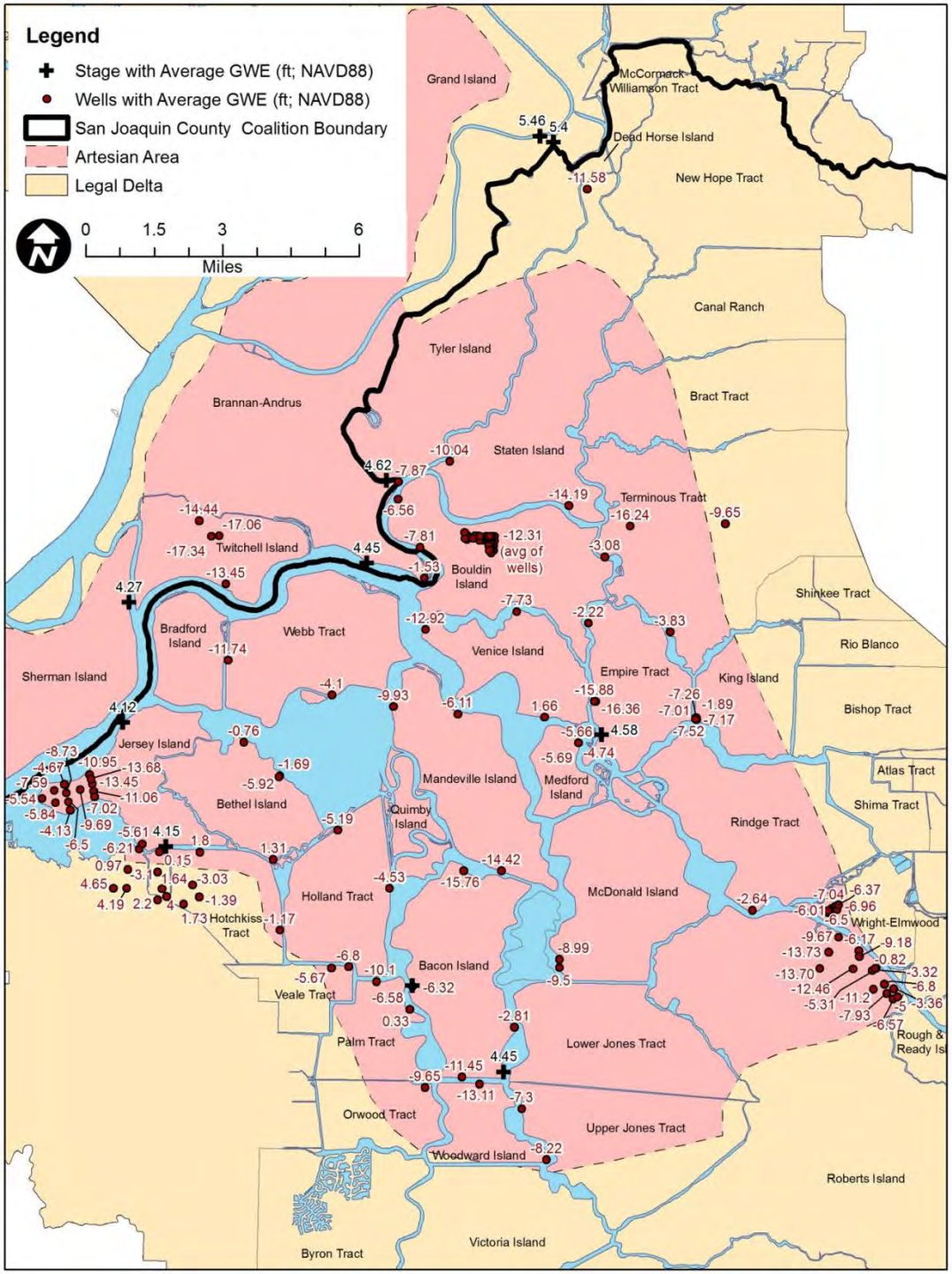
- Artesian conditions cause upward flow of groundwater to drainage ditches from the lower aquifer.
- Due to artesian conditions and upward flowing groundwater, potential contaminants will not move downward.

Area of Artesian Wells in the San Joaquin County Delta Water Quality Coalition Service Area

Red dots are all shallow monitoring wells

Numbers are groundwater elevations relative to sea level

Area of Delta in tan color requires additional study to determine whether upward flow of ground-water exists in these areas.



Drafting Issues – 4
Mike Johnson

Process for Setting Trigger Limits

- Attachment B, page 25 section VII – Current states that the RB Staff will establish trigger limits with "stakeholder input."
- A Technical Committee should establish Trigger Limits

Impact of Current Definition of "High Vulnerability" Surface Water Areas (EC, DO, PH)

- Growers in "High Vulnerability" Surface or Groundwater areas must file annual Farm Evaluation Plans.
- Most of our area will be "High Vulnerability" due to EC, DO and Ph levels that are primarily NOT caused by irrigated agricultural operations in our area

Drafting Issues – 5
Mike Johnson

Relevance of DPR Groundwater Protection Areas for "High Vulnerability" Groundwater

- The WDR states that the EO will use DPR Groundwater Protection Areas as a "default" for high vulnerability (Attachment B, page 14, Section IV-A-4)
- It is not sound science to rely too heavily on DPR Groundwater Protection Areas to assess the potential impacts of fertilizer applications on groundwater
- Nitrogen uptake and de-nitrification can substantially influence the difference between applied nitrogen and whether or not nitrogen reaches groundwater

Drafting Issues - 6

The Existing Cost Study under-estimates the order's cost:

- Assumes the cost of the Member Reports is a **one-time** expense of $2500 per farm with an annual 5% update cost ($125), amortized over **20 years** = **$1.79/acre/year**

- If a Farm Plan is good for 20 years with minor update, why does the order require annual updates and certifications?

- It is very difficult to provide useful cost estimates for these requirements without a final template.

- Soil tests and professional plan updates will cost at least **$170 per field per year** ($120 for professional fees and $50 for soil tests).

- For a 100 acre farm with 4 fields, that is $680/year (a 27% annual update expense, not 5%)

Drafting Issues - 7

Jack Hamm – SJCRCD President

We Must Control Costs to Maintain Participation

- Growers currently pay $2.75/acre to the Coalition – fees are expected to **increase to $5 to $10+** just to cover Third Party costs.
- The Coalition anticipates hiring several full time staff to facilitate 5,900 individual reports and data entry and analysis.
- Members must also pay for the time and expense to complete Individual Reports and Certifications. Example: Dairy Nutrient Plans Cost $3,000+ to prepare (based on land size)

Drafting Issues - 8

Jack Hamm – SJCRCD President

- We currently have about **4,000 members** in the Coalition with **459,000 irrigated acres** (average farm size of 115 acres)
- Under the new order expect **5,865 members** with **582,000 irrigated acres** (average farm size 99 acres)
- Our Coalition has one of the highest participation rates in the Central Valley.
- **We will lose members if the cost per acre is too high** (particularly those who do not believe their operations are a threat to surface or groundwater)

Drafting Issues – 9
Jack Hamm – SJCRCD President

- **The easiest way to control costs is to reduce the frequency of individual reporting**
  - The Draft allows the EO to reduce frequency in the future, but that does not eliminate the substantial expense for the Third Party or Members in the interim.

Drafting Issues – 10

Jack Hamm – SJCRCD President

- **We can reduce reporting frequency, and reduce costs, without impeding the quality of information obtained or its usefulness.**
  - Example 1: 20% of Members supply a Farm Evaluation each year rather than all each year. All data is obtained every five years but the Coalition only needs one person to process the data, rather than 3.
  - Example 2: Nitrogen Management Reports every three years provide the same information but cost the Coalition 66% less to obtain and process.

Drafting Issues -12

Jack Hamm – SJCRCD President

Annual Reporting Does Not Provide Useful New Information for Many Crops and is a Waste of Resources

- Information for Permanent Crops does not change year to year
  - Permanent Crops represent **half of the irrigated acreage** in our area.
  - USDA 2007 Census of Agriculture: SJC had **187,613 acres of orchards** and **104,893 acres of grapes**. These numbers have increased since 2007.

- Row Crops are farmed in rotation - annual reports will become duplicative

San Joaquin County – Leading Commodities in Value by $1,000 (2011):

MILK, MARKET, FLUID	439,603	(different order)
GRAPES, WINE	**285,739**	***Permanent**
WALNUTS, ENGLISH	**278,857**	***Permanent**
ALMONDS, ALL	**187,748**	***Permanent**
CHERRIES, SWEET	**89,175**	***Permanent**
HAY, ALFALFA	**84,915**	***5-7 years**
TOMATOES, PROCESSING	81,844	annual
CATTLE & CALVES, UNSPECIFIED	71,479	
CORN, GRAIN	67,568	annual
CORN, SILAGE	62,744	annual

Closing Thoughts

- A reasonable regulation must **balance** burdens with benefits gained towards the regulatory goal.
- The proposed WDR includes substantial reporting burdens that will not produce water quality benefits or useful data. The Board should ensure each requirement has an identified and valuable benefit.
- Each new regulatory burden threatens the health of the industry and the **viability of family farms**.
- **Questions?**