

Ag Alternative Compared to Staff Draft

May 15, 2010



Progress to Date

Present Ag Waiver	Staff Report	Commonality
Enrolled: 1716 (2010)	Enrolled: 1719	Same database
Total farm operations: unknown	Estimated: 3,000	Enrollment has been static between 1720 and 1800
389,128 acres enrolled	93% of acres enrolled	Most acreage is enrolled
Education: 75% of enrolled	43% of a speculative total	Enrolled farmers want those not enrolled to be located by CCRWQCB
Farm Plans: 89% of enrolled	50% of speculative total	Tier II required to complete a farm plan by 2008
CMP participation 100%	Less if unknown growers are counted	Staff performance goals not met
Water quality has improved at some CMP sites	Water quality has improved at some CMP sites	Water Quality Improvement

Farm Plan

Ag Proposal	RWQCB Proposal	Commonality
Annual Reports to CCRWQCB	Submit Farm Plan with detailed business records	Accountability through reports
On farm inspection	Deliverable to CCRWQCB	Available for review
Business Records are proprietary and confidential	Business Records are public	Staff (in a press release) recognizes confidential nature of business records

Practice Implementation

Ag Proposal	RWQCB Proposal	Comments
Summarize Water Quality Practices	Detailed Daily records for fertilizer, water & chemicals	Record Practices NOT wasteful paperwork
Growers must demonstrate they are implementing practices to eliminate discharges	2 year elimination of Tailwater & Toxicity 3 year – no Sediment 4 years – Nutrients & Salts 6 years – Groundwater	Improving Water Quality during the term of the new Ag Waiver
Design practices for each farm	One size fits all	Custom tailored vs. Off the shelf
Tile Drains required for perched subsurface water	Tile Drains eliminated in 2 years	Staff is dropping time requirement for tile drains
Highly impaired sub-watersheds need more time	2 year elimination of discharge	Feasibility of continued farming needs consideration

Education

Ag Proposal	RWQCB Proposal	Commonality
Continuing Education 5 hours in 5 years	None	The first waiver was a success because of a broad based education program

Monitoring

Ag Proposal	RWQCB Proposal	Commonality
CMP (18 constituents)	CMP + (48 constituents)	4 “problem-solving” constituents
On farm sampling	Expensive & excessive on-farm reported monitoring	Information for growers to improve water quality
Rotating follow-up	Unspecified Additional Monitoring	Flexibility beyond core CMP

Groundwater

Ag Proposal	RWQCB Proposal	Commonality
Govt. Agencies or 3rd Party to develop a groundwater management plan within 5 years	Concept Plan for Monitoring in 2 Years	Need for additional research
Use existing County Resource Agency knowledge	Create a New Database	Need to find out what data is already available

Land Use Regulation

Ag Proposal	RWQCB Proposal	Commonality
CCRWQCB has no jurisdiction in this area	Extensive Riparian requirements unrelated to water quality and equivalent to a taking	NONE

Agriculture's Alternative Proposal

May 15, 2010

Ag Waiver Workshop

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Preliminary Alternative Agricultural Proposal



Alternative Ag Proposal

- Proactive approach by growers
- Goal
 - Improve Water Quality
- Reasonable
- Flexible
- Attainable
- Effective



Alternative Ag Proposal

6 Key Topics

- Farm Plan
- Education
- Land Use Regulations
- Monitoring
- Groundwater
- Practice Implementation



Farm Plans

- Farm Plans are kept on site or in the farm offices
- Annual Farm Reports by each grower
- All growers will update their Farm Plans after renewal of the Ag Waiver
- Farm Plans are available for inspection by CCRWQCB staff
- Business operational records are proprietary and remain confidential



Education

- **Necessary and valuable component**
- **All enrollees must complete at least 5 hours of water quality related education within 5 years.**



Land Use Regulations

- **No Land Use Restrictions within Ag's Proposal**
- **Not within the purview of the Regional Board's statutory authority**
- **Regional Board has no authority to require an act which is unrelated to discharges to waters of the state**



Water Quality Monitoring

a proposal



Overview of Current vs. Proposed Monitoring

Current Order	RWQCB Concepts	Ag Proposal
Core CMP	Expanded Core CMP	Core CMP (modified if appropriate)
“Follow-up Monitoring”	“Additional Monitoring”	Focused “Watershed Approach”
No farm level monitoring or sampling	Expensive reported monitoring to assess individual compliance	Affordable farm level sampling to elicit water quality change



The Core CMP


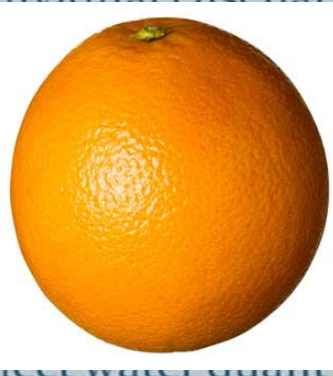
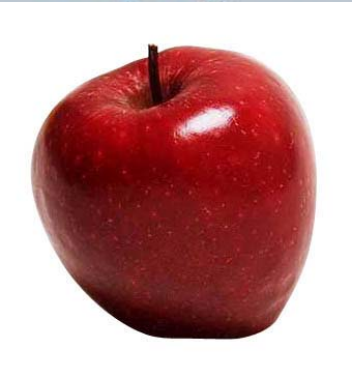
Current Order	RWQCB Concepts	Ag Proposal
15 monthly constituents; 3 constituents 4x/yr; 1 constituent 1x/yr	23 monthly constituents; 3 constituents 4x/yr; 1 constituent 1x/yr; 22 constituents every 5 yrs	16 monthly constituents; 3 constituents 4x/yr; 1 constituent 1x/yr
Annual analytical costs ~\$314,000	Annual analytical costs ~\$511,000	Annual analytical costs ~\$352,000
4 “problem-solving” constituents	4 “problem-solving” constituents	4 “problem-solving” constituents
Special projects for additional constituents of importance	Additional constituents presumably part of “Additional Monitoring”	Special projects for additional constituents of importance

Follow-up/Additional Monitoring

Current Order	RWQCB Concepts	Ag Proposal
“Follow-up Monitoring”	“Additional Monitoring”	“Watershed Approach”: Upstream Monitoring + On-farm Sampling
“...to improve understanding of aerial source, scope, and severity of the problem...”	“...to further characterize and identify specific sources and causes of water quality impairment.”	Publically identify source areas for water quality impairment; Privately identify farm-specific sources;...
“...such that better feedback can be provided to farmers related to management practice implementation.”	No stated objective related to furthering grower efforts to improve water quality	... And confirm that practice changes by growers are improving water quality



Farm Level Sampling/Monitoring

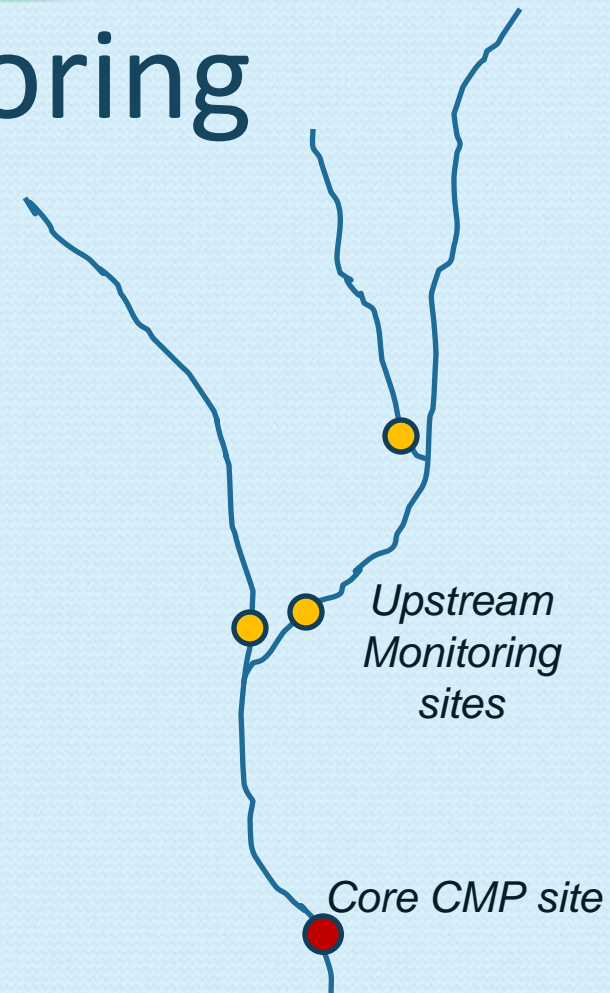
Current Order	RWQCB Proposal	Ag Proposal
<p>None required; A program was developed</p> 	<p>Initial Discharge Characterization; Individual Discharge</p> 	<p>Confidential on-farm sampling (part of ... ch)</p> 
<p>Re ... farm</p>	<p>Pr ... d</p>	<p>Resul ... n</p>
<p>... ry; ad ... ment to improve water quality</p>	<p>Veri ... ges meet water quality standards</p>	<p>Pro ... to adapt ... to improve water quality</p>
<p>Less than \$250 per sample; in some cases < \$50</p>	<p>Cost = over \$1,000 per sample</p>	<p>Less than \$250 per sample; in some cases < \$50</p>

The Watershed Approach (Upstream Monitoring and On-Farm Sampling) is the most direct and efficient way to identify water quality issues and solve them.



Upstream Monitoring

- Provides better spatial resolution than the Core CMP
- Identifies source areas
- Differentiates between agricultural and other sources
- Clarifies hydrology (i.e. where the water comes from)
- Focuses outreach efforts
- More efficient than monitoring each farm



On-Farm Sampling

- Assists farmers in diagnosing their farms' water quality issues
- Also verifies that management practices are doing their job (or not)
- Focus on discharge volume (Flow), fertilizers (N & P), sediment (Turbidity), and pesticides (OP's & Pyrethroids)
- Is implemented differently on every farm
- Fundamentally different from reported compliance monitoring



Photo courtesy of AWQA



(preface to)

Lessons Learned from On-Farm Sampling

- Bear in mind that “on-farm sampling” is conducted on farms with current tailwater issues. Many farms have either resolved their issues, or did not have them to begin with.
- The UCCE, NRCS, RDC’s, AWQC, and others have a long history of assisting growers in voluntary conservation and water quality improvement efforts
- There are benefits to vegetative and conservation type management practices
- It is worthwhile to evaluate fertilizer and pesticide applications, as well as irrigation practices

Lessons Learned from On-Farm Sampling

- Each farm's water quality issues are unique; no single practice will help in all situations
- Results show that existing vegetative and other “conservation type” practices typically do not resolve water quality issues
- Results rarely suggest that new vegetative or conservation-type management practices are needed
- Results rarely suggest that fertilizer adjustments will meaningfully address nitrate issues
- Results do not suggest that “off the shelf” solutions (i.e. “apply a little less,” or “use a different formulation”) will resolve pesticide issues
- Results rarely suggest that irrigation distribution uniformity will address runoff volume issues
- Results suggest that riparian buffers will not mitigate the major transport mechanisms for farm products that enter streams

Lessons Learned from On-Farm Sampling

Mandatory best management practices will not improve water quality

- We have a plethora of partially effective management practices
- We have few or no universally effective management practices
- Many farms will require “operational changes,” not “BMP’s”
- Many growers, upon identifying their operations’ water quality issues, elect to devote more resources to reducing/eliminating tailwater (all cite cost as an obstacle to immediate elimination)



Water Quality Change

What will make it happen?

Is it happening?

What does it look like?

How can we detect it?

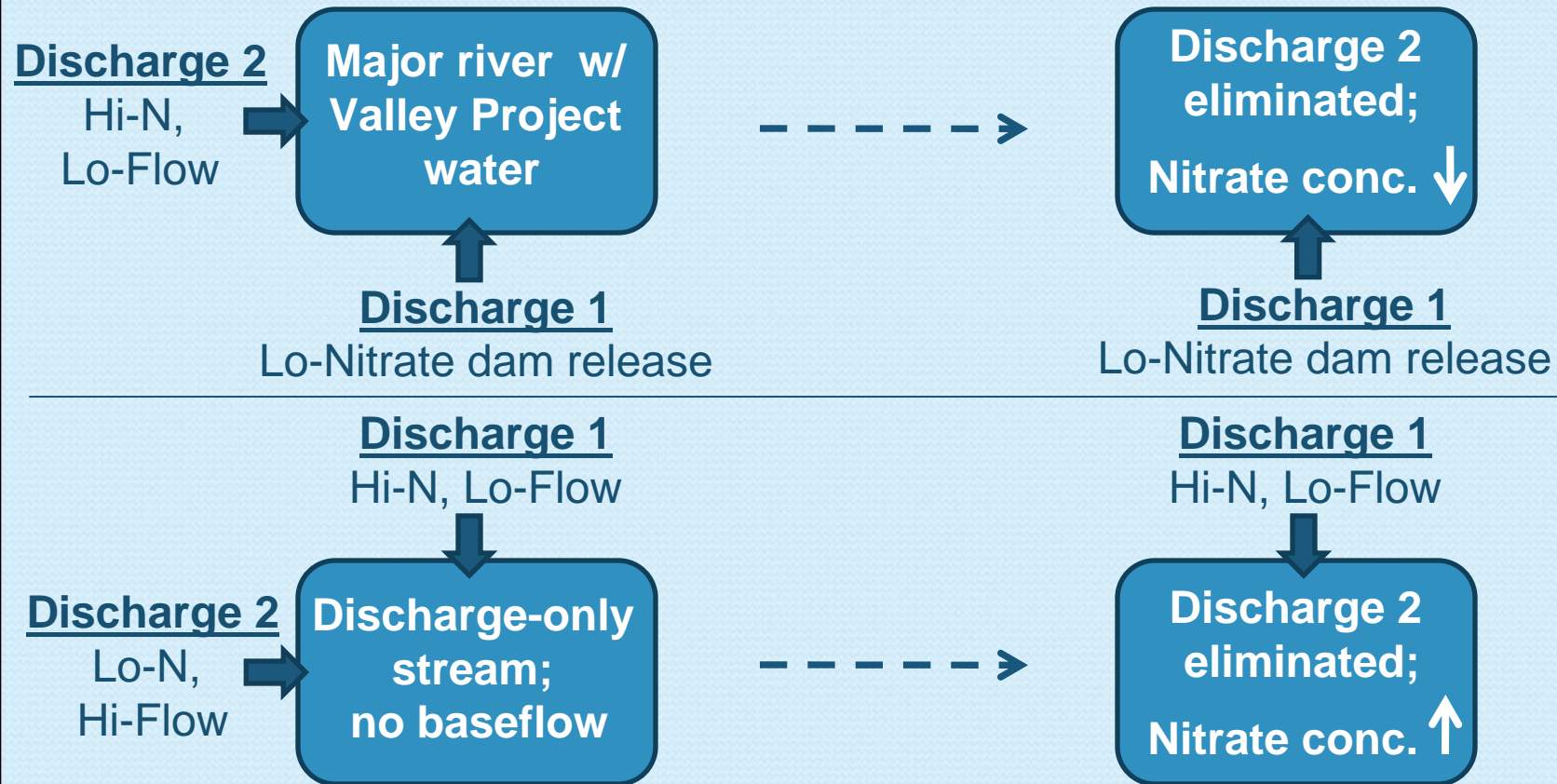


Water Quality Change

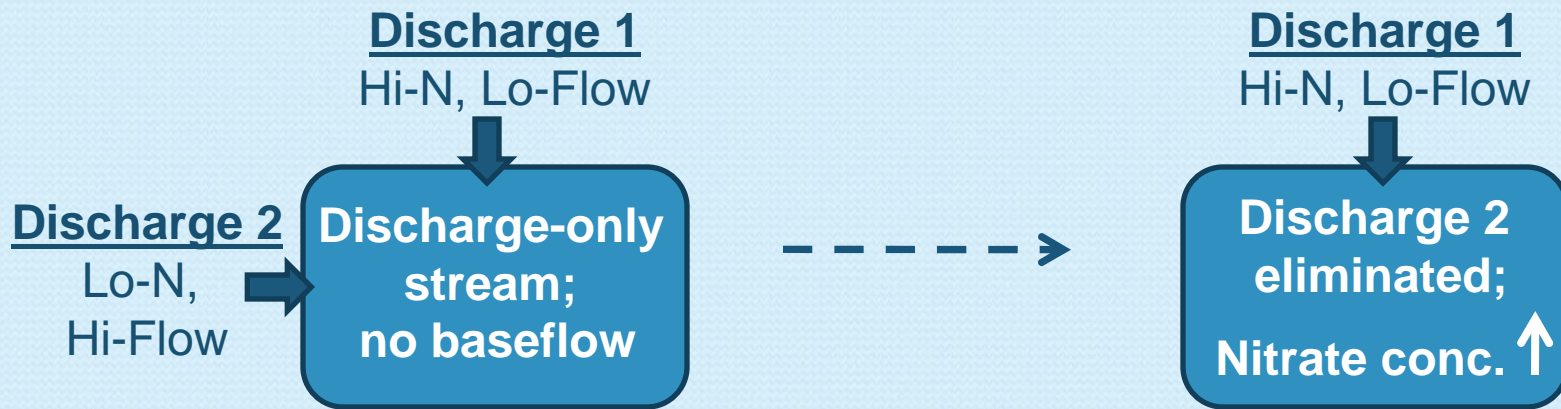
- Preliminary Mann-Kendall tests by the CMP
 - Seasonal Mann-Kendall test
 - Looking for monotonic trends
 - 3 important constituents – Nitrates, Turbidity, Flow
 - 27 sites in Salinas & Santa Maria, most w/ 4 years of data

Statistically Significant Trends		
Water Quality Constituent	Increasing Trends	Decreasing Trends
Nitrate	3	2
Turbidity (suspended sediment)	5	2
Flow	0	18

What will change look like?



What will demonstrate improvements in water quality?

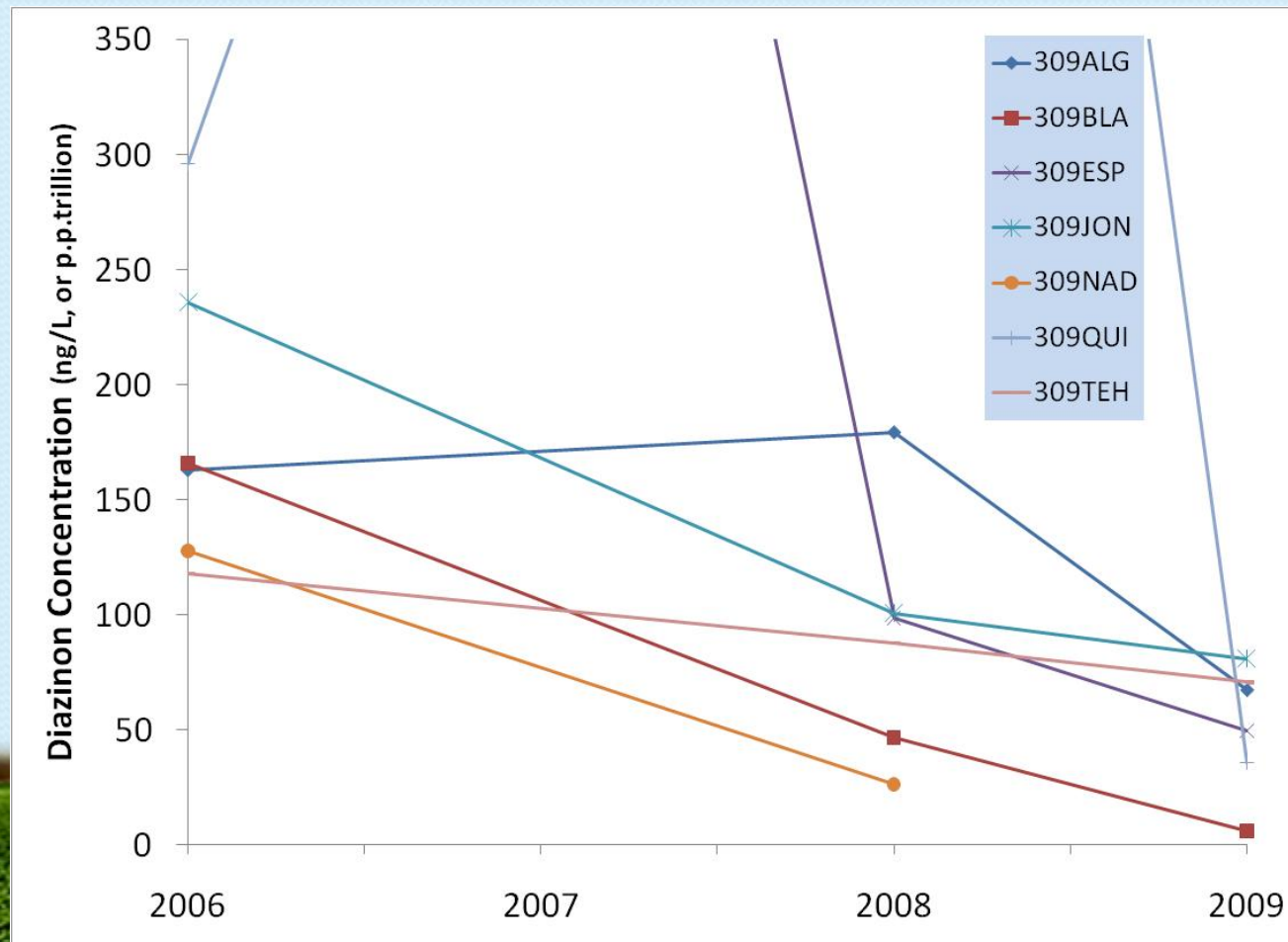


Is this an example of “improving” or “worsening” water quality?

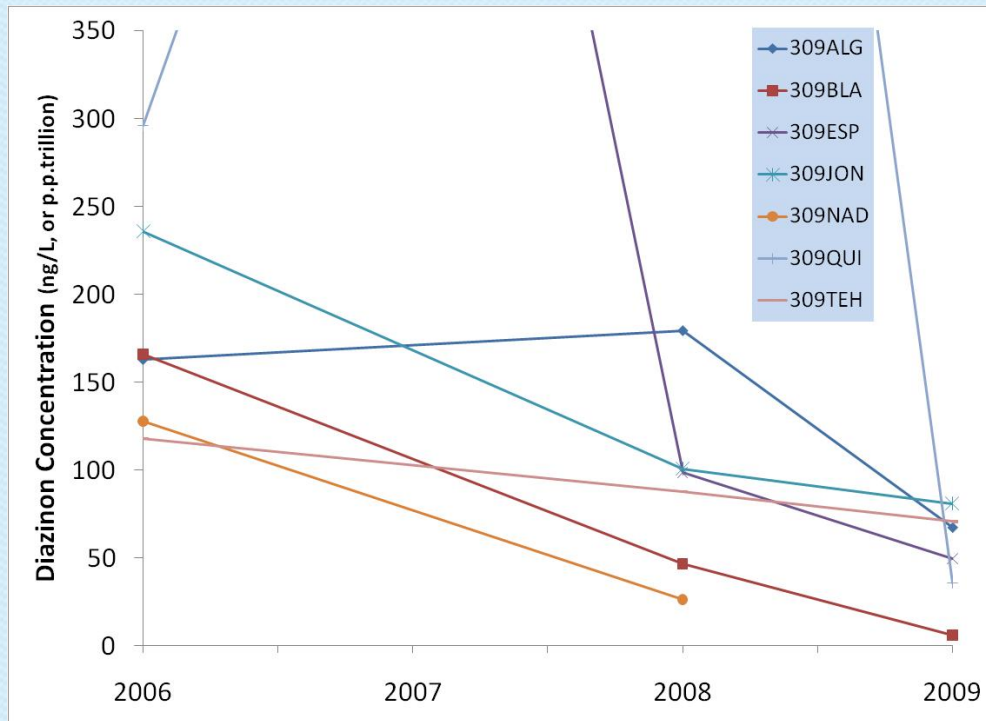


Qualitative Evaluation of Change

(when data are insufficient to support statistical analysis)



7 of 8 Salinas area sites with time series data show dramatic reductions in Diazinon concentrations from 2006-2008. Data are insufficient for trend analysis.



Monthly trend monitoring for Diazinon over 5 years would cost nearly \$600,000.

Is it worth \$600,000 to be able to say “Diazinon levels are significantly lower,” instead of “Diazinon levels appear to be decreasing”?



In Conclusion...

Water quality change may look different than expected, and may be brought about in unanticipated ways.

The Agricultural Community proposes future monitoring that will support efforts to improve water quality, and that takes an informed approach to detecting change.



END



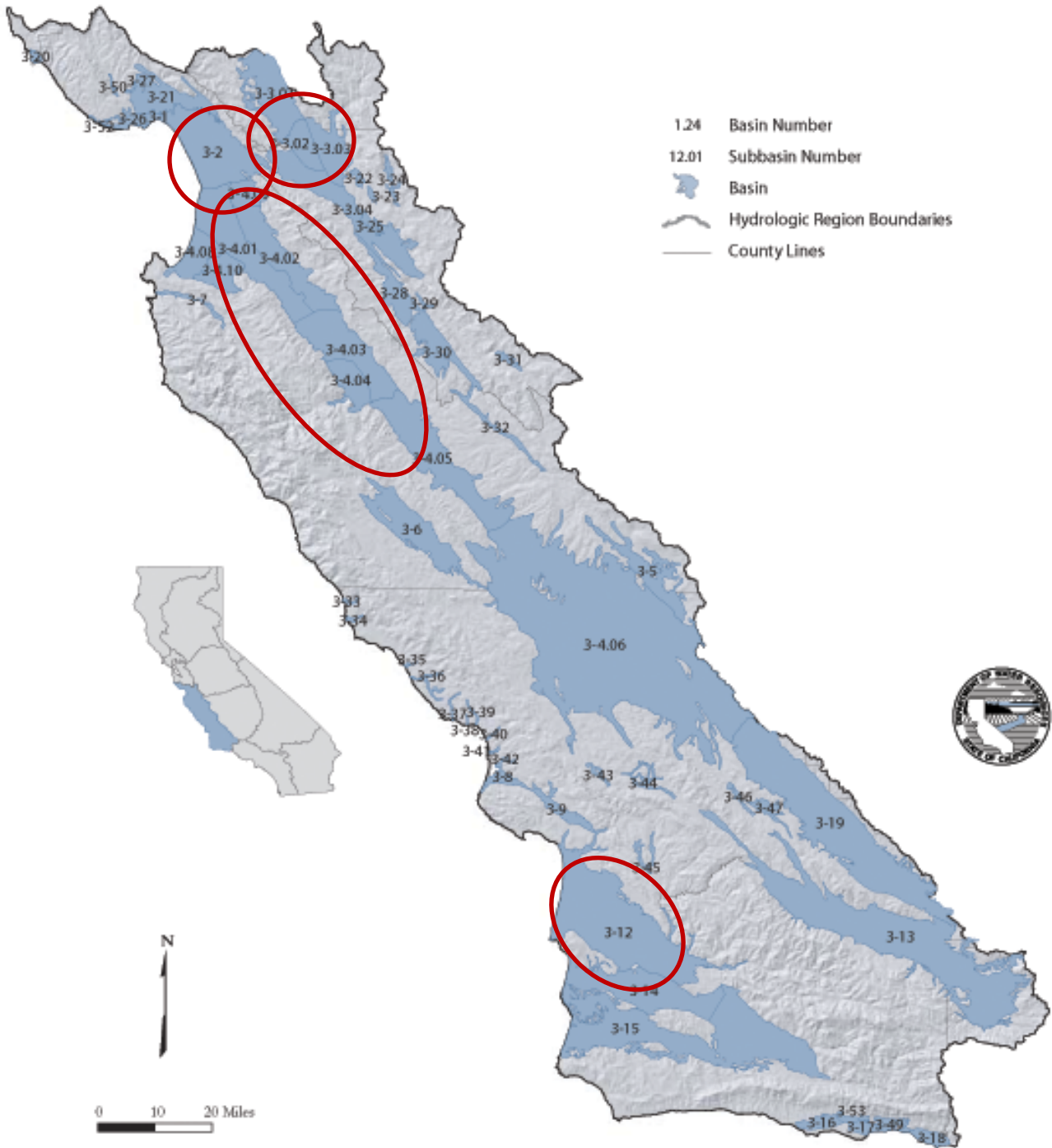
Groundwater

Groundwater is difficult to understand and to characterize in relation to agricultural activities. Local groundwater basins are each unique and individually complex.

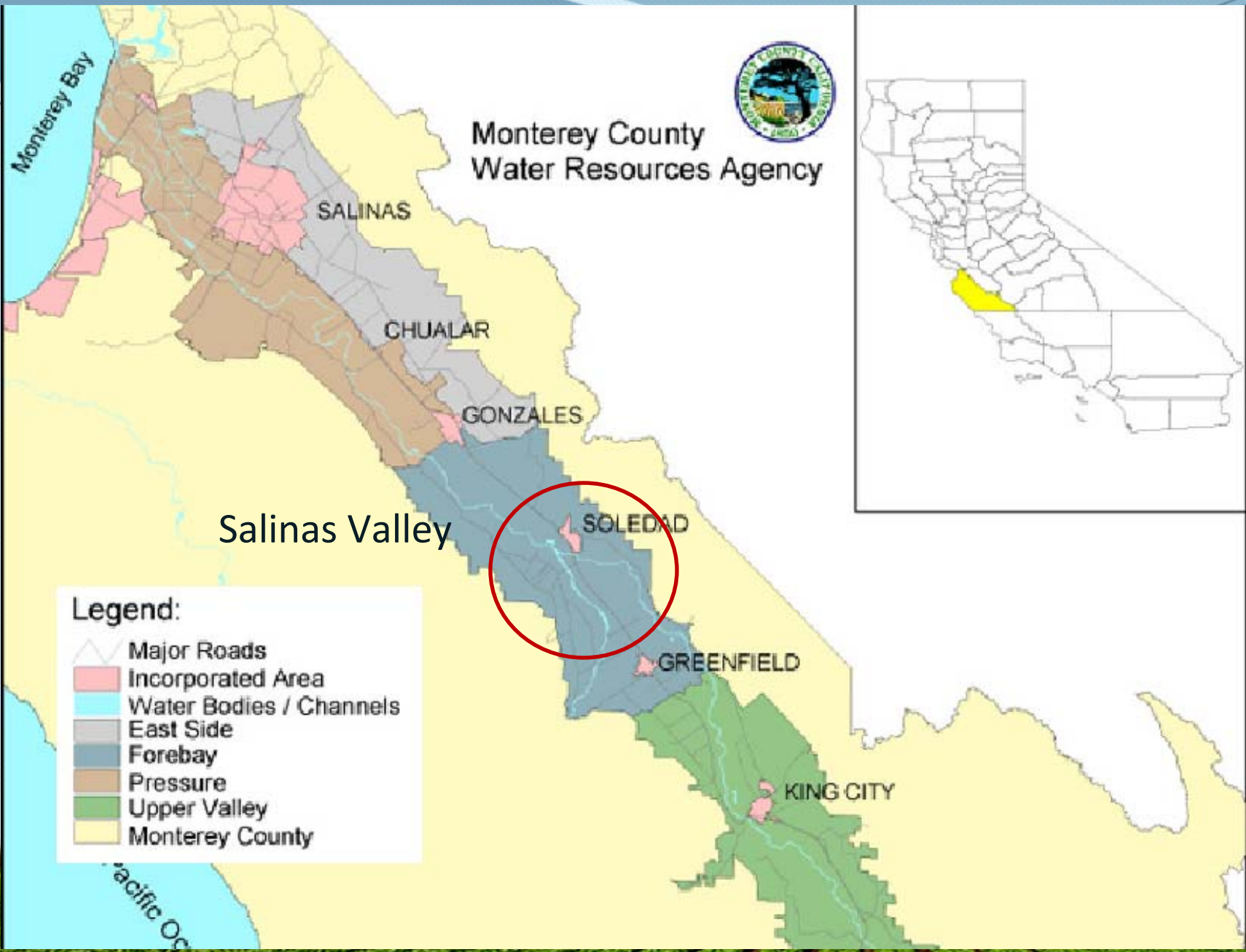
The Ag Proposal advocates that:

An existing agency or third party should develop groundwater management plan(s) within five years of adoption of the revised Ag Waiver.





May 12

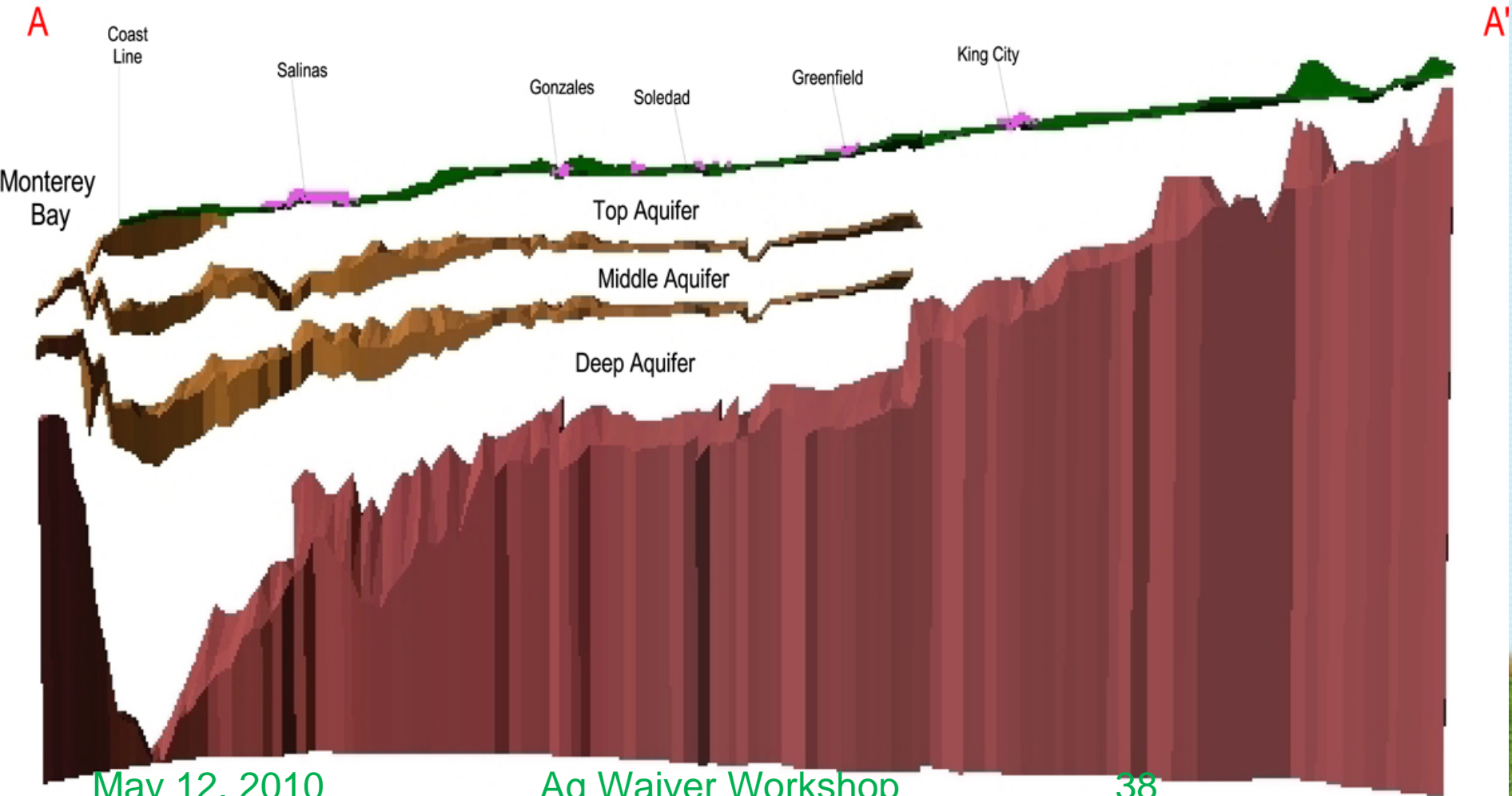


Salinas Valley

Aquifer Cross-Section A-A' Northwest to Southeast

SV Integrated
Ground &
Surface Water
Model Data

MCWRA

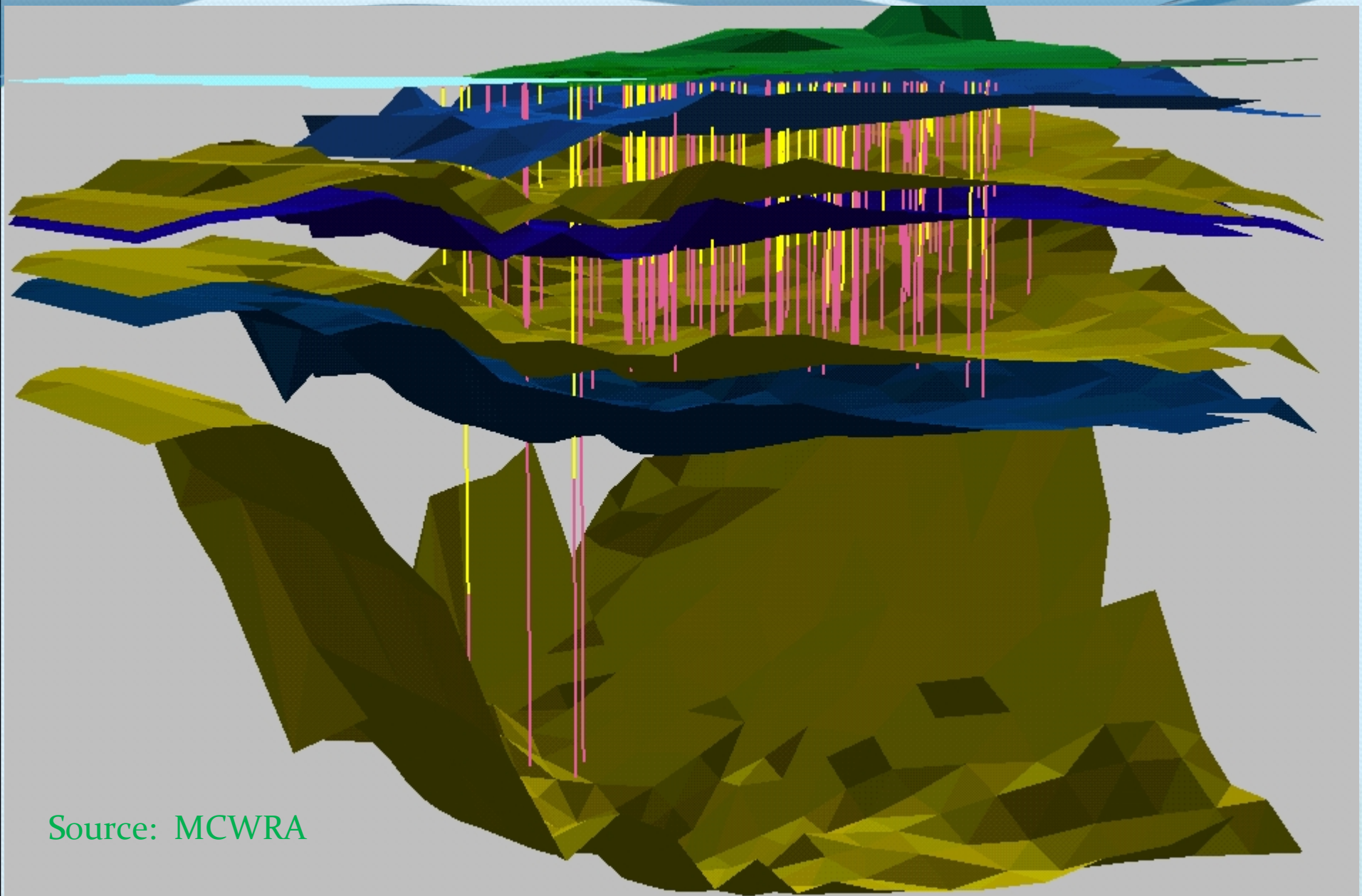


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Source: MCWRA



Source: MCWRA

Past land use is reflected by present groundwater quality

Changes in nitrate loading at the surface will result in corresponding changes in groundwater in,

40 to 60 years

Nitrate concentrations may continue to rise for many years to come, regardless of changes in land use.

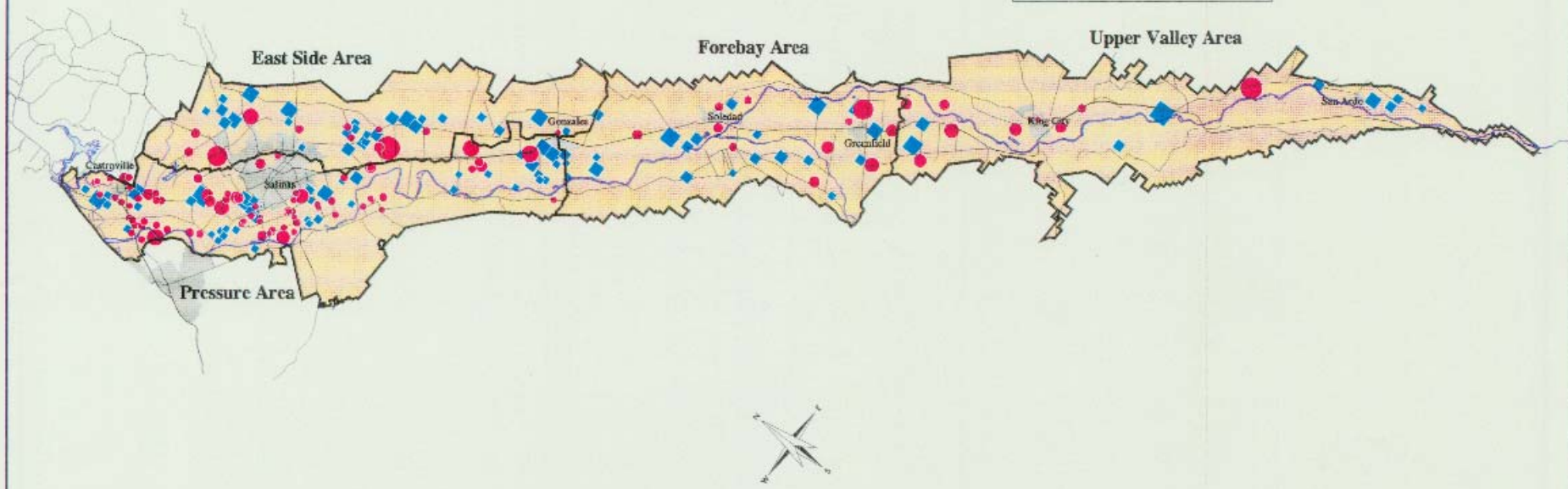
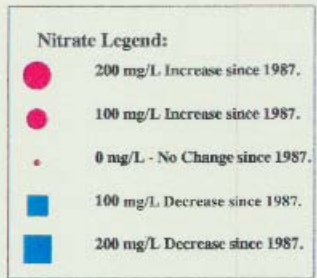
Fogg, et al, *Matrix Diffusion and Contaminant Transport...*
MCWRA 1995

Nitrate levels are variable, both up and down

Nitrates in Ground Water 1987-1993 Salinas Valley, CA

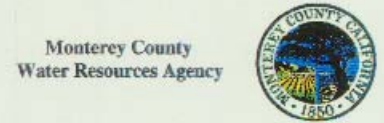
Map 5

1987 to 1993 Comparison of Nitrate Values for the Salinas Basin Nitrate in mg/L as NO₃



There are 216 wells on this map. Each well is represented by a circle if the nitrate value has increased, or a box if the nitrate value has decreased.

The legend depicts five sizes of symbols with corresponding nitrate values. Sizes of symbols vary depending on the observed change in nitrate values between 1987 and 1993.



Elimination of leachate is impossible

“...it will be impossible for vegetable and strawberry growers, even organic growers, to consistently meet the 10 PPM NO₃-N standard in leachate. Some leaching is inevitable; depending on the quality of the irrigation water, some leaching may be needed to manage salts, and even the most efficient irrigation system creates some percolation. The most that growers could accomplish would be to reduce the loading of nitrate to groundwater by managing fertilizer and irrigation as efficiently as possible. Again, the key is load, not concentration. (Throughout the draft the emphasis on nitrate concentration, without reference to load, is problematic.)

Tim Hartz (UCD), Michael Cahn(UCCE) & Richard Smith (UCCE)

(Group 10 – T-1)

Management Practices

➤ Implement and/or maintain practices designed to improve water quality

- ❖ The Draft requires significant paperwork which is unrelated to water quality improvement and will consume grower resources better spent on water management practices

➤ Fit practice implementation to the unique circumstances of each farm

- ❖ Farms vary by soil type, topography, water quality and crop
 - Management practices need to be tailored to match the conditions of individual farms and growers



Tailwater

➤ Surface Tailwater

- ❖ Tailwater is related to soil and slope
- ❖ Tailwater is not crop specific
- ❖ The goal should be improved water quality not farming prohibitions

➤ Tile Drains

- ❖ Tile drains are necessary due to high groundwater
- ❖ Without tile drains highly productive farms become fallow
 - Property values plummet – Property taxes decline

➤ Timelines

- ❖ Good faith efforts that do not achieve desired timelines should not be punished
- ❖ Adaptive management – implementation followed by evaluation – takes time



Unique Circumstances

➤ Tailwater in impaired watersheds

- ❖ Good farms with educated, skilled farmers
- ❖ Tailwater exists because of difficult local circumstances
- ❖ Growers should be allowed good faith efforts to improve water quality, NOT an unobtainable 2 year deadline
 - ❖ Growers were advised to put in practices that did NOT work
 - ❖ Grass lined ditches – insufficient dwell time
 - ❖ Do not penalize growers for implementing a practice that may not immediately solve the problem.

➤ Nurseries

- ❖ Potted plants



Irrigation Management Practice Implementation

Monterey County Water Resources Agency

1993	<i>Furrow</i>	<i>Sprinkler & Furrow</i>	<i>Hand Move Sprinklers</i>	<i>Solid Set Sprinklers</i>	<i>Linear Move</i>	<i>Drip</i>	<i>Other</i>	<i>Total</i>
Vegetables	2,349	84,060	30,764	6,607	3,827	3,682	0	131,289
Grapes	261	0	0	13,347	0	15,976	0	29,584
All Crops	3,227	86,435	34,449	20,295	3,925	25,080	199	173,610

2009	<i>Furrow</i>	<i>Sprinkler & Furrow</i>	<i>Hand Move Sprinklers</i>	<i>Solid Set Sprinklers</i>	<i>Linear Move</i>	<i>Drip</i>	<i>Other</i>	<i>Total</i>
Vegetables	50	33,970	21,921	11,754	927	51,311	0	119,933
Grapes	0	0	0	2,045	0	34,056	0	36,101
All Crops	143	34,895	22,586	14,488	2,343	95,032	235	169,721

Change	<i>Furrow</i>	<i>Sprinkler & Furrow</i>	<i>Hand Move Sprinklers</i>	<i>Solid Set Sprinklers</i>	<i>Linear Move</i>	<i>Drip</i>	<i>Other</i>	<i>Total</i>
Vegetables	-98%	-60%	-29%	78%	-76%	1294%		-9%
Grapes	-100%			-85%		113%		22%
All Crops	-96%	-60%	-34%	-29%	-40%	279%		-2%

2009 - net acre distribution of irrigation methods by crop type (based on 96% companies reported)

Economic Impact of the
CCRWQCB's Proposed
Ag Waiver on Central Coast
Agriculture



Porter Cologne States:

Section 13141 of the California Water Code States:

“Prior to implementation of any agricultural water quality control program, an estimate of the total cost of such a program, together with an identification of potential sources of financing, shall be indicated in any regional water quality control plan.”



Monterey County Economic Impact

The proposed order could significantly impact the County of Monterey, including...

14,343.36 acres of prime farmland and farmland of statewide importance would be taken out of agricultural production



Monterey County Economic Impact

The proposed order could significantly impact the County of Monterey, including...

Loss of production value of over \$237 million and loss of property tax due to changes in land use



Monterey County Economic Impact

The proposed order could significantly impact the County of Monterey, including...

An increased demand for social services



Monterey County Economic Impact

The proposed order could significantly impact the County of Monterey, including...

Unanticipated impacts associated with invasive species and the management of buffers



Monterey County Economic Impact

The proposed order could significantly impact the County of Monterey, including...

Jurisdictional overlap with local government and other regulatory agencies on land use, planning and zoning



Economic Analysis of Current Proposal

Data Collection Steps:

1. Review staff's proposed Waiver to identify compliance requirements which might generate costs for growers



Economic Analysis of Current Proposal

Data Collection Steps:

2. Conduct grower interviews of cool season vegetables, avocado and grape growers



Economic Analysis of Current Proposal

Consequently, we estimated minimum and maximum costs per acre as shown below.

Avocados = \$705.45 - \$2,189.94/acre

**Cool Season vegetables = \$528.11 –
660.74/acre**

Wine Grapes = \$469.05 - \$519.05/acre



Economic Analysis of Current Proposal

3. Cost per acre was multiplied by the number of acres per commodity in Santa Clara, San Benito, Santa Cruz, Monterey, San Luis Obispo and Santa Barbara Counties

These calculations **estimated Central Coast lost business revenue to be between \$231.4 Million and \$298.7 Million.**



Economic Analysis of Current Proposal

4. An economist inserted the minimum and maximum lost business revenue into a model used to calculate lost indirect tax revenue, lost labor income and lost employment.



Economic Analysis Results

Lost tax revenue =
\$ 19,624,441 - 25,326,816

Lost labor income =
\$87,302,937 - \$112,670,999

An estimated 2,572 to 3,320 jobs will be lost.



Economic Analysis Results

Crops at Risk:
Cool season vegetables, strawberries and
nursery crops

Represent 75.8 % of all acres grown on
the Central Coast



Economic Analysis Results

Total Output Losses are between:
\$364,393,461 and \$470,277,123



Economic Analysis Results

	Monterey	Santa Cruz	Santa Clara	San Benito	SLO	Santa Barbara
Median Gross Sales Revenue by Farm	\$25,000-39,999	\$10,000-19,999	\$2,500-4,999	\$5,000-9,999	\$25,000-39,999	\$10,000-19,999



Legal Issues and Flaws with Staff's Draft Waiver



CEQA

- CEQA's statutory framework sets forth a series of analytical steps intended to promote the fundamental goals and purposes of environmental review—information, public participation, mitigation, and governmental agency accountability. (Cal. Code Regs., tit. 14, § 15002.)
 - To date, the Regional Board has not complied with CEQA's fundamental intent.



CEQA Violations

- **Unreasonable Reliance on the 2004 Negative Declaration**
- **Inadequate and Conclusory Initial Study and Environmental Checklist**



Significant Effects

- Required to prepare an EIR whenever a proposed project **may have** a significant effect on the environment. (*Quail Botanical Gardens Foundation Inc. v. City of Encinitas* (1994) 29 Cal.App. 4th 1597, 1601.)



Initial Study and Environmental Checklist

- Legally incomplete, insufficient, erroneous
- Failure to analyze:
 - Aesthetic impacts
 - Agricultural resources
 - Air quality
 - Biological resources
 - Hydrology and water quality
 - Noise
 - Population and housing
 - Transportation/traffic
 - Utilities and service systems
 - Cumulative impacts



CEQA and Ag Resources

Impacts to agricultural resources are significant environmental effects if the project may:

- a) Convert prime farmland, unique farmland, or farmland of statewide importance . . . to non-agricultural use.**
- b) Conflict with existing zoning for agricultural use or a Williamson Act contract.**
- c) Involve other changes in the existing environment which, due to their location or nature, could result in conversion of farmland to non-agricultural use.**

(Cal. Code Regs., tit. 14, Appendix G, section II, Agricultural Resources.)



Failure to Comply with CEQA Requirements

- **Failure to Base Decisions on Substantial Evidence**
- **Failure to analyze significant environmental impacts and irreversible changes**
- **Failure to consider a reasonable range of adequate alternatives**



Failure to Comply with CEQA Requirements

- **Failure to properly assess all direct and indirect effects on the agricultural environment**
- **Proceeding with project that will have significant impacts on the environment**
- **Failure to consider significance of social and economic impacts and cumulative effects**



Monitoring Requirements

- “Burden, including costs, of these reports shall **bear a reasonable relationship to the need for the report and the benefits to be obtained from the reports.**” (Wat. Code, § 13267(b)(1).)



Intellectual Property, Trade Secrets, Proprietary Information

- Operational data and farm specific practices are proprietary information
 - Must remain **confidential**
- “When requested by the person furnishing a report, the portions of a report that might disclose trade secrets or secret processes **may not be made available for inspection by the public** but shall be made available to governmental agencies for use in making studies.” (Wat. Code, § 13267(b)(2).)



Dictation of Management Practices

- **“No waste discharge requirement or other order of a regional board or the state board or decree of a court issued under this division shall specify the design, location, type of construction, or particular manner in which compliance may be had with that requirement, order, or decree, and the person so ordered shall be permitted to comply with the order in any lawful manner.”** (Wat. Code, § 13360.)



Farm Plans

- **Contents must be reasonable and bear a relationship to the need for the information**
 - **Concrete nexus with improving water quality**
- **Confidential**
- **Individually tailored**
- **Not speculative**
- **Cost appropriate**

(Wat. Code, § 13141, 13267, 13360.)



Nurseries

- **Need for requirements must be based on substantial factual evidence**
- **Need does not bear reasonable relationship to burden**
- **Wat. Code, § 13267**



Legal Issues to be Addressed

- Must Consider Costs
- Inappropriately Proposes to Use & Interpret Certain Water Quality Objectives
- Proposes Inappropriate Buffers for Aquatic Habitat
- Proposes Inappropriate Restrictions on Pesticide Use



Program Must Be Reasonable

- Must regulate to attain highest water quality that is reasonable.
- Must consider all demands placed on the water.
- All actions by the Regional Board must conform to State Policy.
- Waiver must be in the public interest.



Must Estimate Cost of Program

- Must be completed prior to adoption of agricultural water quality program.
- Must be adopted into the Basin Plan.
- Costs & sources of financing is a material consideration.



Unreasonable Edge-of-Field Limits

- Hidden in Preface to Tables 1A & 1B
- Creates Point Source “Effluent Limitations”
- Based on Water Quality Objectives (WQOs), that may not be appropriate
- Cost of compliance with such limits must be considered



Inappropriate “Indicators”

- Must be established in Basin Plans.
- Must be reasonable.
- RB must consider certain factors when adopting (e.g., conditions that can reasonably be achieved, economic considerations), or when interpreting as a permit limit.
- Basin Plan contains no policy for using “indicators.”



Examples of Inappropriate “Indicators”

- Biostimulatory Substances
 - 1 mg/L Nitrate (as N)
- Temperature
 - COLD Habitat
 - WARM Habitat



Inappropriate Buffer Requirements

- Constitutes Taking of Private Property
 - Unreasonably Impairs value & use of the property
 - May make crops unmarketable
 - Interferes with investment-backed expectations
- Dictates Manner of Compliance
- Conflicts with Fish & Game (F&G) Authority
 - F&G maintains authority for any activity that may impact bed, channel, or bank of any river, stream, or lake.
 - Shall only be administered & enforced by F&G



Inappropriate Pesticide Use Requirements

- Cannot Mandate Integrated Pest Management
- Cannot Set Buffers for Pesticide Application
 - DPR has complete control & regulation for pesticide use
 - DPR working on regulations to address Pesticide Drift & Runoff
- Prescriptions Dictate Manner of Compliance

