



Kay Mercer
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Quality

The Central Coast Agricultural Water Quality Coalition represents farmers and ranchers in the development and implementation of voluntary, cost-effective, producer-directed programs to protect water quality in the greater Monterey Bay watershed."



Brief Water Quality History

Informational Only -

- **1969** – Porter Cologne Water Quality Control Act ratified in California
- **1972** --CWA – NPDES Program for **Point Sources**
- **1987** -- CWA directed states to develop plans to deal with **Non Point Sources (NPS)**.
- **1988** – First SWRCB NPS plan – not part of State Water Code
- **1999** – SWRCB legislatively required to develop guidance for NPS, imposed fees for WDRs and imposed a 5 year term on Waivers
- **2004** -- **NPS Implementation Policy** (3 regulatory vehicles for NPS are WDRs, Waivers and Prohibitions)
- **2004** – Reg 3 Conditional Ag Waiver
- **2005** – Reg 4 Conditional Ag Waiver

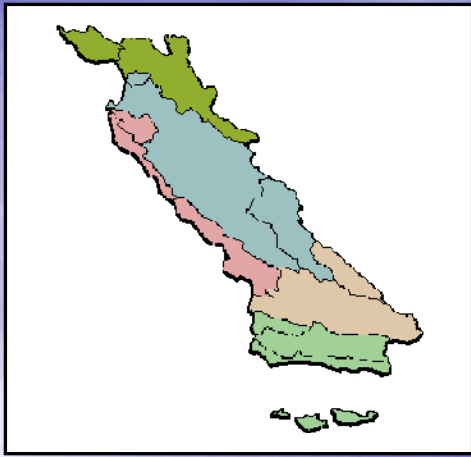
Conditional Ag Waiver

Waives a WDR

- Farm Specific Permit
- Standards set at Farm Level
- Management Practices imposed until standards are met

Waivers

- Are in Public interest
- Are Conditional
- Have individual, group or watershed-based monitoring
- Require compliance
- 5 year term



Region 3 RWQCB CW Requirements

Administrative Compliance:

- **Enrollment with RWQCB**
- Attend **15 Continuing Education Hours** of RWQCB approved courses
- Complete and implement **Farm Water Quality Plan**
- Participate in and pay invoice for the **Cooperative Monitoring Program**

Management Practice Implementation

- 5) **Implement Management Practices** as outlined in Farm Plan

Its All About Management Practices!

Types of Management Practices

Source Controls



Pollution Prevention

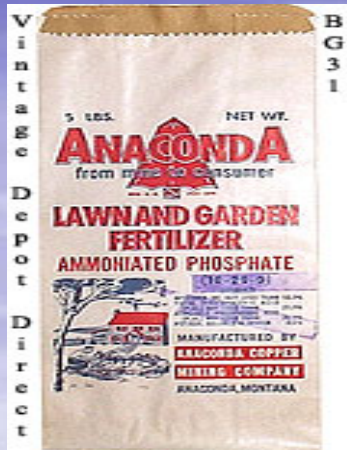




Region 3 MP Checklist Summary

Pesticide MPs

- Adoption fairly high
- **>88%** adoption of
 - IPM,
 - Scouting and use of pest thresholds,
 - Consideration of run-off,
 - Calibration, and
 - Yearly pesticide training
- Variable rate of adoption across crop types had to do w/ design of storage, mixing/loading facilities and wells. Orchard growers had lowest rate of adoption of these.
- Least adopted MP was use of bio control agents



Region 3 MP Checklist Summary

Fertility MPs

- Adoption fairly high
- Over **75%** of Total Acres
 - Crop nutrient requirements are known and budgeted
 - Irrigation water is tested for N and results are considered
 - Soil is tested for residual N and results are considered in program
 - Fertilizer equipment is maintained and calibrated
 - Mixing and loading is done w/ low run-off hazard and 100' from wells
- Variable rate of adoption across crop types for tissue testing: only **21%** of greenhouses and > 82% of orchards



Region 3 MP Checklist Summary

Irrigation MPs

- Lower level of adoption – Because of capital investments?
- Grape and vegetable growers more likely to adopt
- Irrigation mobile lab use - **16%** of all crops, **14.5%** of orchards
- Least adopted MPs are
 - Are published evapo-transpiration data used to determine crop water use?
 - Is the soil water-holding capacity known?
 - Are records kept for each crop irrigated?
 - Has an irrigation mobile lab system evaluation been completed and system been calibrated accordingly?



Region 3 MP Checklist Summary

Sediment Management MPs

Adoption varies widely across crop type

- **36%** of acres use hedgerows while **25%** say it is N/A
- **91%** of acres have graded roads to minimize erosion
- **50%** of all growers said the water and sediment basins are N/A
- **~42%** of acres utilize vegetative buffers between cropped areas, along the lower edge of the farm and along roadways
- **>53%** of all growers said that riparian buffers are N/A
- **>60%** of all grower plan to evaluate their MPs for effectiveness thru photo-monitoring or water quality testing



Obstacles to Management Practices

- **Grower Awareness and Education**
- **Capital Investment Limitations**
- **Institutional Barriers**
 - Permitting
 - Food Safety
- **Conflicting Regulatory Programs and Policies**
 - Food Safety/Water Quality
 - Endangered Species Act/FIFRA
 - Food Safety/Water Quality/Aquatic Species Protection



Obstacles to Management Practices

Grower Awareness and Education

Coalition Four Year Summary:

- 81% of respondents have made changes to their farming practices to respond to water quality issues.
- 63% plan to make additional changes to protect water quality.

SLO/SB Counties Attitudinal Action Survey:

Respondents that had attended short course found:

- it easier to obtain information regarding Ag Waiver compliance or management practice implementation (69% as compared to 52% of non-participants).
- found that education was useful in determining what water quality management practices to implement (72% vs. 55% non-participants) and
- found that the Ag Waiver successfully promoted water quality (63% vs. 53% non-participants).



Obstacles to Management Practices

Capital Investment Limitations

- **Average Value of Ag Products Sold per Farm**
 - Ventura Co ~\$440K
 - Santa Barbara ~\$496K
 - SLO ~ \$170K
- **Average Value of Crops Sold per Harvested Acre**
 - Ventura ~ \$9.7 K
 - Santa Barbara ~\$6.5
 - SLO ~\$3.3K
- **Average Farm Size**
 - Ventura – 143 Acres
 - Santa Barbara – 524 Acres
 - SLO – 568 Acres
- **Santa Barbara and SLO County Grower Demographic Distribution**
 - 79% of growers have less than 50 acres



Obstacles to Management Practices

Institutional Barriers

Permitting

- Santa Barbara and SLO Counties are working permit coordination projects. Eighteen (18) small NRCS Conservation Practices are proposed for inclusion in the Project. They are currently receiving comments on Initial Study/Draft Mitigated Negative Declaration



Obstacles to Management Practices

Food Safety

Spinach Outbreak Investigations

- Resulted in thousands of environmental samples
- One ranch had DNA matches of:
 - cattle feces on the ranch,
 - pig intestines from pigs found on the ranch
 - and surface water near the field
- With:
 - The outbreak victims and ,
 - The victims' spinach
- We can not connect the dots to determine what is the cause and what is the effect

Food Safety - Industry Response

Leafy Green Marketing Agreement

- In 2007, the **California Leafy Green Products Handler Marketing Agreement (LGMA)** was formed. Members of the LGMA are working collaboratively to protect public health by reducing potential sources of contamination in California-grown leafy greens.

What is it?

- To date nearly 120 handlers, representing over 99% of the volume of California leafy greens, have joined the LGMA.
- These companies have committed themselves to sell products grown in compliance with the food safety practices accepted by the LGMA board.
- LGMA membership requires verification of compliance with the accepted food safety practices through mandatory government audits.
- These food safety practices were developed by university and industry scientists, food safety experts and farmers, shippers and processors.
- Fourteen leafy green products are covered by the LGMA including:

What it is not –

- A mandatory “scorched earth” policy. Third party auditors may impose requirements more stringent than LGMA metrics.

Food Safety - RCD Response Survey of Growers regarding MPs

- Monterey County RCD 2006/07 Survey – 600 Growers surveyed in 6 counties
- **80%** responded
- **91%** of respondents have adopted at least 1 MP
- **63%** had received agency technical assistance

Food Safety - RCD Response

Survey of Growers regarding MPs

Percent of Responding Growers Who Have Adopted Specific Environmental Practices

(most growers adopted more than one practice)

- Constructed Wetland **6.1%**
- Hedgerow **25.7%**
- Irrigation Reservoir **30.2%**
- Tailwater Recovery Pond **29.6%**
- Cover Crop **72.1%**
- Storm Water Pond **38.5%**
- Filter Strip **36.3%**
- Riparian Restoration **18.4%**
- Grassed Waterway **33.5%**
- Other **3.9%**

Food Safety - RCD Response Survey of Growers regarding MPs

What was the impact to respondents?

- Lost \$17.5K in crop due to deer tracks
- 1 A romaine rejected b/c close to horse pen
- 23 A head lettuce/2 A mixed lettuce rejected b/c of contact w/ Salinas River water
- Crop rejected b/c of potential frog habitat
- Portions of fields rejected by processor if frogs, tadpoles, snails, mice, etc. are found
- Harvest stopped due to presence of frogs and tadpoles in creek
- Crop rejected due to deer intrusion
- Lost 25 A worth (\$75K)
- Crop planted for processor along tree rows must have a bare ground buffer of 100-150" b/c of foreign matter

Food Safety - Processors' Response

What Should Growers Do?

- **18.6%** - suggested removal of *non-crop vegetation*
 - **9.6%** - have lost points on audit reports b/c of *non-crop vegetation*
 - **9.5%** - suggested removal of *ponds or waterbodies*
 - **10.8%** lost points b/c of presence of *ponds or waterbodies*
 - **39%** - suggested removal of *wildlife*
 - **13%** - lost points b/c of presence of *wildlife*
- (**89%** of all respondents have adopted at least 1 measure to discourage or eliminate wildlife)

Overall, **21.1%** of leafy green growers vs. **7.4%** of other crops growers have taken out environmental practices.

Food Safety - Coalition/UCCE Response

- UCCE/Coalition Organized a Research Conference called Co-Management of Food Safety/Water Quality
- What do we know? What don't we know? What are the data gaps and research needs
- **Resulting Research Priorities**
 - 1) ID fate of pathogens caught in MPs
 - 2) Characterize pathogen pathways during all phases of crop production
 - 3) Characterize the persistence of pathogens during growing and harvest of crop
 - 4) ID animals which are significant pathogen vectors
 - 5) Specify proven practices that preserve food safety while improving water quality

Food Safety - Other Commodities'



- The California Strawberry Commission's Food Safety Program (SFSP)
- Is designed to examine and improve safety practices, and meet generally accepted standards of Good Agricultural Practices (GAPs).
- The purpose is to further enhance the industry's commitment to produce strawberries in a safe and responsible manner and provide the consumer with the highest level of confidence that the strawberries they purchase are safe to eat.

Movements and Trends

Conditional Waiver

- Will public, environmental groups and regulators have **patience** to determine the connection between water quality improvements and non-prescribed MP implementation when the data indicates there are severe problems?
- Is it possible to do **source characterization**?
- There are **shifting attitudes** about other sources
- Attempts will continue to pinpoint "**bad apples**"
- **Localized or State label changes**

Water Quality and Food Safety: Conflict, Compromise, and Conversation

Complicated Issue:

Are our Water Quality and Food Safety conflicts the canary in the mine warning us of bigger issues?

OR

Are Water Quality/Food Safety/Habitat and Wildlife Protection conflicts just a train wreck that we have to fix now and avoid in the future?



*Water Quality and Food Safety: Conflict,
Compromise, and Conversation*
Will Take Time to Resolve:



Guinness Record Holder for being the world's
fattest man – 1234 lb

How long did it take him to get that way?

How long will it take to lose weight?



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