

February 2011

California  
Agricultural  
Water  
Stewardship  
Initiative



# Water Stewardship: Policies and Practices on California Ranches and Farms

Meeting results from a workshop for  
agricultural and technical assistance  
organizations

February 9, 2011

Oakland Conference Center of The California Endowment



**Water Stewardship  
Policies and  
Practices on CA  
Ranches and Farms**

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**Facilitator**

Miriam Volat, Ag Innovations Network, Sebastopol, CA

**PRESENTATIONS**

*Water Conservation, Soil Function, and Organic Matter*

Rex Dufour, National Center for Appropriate Technology, Davis, CA

*Water Harvesting, Storage & Dry Farming*

Brock Dolman, Occidental Arts and Ecology Center WATER Institute, Occidental, CA

*Drought Proofing Your Farm*

Michael Cahn, University of California, Monterey County Cooperative Extension, Salinas, CA

*Why should we pursue an agro-ecological approach to ag water stewardship?*

Miguel Altieri, University of California, Berkeley, CA

*Water Policy Paths*

Juliet Christian-Smith, Pacific Institute, Oakland, CA and Dave Runsten, Community Alliance with Family Farmers and CAWSI, Davis, CA

## **MEETING SUMMARY**

On February 9, 2011, representatives from a range of agricultural research and technical assistance organizations and agencies gathered at The California Endowment's Oakland Conference Center to share best practices, support systems, and lessons learned; to provide feedback and input to a policy platform to enhance programs that support sound on-farm water management; and to build a stronger network and ongoing collaborations in service of agricultural viability through smart farm water management. Participants heard from leading practitioners about model projects and practices and shared their own experiences with each other. They learned about the policy work that CAWSI members and their partners have been doing and helped to shape its future direction. They discussed how they might work more closely together in the future to advocate for policies and programs beneficial to ag water stewardship. All presentations are available at <http://agwaterstewards.org/txp/Events/>

## **PRESENTATIONS**

### **Water Conservation, Soil Function, and Organic Matter**

*Rex Dufour, National Center for Appropriate Technology*

Rex Dufour provided an overview presentation on the principles of soil management to help farmers think creatively about how they can best manage their soil (and water) with the resources available to them. Soil organic matter (SOM) can hold 30 times its weight in water, hence the importance of maximizing SOM for soil health and wise water management. His presentation is available at <http://agwaterstewards.org/txp/Events/>. Group dialogue identified the following challenges and opportunities facing efforts to improve soil quality for the benefit of improved water management.

#### **PRINCIPAL CHALLENGES LIMITING IMPROVEMENTS IN SOIL MANAGEMENT:**

- Lack of focus on soils in research and practice
- Crop insurance doesn't cover a "system"
- Expense of equipment
- Farmers focused on survival year-to-year; how can we help them do a better job managing soils for long-term health, especially tenant farmers?

#### **KEY OPPORTUNITIES FOR IMPROVING SOIL MANAGEMENT:**

- Enforcement of farm bill requirement for soil practices
- Investment in research and incentive approaches
- New models for crop insurance to better support systemic approach, including aspects specific to cover cropping
- Partner with NRCS on outreach on AWEP and other programs
- Include soil management in RCD education process required as part of Ag Waiver (happening in Southern California)
- Climate change: Opportunity to accelerate building in criteria under conservation programs of farm bill that require carbon/climate considerations. On the state level: sponsoring Wolk bill to allocate any portion of future revenue through cap-and-trade program: some funding should be available for ag benefit. Working to get allocation mandated to incentivize research, tech support, other practices.
- Central Coast vineyard team assesses sustainability of vineyards, but now Dole, Chiquita, Driscoll's developing sustainability programs: opportunity to work with these private efforts.

### **Water Harvesting, Storage & Dry Farming**

*Brock Dolman, Occidental Arts and Ecology Center WATER Institute*

Brock Dolman's presentation gave an overview of conservation hydrology, an approach that includes various water harvesting and storage practices including on-farm ponds, keyline design, water recycling, soil management, irrigation scheduling & efficiency. He also presented the basics of dry farming. His presentation is available at <http://agwaterstewards.org/txp/Events/>. Group dialogue identified the following challenges and opportunities with regard to water harvesting, storage and dry farming for the benefit of improved water management.

#### **CHALLENGES:**

- Water rights vis a vis surface storage
- Developing policy to support resiliency of whole systems
- State of groundwater management
- Matching ag practices/principles to future constraints
- How to extend BMP Challenge (Sustainable Conservation and American Farmland Trust program) to perennial crops
- Lack of systemic approach to research
- Regulatory barriers to agro-eco approaches
- Measurement, valuation and compensation for ecosystem services
- Ability to measure carbon sequestration and cycle

#### **OPPORTUNITIES:**

- Look for principles of how/why systems are successful, especially for guiding extension efforts
- Focus on resiliency and multi-benefit approaches
- Framework: what are going to be the requirements of viable ag systems in CA
- Leveraging green payments for farmers
- Expansion of SusCon/AFT BMP Challenge on no-till practices: eliminates risk for farmers trying new practices
- Cultivate RCDs, UC and others who have whole systems approach
- Education about systems like keyline, dry farming, particularly in IRWMP efforts
- Toolkits customizable to watershed needs
- Measure ecosystem service provision so we can develop programs to compensate farmers: performance-based rather than practice-based

### **Drought Proofing Your Farm**

*Michael Cahn, Monterey County Cooperative Extension*

Michael Cahn presented on drought management strategies focused on retaining winter precipitation, improving infiltration and water holding capacity of soil, minimizing evaporation and transpiration losses, optimizing irrigation system design and operation, and tuning up irrigation schedule. His presentation is available at <http://agwaterstewards.org/txp/Events/>. Group dialogue identified the following challenges and opportunities facing efforts to drought proof your farm for the benefit of improved water management.

#### **CHALLENGES:**

- One manager managing as many as hundreds of fields (steep learning curve)
- Only 4 extension agents in CA with irrigation assignments

- Not being widely adopted because growers not feeling pressure to improve water quality
- Limitations in outreach
- Encouraging growers to put in cover crops instead of N fertilizers
- Making connection between irrigators and actual water efficiency
- Timing for establishing cover crops
- Information to irrigators
- Language barriers
- Training challenging and costly

**OPPORTUNITIES:**

- Expansion of technical assistance through other agencies/entities
- Adding humic acid as soil amendment – activating soil to make nutrients more available
- Slow-growing cover crops that might have better nitrogen benefits, but must be quick-growing variety
- Certification and/or training for irrigators: Water Efficient Irrigators
- Outreach to Spanish-speakers
- Tax credit opportunities around water conservation; revision of tax code
- Respond to UC cutbacks for irrigation education programs by pushing update among community colleges
- Standardized model for irrigation efficiency reports
- May be a possible leverage point to tie water use to energy use

**Why should we pursue an agro-ecological approach to ag water stewardship?**

*Miguel Altieri, UC Berkeley*

Dr. Altieri's presentation focused on the need for a systems approach to ag land management that builds resiliency, with an emphasis on the principles behind resiliency, not necessarily on the practices. He drew on his work in Latin America where he has investigated the principles underlying traditional farming systems that have been successful in developing resiliency. His presentation is available at <http://agwaterstewards.org/txp/Events/>. Group dialogue identified the following challenges and opportunities with regard to an agro-ecological approach to ag water stewardship.

**CHALLENGES:**

- New paradigm of ag for 21st century – production systems are all facing new constraints in this time
- Linking systems to local conditions
- Developing appropriate, simple indicators that farmers can measure in their fields for immediate feedback
- Need for participatory research in the field to adapt principles into technologies that are going to be site-specific and appropriate

**OPPORTUNITIES:**

- More peer networks, a la "Lighthouse Farms"
- Connect research efforts to extension efforts

**Water Policy Paths**

*Juliet Christian-Smith, Pacific Institute and Dave Runsten, CAFF*

Juliet and Dave provided an overview of the “Water Policy Paths” document prepared as a first draft of policy priorities for CAWSI partners and others. The discussion sought input from the group on developing and refining priorities.

Key policy priorities:

- Encourage policies and funding to support technical assistance and outreach to farmers
- Create baselines to support payment for ecosystem services
- Leverage flood control mechanisms and funding for local water storage and stormwater retention solutions
- Encourage conjunctive management
- Build collaborations and alliances
- Prop 1E: \$5bn for flood control, stormwater, etc; use farmscapes for flood control and retention
- Build on IRWMP frameworks
- Possible reintroduction of AB2304: map groundwater recharge areas: bill passed but vetoed by Governor
- Steering elements of water bond

**COMMENTS AND PRIORITIES STRONGLY SUPPORTED BY THE GROUP:**

- Support for technical assistance and outreach, especially to bolster existing programs
- Make concerted effort to get assistance to people who need it as opposed to those who are able to access it. (e.g., AWMC survey showed almost no growers had contact with tech assistance for irrigation.)
- Need to explore alternative funding models: Creative financing, rotating fund, tax incentives, cost share, water bond, flood control bond/funding, energy efficiency \$, etc.
- Education for technical assistors
- Enable NGOs to fill technical assistance gaps
- Important to have accurate baseline data, and to define what baseline means (i.e. how far back in time is a true baseline?)
- Incorporation of AWS practices into requirements for Ag Waivers
- Provide incentive or rebate for flow meters and totalizers
- Strategic overlay: what’s politically feasible and economically possible

**CAWSI as a collaborative network**

CAWSI steering committee asked participants for input on how best to serve them as a network and invited their ongoing participation in CAWSI’s work.

**SUGGESTED OPPORTUNITIES AND TACTICS FOR COLLABORATION:**

- Collaborate with CAFF and CAWSI partners on policy work
- Keep holding face-to-face meetings, perhaps more regionally
- High value in dialogue – include producers in network
- Establish more formal and extensive connection with RCDs and their network
- Policy action alerts
- Involve county ag commissioners
- Strength in messaging we can all agree on and get behind as a group
- Use the Ag Waiver process to incentivize AWS approaches
- Utilize a listserve for info exchange and discussion

**RESOURCES CITED DURING THE COURSE OF THE DAY:**

SARE's *Building Soils for Better Crops*

<http://www.sare.org/publications/bsbc/bsbc.pdf>

CIRS's *Innovative On-Farm Water Management Practices*

<http://www.cirsinc.org/Documents/Pub0109.1.pdf>

Cornell's *Soil Health Training Manual*

<http://soilhealth.cals.cornell.edu/extension/manual/1basics.pdf>

*Water Stewardship: Ensuring a Secure Future for California Agriculture*

<http://www.polarisinstitute.org/files/Ag%20Water%20Stewardship.pdf>

Campeño a Campeño—Food First Book. Eric Holt-Gimenez.

[http://www.foodfirst.org/store/book/Campeño\\_a\\_Campeño](http://www.foodfirst.org/store/book/Campeño_a_Campeño)

Proceedings from the International Drought Symposium held last year at Riverside

<http://cnas.ucr.edu/drought-symposium/>

“Rainfall capture and storage for Marin Agriculture”, by Lisa Bush and David Lewis, June 2010.

<http://groups.ucanr.org/GIM/files/81887.pdf>

Brad Lancaster's books: *Rainwater Harvesting for Drylands and Beyond*

<http://www.harvestingrainwater.com/>

Sonoma Valley Groundwater Management Plan

<http://www.scwa.ca.gov/svgroundwater/>

Reduced Tillage BMP CHALLENGE

[http://www.bmpchallenge.org/Reduced\\_Tillage\\_CHALLENGE.htm](http://www.bmpchallenge.org/Reduced_Tillage_CHALLENGE.htm)

ATTRA: Publications [www.attra.ncat.org](http://www.attra.ncat.org) and Free Phone Consultation (800-346-9140)

NRCS: Soil Biology Primer

[http://www.ctenvirothon.org/studyguides/soil\\_docs/Soil\\_Biology\\_Primer.pdf](http://www.ctenvirothon.org/studyguides/soil_docs/Soil_Biology_Primer.pdf)

Most of these resources can also be accessed through the CAWSI online Resource Center at

<http://agwaterstewards.org/txp/Resource-Center/>

You may also connect with CAWSI on Twitter (<http://twitter.com/agwaterstewards>) and

Facebook (<http://www.facebook.com/pages/California-Agricultural-Water-Stewardship-Initiative/189640503675>).

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CAWSI partners would like to thank Columbia Foundation, Gaia Fund, and Clif Bar Family Foundation for supporting this event.