

CALIFORNIA DEPARTMENT OF FOOD AND AGRICULTURE (CDFA)  
ENVIRONMENTAL FARMING ACT SCIENCE ADVISORY PANEL

**May 9, 2024**  
**9 AM to 4:45 PM**

&

**May 10, 2024**  
**9 AM to 2:45 PM**

MEETING MINUTES

**Panel Member in Attendance**

Keali'i Bright, DOC

Dr. Michelle Buffington, PhD, CalEPA, California Air Resources Board

Don Cameron, Terranova Ranch

Brianna Saint Pierre (alternate for Scott Couch), CalEPA, State Water Resources Control Board

Vicky Dawley, Tehama RCD (Vice Chair)

Leonard Diggs, Pie Ranch

Dr. Jeff Dlott, PhD, LandScan (Chair)

Jennifer Phillips (alternate for Amanda Hansen) California Natural Resources Agency (joined via Zoom)

Erik Porse, PhD, California Institute for Water Resources

Judith Redmond, Full Belly Farm

**Absent:**

**State Agency Staff and Presenters**

Dr. Michael Anderson (Virtual), CA State Climatologist

Sebastián Sánchez (Virtual), CA Deputy Secretary for Agriculture and Immigrant Workforce

Dr. Braden Kay (In-Person), Extreme Heat Program Manager, CA Governor's Office of Planning and Research

Jennifer Morales (In-Person), Agricultural Water Use Efficiency Unit Supervisor, CA Department of Water Resources

Richard Cernansky (In-Person), CA State Environmental Engineer,

Dr. Harsimran "Rosie" Gill (Virtual), Dr. Alyssa Louie (In-Person), Todd Griffin (In-Person), and Cathryn McCandless (Virtual), Senior Environmental Scientists, Office of Environmental Farming & Innovation – Methane Reduction Team

California BioEnergy (In-Person – Steve Shehadey, Virtual (for discussion & questions) - Andrew Craig)

Dr. Leslie Roche (In-Person), Professor of Cooperative Extension in Rangeland Management, UC Davis  
Keali'i Bright (In-Person), Division Director of the Land Resource Protection Division, Department of Conservation

Dr. Alyssa DeVincentis (Virtual), Formation Environmental, LLC

Dr. Braden Kay (Virtual), Extreme Heat Program Manager, CA Governor's Office of Planning and Research

Dr. Josué Medellín-Azuara (In-Person), Professor, UC Merced

Shanna Atherton-Bauer (In-Person), Land Conservation Programs Manager, Department of Conservation

Sarah Light, M.S. (Virtual/In-Person), Agronomy Farm Advisor, UC Agriculture and Natural Resources  
Dr. Cynthia Daley (Virtual/In-Person), Director of Center for Regenerative Agriculture & Resilient Systems, California State University Chico  
Director William Hohenstein (Virtual), from the Office of Energy and Environmental Policy, USDA  
Dr. Adam Moreno (In-Person), Manager for Nature-Based Strategies, CA Air Resources Board  
Dr. Eoin Brodie (In-Person), Deputy Director of Climate and Ecosystem Sciences Division, Lawrence Berkeley National Lab  
Gary R. Keough (Key-O) (Virtual), M.A., Regional Director for the U.S. Department of Agriculture, National Agricultural Statistics Service  
Carolyn Cook (In-Person) Manager of Incentive and Technical Assistance Programs for OEFI  
Dr. Deanne Meyer (In-Person) Livestock Waste Management Specialist at UC Davis  
Virginia Jameson (In-Person) Deputy Director for Climate and Working Lands for CDFA  
Dr. Michael Wolff (In-Person) Supervisor for the Healthy Soils Program, Office of Environmental Farming & Innovation for OEFI

### **AGENDA ITEM 1 – EFA SAP Call to Order, Roll Call and Approval of the Minutes**

The public meeting of the Environmental Farming Act Science Advisory Panel was called to order at 9 a.m. by Chair Jeff Dlott. Staff from CDFA and the Panel members introduced themselves.

Chair Dlott leads the roll call. Roll call was taken, and a quorum was present.

Member Cameron moves to pass the February 8, 2024, minutes. The minutes were presented and unanimously approved.

Chair Dlott calls for public comment. No public comments were provided.

### **AGENDA ITEM 2 – Presentations – Changing Climate and dealing with climate extremes in agriculture**

The first presentation was by Dr. Michael Anderson, California State Climatologist. Dr. Anderson presented an overview on climate change in California and what it will look like over time.

The second presentation was by Mr. Sebastian Sanchez, the Deputy Secretary for Agriculture and Immigrant Workforce. Mr. Sanchez presents on how climate change and the increase in extreme events (wildfires, flooding, and extreme heat) affect labor and the agricultural workforce.

The third presentation was by Dr. Braden Kay, the Extreme Heat Program Manager in California's Office of Planning and Research. Dr. Kay shares various programs their office supports to combat and prepare for climate extremes including extreme heat and how these programs are connected with agriculture.

The fourth presentation was by Ms. Jennifer Morales, Supervisor for the Agricultural Water Use Efficiency Unit in the Department of Water Resources. Ms. Morales shares about climate actions at DWR including climate change in the California Water plan and how agriculture fits into this plan.

### **AGENDA ITEM 2 – Discussion & Public Comment – Changing Climate and dealing with climate extremes in agriculture**

The session moderator, Ms. Carolyn Cook introduces the discussion period by acknowledging the breadth of the topic and then turns the conversation to the EFA-SAP members to ask questions to the presenters and a discussion was held before opening the floor for questions from the public.

Member of the public, Paul Demaggio, asks who the contact for the north regional climate specialist is?

Ms. Morales replies that the position is vacant and that historically the Fresno office steps in when that position is vacant.

Member of the public, Jen P. asks about broadening the scope of grant programs to assist with training?

Ms. Morales replies that DWR does not provide grants directly to farmer and programs usually are implemented by community-based organizations.

Chair Dlott adds that looking for funding gaps and opportunities is why CDFA is going through the process to develop the Climate Strategy.

Member Diggs indicates that the USDA grant for equity and conservation addresses to issue of funding on-farm research for applicants that wouldn't normally get access.

Ms. Carolyn Cook responds with an explanation of CDFA's Technical Assistance program.

Dr. Kay adds that the Governor's Office of Planning and Research's Office of Community Partnerships and Strategic Communications as well as other organizations also have grant programs that work on farmworker education and outreach. He also noted that there are funding collaboratives that add to this work.

A member from the public asks about communication with community choice aggregators and renewable energy incentive programs, and whether agrivoltaics is a viable solution for energy issues during extreme heat events.

Dr. Kay responds that his office has heard from agricultural communities about the need for microgrids and noted that the Strategic Growth Council has grant programs that are currently open for applications that can provide support in this space.

Chair Dlott comments that CDFA is under going a process to define "regenerative agriculture" for state programs and policies, and that the proposed framework for this definition touches on the element of human health. Chair Dlott adds that this conversation is an example of how human health and extreme heat meet and notes that there will be continued discussion on connections with human health in later presentations.

Member Cameron indicates a farmer's point of view that there is a lot of interest in putting solar on the ground where it may not be irrigatable in the future.

Ms. Morales adds comments about how DWR produces hydropower and how this renewable energy could be useful to farmers.

### **AGENDA ITEM 3 – Presentations – Sustainability in CA Dairy & Ranching Industries**

Chair Dlott calls the meeting to order at 12:33 pm. Chair Dlott provides the agenda for the next part of the meeting and introduces the moderator Dr. Diane Meyer, Livestock Waste Management Specialist at UC Davis.

The first presentation was provided by Mr. Richard Cernansky, the state environmental engineer with the National Resource Conservation Service (NRCS). Mr. Cernansky speaks about sustainability in California dairies from the NRCS perspective.

The second presentation was provided by CDFA staff from the Office of Environmental Farming and Innovation (OEFI). Staff provide an overview of the methane reduction programs currently supported and in development by OEFI.

The third presentation was provided by Mr. Steve Shehadey from Bar 20 Dairy and California BioEnergy. Mr. Shehadey explains his dairy's background and the dairy's journey with climate-smart work including the building of a dairy digester, investment into the production of hydrogen from their digester, and then also the eventual incorporation of solar systems.

The fourth presentation was provided by Dr. Leslie Roche, a professor of Cooperative Extension in rangeland management at UC Davis. Dr. Roche discusses how rangelands can be managed for resilience and provided strategies (use of grazing plan, optimize stocking rate, evaluate distribution, practice adaptive management, prioritize ecological health, welfare begets performance and think beyond the range).

### **AGENDA ITEM 3 – Discussion & Public Comment – Sustainability in CA Dairy & Ranching Industries**

Moderator, Dr. Deanne Meyer asks for questions from the panel, and a discussion was held before opening up the floor for public comment.

Public Member Steven Kafka asks Dr. Roche what would happen to the grazing systems if grazing was curtailed for putatively environmental reasons?

Dr. Roche responded considering direct and indirect impacts and functions that these rangelands contribute and support (biodiversity, wildlife habitat) and there are a lot of cultural values they contribute, and it would be a tremendous loss.

Public Member Rebecca Overacre asks if there is typically any fertilizer application for rangelands?

Dr. Roche indicates that strategically yes, because rangelands can involve different types of lands such as irrigated pasture but the level of reliance on fertilizer is minuscule compared to crop agriculture.

Public Member Charlie McIntosh asks if there is any work being done to support biochar applications with manure composting?

Dr. Louie indicates that sometimes the programs open up calls for new practices so this may be an avenue for how to introduce it.

Dr. Meyer thanks the presenters and panelists for attending this session and wraps up the session!

### **AGENDA ITEM 4 – Presentations – Land Use and Repurposing**

The session is called to order by Chair Dlott at 2:41 pm. Deputy Secretary Virginia Jameson is moderating the session and introduces the speakers for the session.

The first presentation is given by Keali'i Bright, Division Director of the Land Resource Protection Division from the Department of Conservation on the Multibenefit Land Repurposing Program. Member Bright provides an overview of the Multibenefit Land Repurposing Program (MLRP).

The next presentation is by Dr. Alyssa DeVincentis from Formation Environmental, LLC. Dr. DeVincentis presents on the East Turlock MLRP project.

The next panelist is Dr. Braden Kay, the Extreme Heat Program Manager at the CA Governor's Office of Planning and Research (OPR). Dr. Kay discusses how OPR assists in general plan drafting for local governments in California to be in compliance with government codes and the connection of this work to climate readiness.

The next panelist is Dr. Josué Medellín-Azuara, Professor at UC Merced. Dr. Medellín-Azuara discusses the various challenges that agriculture faces in California and how this can affect land use decisions.

The last panelist is Ms. Shanna Atherton-Bauer who is the Land Conservation Programs Manager at Department of Conservation. Ms. Atherton-Bauer gives a program overview of the SALC, CFCP, AMLP, and WLRC programs.

#### **AGENDA ITEM 4 – Discussion & Public Comment – Land Use and Repurposing**

The discussion portion of this agenda item is being moderated by Deputy Secretary Virginia Jameson. Deputy Secretary Jameson opens the discussion for the panel and a discussion is held before opening up the floor for public comment.

Public Member Gabriel Ludwig asks "Has any consideration been given to invest in surface water irrigation infrastructure, since so much GW pumping is due to water supply not being compatible with modern irrigation systems. GW can be pumped on demand in terms of irrigation timing, while many irrigation districts still supply only at certain times. Look to model of SSJID which found it saved water when invested in a holding pond and supplying pressurized water to some 7000A. Additional tool for GSAs?"

Member Bright indicates DOC does have a grant that is repurposing a drained reservoir in the Salinas valley and using this to replace groundwater with surface water.

Member Redmond indicates that GSPs for the valley have been repurposing so they can use more surface water.

Chair Dlott indicates that this should be a big part of the strategy and that some type of local or community reservoirs might need to be incentivized and this is an important issue to address.

Public Member Gabriel Ludwig asks "Where is the money to pay growers for the loss of the use of their land if it is moved to habitat, open space, etc.? So far sounds like grants for a handful of growers but not for the extent of move to non-irrigated-land use being modeled."

Member Bright indicates there are limited funds through MLRP, but if these models are successful, then maybe these efforts could be funded at the local level with local funds.

Public Member Daniel Rath asks how incentivization or consideration of biodiversity protection is incorporated in these programs? Do you incentivize agricultural practices that may boost above or below ground biodiversity?

Member Bright indicates that all of the above though not too much of belowground biodiversity.

Dr. DeVincentis indicates this is definitely something they are thinking about with orchard swales and specifically targeting ground cover that will increase above and below ground biodiversity.

#### **AGENDA ITEM 5 – Public Comment and Day 1 Wrap Up**

Chair Dlott summarizes what was said over the presentations today to the panel. Chair Dlott notes the complexity of water issues in California, from drought to flood. Also comments on how the panel heard on dairies and rangeland, a topic that has not been a focus of the panel in previous meetings.

No general public comments.

Chair Dlott asks for a motion to adjourn the meeting.

Member Cameron moves and Member Buffington seconds and duly passed.

#### **AGENDA ITEM 6 – EFA SAP Call to Order, Thursday Recap**

The public meeting of the Environmental Farming Act Science Advisory Panel is called to order at 9 a.m. on Friday, May 10th by Chair Dlott. Staff from CDFA and the Panel members introduce themselves.

Chair Dlott leads the roll call. Roll call is taken, and a quorum is present.

Member Cameron is not present, all other members are present.

Chair Dlott provides a recap of the Thursday presentations and discussion. Chair Dlott explains that a goal for this meeting is to try to lay out challenges and ways to address the challenges and to summarize progress towards these goals in CDFA.

#### **AGENDA ITEM 7 – Presentations – Improving, Maintaining, and Quantifying Soil Health and GHG Emission Reductions**

The moderator for this session, Dr. Michael Wolff, introduces the speakers.

The first speaker is Director Hohenstein for the Office of Energy and Environmental Policy at the USDA presented first. Director Hohenstein's presentation covers an overview of the USDA efforts toward GHG assessment and monitoring.

The next presenter is Sarah Light, Agronomy Farm Advisor for the University of California, Agriculture and Natural Resources, who presents on sampling successes and challenges for incentive and research programs from CDFA.

The last speaker is Dr. Cynthia Daley, Director of Center for Regenerative Agriculture & Resilient Systems (CA State University – Chico). Dr Daley discusses technical assistance training, tools, and technology to be used for climate smart agricultural project implementation.

## **AGENDA ITEM 7 – Discussion & Public Comment – Improving, Maintaining, and Quantifying Soil Health and GHG Emission Reductions**

The moderator for this session, Dr. Michael Wolff, opens the discussion and question period for the panel and a discussion was had. Then the floor was opened up for public comment.

Public Member G. Ludwig asks Director Hohenstein about modeling taking practices and converting to modeling number are based off annual inputs like WOR that you do once and have long term benefits, how are these models being adapted that don't fit into annual growing crop cycle?

Director Hohenstein indicates specialty crops are important and addressing them is challenging in this process. There are 48 commodities being addressed. Director Hohenstein indicates that yes there is a tremendous diversity and that some of the CSA practices do not lend themselves that well to the specialty crops.

Public Member David King submits written comments about organic farming failing due to complex sampling and expensive equipment and that farming is very complex. I feel standardized labs will be essential and lab standardization will be crucial. Monitoring is important but it will be the farmers reaching the goals.

Dr. Daley indicates that compost application can be an issue with unintended consequences, they are at their limit for P and K, so they need to move away from compost to other organic fertilizer strategies.

Public Member Rebecca Overacre from East Bay utility district indicates that the East Bay Utility District produces a lot of biosolids and asks that people will recognize the efficacy of biosolids and in this commenter's region there is low PFAS so indicates perfect should not be the enemy of the good and to keep in mind the benefit of the material.

Ms. Light responds that some counties had a ban on biosolids and now some of these restrictions are decreasing so may continue across CA.

Public Member Devin Clark provides a comment on nutrient management.

Chair Dlott talks about automated irrigation systems for better timing and spoon feeding is better than bulk application of some of these nutrients and new technologies in the works and provides an example of new technologies on dairies to ensure members discuss this in the future.

Dr. Michael Wolff thanks all panelists present for the presentations. Director Mata breaks the group for lunch.

## **AGENDA ITEM 8 – Presentations – Tracking Progress Towards Climate Resilience**

Meeting is called back to order by Chair Dlott. Dr. Michael Wolff is moderating the afternoon discussion.

The first speaker is Dr. Adam Moreno, Manager of Nature Based Strategies Group with the California Air Resources Board. Dr. Moreno provides an overview of the goals and targets for the state regarding natural and workings lands climate mitigation and how the state can work to meet those goals and track progress.

The next speaker is Gary Keough, Regional Director for the U.S. Department of Agriculture, National Agricultural Statistics Service provides an overview of the 5-year census of agriculture and the National Agricultural Statistics Service.

The last speaker is Dr. Eoin Brodie, Deputy Director of Climate and Ecosystem Sciences Division, Lawrence Berkeley National Lab and Associate Adjunct Professor, of Environmental Science, Policy, and Management at UC Berkeley. Dr. Brodie speaks on the Belowground Biodiversity Advisory Committee and the report produced by the committees' efforts, and how monitoring climate smart agriculture influence on belowground biodiversity can be achieved.

#### **AGENDA ITEM 8 – Discussion & Public Comment – Tracking Progress Towards Climate Resilience**

Dr. Wolff opens the discussion up to the panel and a discussion is held and then the floor is opened for public comment.

Public Member Sara Deslauriers representing wastewater greatly appreciates all presentations and to comment and offer support, highly engaged in supporting states efforts to achieve carbon neutral and many of the other targets. Inquires about the incorporation of biosolids into the agricultural climate mitigation discussion.

Dr. Adam Moreno agrees waste stream is large part of carbon neutrality goals and is important to measure and how it fits into the goals is an important discussion to have right now.

Written comment by member of the public Margaret Smither-Kopperl asks if there have been considerations of what fallow means, and agriculture can be managed in a way to support this. Ms. Smither-Kopperl provides examples to use instead of leaving it to weedy species.

Chair Dlott responds that this is important to flush out in the strategy

Dr. Wolff brings up that an interesting paper sponsored by PPIC about dry land crops and near dry land crops in CA for this topic.

Public Member Gabriela Ludwig asks Dr. Moreno about modeling and also the data collection tasks for farmers with tracking progress.

Dr. Moreno responds that models for perennials include above and below ground biomass, but not soils not connected with the roots. Annual croplands model does include soil, nitrogen and carbon. Dr. Moreno also indicates the state is funding project to gather more nitrogenous emissions across CA to help bolster and improve modeling of how assessing nitrogen emissions. Dr. Moreno also emphasizes that he hoped he made it clear the objective is not to stop any provisioning of ecosystem services in state or get in way of farming or ag production, but to want to accelerate climate action. Dr. Moreno indicates at this time it is unclear how tracking will occur and at this stage it is just looking at science and data needs at this point to do work and do it well.

#### **AGENDA ITEM 9 – General Public Comment**

Chair Dlott invites general public comment.



Public comment from Rebecca Overacre asks about metrics for healthy soils, inquiring about acreage converted to organic.

Dr. Wolff responds that in modeling terms, organic encompasses many practices and we do see greater biodiversity and water retention as part of the organic package. It is called out as separate category as it is hard to model and is assessed on literature basis and have been exploring it as a continual aspiration.

Member Redmond notes too that this is a defined practice that is certified by an outside inspector compared with other practices that have been mentioned.

Chair Dlott wraps up the information gathering process and applauds the panelists, staff and presentations.

Deputy Secretary Virginia Jameson indicates that CDFA has been working on an outline and hoping to have a draft to by this summer.

Chair Dlott thanks those participating and providing public comment and moves to adjourn.

#### **AGENDA ITEM 10 – ADJOURN**

Chair Dlott motions to adjourn the meeting at 2:22 p.m. PT on Friday, May 10th, which was moved by Member Bright and seconded by Member Buffington. The motion is approved unanimously.

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Respectfully submitted by:

Note takers, OEFI Environmental Scientists, California Department of Food and Agriculture