

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

MEETING AGENDA

January 14, 2020
9 AM to 3 PM

REMOTE ACCESS

Webinar information

Registration URL: <https://attendee.gotowebinar.com/register/5022941162119235852>

Webinar ID 532-835-371

Presentation materials will be posted at the following link prior to the meeting:

https://www.cdfa.ca.gov/EnvironmentalStewardship/Meetings_Presentations.html

Topic	Presenter	Action Level
1. Introductions	Chair Dlott	Informational Item
		Action Item
2. Minutes	Chair Dlott	Requires EFA SAP Approval
		Action Item
3. Selection of Vice Chairperson	Chair Dlott	Requires EFA SAP Approval
		Action Item
4. Panel on Regenerative Agriculture	Invited Panelist	Information Item
5. Update on Proposed Incentives for Climate Smart Agriculture Planning Activities	OEFI Staff, CDFA	Informational Item
6. State Water Efficiency and Enhancement Program (SWEEP)	SWEEP Team, CDFA	Informational Item
• Program Updates		
7. SWEEP 2016 Round 1 Project Outcomes – Remote Monitoring State Water Efficiency and Enhancement (SWEEP)	Olivier Jerphagnon, AgMonitor	Informational Item
8. Healthy Soils Program (HSP)	Healthy Soils Team, CDFA	Informational Item
• Program Updates		
9. Technical Assistance Program	Carolyn Cook, CDFA	Informational Item
• Program Updates		

10. Public Comments	Chair Dlott	Informational Item
11. Next Meeting	Chair Dlott	Informational Item

EFA SAP MEMBERSHIP

<https://www.cdfa.ca.gov/oefi/efasap/>

Jeff Dlott, PhD, SureHarvest, Chair and Member

Don Cameron, Terranova Ranch, Member

Vicky Dawley, Tehama RCD, Member

Judith Redmond, Full Belly Farm, Member

Leonard Diggs, Pie Ranch, Member

Keali'i Bright, California Department of Conservation, Member

Amanda Hansen, California Natural Resources Agency, Member

Scott Couch, State Water Resources Control Board, CalEPA, Member

Michelle Buffington, PhD, California Air Resources Board, CalEPA, Member

Greg Norris, USDA Natural Resources Conservation Services, Subject Matter Expert

Doug Parker, PhD, Subject Matter Expert

CDFA Liaison to the Science Panel - Amrith (Ami) Gunasekara, PhD

The meeting complies with Bagley Keene requirements and the Governors Executive Orders on Covid-19 which allows for remote participation and voting at public meetings. Questions regarding this public meeting can be directed to Dr. Amrith Gunasekara at (916) 654-0433 or CDFA.OEFI@cdfa.ca.gov

More information at: <http://cdfa.ca.gov/Meetings.html> and

http://www.cdfa.ca.gov/EnvironmentalStewardship/Meetings_Presentations.html

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

California Department of Food and Agriculture
Auditorium
1220 N Street
Sacramento, CA 95814

October 15, 2020

9 AM to 3 PM

Remote Access

https://www.cdfa.ca.gov/oefi/efasap/meetings_presentations.html

MEETING MINUTES

Panel Member in Attendance

Jeff Dlott, SureHarvest (Chair and Member)
Vicky Dawley, Tehama RCD (Member)
Judith Redmond, Full Belly Farm (Member)
Michelle Buffington, PhD. CalEPA, ARB (Member)
Scott Couch, CalEPA, State Water Board, (Member)
Don Cameron, Terranova Ranch (Member)
Amanda Hansen, Natural Resources Agency (Member)
Leonard Diggs, Pie Ranch (Member)
Keali'i Bright, PhD, Assistant Director, DOC, Natural Resources Agency (Member)
Greg Norris, USDA NRCS (Subject Matter Expert)
Doug Parker, PhD. UC ANR (Subject Matter Expert)

State Agency Staff and Presenters

Scott Weeks, CDFA
Arima Kozina, CDFA
Joyce Mansfield, CDFA
Steph Jamis, MSc, CDFA
Guihua Chen, PhD, CDFA
Geetika Joshi, PhD, CDFA
Amrith Gunasekara, PhD, CDFA

AGENDA ITEM 1 – INTRODUCTION

The meeting was called to order at 9:01 a.m. by Chair Jeff Dlott. Chair Dlott introduced Mr. Greg Norris from the United State Department of Agriculture Natural Resources Conservation Services (USDA NRCS) as a new subject matter expert on the panel. He replaces Mr. Tom Hedt from the USDA NRCS. Chair Dlott thanked Mr. Hedt from the USDA NRCS for his services to the science panel over the past few years.

Chair Dlott noted that the group may take a break from the meeting for the annual Earthquake Shake Out at 10.15 am and some members may need to take on other engagements during the meeting. The group will make sure motions are passed in presence of all members. Present at the meeting were all members noted above under "Panel Members in Attendance." A quorum of at least six members was present at the meeting.

The meeting was conducted remotely to accomdate the Covid-19 pandemic. Members were able to call in and vote on action items in compliance with an Executive Order signed by Governor Newsom which allowed for remote attendance and additional flexibility in fulfilling Bagley-Keene Open Meeting Act requirements.

AGENDA ITEM 2 – Minutes from July 16, 2020

A motion to approve the minutes from the July 16, 2020 meeting was introduced by Member Couch and seconded by Member Cameron. All other members voted in favor of approving the minutes.

AGENDA ITEM 3 – Stakeholder proposal to add an Organic Transition Plan to the Healthy Soils Program (HSP)

Chair Dlott noted different terms that may be used: organic certification versus organic system planning process. These questions had been raised by members of the public in past science panel meetings.

Dr. Gunasekara gave the presentation on the staff analysis of adding an organic transition payment option to the Healthy Soils Program. He provided background on this topic, first introduced in January 2020 by several stakeholders. Of the three options provided science panel members recommended evaluation of option 3 (include the option for organic systems planning under the Technical Assistance Program). He noted that public comments were received between August 3 and August 31, 2020. Questions raised by the science panel members at the last meeting were listed and an evaluation of each question was provided. Member Couch asked to clarify what is meant by sub-contracting costs and how that takes away the grant to farmers and ranchers. Member Cameron asked if this is funding for putting together an organic transition plan that only comes into effect after a three-year transition from conventional to organic is completed. Dr. Gunasekara provided information on the questions and explained that the plan is for the planning process to get to the organic certification and not the certification itself.

Member Redmond commented that the funding in the transition period is for someone who wants to become an organic farmer and provide support when they weren't certified organic and getting the additional market benefits of being certified. Member Cameron asked about subsidizing the grower during the transition period when they don't get organic market premium and what CDFA will we be actually funded through CDFA.

The timeline comparison was followed by additional questions from science panel and answers from CDFA staff. Member Cameron asked if restrictions can be applied to someone who has started transitioning to organic so that the plan can be verified in the third year. Dr. Gunasekara answered that it could be an option to for those who already started the planning work in the first two years. CDFA climate smart agriculture technical assistance helps with another third year of planning beyond the first two years. Member Cameron commented that someone who is serious about transitioning to organic agriculture should have started the planning process earlier on. Dr. Gunasekara added that HSP practices should have started as well since many of them can be used in transition to organic although they are not limited to organic farming.

There were several questions asked by panel members around verification since this is an important component of the CDFA Climate Smart Agriculture (CSA) programs. Member Cameron noted that verification can be an issue since the plan must be verified prior to submitting it to the organic certifier. There were suggestions by the members that an affidavit could be submitted by the grower stating that the plan will be completed since funding is provided before the plan can be completed fully. Dr. Gunasekara cautioned that an affidavit is not something used in CSA programs for verification. The programs typically use invoices/videos for verification of services rendered with public funds. He noted that good accountability via verification of completed actions is needed as trust alone isn't always sufficient for use of public funding.

Member Couch asked if a 10% payment withhold until the plan is approved/implemented is a CDFA standard practice and who will do the approving or verification that the plan is being implemented. Dr. Gunasekara answered that 10% withhold is a standard practice as it is the only way the Department has to ensure contract obligations are fulfilled for awarded funds. The concern from CDFA is that the program will pay for a completed/approved plan without proper verification.

Member Couch asked if a Technical Assistant Provider subcontracts with a consultant, does the consultant need licensing and certification. Dr. Gunasekara answered that one of the responsibilities of the Technical Assistant Provider was to get the proper documentation to send to CDFA for verification. Language can be developed regarding the qualifications of the sub-contractors.

Member Redmond commented that when she thinks about verification, she is not thinking of completing a plan, but rather the grantee becoming certified. This may be difficult with timing and should be implemented as a trial or pilot program. The outcome would be to see how many of the grantees got certified. The benefits would be received when the grantee is certified organic.

Chair Dlott noted that he has been involved with organic certification on the software aspect. The largest time allocation is between certifier and grower at the time of certification and most money spent is on that event. A poor plan at that point could mean more delays and more money spent. It's very likely that when someone has completed three years of transition gets certified, the content/details of the plan must be fully accurate in order to get certified. Certifiers cannot provide assistance and consulting services. Not every agronomist has the qualifications to write a proper organic transition plan. There is no national template and each certifier has a different one for the plans. Therefore, plans might not be completed in three years and meet the obligations of CDFA funding.

The discussion moved into questions regarding timeline. Member Parker asked if we have never had cost-share with technical assistance programs, could a new element be added to existing programs. He inquired on how to score and rank technical assistance applications for organic transition plans and take GHGs into account. He inquired if Technical Assistance Provider must share with CDFA which growers they will help make organic transition plans for and will we be able to then look at who the grower is to ensure they got certified. Dr. Gunasekara answered that currently Technical Assistant Providers estimate how many growers they can assist when they apply, and they tell CDFA who they helped at the time of invoicing.

Member Dawley asked about using matching funds if a grower started to transition to an organic system. She noted that matching funds doesn't count if its outside the grant term. Work would have started before the grant agreement with CDFA. Dr. Gunasekara said that all work will need to be completed during the grant term and that most charges to the organic transition plans will most probably occur after years 2 and 3 and following verification in year three.

Member Redmond asked if is there no way that one can imagine in the program structure could go directly to the farmer rather than the Technical Assistant Provider. Dr. Gunasekara answered that Technical Assistant Provider would be a pass-through entity but not efficient as they would charge indirect costs. Farmers are not eligible entities in the Technical Assistance Provider category. For farmers to receive funding, planning grants could be in a separate new "Planning Program" or CDFA could make farmer/ranchers as an eligible entity in the existing Technical Assistance Program.

Expert Panel on Organic Certification Plans

Chair Dlott introduced the panel members. The panel members were subject matter experts who have worked on organic transition or system plans including some who have completed organic certifications. The panel members were Benjamin Lewis from Simple Organic Solutions, Shannon Murphy from The Organic Consulting Firm, Robert Milner Deputy Agricultural Commissioner from the Monterey County Certified Organic and Michelle Lawson from the Yolo County Ag Commissioners Office.

The panel members provided background on their experiences and involvement with organic transition plans and system plans.

Mr. Lewis explained that organic transition plans are process based certifications. The application is the Organic Certification Plan which is submitted and reviewed by a certifying agency. There is a

process where an inspector inspects and submits a report to a certification agency who then approves or requests the plan to be revised to be in compliance. He noted it is best not to wait for the three years and then apply for certification. It is better to do the plan in years 2 or 3. CDFA has an organic registration program. All organic producers are required to register with CDFA along with who certified them.

Member Cameron agreed, adding that there was a large increase in organic growers when canning tomatoes increased. Land not being farmed due to lack of water was then immediately certified. One can become certified if the last prohibited application was three years or longer. Mr. Lewis said some certifiers want to bring that land into certification promptly. Member Cameron added that annual inspections for certified organic growers are also more complex and time consuming.

Member Redmond asked what percentage of Mr. Lewis's transition clients need three years and who needs less than three years for organic certification. Mr. Lewis responded that it is rare to have someone who would be in year two and three of organic transition apply for certification. Usually they do it sooner so that they can get help making decisions of what they can or cannot do in the transition period. Farmers can choose to pay for application and inspection with the agency rather than a consultant. The paperwork is challenging and having someone assist the farmer during this time is valuable.

Mr. Milner noted that most certifiers are in the business of making a profit. CCOF allows operations in transition to market their transition period. Other certifiers do not offer this service. Monterey County certifies organic differently by bringing in a new operation within the transition period that they are planning, provide them with tools (e.g. refer to NRCS) to monitor themselves and then submit an application after three years, which is subsequently to be accompanied with Organic Certification Plan. Mr. Milner noted they conduct research on the history of the farm and DPR history for pesticide applications and then evaluate if they are eligible. Growers do not have to pay for certification during transition period and they pay after certification has been obtained.

Ms. Lawson said they research Tax ID databases and pesticide reports to see if a farm/grower is eligible. They do not recognize the three years of the transition. If the pesticide reports are positive and consistent with organic certification requirements, they accept the application.

Mr. Milner added they do not advise farmers during the transition period. Consulting work is not completed but the disadvantage is in bringing growers and farms into certification after 36 months. Mr. Milner noted the first inspection is very time consuming.

Ms. Murphy said they provide growers advice and help them out by sitting down with the growers and work through what kind of documentation is needed, and how to make it not overwhelming and time consuming.

Chair Dlott asked how much time it takes for organic transition or system plans, and Ms. Murphy answered 15-18 hours for a small farm grower, 18-21 for medium farm grower and 21-25 for larger farm growers. A lot of the time is explaining what the certifier is requesting. Chair Dlott asked Ms. Lewis if they do similar work, and he replied yes, the hours are similar in his experience. Ms. Murphy said smaller and medium growers need most help.

Chair Dlott asked if there are there other options for organic transition and system plan development. Ms. Murphy said most people don't know about the organic transition options as they get contacted in their last year of their process. It would be a positive effort if growers can find out about funding for organic transition planning in advance. Mr. Lewis noted he lets growers know about opportunities and to check with USDA NRCS as they can assist with on-site conservation practice standards.

Member Redmond asked if a grower would go through a transition process and not get certified.

Ms. Murphy answered by saying yes. Some of the growers have made decisions not to go forward with the particular crop due to a market situation. She noted this is rare however. Mr. Milner said most farmers find that profit margins and crop loss are do not add up positively and they often drop out of the organic program after being certified.

Chair Dlott asked if they come across requests for other programs such as fair trade or sustainable winegrowers and if the programs ever get bundled. Ms. Murphy answered, it's mostly organic and food safety that get bundled. Mr. Milner said they we have seen requests for regenerative organic certification and Mr. Lewis said they have seen this also.

Member Cameron asked if growers applying for organic certification funding from NRCS. Ms. Murphy said they always recommend this to growers and include it in an email. Mr. Lewis said other than federal cost share through CDFA or CCOF grants, he is not aware of other funding opportunities.

Member Cameron said he has seen information from Anheuser-Busch Company and asked if the invited panel member could tell growers about the other programs. Mr. Lewis said federally funded program administered by CDFA offer up to 75% or up to \$750 of your annual certification costs which include inspection costs and annual fees. This does not include any technical service provider costs and limited to purely certification agency cost reimbursed. Ms. Murphy noted that USDA NRCS requests a conservation expert to visit the farm and recommend conservation practices which NRCS may pay for. Mr. Milner noted that cost-share programs cap out at \$500 and not \$750.

Chair Dlott asked if the invited panel members had seen anything with soil health. Mr. Lewis said there is no actual certification right now for anything with soil health. He noted that the USDA National Organic Program includes a monitoring component where soil testing may be included. Farmers do nitrogen, phosphorus and potassium soil testing in general, but soil carbon or soil organic matter testing is less common.

Member Redmond said she would like to see how the grower can be held responsible and would like to explore the separate planning program. Member Parker agreed, as the concept isn't fitting perfectly in the existing programs.

Chair Dlott thanked the invited panel members for attending and sharing their knowledge with the science panel and public.

Member Couch agreed on the accountability aspect. He said if certification question happens after the grant agreement, not much can be done to recover fund and hold grantee accountable. However, he noted that some water board programs have such a structure. Member Buffington said her organization, CARB, has such a structure as well where information is given back to the agency after the grant agreement has been executed and completed. Member Cameron agreed but noted that the CARB can ask for funds back unlike the CDFA programs. He noted that the discussion now is centered around organic transition plans but in future we will see additional requests for assistance with other programs/certifications. Carving out something separate should be discussed was his recommendation.

Member Buffington said CARB recently released solicitation with money for planning and scoring criteria in next round of funding which includes participation in the planning process. CARB can recover funding if not in compliance with service obligations but that is not universal for all other agencies. She noted her agency also considers past performance, and if unsuccessful, future competitiveness reflects that.

Chair Dlott asked was the supporting planning because it was recognized that implementation would be better. Member Buffington said yes, especially in equity programs, planning was needed because smaller communities did not have knowledge to apply or compete in these programs.

Chair Dlott asked if CDFA see hurdles in a new planning program. Dr. Gunasekara said no and this would give CDFA more flexibility to expand the eligibility criteria for planning grants as a separate program. Timelines would still need to be considered and important so that CDFA can do verification and have adequate government accountability on disbursed funds. He noted that post-project data collection and information gathering is distinct from verification. Verification is so that CDFA can pay out the grant for the work that was to be done as part of a contract.

Dr. Joshi from CDFA shared a summary of public comments received to date. Chair Dlott facilitated verbal public comments on this agenda item.

- Allison Johnson from NRDC supported \$4,300 directly to producers, consistent with the original proposal. This proposal is very important for SDFRs wanting to go into organic farming. To address systemic racism and inequities in agriculture, it is important to consider these funds for SDFRs and consider at the beginning of the transition to remove barriers. No extra verification should be required. Even if someone does not become certified, the process of preparing an organic transition or system plan helps them learn about the practices and educate themselves. NRDC supports the original proposal in full.
- Brian Shobe from CalCAN provided support for the multiple environmental and equity benefits in this investment. CalCAN supported CCOF's proposal to fund the farmer directly. He noted the panel should set standard criteria for review of plans on a case-by-case basis if they can help achieve climate and soil health benefits. He welcomed CFBF comments for a planning program. CalCAN has supported legislation in the past for this which received bipartisan support but did not go through due to lack of funding. He noted that creating such a program requires new legislation and funding.
- Jane Sooby of CCOF thanked CDFA and community groups that have supported this proposal. She supported a modest stipend of at least \$2,100 to offset the cost of the organic system and transition plans. She noted it should be modeled on NRCS EQIP organic initiative and noted the proposal fits into the existing framework and does not need a new program. Stipends should be directly provided to growers rather than funneling through the Technical Assistance Program. Community and environmental justice groups support this proposal as this will reduce environmental impacts on disadvantaged communities near farming areas.
- Taylor Roschen from the CFBF does not oppose the proposal to achieve soils organic matter benefits. She noted that the CFBF feels organic transition or system plans doesn't fit into the existing program frameworks and support an alternative program since planning is a necessary component for climate resilience. Currently farmers and ranchers are having to be reactionary and planning will help. Currently there is no funding for the HSP so this time should be used to create and develop a new program for planning. CFBF is willing to support and be a stakeholder in discussions for this process.

Chair Dlott asked if CDFA has authority to make a new program within its existing authority, and Dr. Gunasekara said he believes the statutory authority is broad and does allow for its creation under existing statute. He noted that CDFA can do a formal legal analysis. He also noted that adding farmers as an eligible entity to Technical Assistance Program is possible without additional statutory authority.

Member Hansen asked if a new program be time consuming versus existing program. Dr. Gunasekara answered that a new program request for proposal development can take between 9-12 months. The request for proposals is also brought for science panel review and public comment. He noted that there is currently no funding for this new program since all funding has already been allocated with other climate smart agriculture grant program. This program will support any new

funding that is received.

Chair Dlott asked if CDFA has the time/staff/resources to develop this new program. Planning in separate funding carves out a program where plans compete with other plans and not with rest of the Technical Assistance. Dr. Gunasekara answered that Technical Assistance Program is a separate program of its own and not part of the HSP. Nor would it compete with the plans as a separate program. He noted that existing staff may be able to get a planning program request for proposal out in the timeframe noted above with existing staff resources.

Member Buffington asked if a separate planning program will create a disconnect between what the farmer does with the planning and the healthy soils program at CDFA. Dr. Gunasekara answered that it will be hard to line the healthy soils practices with the planning program since there may be growers that require plans that do not apply to the healthy soils program and vice versa.

Member Redmond asked if the new planning program can still be included in the healthy soils program. Dr. Gunasekara answered, this is possible. However, CDFA staff have brought in the programmatic perspectives and the benefits of creating a separate new planning program to the science panel for their consideration. If the science panel unanimously agrees, CDFA would consider working on this request.

Member Hansen asked if the science panel could be walked through the options that are being voting on.

Member Cameron said the idea of putting planning in a separate box is the smart way to go and we expect a lot of new proposals to come into the new planning program. The upcoming budget is going to be a very difficult one and depends on Federal funding coming to California. It makes sense to have a well-planned separate planning program for this work than to rush now and then do this again each time a new proposal comes up.

Member Parker expressed concerns with rolling it into healthy soils program and how will it be evaluated against the actual project proposals for practices. He agreed with Member Cameron to have the dedicated separate new planning program for plans.

Chair Dlott framed options based on what was heard. There is a broad vision and value from practices and technical assistance. He noted it makes logical sense to have a planning program that goes into assistance, implementation and evaluation. It represents a perfect opportunity for larger vision of planning.

Member Diggs inquired if organic transition options fall under planning. Chair Dlott answered that it does because funding is for and organic system and transition plan process to start the journey towards certification. There will be separate funds for technical assistance. There is also separate funding for soil management practices. He noted that funds for certification fees is not on the table right now per discussion.

Chair Dlott and Dr. Gunasekara reframed to add a new planning program to climate smart agriculture CDFA programs under of the Office of Environmental Farming and Innovation. Add a new planning program to support organic system and transition plans and other plans and allocate funds to it when CDFA appropriates funding. A CDFA team will start developing the request for proposals and generate criteria to support the new program. CDFA will also obtain a legal analysis to ensure it has statutory authority on developing this new program.

Member Cameron introduced the following motion:

1. Recommendation to the Secretary to add a planning program to the climate smart agriculture programs and when there is funding allocate funding to it.
2. CDFA will work to generate a request for proposals to support the new planning program,

including organic transition planning and other environmentally friendly and climate smart plans.

Member Dawley seconded the motion.

All members voted to pass the motion. There were not abstain votes or votes in opposition.

AGENDA ITEM 4 – Establishment of SWEEP Ad-hoc Advisory Group

Chair Dlott noted there was an abundance of nominees received. Dr. Gunasekara presented purpose of the advisory group. Chair Dlott said one option is to consider breakout groups with a large group that self-selects into either technical or outreach based or agency coordination questions.

Member Redmond asked how large the group needs to be, which was followed by discussion that it depends on facilitator and other logistics.

Member Buffington recommended setting a threshold of minimum people who must attend for the meeting to count. The science panel could hand-select or choose all. Ultimately the most experienced would be speaking the most but including everyone provides an opportunity to participate.

Discussion on ways to choose participants and meeting dates followed as well as adding guidelines such as no promotion of private sector/products/services/proprietary information. Options include deciding on a core group, asking stakeholder groups to pick representative (i.e., one from UC).

Member Redmond made the motion to include everyone and move the recommendation to Secretary. The motion was seconded by Member Buffington.

The motion was approved by all Panel members. There were not abstain votes or votes in opposition.

AGENDA ITEM 5 – Healthy Soils Initiative Partnership Efforts

Arima Kozina provided a presentation on the healthy soil partnership framework. There was a workshop series based on proposals presented to this science panel in January 2020. There was a general request to the science panel to partner with these private programs and recognize them so they can help meet state goals in carbon sequestration of greenhouse gases. The workshops were conducted in coordination with USDA-NRCS, CARB and CDFA. The science panel expressed appreciation for the framework developed.

AGENDA ITEM 6 – Healthy Soils Week

Joyce Mansfield gave an update on California Healthy Soils Week. World Soils Day will be on December 5, 2020. Over 20 partner agencies and NGOs will hold activities from Nov 30 – Dec 5. Past events were centered around legislative briefings, events at the Capitol and field visits. This year's events will be virtual to accommodate Covid-19 concerns. Themes may include "On the Farm and in Your Home" and World Soils Day theme "Keep soil alive, protect soil biodiversity." Some topics to be covered include climate change, soil carbon, soil health, composting and agricultural residues, ag in the classroom, science fair and potential in-field activities. Messages will be spread across social media platforms.

AGENDA ITEM 7 - State Water Efficiency and Enhancement Program Updates

Scott Weeks from CDFA gave a presentation on SWEEP updates. Questions from science panel members were facilitated by CDFA staff.

AGENDA ITEM 8 - Healthy Soils Program Updates

Dr. Chen from CDFA gave a presentation on HSP updates. Questions from science panel

members were facilitated by CDFA staff.

AGENDA ITEM 9 – Technical Assistance Program Updates

Steph Jamis from CDFA gave a presentation on Technical Assistance Program updates. Questions from science panel members were facilitated by CDFA staff. Chair Dlott asked about survey responses that CDFA conducted, and Ms. Jamis said they haven't seen the survey results yet.

AGENDA ITEM 10 – Public Comments

Chair Dlott facilitated public comments:

Brian Shobe, CalCAN: AB 2377 requires 25% of the funds used and inquired how this is tracked. Dr. Geetika Joshi answered that the numbers shown are for those assisted to apply. CDFA will have better estimates once post-award activities start and funds are expended on those tasks.

Mr. Shobe also said he wanted clarification on the motion, was it a separate component to healthy soils program or a new program. Chair Dlott responded that it was a new program component. Science panel members discussed further, and it was confirmed this was a separate program. A legal referral will confirm that this new program can be developed under existing statutory authority without a new legislation.

AGENDA ITEM 11 – Next meeting and Location

January 14, 2021, remotely conducted.

Chair Dlott introduced the motion to adjourn the meeting which was seconded by Member Cameron. Panel members unanimously voted to adjourn. Meeting was adjourned at 3:24 p.m.

Respectfully submitted by:

Amrith Gunasekara, Ph.D.
Liaison to the Environmental Farming Act Science Advisory Panel



Climate Smart Agriculture Planning Grants

Science Advisory Panel Update

1/14/2021



CALIFORNIA DEPARTMENT OF
FOOD AND AGRICULTURE

Planned RFP

This solicitation will fund and establish the development of “plans” for farmers and ranchers which will help with mitigating GHG emissions, adapting to climate change and promoting environmental and agricultural sustainability through CDFA’s Climate Smart Agriculture Incentive Programs.

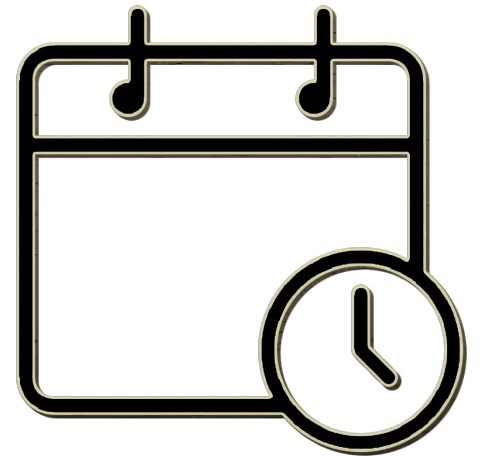
For the purpose of this solicitation, a “plan” is a comprehensive document that sets forth goals and recommends strategies to achieve them.



Tentative Timeline

Activity	Tentative Dates
Draft RFP Presentation to EFA SAP	April 15, 2021
Public Comment Period	April 19 – 30, 2021
Finalize RFP	June 2021
Release Solicitation	July 2021*

*Pending FY 2021-22 funding allocation to CDFA Climate Smart Agriculture programs



Thank you

STEPH JAMIS

Environmental Scientist

NILAN WATMORE

Senior Environmental Scientist

(Specialist)



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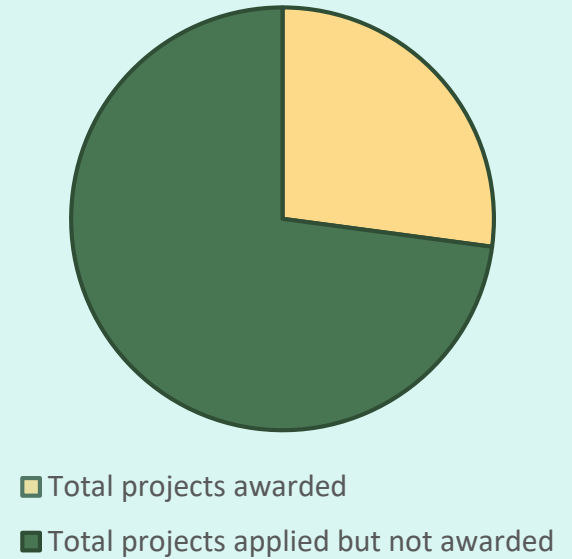
State Water Efficiency and Enhancement Program Update

Science Advisory Panel Update
1/14/21

SWEEP To Date

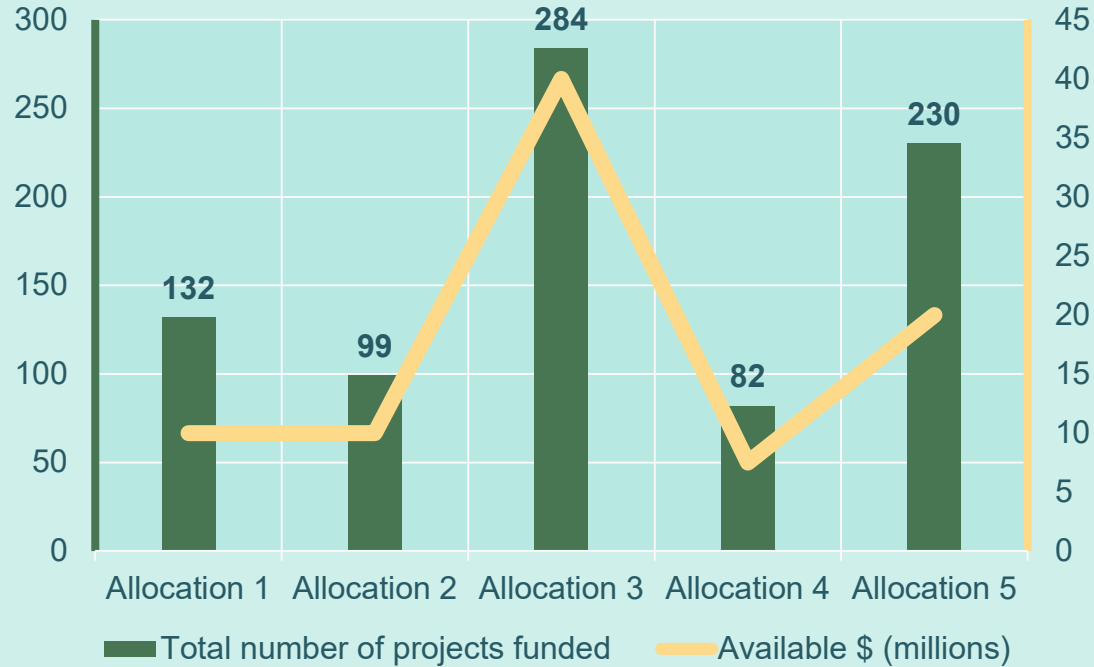
- Awarded 828 projects over 8 funding solicitations
- \$80.5 Million awarded
- \$50 Million in matching funds
- Cumulative 280% over-subscription rate
- Projects have impacted 133,578 acres
- Average project is 161 acres

Awarded vs Applied

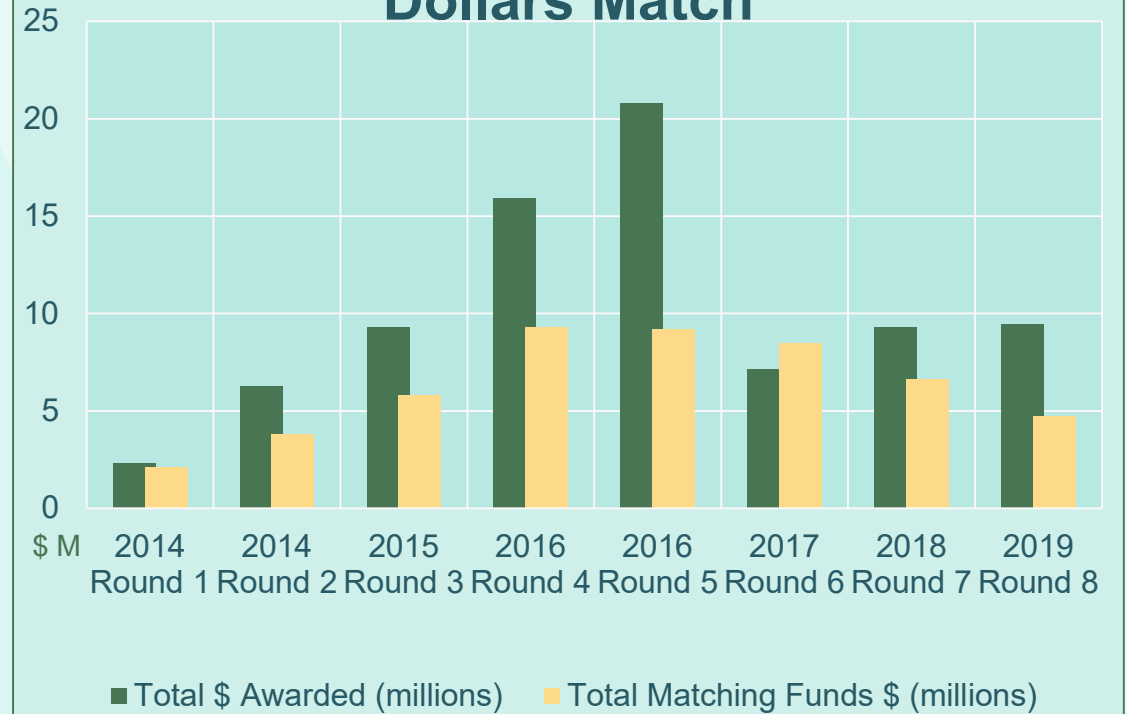


SWEEP Funds

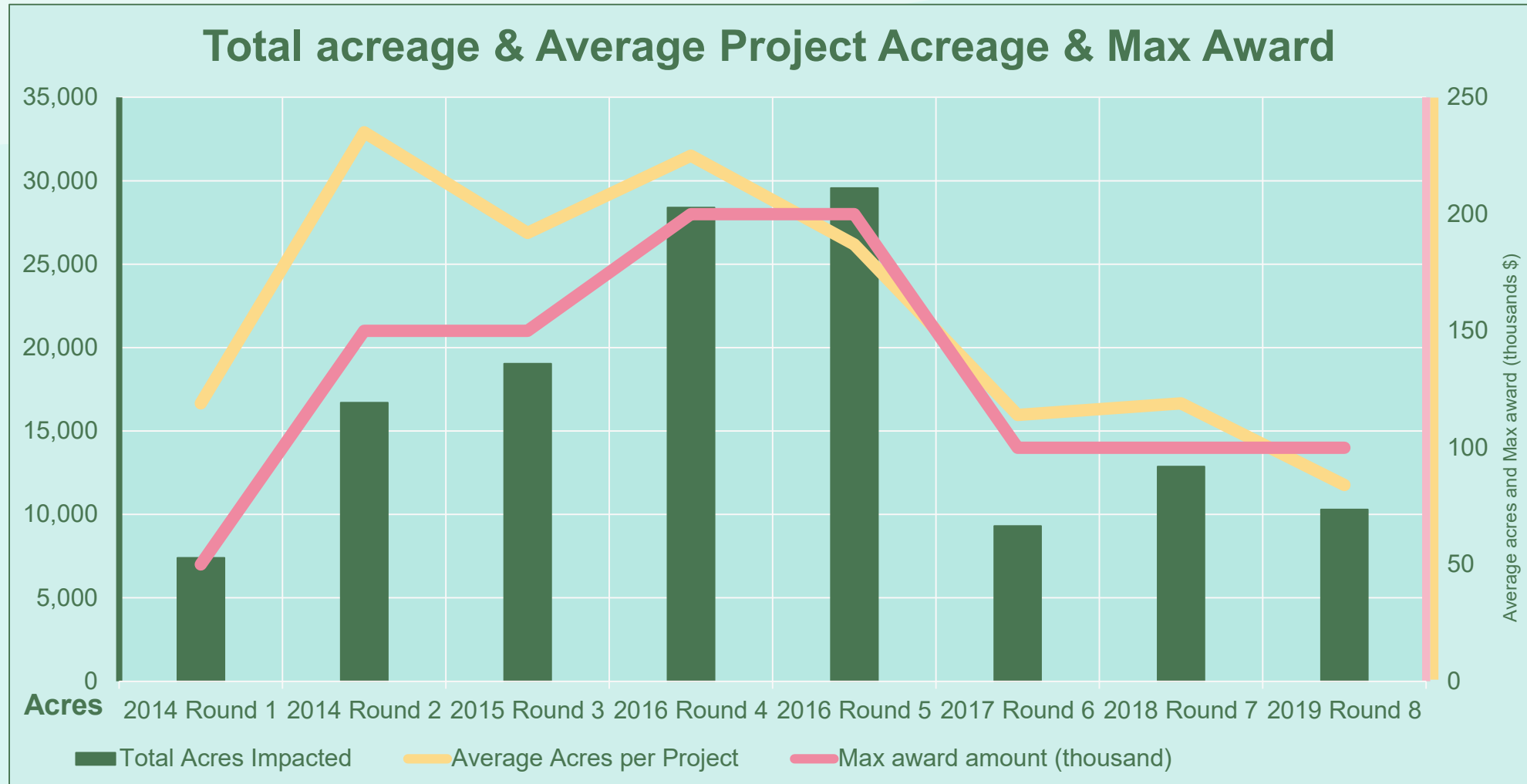
Number of Projects Awarded per Allocation



SWEEP Dollars Awarded & Dollars Match

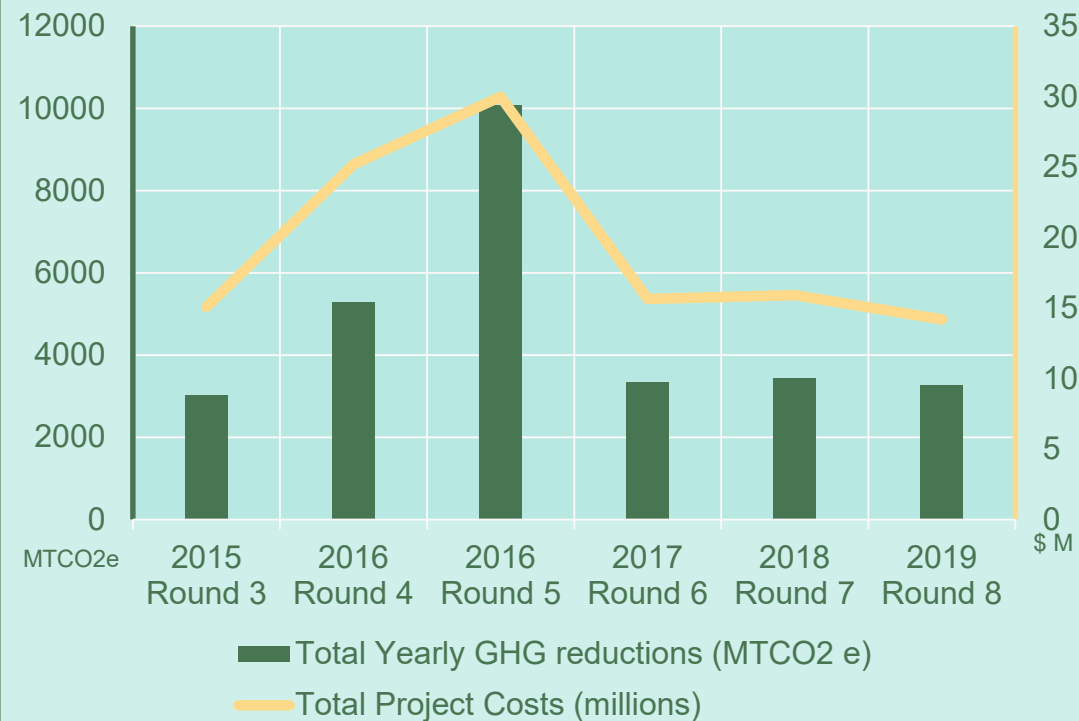


SWEEP Acreage

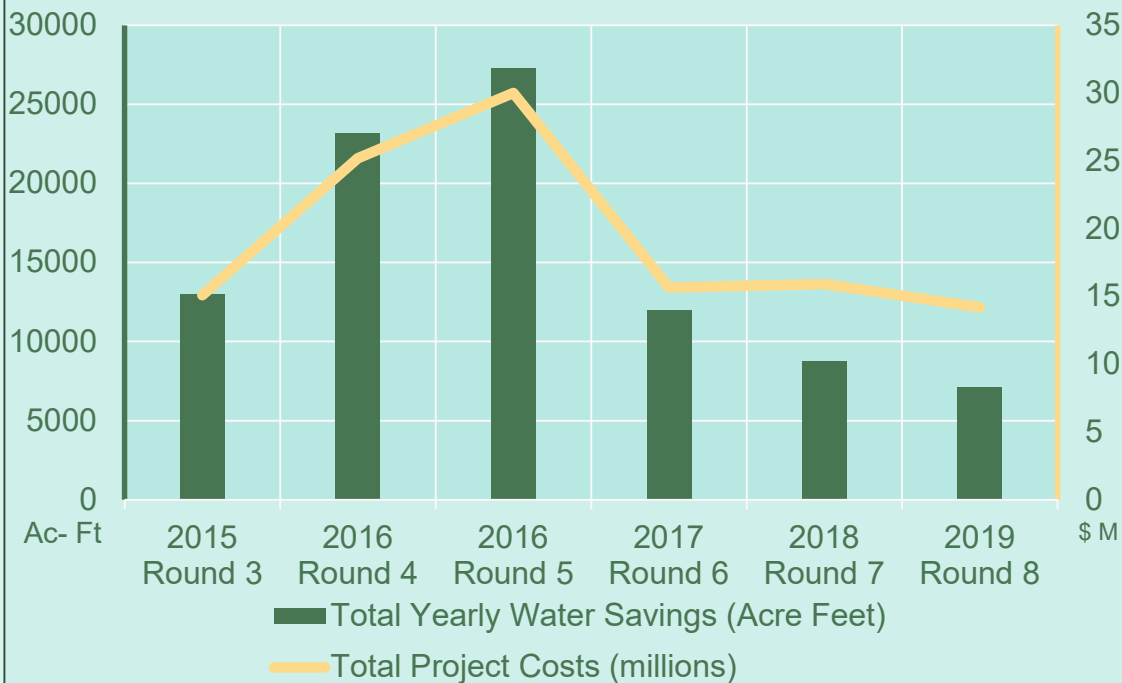


SWEEP Savings

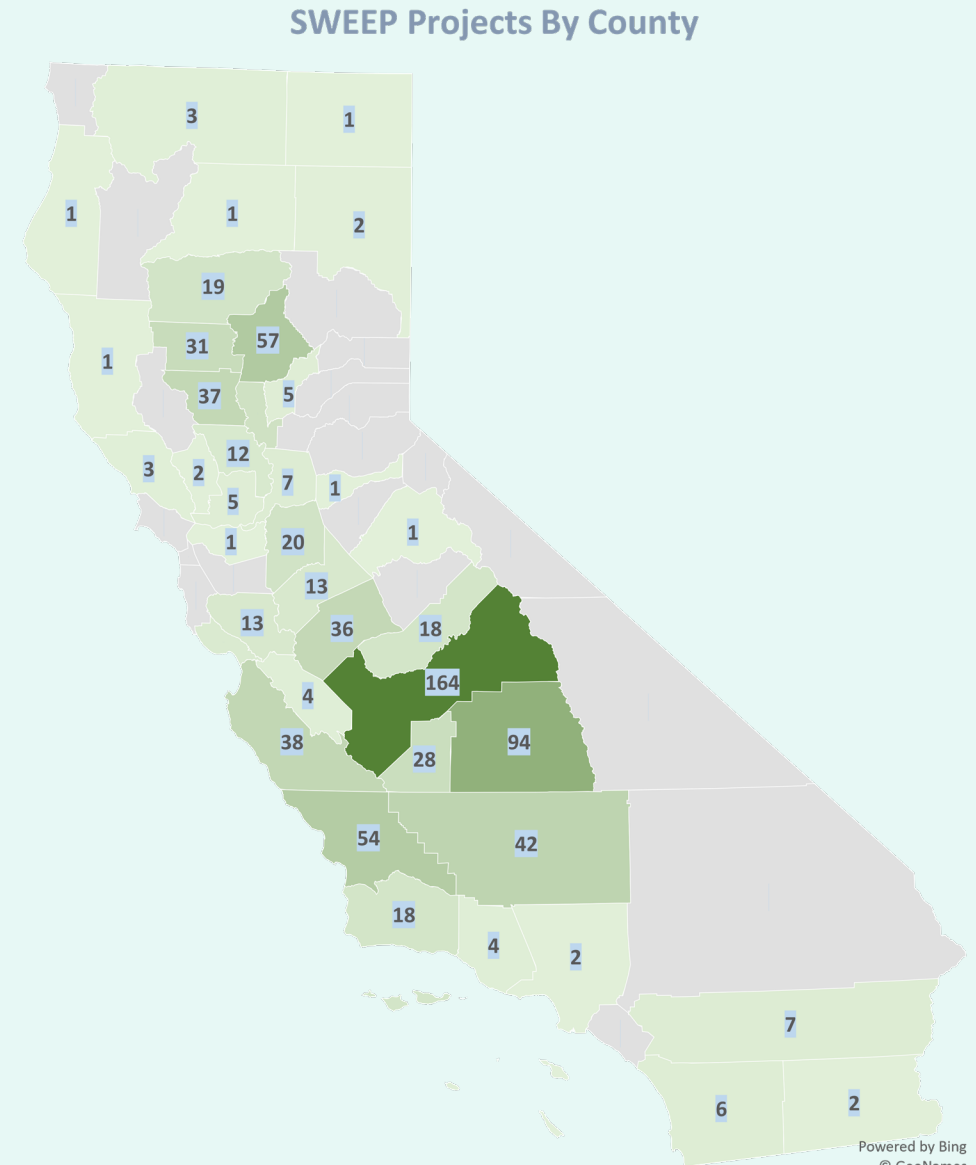
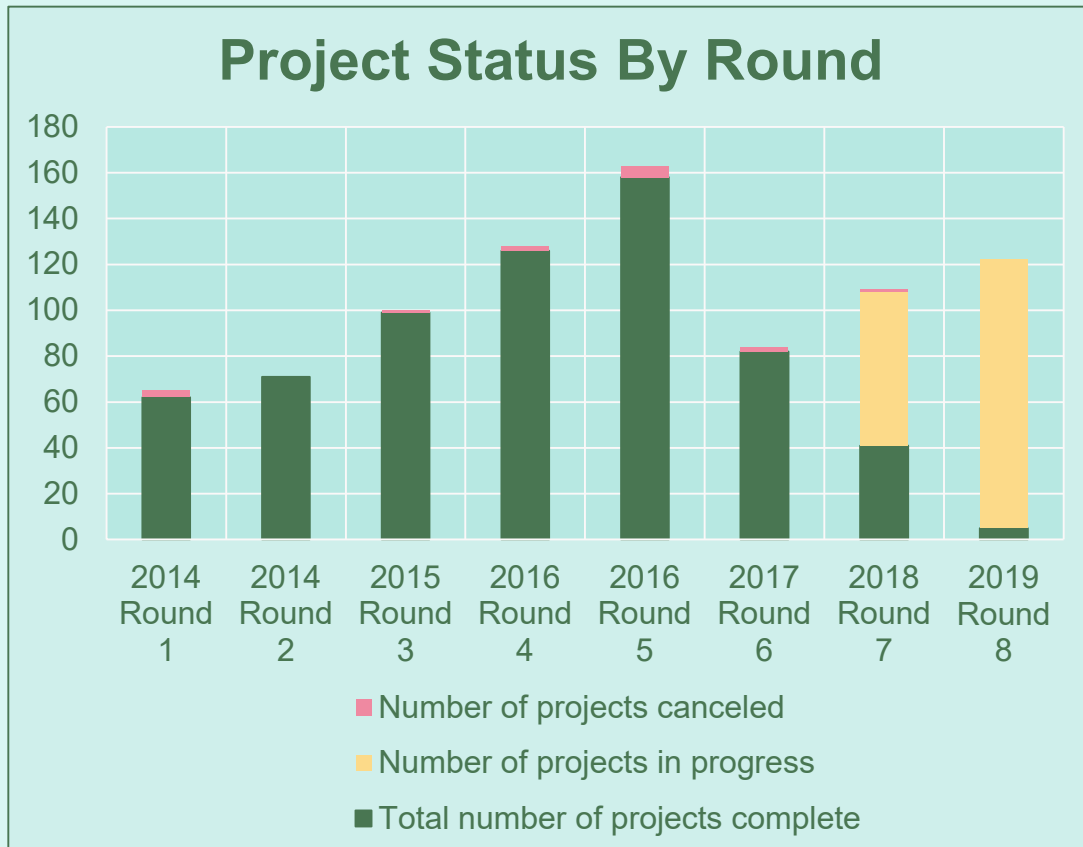
Total Estimated Annual GHG Reductions & Total Project Cost



Total Estimated Annual Water Savings & Total Project Cost



SWEEP Status



Sub-Advisory Group

1. SWEEP's ability to help farmers improve water use efficiency. What is working well and what might SWEEP seek to improve? How might SWEEP evolve to help farmers address new resource management challenges?
2. How might SWEEP improve participation by agricultural operations that have historically faced barriers in accessing or utilizing the program?
3. How might promotion and coordination of SWEEP be improved with irrigation districts, groundwater sustainability agencies, and USDA-NRCS?

Timeline for Sub-Advisory Group	
Meeting 1 – Information Delivery/Exchange	January 28, 2021
Meeting 2 – Recommendations Formed	February 25, 2021
Meeting 3 – Recommendations Finalized	March 25, 2021
Recommendations Presented	April EFA SAP Meeting
Public Comment Period	10 days Following Presentation



Thank you!



SWEEP TEAM

CAROLYN COOK

Senior Environmental Scientist, Supervisor

SCOTT WEEKS

Environmental Scientist

STEPH JAMIS

Environmental Scientist



Energy, Water and GHG outcomes from SWEEP 2016 using remote monitoring

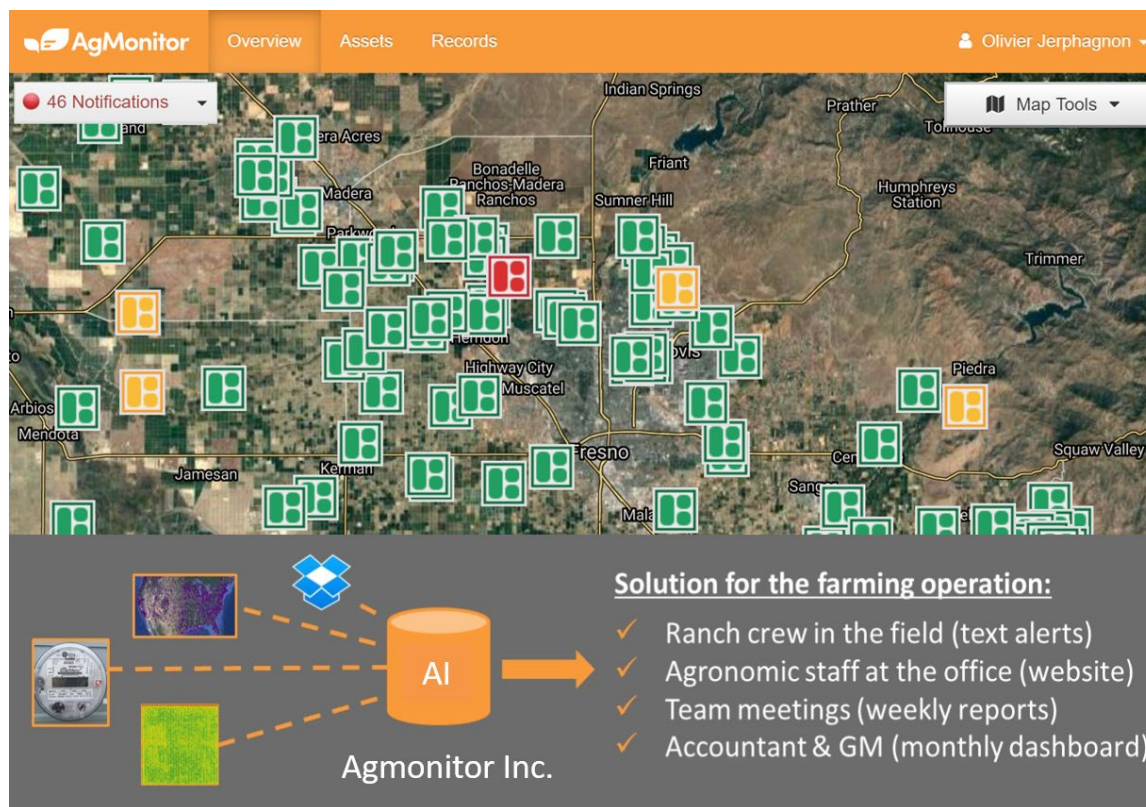
Kevin Langham, Sr. Project Manager

Olivier Jerphagnon, Founder & CEO

www.agmonitor.com

AgMonitor: food-energy-water platform

- PowWow Energy Inc. changed name to **Agmonitor Inc.** in Sept 2020
 - We serve both farms directly (crop management) with **CropMonitor**
 - We also support utilities and agencies (conservation programs) with **PumpMonitor** and **RanchMonitor** products


















SWEEP 2016 PROJECT OUTCOMES

Quantification of Energy, Water and GHG

SWEEP 2016 Project “Audits”

- Measure the total water consumption, energy consumption and GHG emissions every year (2017 to 2019) and compare to baseline (2015 or 2016).
- 24 ranches added to AgMonitor system for tracking (anonymized in this presentation and in the report to protect privacy)

A	American Rights		Z
	La Mancha		
B	Castle Farms, Inc.		
	Cherokee Farms (F)		
	Cherokee Farms (M)		
	Cherokee Farms (S)		
	Cherokee Farms (T)		
	Cherokee Farms (U)		
	Cherokee Farms (V)		
	Cherokee Farms (W)		
	Cherokee Farms (X)		
	Cherokee Farms (Y)		
	Cherokee Farms (Z)		
	Cherokee Farms (A)		
	Cherokee Farms (B)		
	Cherokee Farms (C)		

How were baselines calculated?

- **Energy** = 2015 grower submitted energy records
 - Late onboarding resulted in few complete energy records for 2016/2015 on AgMonitor.
- **GHG** = 2015 energy baseline * emissions factor
- **Water** = 2016 records in AgMonitor platform
 - Water calculated using our patented algorithm to alleviate cost of flow meter and telemetry
- Baseline data was compared to data collected and processed for 2017, 2018, and 201

SWEEP project results in 2019

Variable	Net Energy Use (MWh)	GHG (mt CO2 eq.)	Water (ac-ft)
2019 total change	-2,548	-780	-2,346
Relative 2019 change (%)	-93%	-93%	-51%
Average 2019 change per project	-212	-65	-469
Potential 2019 change from all projects	-26,970	-8,253	-59,563

- Change was calculated by comparing 2019 data to baseline in each category.
- Data coverage is a challenge in general for farms (SWEEP but also for SGMA, ILRP, etc.) because things change, or data is missing (sign-up after project started)
- Twelve projects were included in this aggregation for energy & GHG, as they had complete sets of data for baseline and all treatment years. Five projected were included for water comparison.

Annual savings comparison (2017-2019)

Variable	2017	2018	2019	Total
Net energy change (MWh)	-2,513	-2,508	-2,548	-7,569
GHG change (kg CO2 eq.)	-769	-767	-780	-2,316
Water use change (ac-ft)	-1,559	-1,824	-2,346	-5,729

- Energy and GHG savings were consistent
 - Driven by solar projects (97% of savings in 2019 from 5 solar projects)
- Water savings more variable
 - Surface water availability, crop rotation, water demand etc cause variation
 - 99% of water savings came from single large project
 - Average % change in water use across these 5 projects was -32%

External factors influence

- Several external factors influence total energy and water use each year including:
 - Temperature and humidity (evapotranspiration)
 - Rainfall
 - Surface water allocation
 - Irrigation of other fields outside project
 - Water table level
- Some external factors are managed by SWEEP projects
 - Pump efficiency (*part of SWEEP*)
 - Distribution uniformity (*part of SWEEP*)
 - Soil Variability (*part of SWEEP*)

Three examples for our analysis (report)

- ★ Large farm (Central Valley)
- ★ Medium farm (Northern CA)
- ★ Small farm (Coastal CA)

Main factors taken into account for water savings:

- Reference Evapotranspiration (ET_0)
- Precipitation

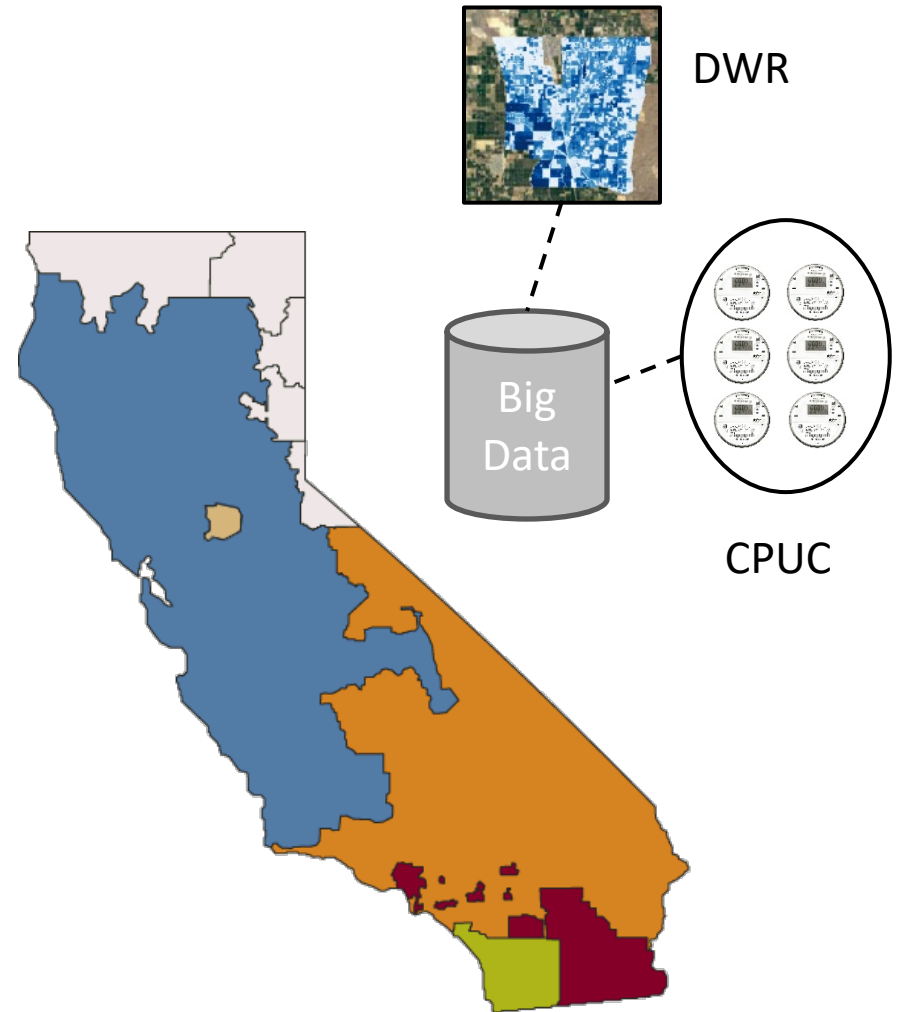


RESEARCH UPDATE FROM CROSS AGENCY WORK ON BIG DATA

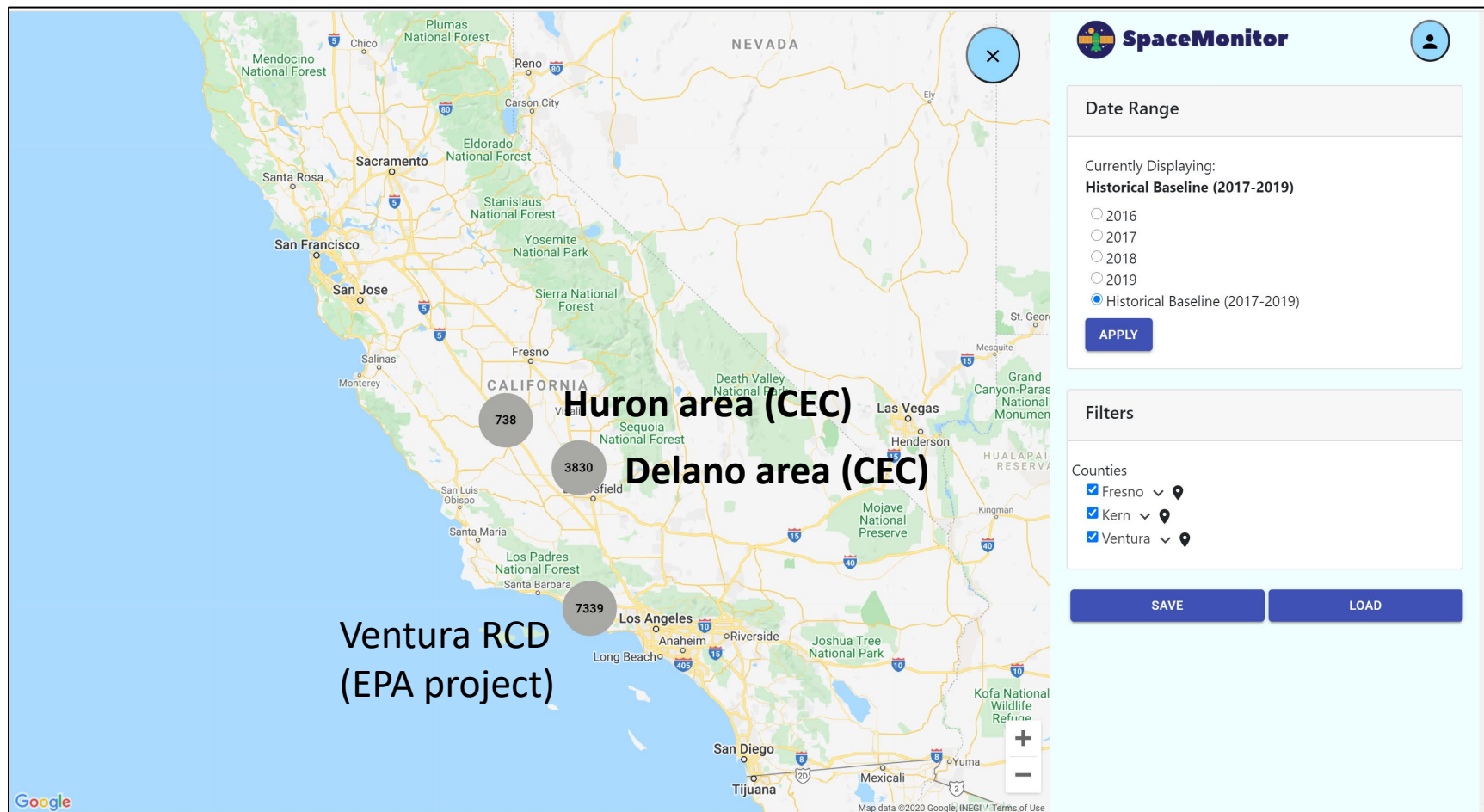
How to target areas and streamline project quantification

Approach to leverage Big Data for baseline

- Big questions:
 - Can streamline process of baselining (water and energy)?
 - Can we help identify areas that can benefit from EE or Carbon programs?
 - Can we help farming communities that are disadvantaged?
- We developed shared “big data” server idea from discussions with multiple agencies
- It is not possible to use individual meter data (privacy)
 - CPUC proceeding gives us access to utility data via UC (anonymization)
- We can use satellite images (public) to track water demand
 - DWR has contracted actual ET data (water demand) across California

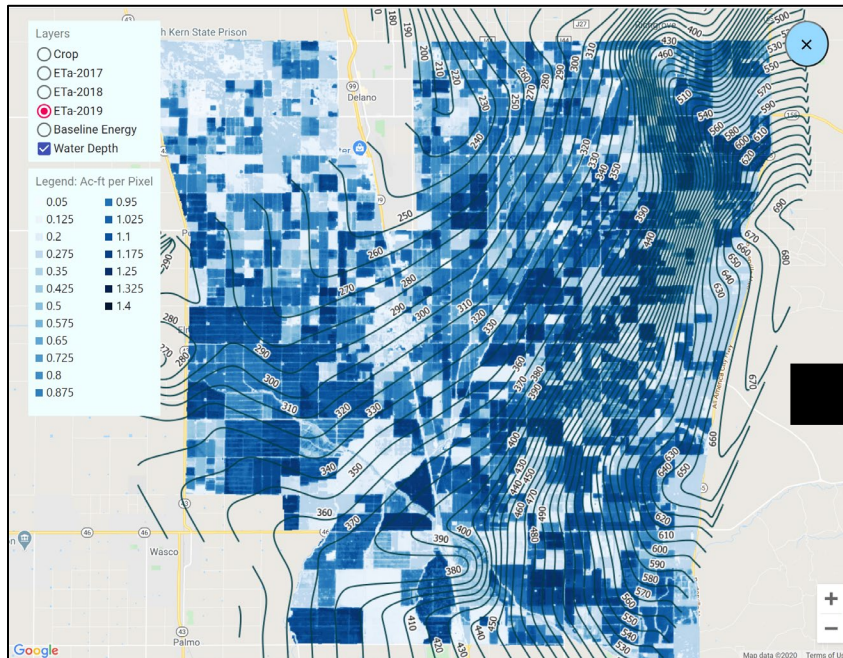


SpaceMonitor tool from CEC project

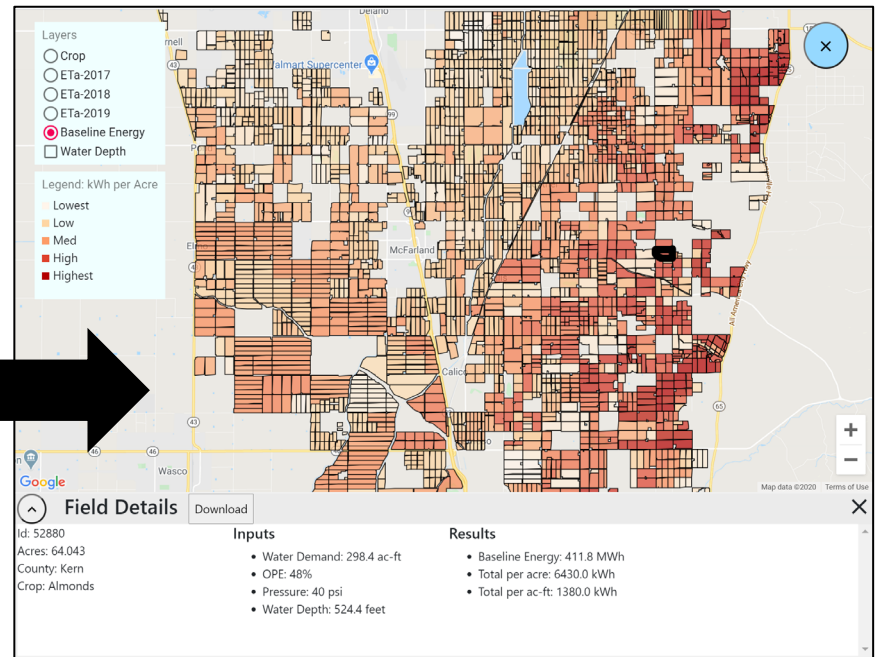


Satellite images enable detailed GIS maps

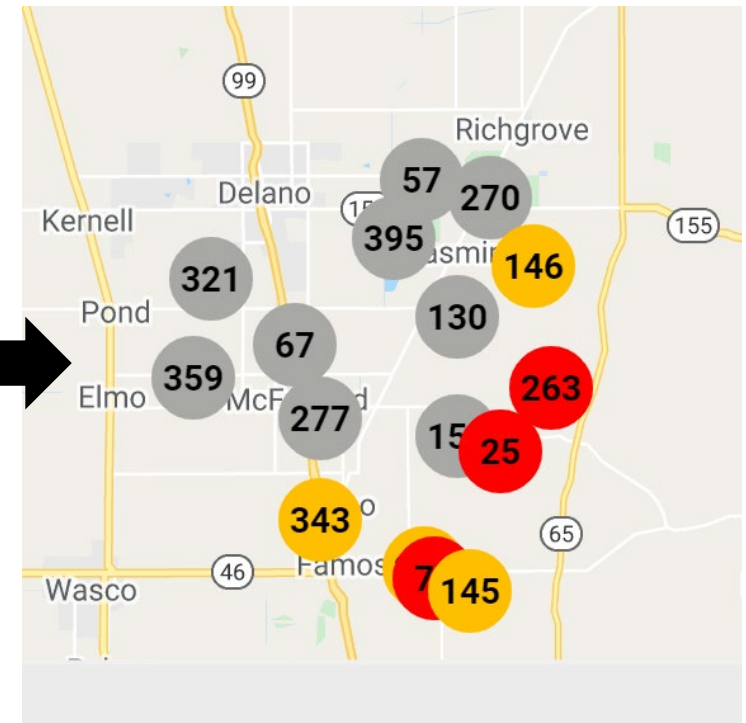
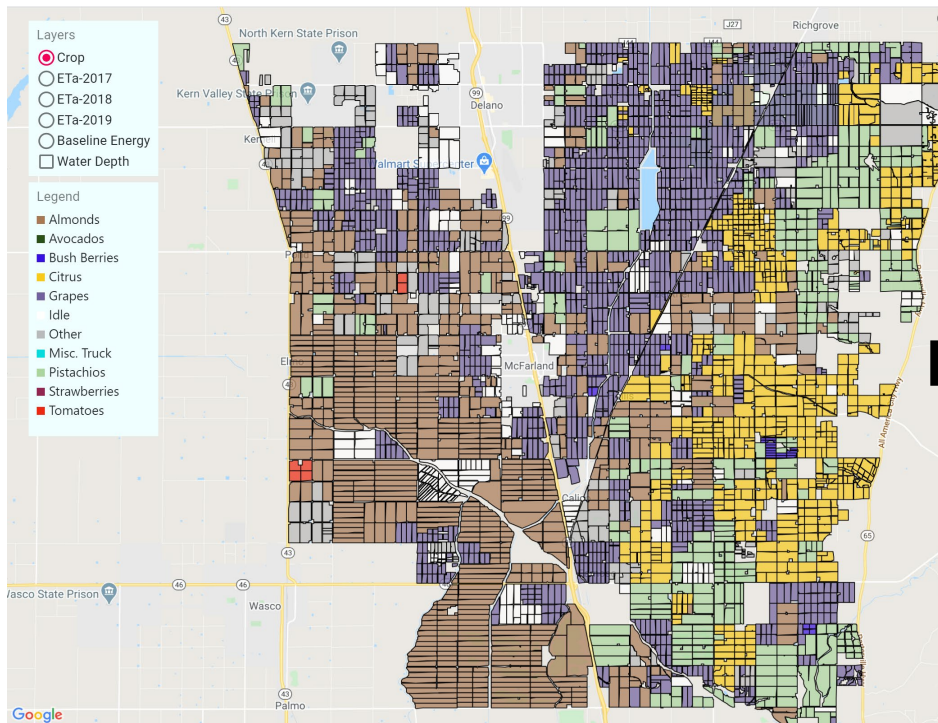
Water table & water demand



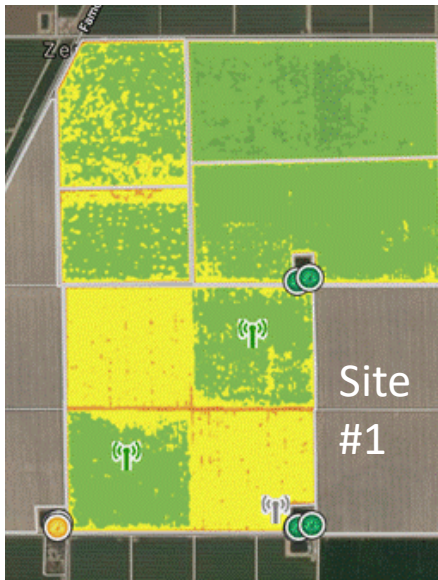
Energy “heat” map (kWh/ac)



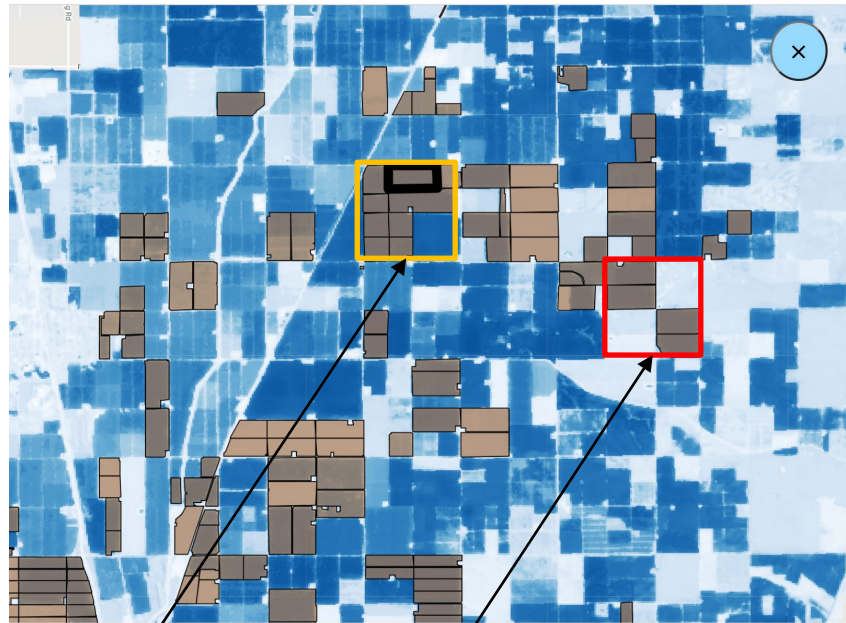
Clustering is a key step to protect privacy



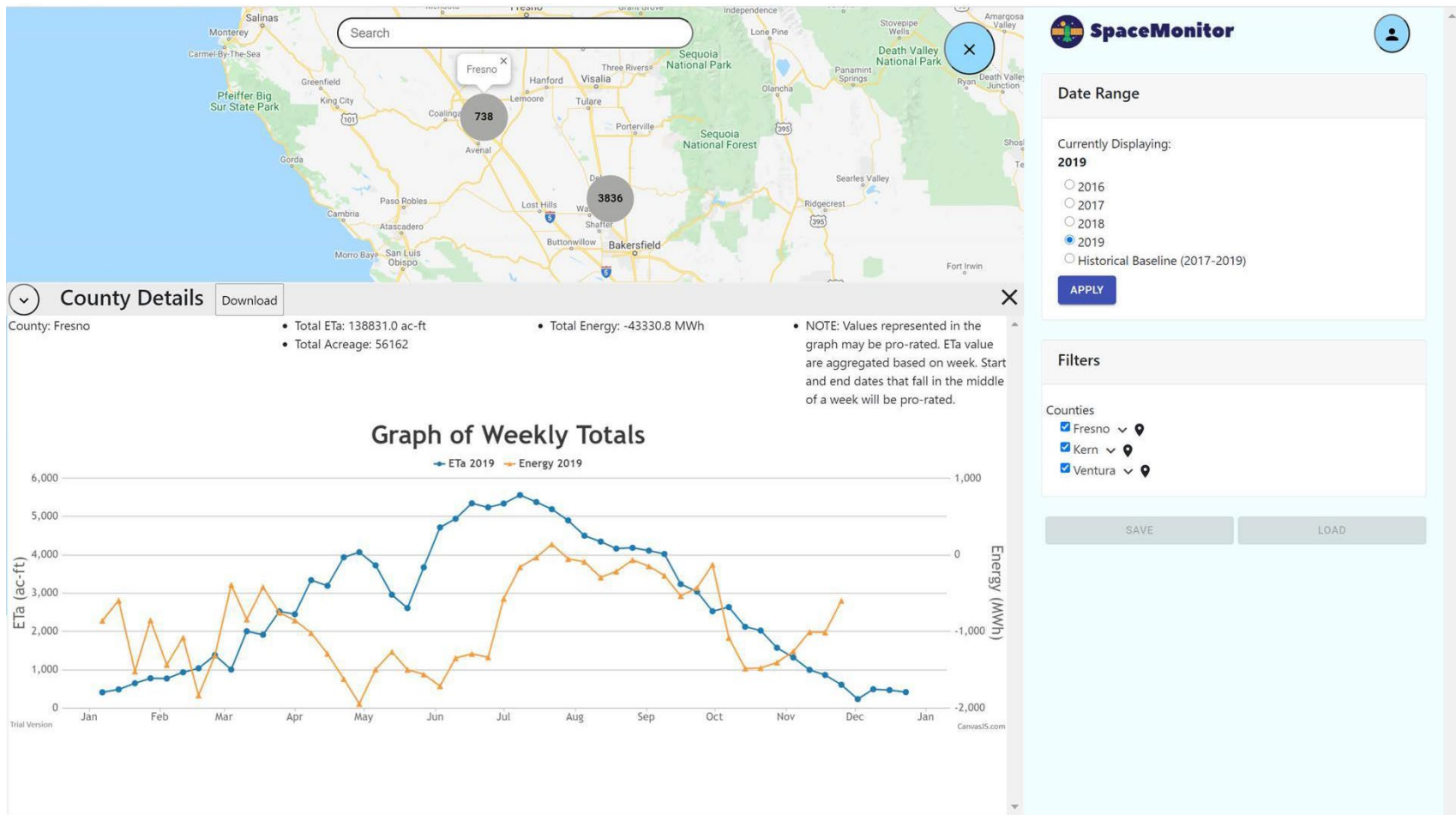
Test sites to validate clusters in Delano



Pilot site in “warning” cluster.
Farm deployed VFDs and valve control to save 15% in energy at the pump and 14% in nitrogen.



Analysis for Huron: impact of solar



Take-aways and food for thoughts

- Full quantification is challenging
 - Full data on 12 out of 24 projects (small & large)
 - Requesting data access upfront with would be helpful
- Consistent GHG savings from 2017 to 2019
 - Energy and GHG are helped by solar projects
 - Water savings are more variable across farms and years
- New tools coming online from recent research across agencies to help target areas
 - Disadvantaged areas react differently to drought
 - Solar alone is becoming mainstream (importance of energy and groundwater storage)

We empower the next generation farm



Optimize your water and energy.
Grow better food.

PowWow provides a farming decision-support tool that leverages machine learning to solve practical problems in agriculture. It is perfectly suited for growers who want to increase their profit margins and pass a sustainable farm onto the next generation.

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12/30/2020

 AgMonitor



HEALTHY SOILS PROGRAM

**Environmental Farming Act - Science Advisory Panel
Meeting**

January 14, 2021

Sacramento, CA



Outline

- 2020 HSP Incentives Program
Awarded Projects Updates
- New Management Practices Update

2020 HSP INCENTIVES PROGRAM AWARDED PROJECTS - UPDATE

Background: Some projects cancelled or underwent budget changes during pre-project consultations prior to finalizing grant agreements. Funds thus made available were awarded to additional projects.

- *Last report: 316 projects totaling \$21.25 million selected for awards.*
- **Current: 324 projects were awarded totaling \$21.78 millions by Dec 31, 2020.**

Item	Awarded Amount	Percent of Total Amount
94 projects - Benefits to Social Disadvantaged Farmers /Ranchers (SDFR)	\$ 5.8 million	27%
140 projects located at AB1550 Disadvantaged/Low-income Communities	\$9.8 million	45%
27 projects - Benefits to Priority Populations	\$ 1.9 million	9%

2020 HSP INCENTIVES PROGRAM AWARDED PROJECTS - CO-BENEFITS

- Located on 31,021 acres in 41 counties.
- Annual GHG Reductions: 76,691 MTCO₂e



- PM2.5 Reduction : 32,495 lbs per year (from No-Till, Reduced-Till and Whole Orchard Recycling in 46 Projects).
- Pollinator Habitats: 5, 506 acres from herbaceous or woody cover plantings in 122 projects.

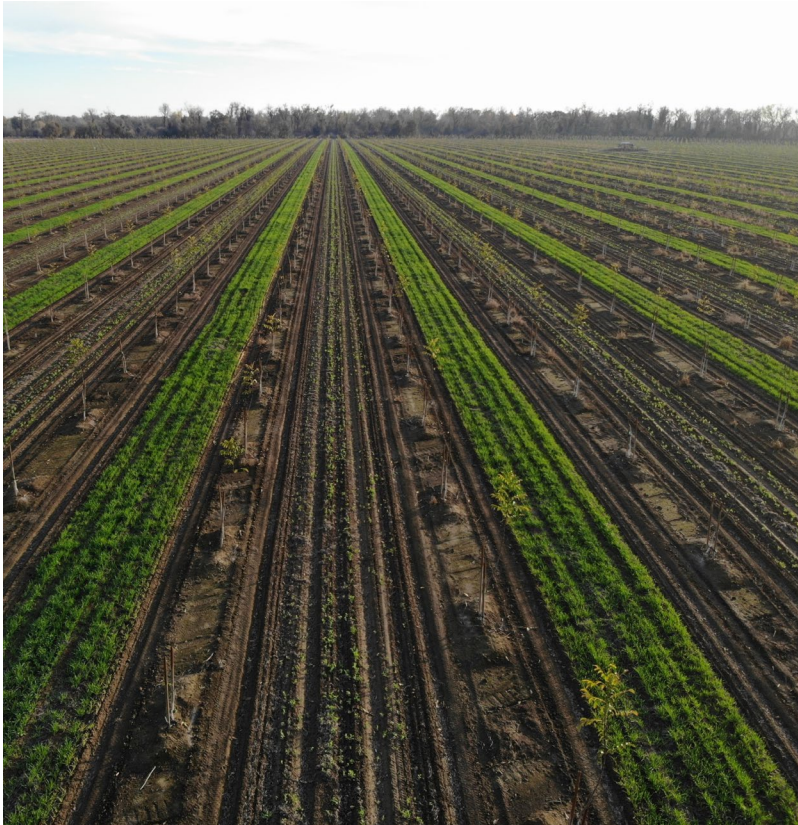
2020 HSP INCENTIVES PROGRAM AWARDED PROJECTS – IMPLEMENTATION

Whole Orchard Recycling



2020 HSP INCENTIVES PROGRAM AWARDED PROJECTS – IMPLEMENTATION

Cover Crop in Orchard



NEW MANAGEMENT PRACTICES UPDATE

- Proposals submitted between June 29, 2020 and August 28, 2020.
- 9 proposals received including practices such as biochar application, manure application, re-saturation of delta soils, food waste hydrolysate application, humates application and organic residential compost sharing.
- List of submitted proposals at:

<https://www.cdfa.ca.gov/oefi/healthysoils/docs/2020-HSPNewPracticesProposalsSummary.pdf>



Thank you!

Questions?

Contact us: CDFA.HSP_Tech@cdfa.ca.gov



AB 2377 Climate Smart Agriculture Technical Assistance Grants

Update to the Environmental Farming
Act Science Advisory Panel

January 14, 2021



Annual Information Sharing and Feedback Meeting

AB 2377 calls for CDFA to support “annual information sharing among technical assistance providers, the department, and other relevant stakeholders for the continuous improvement of programmatic guidelines, application processes, and relevant climate change and agricultural research.”



Topical Technical Assistance Meeting Schedule

Date	Time	Topic
12/16/2020	10 AM – noon	Gather Feedback and Provide CSA Updates
1/7/2021	1-2 PM	AMMP Review and Selection
1/12/2021	10-11 AM	HSP Review and Selection
1/19/2021	10 AM – noon	Project Showcase
2/2/2021	10 AM – noon	AB 2377 Priorities
2/23/2021	9 AM – noon	Lightning Sharing

Response to Survey

Review the statements below that refer to the HSP and/or AMMP solicitation in early 2020. Select the option that describes your experience as a technical assistance provider.

[More Details](#)

Strongly Agree Agree Neutral Disagree Strongly disagree

The CDFA CSA (HSP and/or AMMP) Request for Applications were clear.

The application process was straightforward.

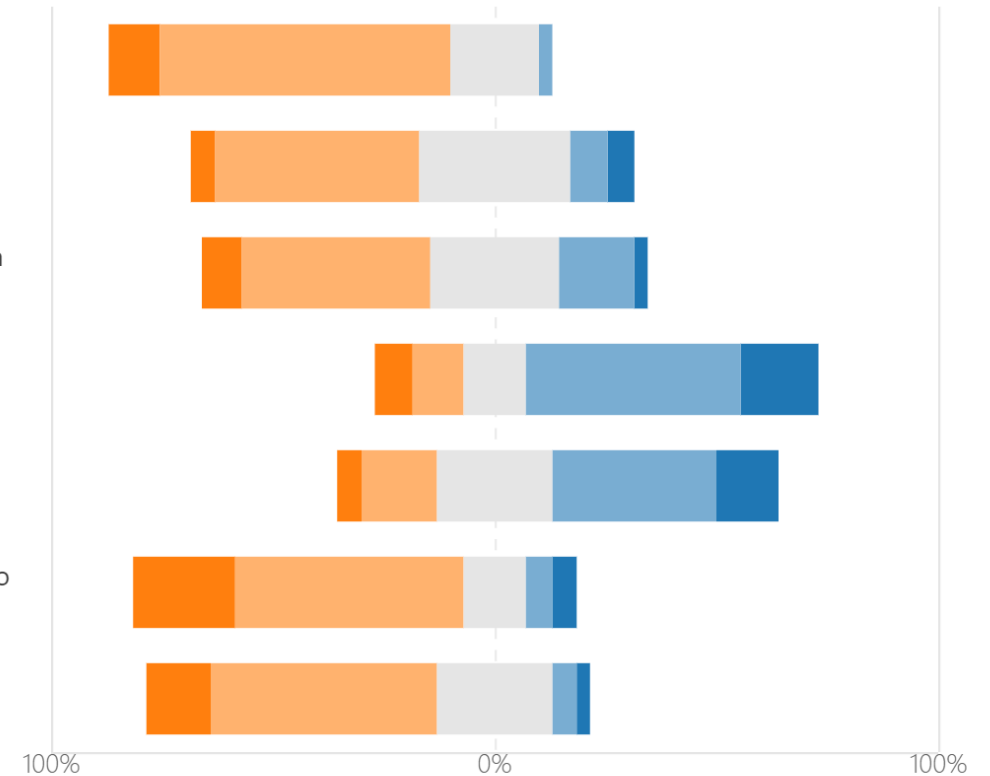
I had sufficient information to accomplish the tasks in the application process.

There was sufficient time to assist all those who needed it.

I was able to get questions answered from CDFA in a timely manner, when needed.

I was able to provide valuable assistance to those who requested it.

My organization developed a method to prioritize assistance.



Themes

- Difficult Timing
- Increase Communication
- Positives and Negatives of First-Come, First-Served Approach
- COVID & Other Challenges
- Unexpected Successes

Analysis of HSP Assistance

- 142 of total HSP applicants were Socially Disadvantaged Farmers & Ranchers (SDFR)
- 76 of 142 SDFRs were helped by TAP (54%)
- 372 applications were scored
 - 174 reported assistance from a TAP
 - 198 applications did not use TAPs.
- 97% of the TAP applications scored 40+ (of 60 points)
- Average score with TAP assistance was 47.4
- 91% of the Non-TAP applications scored 40+
- Average score without TAP assistance was 45.7

Future Considerations

- Planning for 2021 - 2022
 - 5% of climate smart agriculture appropriations in BY 2021-2022 will be made available for technical assistance grants. (AB 2377 2018)
 - HSP, AMMP, and SWEEP are included
 - Update the RFP and receive public comment
 - Update application materials and portal

Thank you!

Carolyn Cook, M.S
Sr. Env Scientist
Supervisor

<https://www.cdfa.ca.gov/oefi/technical/index.html>



"California" by Maxine Albro at Coit Tower