ENvironmental Farming Act Science Advisory Panel (EFA SAP) 
California Department of Food and Agriculture

Meeting Agenda
October 26, 2017

EFA SAP Membership
https://www.cdfa.ca.gov/oefi/efasap/
Don Cameron, Terranova Ranch, Member and Chair
Jocelyn Bridson, MSc, Rio Farms, Member and Co-Chair
Vicky Dawley, Tehama RCD, Member
Emily Wimberger, CalEPA, ARB, Member
Scott Couch, CalEPA, State Water Board, Member
David Bunn, PhD, Resources Agency, DOC, Member
Judith Redmond, Full Belly Farm, Member
Jeff Dlott, PhD, SureHarvest, Member
Julie Alvis, Resources Agency, Member
Scott Couch, CalEPA, State Water Board, Member
Amrith Gunasekara, PhD, CDFA Liaison to the Science Panel

Public Meeting
1:00 to 5:00 PM
1432 Abbott Street
Salinas, California 93901

Remote Access
Webinar information
Registration URL: https://attendee.gotowebinar.com/register/6520668388160303875
Please note the webinar is on listen-only mode.
For verbal questions and comments, please attend the meeting in person

Presentation materials will be posted at the following link prior to the meeting:
https://www.cdfa.ca.gov/EnvironmentalStewardship/Meetings_Presentations.html

Agenda

1. Introductions
   Chair Cameron
2. Welcome address
   Eric Lauritzen, Agricultural commissioner
   Robert Roach, Assistant Agricultural commissioner
3. Minutes from previous meeting
   Chair Cameron
4. SWEEP Update
   Ravneet Behla, PhD and Scott Weeks, CDFA OEFI
5. Healthy Soils Program Update
   Guihua Chen, PhD, CDFA OEFI
   - Process for adding new practices to the HSP
6. Strategic Planning on future topics
   Miriam Volat, UC Davis
   Amrith Gunasekara, PhD, CDFA OEFI
7. Public Comments
   Chair Cameron
8. Next Meeting and location
   Chair Cameron

Amrith (Ami) Gunasekara, PhD, CDFA Liaison to the Science Panel
All meeting facilities are accessible to persons with disabilities. If you require reasonable accommodation as defined by the American with Disabilities Act, or if you have questions regarding this public meeting, please contact Amrith Gunasekara at (916) 654-0433.
More information at: http://cdfa.ca.gov/Meetings.html and http://www.cdfa.ca.gov/EnvironmentalStewardship/Meetings_Presentations.html
MEETING MINUTES

Panel Members in Attendance

Don Cameron, Terranova Ranch (Chair and Member)
Vicky Dawley, Tehama RCD (Member)
Scott Couch, CalEPA, State Water Board (Member)
Bruce Gwynne (filling in for David Bunn, PhD., Natural Resources Agency (Member))
Judith Redmond, Full Belly Farm (Member)
Doug Parker, PhD. (Subject Matter Expert)
Tom Hedt, USDA NRCS (Subject Matter Expert)

State Agency Staff and Presenters

Claire Kremen, PhD. Berkeley Food Institute
Nina Ichikawa, Berkeley Food Institute
Whendee Silver, PhD. UC Berkeley
Ravneet Behla, PhD. CDFA
Guihua Chen, PhD. CDFA
Geetika Joshi, PhD. CDFA
Amrith Gunasekara, PhD. CDFA

AGENDA ITEM 1 – Introductions

The meeting was called to order at 1:12 PM. by the Chair, Mr. Don Cameron. Introductions were made. Present at the meeting were all the members noted above under “Panel Members in Attendance”. A quorum was established. Retiree Luana Kiger was thanked for her commitment and years of service as a Subject Matter Expert to the Science Panel. New Subject Matter Expert, Tom Hedt, was introduced and welcomed.

AGENDA ITEM 2 – Minutes from Previous Meeting

Chair Cameron introduced the minutes from the May 18, 2017 meeting. A motion was made by Mr. Gwynne to accept the minutes as presented by CDFA staff and the motion was seconded by Mr. Couch. The motion was moved by all members present and accepted without further changes.

AGENDA ITEM 3 – Berkeley Food Institute (BFI) Informational Presentation

Ms. Ichikawa introduced the Berkeley Food Institute. She gave an overview of their vision and mission, explaining their goals and three themes: good food access, fair and healthy jobs and agroecology. BFI is divided into research, policy, and education and
community engagement. Ms. Ichikawa introduced Dr. Kremen, faculty member at the University and co-director of BFI.

Dr. Kremen explained the increased demand for pollinators and the effects of decreased native pollinator populations on sunflowers. She discussed the costs, benefits, barriers and opportunities of diverse farming. Questions to Dr. Kremen and Ms. Ichikawa were facilitated by the Science Panel members and members of the public. Dr. Kremen encouraged the panel and public to provide feedback into the existing and future research she and BFI are engaged with.

AGENDA ITEM 4 – Compost Application on Rangelands Informational Presentation

Dr. Silver introduced the Compost Application on Rangelands research. She gave a short background presentation on her work in reducing carbon dioxide (CO₂) emissions to mitigate climate change. She discussed how CO₂ emissions are still increasing, which is contributing to climate change. Her research uses grasslands to pull CO₂ out of the atmosphere and increase soil carbon levels. Experiments on composted fields showed an increase in carbon sequestration and crop yield, as well as low methane emissions. She noted that ongoing projects of interest to CDFA include nitrate consumption by compost piles, causing low soil nitrate production, and the long-term impacts of compost application to rangelands. Dr. Silver and her team are currently processing compost samples and will be providing data on the sequestration of carbon when it becomes available. The present research phase ends in December and all of the sites (San Diego, Santa Barbara, Sacramento and Mendocino) show a net carbon sink when compost is applied. She explained the next steps in compost application research and acknowledged the people, agencies, and organizations involved in the research. Questions and comments from Science Panel members and the public were facilitated by Chair Cameron.

AGENDA ITEM 5 – OEFI Incentive Programs Updates

State Water Efficiency and Enhancement Program (SWEEP) Update
Dr. Gunasekara introduced Dr. Behla from the Office of Environmental Farming and Innovation SWEEP who provided an update and preliminary data analysis trends since 2014. Dr. Behla gave a brief introduction on SWEEP and funds allocated since 2014. He discussed the types of projects that are accepted for SWEEP grants and showed mathematical tables describing applications received and projects awarded. He briefly explained the DWR–CDFA Joint Pilot Project objective, goals and funding. Finally, Dr. Behla presented several graphs showing funding, applications, water savings and environmental impact statistics from 2014-2017. Questions and comments were facilitated by Science Panel members and the public.

Healthy Soils Program (HSP) Update
Dr. Gunasekara introduced Dr. Chen and Dr. Joshi who provided an update to the Panel on the Healthy Soils Program. Dr. Chen stated the Healthy Soils Incentives Program did not have any significant changes since the last Science Panel meeting. She explained the eight categories that public comments were placed into. All public comments were summarized and noted.
AGENDA ITEM 6 – Public Comments

Several questions and comments from the public were heard. They included establishing a standardization of measuring for project outcomes, making expectations for collaboration between farmers and researchers clearer, adding funding for on-farm compost facilities, inquiring about when the next HSP phase will be, collaborating with national or international partners on HSP and SWEEP, and plans for socially disadvantaged farmers, language barriers, and projects on Tribal Lands.

AGENDA ITEM 7 – Next Meeting and Location

Dr. Gunasekara stated that the next meeting will be October 26, 2017, in Monterey, CA. The meeting was adjourned at 4:19 pm by Chair Cameron.

Respectfully submitted by:

________________________________________  ____________________________________
Amrith Gunasekara, Ph.D.  Date
SWEEP UPDATE
EFA SCIENTIFIC ADVISORY PANEL
10.26.17

RAVNEET BEHLA
ENVIRONMENTAL SCIENTIST

SCOTT WEEKS
ENVIRONMENTAL SCIENTIST

CAROLYN COOK
SENIOR ENVIRONMENTAL SCIENTIST
$10 million

Emergency Drought Legislation Bill - SB 103
signed by Governor Brown on March 1, 2014

$10 million

AB 91 allocated additional funds March 27, 2015

$40 million


$7.5 million

The Budget Act of 2016, AB 1613 (Chapter 370, Statutes 2016)
CALIFORNIA DROUGHT, WATER, PARKS, CLIMATE, COASTAL PROTECTION, AND OUTDOOR ACCESS FOR ALL ACT OF 2018.

- Enrolled September 19, 2017
- Authorizes the issuance of $4 billion in bonds
- Must be approved by the voters on June 5th 2018

SB 5 (Chapter 11.6. 80147 (b))
Regional Sustainability for Drought and Groundwater, and Water Recycling:
“...funds made available pursuant to this section, up to twenty million dollars ($20,000,000) shall be available for the State Water Efficiency and Enhancement Program administered by the Department of Food and Agriculture.”
PROJECT TYPES

WATER CONSERVATION
- Sensors for Irrigation Scheduling (weather, soil or plant based)
- Micro-Irrigation or Drip Systems

GHG REDUCTIONS
- Fuel Conversion
- Improved Energy Efficiency
- Low Pressure Systems
- Variable Frequency Drives
- Reduced Pumping
MEDIA PROJECTS

- Producing videos that highlight SWEEP
- Highlight large and small farms as well as innovative projects.
- 3 shot and currently in production.
• Required to audit 10% of the projects (Completed 18%)
• Obtain energy and water records from agricultural operations
• Compute, compare, and report GHG emission reductions to ARB
• Received 2016 data from 22 SWEEP projects

• 4 Projects had substantial issues were not included in analysis:

18 projects were used for this analysis

| Total Estimated GHG and water savings | vs. | Total Actual Calculated GHG and water savings |
Actual savings are **3%** more than initially estimated.

Project GHG Savings = Savings per acre * acreage
Actual savings are 95% more than initially estimated.

Project Water Savings = Savings per acre * acreage

Estimated Water: 22,844.2
Actual Calculated Water: 44,566.5
• GHG Calculator more precise than Water Calculator
• Possible reasons:
  • Many projects have young newly planted trees
  • Water table in 2016 may still be low, resulting in more energy to extract water
• 2017 data should add clarity
SWEEP PROGRAM ANALYSIS
PROJECTS BY CROP CATEGORY (ROUNDS 1-3)

DISTRIBUTION OF PROJECTS AWARDED BY CROP CATEGORY (ROUNDS 1-3)

2014 - Rd 1
- Vineyards: 12%
- Annual Fruits & Vegetables: 16%
- Mixed: 11%
- Forage: 3%
- Row Crops: 8%
- Orchard: 50%

2014 - Rd 2
- Vineyards: 23%
- Annual Fruits & Vegetables: 17%
- Row Crops: 1%
- Orchard: 40%
- Nursery: 4%

2015 - Rd 3
- Vineyards: 13%
- Annual Fruits & Vegetables: 15%
- Mixed: 5%
- Forage: 3%
- Row Crops: 3%
- Orchard: 61%
PROJECTS BY CROP CATEGORY (ROUNDS 4-6)

DISTRIBUTION OF PROJECTS AWARDED BY CROP CATEGORY (ROUNDS 4-6)

2016 - Rd 4
- Vineyards: 15%
- Raw Crops: 7%
- Mixed: 9%
- Annual fruits & Vegetables: 11%
- Forage: 2%
- Orchard: 56%

2017 - Rd 6
- Vineyards: 9%
- Annual fruits & Vegetables: 17%
- Forage: 11%
- Mixed: 10%
- Orchard: 44%
- Nursery: 2%

2016 - Rd 5
- Vineyards: 11%
- Raw Crops: 12%
- Forage: 4%
- Annual fruits & Vegetables: 13%
- Mixed: 7%
- Orchard: 53%
DISTRIBUTION OF NUMBER OF AWARDS BY FARM SIZE (3 ROUNDS)

State average:
329 acres

<table>
<thead>
<tr>
<th>Total Award (Cap)</th>
<th>2016-Rd 4</th>
<th>2016-Rd 5</th>
<th>2017-Rd 6</th>
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</thead>
<tbody>
<tr>
<td>$16 M ($200K)</td>
<td>16.7%</td>
<td>10.3%</td>
<td>11.7%</td>
</tr>
<tr>
<td>$22 M ($200K)</td>
<td>25.4%</td>
<td>19.6%</td>
<td>14.1%</td>
</tr>
<tr>
<td>$7.5 M ($100K)</td>
<td></td>
<td>26.3%</td>
<td>67.5%</td>
</tr>
</tbody>
</table>
DISTRIBUTION OF FUNDS AWARDED ($) BY FARM SIZE

<table>
<thead>
<tr>
<th>Total Award (Cap)</th>
<th>$16 M ($200K)</th>
<th>$22 M ($200K)</th>
<th>$7.5 M ($100K)</th>
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</thead>
<tbody>
<tr>
<td>CAP</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>A(0-49)</td>
<td>7.98%</td>
<td>12.58%</td>
<td>10.01%</td>
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<tr>
<td>B(50-99)</td>
<td>37.5%</td>
<td>9.68%</td>
<td>9.44%</td>
</tr>
<tr>
<td>C(100-249)</td>
<td>18.20%</td>
<td>48.7%</td>
<td>64.5%</td>
</tr>
<tr>
<td>D(250-499)</td>
<td>19.73%</td>
<td>20.21%</td>
<td>18.44%</td>
</tr>
<tr>
<td>E(500-999)</td>
<td>26.44%</td>
<td>16.45%</td>
<td>23.70%</td>
</tr>
<tr>
<td>F(1000+)</td>
<td>29.03%</td>
<td>14.63%</td>
<td>22.39%</td>
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</tbody>
</table>
DISTRIBUTION OF NUMBER OF AWARDS AND FUNDS AWARDED PER ACRE BY FARM SIZE

<table>
<thead>
<tr>
<th>Total Award (Cap)</th>
<th>2016-Rd 4</th>
<th>2016-Rd 5</th>
<th>2017-Rd 6</th>
</tr>
</thead>
<tbody>
<tr>
<td>$16 M ($200K)</td>
<td>17%</td>
<td>17%</td>
<td>17%</td>
</tr>
<tr>
<td>$22 M ($200K)</td>
<td>25%</td>
<td>26%</td>
<td>13%</td>
</tr>
<tr>
<td>$7.5 M ($100K)</td>
<td>34%</td>
<td>49%</td>
<td>21%</td>
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</tbody>
</table>
AVERAGE GHG REDUCTION FOR PROJECT LIFE OF 10 YEARS BY FUNDING CATEGORY (4 ROUNDS)
AVERAGE WATER SAVINGS FOR PROJECT LIFE OF 10 YEARS BY CDFA INVESTMENT

<table>
<thead>
<tr>
<th>Total Award (Cap)</th>
<th>2015-Rd 3</th>
<th>2016-Rd 4</th>
<th>2016-Rd 5</th>
<th>2017-Rd 6</th>
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</thead>
<tbody>
<tr>
<td>$10 M ($150K)</td>
<td>335</td>
<td>791</td>
<td>889</td>
<td>707</td>
</tr>
<tr>
<td>$16 M ($200K)</td>
<td>578</td>
<td>701</td>
<td>790</td>
<td>287</td>
</tr>
<tr>
<td>$22 M ($200K)</td>
<td>931</td>
<td>1,264</td>
<td>962</td>
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<tr>
<td>$7.5 M ($100K)</td>
<td>1,973</td>
<td>2,602</td>
<td>1,275</td>
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</table>
SUMMARY OF ANALYSIS

- Projects awarded were fairly well distributed among farm sizes (regardless of the round and award cap).

- Distribution of projects correlate with number of applications received.

- Per acre improvement cost correlate negatively with farm size.

- GHG reduction and water saving positively correlate with the grant money awarded.

- Orchard crops benefited more followed by annual fruits/vegetables and vineyards. (regardless of SWEEP round).

- (It’s too early to follow up and analyze the impact of recent wildfires on SWEEP).
Objectives
To demonstrate the potential multiple benefits of conveyance enhancements combined with on-farm agricultural water use efficiency improvements and greenhouse gas reductions.

Goals
- Water use efficiency, conservation and reduction
- Greenhouse gas emission reductions
- Groundwater protection
- Sustainability of agriculture operations and food production

DWR FUNDING
$3 million for Agriculture Water Supplier - Proposition 1 §79746(a)(2) (2014)
50% cost sharing (waived/reduced for DAC/EDA)

CDFA FUNDING
$3 million for individual agriculture operations - AB1613 (Chapter 370, Statutes 2016)
Cost sharing encouraged but not required
DWR/CDFA JOINT PROJECT SELECTION

- DWR and CDFA staff acted as technical reviewers and independently scored projects

- 6 Reviewers: 3 from DWR and 3 from CDFA
  - Relevance and importance
  - Feasibility
  - Project Cost
  - Monitoring and Evaluation
  - Magnitude of GHG Reductions
  - Magnitude of Water Savings
  - Other Benefits (DAC, innovation)
  - Adopted an Integrated Regional Water Management Plan

- Reviewers met as a group to make final recommendations for award
DWR/CDFA JOINT PROJECT SELECTION

<table>
<thead>
<tr>
<th>Ag Water supplier</th>
<th>Ag Operations</th>
<th>Acreage impacted</th>
<th>DWR Funds Requested</th>
<th>CDFA Funds Requested</th>
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<tbody>
<tr>
<td>North San Joaquin Water Conservation District</td>
<td>19</td>
<td>1132</td>
<td>$3,000,000</td>
<td>$1,650,000</td>
</tr>
<tr>
<td>Ducks Unlimited, Inc.</td>
<td>1</td>
<td>200</td>
<td>$347,000</td>
<td>$17,700</td>
</tr>
<tr>
<td>Shafter-Wasco Irrigation District</td>
<td>3</td>
<td>347</td>
<td>$847,000</td>
<td>$504,000</td>
</tr>
<tr>
<td>Tulare Irrigation District</td>
<td>8</td>
<td>1941</td>
<td>$2,111,000</td>
<td>$1,285,000</td>
</tr>
</tbody>
</table>

DWR has announced $3 million in funding for the North San Joaquin Water Conservation District. The grant is part of the Agricultural Water Use Efficiency and Enhancement Program. The California Department of Food and Agriculture is also providing $3 million in funding for the project that will upgrade the district’s south system water conveyance and reduce the reliance on groundwater.
Water district is in a critically over-drafted groundwater basin.
- 7 mile pipeline using Supervisory Control And Data Acquisition (SCADA) control.
- 19 growers funded to install turnouts, IWM systems, and drip irrigation.

New pump GHG emissions - Farmers’ GHG Savings = Net GHG savings

Projected savings of 97 MTCO2e/yr
Life of project: 50 years
Project savings: 4,850 MTCO2e

237,745 miles driven by an average passenger vehicle
THANK YOU

Ravneet Behla, Ph.D.
Environmental Scientist, CDFA
Ravneet.Behla@cdfa.ca.gov

Scott Weeks
Environmental Scientist, CDFA
Scott.Weeks@cdfa.ca.gov

Carolyn Cook, M.Sc.
Senior Environmental Scientist, CDFA
Carolyn.Cook@cdfa.ca.gov
HEALTHY SOILS PROGRAM UPDATE

ENVIRONMENTAL FARMING ACT - SCIENCE ADVISORY PANEL

OCTOBER 26, 2017 MONTEREY
OUTLINE

• 2017 HSP UPDATE
  • INCENTIVES PROGRAM
  • DEMONSTRATION PROJECTS

• NEW HSP MANAGEMENT PRACTICES
  • SOLICITATION FOR PROPOSALS
  • EVALUATION TIMELINE

• NEW: FUNDING SOURCE FOR HEALTHY SOILS PROGRAM
2017 HSP Timeline

- 8/8/17 - 9/9/17: Grant Solicitation
- 9/20/17 - 10/12/17: Administrative Review
- 10/16/17 - 11/6/17: Technical Review
- 11/7/17 - 11/30/17: Proposal Ranking and Selection
- 12/5/17: Grant Awardees Announcement
- January 2018: Project Implementation to Begin
# 2017 HSP Incentives Program Applications Summary

<table>
<thead>
<tr>
<th>Category</th>
<th>#</th>
<th>Funds Requested (Million)</th>
<th>Matching Funds (Million)</th>
</tr>
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<tbody>
<tr>
<td>Received Applications</td>
<td>190</td>
<td>$2.84</td>
<td>$2.64</td>
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<tr>
<td>Incomplete Applications</td>
<td>121</td>
<td>$0.93</td>
<td>$0.77</td>
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<tr>
<td>Complete Applications</td>
<td>69</td>
<td>$1.99</td>
<td>$1.99</td>
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<tr>
<td>Applications Advanced for Technical Review</td>
<td>66</td>
<td>$1.92</td>
<td>$1.96</td>
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</table>
### 2017 HSP Incentives Program Applications Land Use Type Distribution

<table>
<thead>
<tr>
<th>Land Use Type</th>
<th>#</th>
<th>Funds Requested (Million)</th>
<th>Percent of total Requested funds</th>
</tr>
</thead>
<tbody>
<tr>
<td>Orchards</td>
<td>20</td>
<td>$0.54</td>
<td>29.0%</td>
</tr>
<tr>
<td>Grazed/rangeland</td>
<td>13</td>
<td>$0.43</td>
<td>23.1%</td>
</tr>
<tr>
<td>Annual/Perennial mixture</td>
<td>10</td>
<td>$0.38</td>
<td>20.1%</td>
</tr>
<tr>
<td>Annual Cropland</td>
<td>16</td>
<td>$0.28</td>
<td>15.2%</td>
</tr>
<tr>
<td>Vineyard</td>
<td>10</td>
<td>$0.24</td>
<td>12.6%</td>
</tr>
</tbody>
</table>
Total 69 applications from 27 counties

<table>
<thead>
<tr>
<th>County</th>
<th>#</th>
</tr>
</thead>
<tbody>
<tr>
<td>Merced</td>
<td>10</td>
</tr>
<tr>
<td>Sonoma</td>
<td>6</td>
</tr>
<tr>
<td>San Luis Obispo</td>
<td>5</td>
</tr>
<tr>
<td>Marin</td>
<td>5</td>
</tr>
<tr>
<td>Riverside</td>
<td>4</td>
</tr>
<tr>
<td>Santa Barbara</td>
<td>4</td>
</tr>
<tr>
<td>Colusa</td>
<td>3</td>
</tr>
<tr>
<td>Ventura</td>
<td>3</td>
</tr>
<tr>
<td>Fresno</td>
<td>2</td>
</tr>
<tr>
<td>Stanislaus</td>
<td>2</td>
</tr>
<tr>
<td>Tulare</td>
<td>2</td>
</tr>
<tr>
<td>Santa Cruz</td>
<td>2</td>
</tr>
<tr>
<td>Solano</td>
<td>2</td>
</tr>
<tr>
<td>Tehama</td>
<td>2</td>
</tr>
<tr>
<td>Lake</td>
<td>2</td>
</tr>
<tr>
<td>Napa</td>
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<tr>
<td>San Diego</td>
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<td>Yolo</td>
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<tr>
<td>Los Angeles</td>
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<tr>
<td>Del Norte</td>
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<tr>
<td>Inyo</td>
<td>1</td>
</tr>
<tr>
<td>Monterey</td>
<td>1</td>
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<tr>
<td>Sacramento</td>
<td>1</td>
</tr>
<tr>
<td>San Joaquin</td>
<td>1</td>
</tr>
<tr>
<td>San Mateo</td>
<td>1</td>
</tr>
<tr>
<td>Siskiyou</td>
<td>1</td>
</tr>
<tr>
<td>Tuolumne</td>
<td>1</td>
</tr>
</tbody>
</table>
FEEDBACK FROM WORKSHOP PROVIDERS

**TIME CONSTRAINTS**
- Insufficient time to submit applications.
- Timing did not work for applicants due to scheduling conflicts.

**PAYMENT RATES NOT SUFFICIENT**
- Especially for Compost Application, Cover Crop, Herbaceous Vegetative Barriers and Windbreak Establishment

**DIFFICULTY TO ENSURE COST SHARING IN YEAR 3**

**APPLICATION REQUIRED A LARGE AMOUNT OF INFORMATION**

**PRACTICE IMPLEMENTATION AND MANAGEMENT NEED MORE FLEXIBILITY**

**TECHNICAL ASSISTANCE: ONE-ON-ONE ASSISTANCE IS MORE EFFICIENT THAN WORKSHOPS**
OUTLINE

• 2017 HSP UPDATE

• INCENTIVES PROGRAM

• DEMONSTRATION PROJECTS

• NEW HSP MANAGEMENT PRACTICES

  • SOLICITATION FOR PROPOSALS
  • EVALUATION TIMELINE

• NEW: FUNDING SOURCE FOR HEALTHY SOILS PROGRAM
## 2017 HSP Demonstration Projects Applications Summary

<table>
<thead>
<tr>
<th>Category</th>
<th>#</th>
<th>Funds Requested (Million)</th>
<th>Matching Funds (Million)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Received Applications</td>
<td>82</td>
<td>$5.9</td>
<td>$3.9</td>
</tr>
<tr>
<td>Incomplete Applications</td>
<td>55</td>
<td>$1.3</td>
<td>$0.4</td>
</tr>
<tr>
<td>Complete Applications</td>
<td>27</td>
<td>$4.7</td>
<td>$3.5</td>
</tr>
<tr>
<td>Applications advanced for Technical Review</td>
<td>25</td>
<td>$4.4</td>
<td>$3.3</td>
</tr>
<tr>
<td>Land Use Type</td>
<td>#</td>
<td>Funds Requested (Million)</td>
<td>Percent of total Requested funds</td>
</tr>
<tr>
<td>----------------------------</td>
<td>----</td>
<td>---------------------------</td>
<td>----------------------------------</td>
</tr>
<tr>
<td>Annual Cropland</td>
<td>7</td>
<td>$1.3</td>
<td>27.8%</td>
</tr>
<tr>
<td>Orchards</td>
<td>7</td>
<td>$1.2</td>
<td>26.6%</td>
</tr>
<tr>
<td>Grazed/Rangeland</td>
<td>7</td>
<td>$1.2</td>
<td>25.4%</td>
</tr>
<tr>
<td>Mixed Cropland</td>
<td>5</td>
<td>$0.7</td>
<td>15.0%</td>
</tr>
</tbody>
</table>
**2017 HSP Demonstration Projects Applications Distribution by County**

- **Total 27 applications from 23 counties**

<table>
<thead>
<tr>
<th>County</th>
<th>Type A</th>
<th>County</th>
<th>Type B</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fresno</td>
<td>2</td>
<td>Sonoma</td>
<td>3</td>
</tr>
<tr>
<td>Yolo</td>
<td>2</td>
<td>Yolo</td>
<td>2</td>
</tr>
<tr>
<td>San Diego</td>
<td>2</td>
<td>Los Angeles</td>
<td>1</td>
</tr>
<tr>
<td>Madera</td>
<td>1</td>
<td>Contra Costa</td>
<td>1</td>
</tr>
<tr>
<td>Merced</td>
<td>1</td>
<td>Monterey</td>
<td>1</td>
</tr>
<tr>
<td>Tehama</td>
<td></td>
<td>Nevada*</td>
<td>1</td>
</tr>
<tr>
<td>Merced</td>
<td>1</td>
<td>Placer</td>
<td></td>
</tr>
<tr>
<td>San Joaquin</td>
<td>1</td>
<td>San Mateo</td>
<td>1</td>
</tr>
<tr>
<td>Sutter</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>San Diego</td>
<td>1</td>
<td>Santa Clara</td>
<td>1</td>
</tr>
<tr>
<td>San Luis Obispo</td>
<td>1</td>
<td>Santa Cruz</td>
<td>1</td>
</tr>
<tr>
<td>Santa Barbara</td>
<td>1</td>
<td>Shasta</td>
<td>1</td>
</tr>
<tr>
<td>Yuba</td>
<td>1</td>
<td>Siskiyou</td>
<td>1</td>
</tr>
</tbody>
</table>

*Applications were claimed as Type A projects without GHG measurements.
OUTLINE

• 2017 HSP UPDATE
  • INCENTIVES PROGRAM
  • DEMONSTRATION PROJECTS

• NEW HSP MANAGEMENT PRACTICES
  • SOLICITATION FOR PROPOSALS
  • EVALUATION TIMELINE

• NEW: FUNDING SOURCE FOR HEALTHY SOILS PROGRAM
SOLICITATION FOR PROPOSALS ON NEW HSP MANAGEMENT PRACTICES

• Nutrient Management (NRCS CPS590)
  • To reduce nitrous oxide (N2O) emissions from Ag. lands
    • Slow or controlled release fertilizers
    • Nitrification inhibitors
    • 15% Reduction in N application rate

• Other NEW management practices
  • Process for Evaluation
TIMELINE FOR EVALUATION OF NEW HSP MANAGEMENT PRACTICES

- **SOLICITATION FOR PROPOSALS**: Nov. 1 - Nov. 30, 2017
- **PROPOSAL REVIEW AND EVALUATION**: December 2017 - February 2018
- **ANNOUNCEMENT OF SHORTLISTED PRACTICES AT THE HSP WEBSITE AND AT THE EFA-SAP MEETING**: March 2018
- **QM DEVELOPMENT BY CARB & PUBLIC PROCESS**: February - May, 2018

Dates subject to change
POTENTIAL REVISION TO CURRENT HSP PROGRAM REQUIREMENTS

• Should continuation of practices that are currently implemented be eligible for funding?
  • Maryland Cover Crop Program Example

• Should CDFA consider increasing payment rates for eligible practices?
  • Feedback from growers and Technical Assistance Workshop providers
OUTLINE

- 2017 HSP UPDATE
  - INCENTIVES PROGRAM
  - DEMONSTRATION PROJECTS
- NEW HSP MANAGEMENT PRACTICES
  - SOLICITATION FOR PROPOSALS
  - EVALUATION TIMELINE
- NEW: FUNDING SOURCE FOR HEALTHY SOILS PROGRAM
Chapter 10. Climate Preparedness, Habitat Resiliency, Resource Enhancement, And Innovation

80134. (b) Of the amount subject to this section, the sum of ten million dollars ($10,000,000) shall be available to the Department of Food and Agriculture for grants to promote practices on farms and ranches that improve agricultural and open-space soil health, carbon soil sequestration, erosion control, water quality, and water retention.
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POTENTIAL TOPICS TO FOCUS ON FOR EFA SAP

EFA Scientific Advisory Panel

10.26.17

AMRITH GUNASEKARA, PHD
CDFA EFA SAP LIAISON
AG TECHNOLOGY AND INNOVATION

- Precision Ag
- Investments including private-public partnerships
- Research needs
- Imaging (drones and satellites)
- Gene editing technologies
- Plant breeding for specific traits
- New soil/pour water testing tools (e.g., quick tests)
- Plant sensors
- Pest control technologies
- Technology growers demonstration and training center
TOPICS

NATIVE PLANT CONSERVATION AND HABITAT FOR MIGRATORY SPECIES

• Incentives to ensure habitat for native plant species on agricultural “private” lands
• Pilot projects (e.g., rice)
• Methods for quantification of benefits
• Research needs
• Partnerships
FARM DEMONSTRATION NETWORK

- Support the network (CDFA is member of it)
- Partners have signed MOU (blog post)
- Conservation tillage is central theme but building carbon is important part of it
- Potential tie in HSP funding into network with additional funding through programs like RCCP
- Establish efforts to grow network
- Invest in efforts to provide local assistance to growers
“The department shall establish and oversee an environmental farming program. The program shall provide incentives to farmers whose practices promote the well-being of ecosystems, air quality, and wildlife and their habitat.”
“The department may assist in the compilation of scientific evidence from public and private sources, including the scientific community, industry, conservation organizations, and federal, state, and local agencies identifying the net environmental impacts that agriculture creates for the environment. The department shall serve as the depository of this information and provide it to federal, state, and local governments, as needed.”
“(1) Review data on the impact that agriculture has on the environment and recommend to appropriate state agencies data that the panel approves as scientifically valid.”

(2) Compile the net environmental impacts that agriculture creates for the environment.

(3) Research, review, and comment on data upon which proposed environmental policies and regulatory programs are based to ensure that the environmental impacts of agricultural activities are accurately portrayed and to identify incentives that may be provided to encourage agricultural practices with environmental benefits.

(4) Assist government agencies to incorporate benefits identified pursuant to paragraph (1) into environmental regulatory programs.
Establish Healthy Soils Program
Include Incentives and Demonstration Projects
Fund incentives via loans, grants, research, and technical assistance
May provide priority funding to DAC and those providing environmental benefits such as improved air and water quality, improved crop yield, and reduced soil erosion
Panel will advise on scientific findings, program framework, guidelines, grower incentive, and providing technical assistance.
Establish a technical advisory committee for demonstration projects
Work with ARB on Quantification Methodologies and funding guidelines