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

MEETING AGENDA
July 20, 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
Jeff Dlott, PhD, SureHarvest, Member
Judith Redmond, Full Belly Farm, Member
Julie Alvis, Resources Agency, Member
Doug Parker, PhD, Subject Matter Expert
Tom Hedt, USDA NRCS, Subject Matter Expert

EFA SAP Members only (informational items)
8:30 AM to 12:30 AM
Lawrence Berkeley National Lab Presentations and Tour
1 Cyclotron Rd, Berkeley, CA 94720

Public Meeting
1 PM to 5 PM
103 Mulford Hall
University of California Berkeley
Berkeley, CA 94720

REMOTE ACCESS
Webinar information
Registration URL: https://attendee.gotowebinar.com/register/6972746885402918401
Webinar ID: 963-861-899
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

1. Introductions	Chair Cameron
2. Minutes from previous meeting	Chair Cameron
3. Berkeley Food Institute (BFI) Informational Presentation	Claire Kremen, PhD, and Nina Ichikawa (BFI)
4. Compost Application on Rangelands Informational Presentation	Whendee Silver, PhD (UC Berkeley)
5. OEFI Incentive Programs Updates	
• State Water Efficiency and Enhancement Program	Ravneet Behla, PhD (CDFA)
• Healthy Soils Incentives Program	Guihua Chen, PhD and Geetika Joshi, PhD (CDFA)
• Healthy Soils Demonstration Projects	Guihua Chen, PhD and Geetika Joshi, PhD (CDFA)
6. Public comments	Chair Cameron
7. 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

Planting Seeds - Food & Farming News from CDFA - plantingseedsblog.cdfa.ca.gov

CDFA Honors Environmental Farming Science Advisory Panel Member Luana Kiger on Her Retirement

Posted on June 30, 2017 by Office of Public Affairs

CDFA science adviser Dr. Amrith Gunasekara presents a proclamation from Secretary Karen Ross honoring the USDA's Luana Kiger for her service to CDFA's Environmental Farming Act Science Advisory Panel

The Environmental Farming Act Science Advisory Panel (Science Panel), appointed by CDFA Secretary Karen Ross, has the critical job of assessing and documenting agriculture's positive impacts on the environment. The group examines issues like ecosystem services and how they relate to agriculture. The panel has also been responsible for developing the framework for the State Water Efficiency and Enhancement Program (SWEEP) and the Healthy Soils Program (HSP) – two new incentive programs designed to reduced atmospheric greenhouse gases, save water, sequester carbon and increase soil health.

Luana Kiger, Special Assistant to the State Conservationist for the United States Department of Agriculture's Natural Resources Conservation Service (NRCS) in California, is one of the founding members of the Science Panel, and her service concludes July 3 when she retires as a federal employee.

"NRCS California, under the leadership of State Conservationist Carlos Suarez, has been an incredible partner for us and Luana has provided many hours of time and advice as we worked to build our incentive programs" said Secretary Ross.

Science Panel chair Don Cameron said, “Luana has been a very engaging member of the Science Panel and provided lots of good direction on our programs. We are going to miss her participation but we are happy she is beginning a new chapter of her life.”

Ms. Kiger has also helped the Science Panel make important connections with other technical staff in NRCS and other federal agencies.

“Having a key contact person with the right technical expertise at the federal level who can not only provide advice to you but also connect you to other pertinent technical and policy staff is key to getting things done in a timely manner,” said Dr. Amrith Gunasekara, CDFA’s liaison to the science panel and science adviser to the secretary.

Related

California and Australia - a continuing partnership
March 30, 2017
In "Climate Smart Agriculture"

Cannella Panel to hold first public meeting on November 7th at CDFA
November 2, 2011
In "Cannella Panel"

Secretary Ross Announces Science Advisor and Environmental Farming Appointments
August 16, 2011
With 2 comments

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

CDFA Auditorium
1220 N Street
Sacramento, CA

May 18, 2017
9:30 A.M. – 5:00 P.M.

MEETING MINUTES

Panel Members in Attendance

Don Cameron (Chair and Member)
Vicky Dawley (Member)
Jeff Dlott, PhD. (Member)
Julie Alvis, Natural Resources Agency (Member)
Bruce Gwynn (filling in for David Bunn, PhD.), Natural Resources Agency (Member)
Scott Couch, State Water Resources Control Board (Member)
Emily Wimberger, PhD. Air Resources Board (Member)
Luana Kiger, MSc. USDA NRCS (Subject Matter Expert)
Doug Parker, PhD. UC ANR (Subject Matter Expert)

State Agency Staff and Presenters

Bonnie Soriano, MSc. Air Resources Board
Benjamin Nicholson, Air Resources Board
Matthew Harrison, Air Resources Board
Guihua Chen, PhD. CDFA
Geetika Joshi, PhD. CDFA
Amrith Gunasekara, PhD. CDFA

AGENDA ITEM 1 - Introductions

The meeting was called to order at 9:34 AM 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 of six members was established.

AGENDA ITEM 2 – Minutes from Previous Meeting

Chair Cameron introduced the minutes from the March 16, 2017 meeting. A motion was made by Mr. Gwynn to accept the minutes as presented by CDFA staff and the motion was seconded by Ms. Alvis. The motion was moved by all members present and accepted without further changes.

AGENDA ITEM 3 – Healthy Soils Program (HSP)

A summary of activities related to the HSP was provided by Dr. Joshi. Dr. Chen provided background of the Healthy Soils Initiative and overview of HSP followed by a summary of the public comments received during January 1 to April 21, 2017 public comment period. Staff from the Air Resources Board (ARB) also provided an update on the Quantification Methodologies for the Science Panel members.

There were a total of 37 emails comments/comment letters covering five categories: funding, compost application, incentives and demonstration programs and others. Dr. Joshi responded to each public comment by either providing a direct answer or noting that it is addressed in the programmatic framework.

Questions were entertained by CDFA staff from Panel members. Chair Cameron inquired about the eligibility of leased lands as leasing terms may vary and not be consistent with the project implementation term of three years. Dr. Gunasekara noted that CDFA will evaluate this inquiry further and will be open to suggestions and recommendations by panel members. He noted that the application will request the landowner to provide information to CDFA to ensure funded practices be conducted and maintained in the project term and meet the programmatic requirements. Suggestions were made to ensure the landowner is involved in cases of leased land during the project term.

Dr. Dlott inquired if demonstration projects will lead to increased adoption on other agricultural lands/farms to bring about greater greenhouse gas (GHG) reductions. Dr. Parker asked if the demonstration projects will address and document other multiple benefits besides GHG reductions. Dr. Gunasekara noted that both these questions are being taken into consideration in the programmatic framework and CDFA is looking to include such characteristics into the HSP and application.

Several questions on compost were facilitated by CDFA staff. CDFA staff referred members to the Compost Application White Paper report that was developed through the Science Panel. CDFA noted that details on compost sources and use are highlighted in the report and that these details will be further reflected in the solicitation for clarity.

Ms. Wimberger inquired about technical assistance for the HSP. CDFA noted that technical assistance will be provided by funds allocated from the Strategic Growth Council in the amount of $25,000.

Members inquired about the standard payment rates for each practice and for greater clarity in what the payment rates covered. CDFA staff provided explanation of what costs are covered in the standard payment rates adopted from USDA NRCS including cost for labor, equipment and seed for cover crops. Ms. Kiger noted that USDA NRCS pays 50% of the total cost. CDFA staff noted that payment rates will be doubled since HSP covers the total cost for awardees in the first two years.

Dr. Jeff Dlott asked for clarification on who are eligible as applicants and if industry and grower associations will be eligible for Demonstration Projects. Dr. Joshi stated that the primary or lead applicants the HSP are targeting on the Demonstration Projects are not-for-profit entities and other entities such as farmer or industry can be collaborators which may bring matching funds to the projects.

Members inquired about the timeline for the HSP including public comment period, how matching funds are required for the third year of participation, if costs for monitoring are covered by HSP funds, whether the technical reviewers will be the same for both programs. CDFA staff responded to the comments and noted that monitoring costs are covered by the program and the technical reviewers are different for each program with incentive applications being reviewed by experts at the university level and demonstration projects being reviewed by state scientists.

Requests were made by members to include more details on Disadvantage Community requirements (Ms. Wimberger) and provide clear and easy to follow application guidelines

(Ms. Alvis).

AGENDA ITEM 4 – Public Comment

Several questions and comments from the public were heard. They included reasons as to why on-farm compost is not being considered in the program and why at least one soil management practice must be included in all applications. Comments from the public attendees included noting that USDA NRCS payments are too low, requirements for baseline soil data requires more time and may not be required to stand up to the HSP, application requirements described in the presentation seem complicated, allocated additional review points to co-benefits and ecosystem services, ensure that any grasslands in the program are grazed grasslands, include on-farm composting in the HSP, the 200 person requirement for demonstration projects are too high, might be difficult to secure matching funds for demonstration projects, combination of monitoring for GHGs and demonstration projects are not practical, insufficient funding amounts for GHG monitoring as part of the demonstration projects and that the solicitation must be released for public comment prior to being released for collecting applications.

AGENDA ITEM 5 – EFA SAP Recommendations for the CDFA HSP

In consideration of the comments made by the Science Panel members and the public, Chair Cameron advised CDFA staff to work to include as many suggestions and comments into the HSP solicitation and finalize the Request for Applications (RFA). Chair Cameron recommended, along with other members of the Science Panel, that the solicitation be posted for a two week public comment period and consideration of those public comments prior to its release. CDFA staff noted that they will finalize the solicitation (RFA) and release it for public comment. CDFA staff will also provide an update on the comments at the next Science Panel meeting as an informational item.

AGENDA ITEM 6 – Next Meeting and Location

Dr. Gunasekara noted that the next meeting is scheduled for July 20, 2017 in Berkeley California. The meeting will held on the campus of the University of California. The meeting was adjourned at 3:10 pm.

Respectfully submitted by:

Amrith Gunasekara, Ph.D. Date

Berkeley Food Institute:
Cultivating Diversity, Justice, Resilience and Health

Nina F. Ichikawa
EFA-SAP Meeting
July 20, 2017

Context: Critical Trends in Food Systems

Pervasive Environmental Impacts

Pervasive Human Impacts

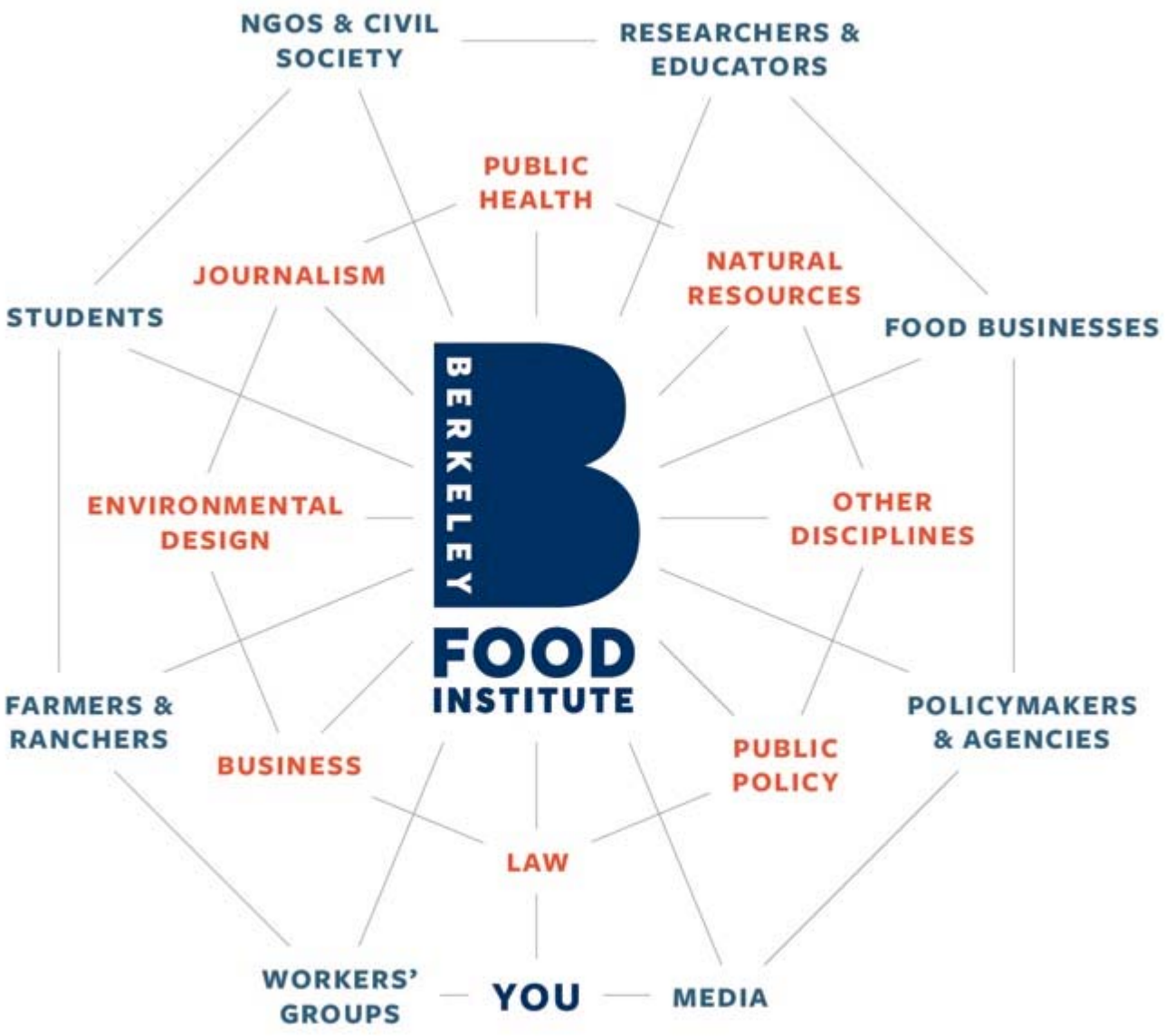
- Skyrocketing rates of diet-related diseases
- Widening social inequality = greater need for food aid at home and abroad
- Heightened consumer interest, desire for transparency
- Local food impacts local economies

"Never before have consumers been so food engaged"

(Hartman Group)

BERKELEY FOOD INSTITUTE

Vision and Mission: The Berkeley Food Institute seeks to transform food systems—to expand access to healthy, affordable food and promote sustainable and equitable food production. We empower new leaders with capacities to cultivate diverse, just, resilient, and healthy food systems.



BERKELEY FOOD INSTITUTE

140 Affiliated faculty

Priority Themes/Goals

BERKELEY FOOD INSTITUTE

Programs

- **Research: Interdisciplinary, Innovative, Action-Oriented**
- **Policy**
- **Education**
- **Community Engagement**

BERKELEY FOOD INSTITUTE

Research

- **Seed Grant Research Projects (2013-16)**
- **2017-18 Targeted Research Initiatives**
  - **Diversified Farming Systems/Soil Health**
  - **Agricultural Labor**
  - **Urban Agroecology and Food Security**

BERKELEY FOOD INSTITUTE

Interdisciplinary, collaborative, innovative, potential to affect policy

Policy

- **Linking Research to Policy Change**
  - **Communication and Outreach With Policy Groups and Policymakers on Critical Issues**
  - **Workshops and Training With Faculty & Policymakers**
  - **Policy Analysis Projects: Soil Health & Organic Ag State Policies**

USDA

FAO FIAT PANIS

BERKELEY FOOD INSTITUTE

Research to Inform Policy

Soil Health and Carbon Sequestration in US Croplands: A Policy Analysis

Prepared for: Natural Resources Conservation Service (NRCS) of the United States Department of Agriculture (USDA) and the Berkeley Food Institute (BFI)

By: Léopold Biardeau, Rebecca Crebbin-Coates, Ritt Keerati, Sara Litke, and Hortencia Rodríguez
Goldman School of Public Policy, University of California Berkeley

May 2016

ISSN: 2168-3565 (Print) 2168-3573 (Online) Journal homepage: http://www.tandfonline.com/loi/wjsa21

Factors Influencing Farmer Adoption of Soil Health Practices in the United States: a Narrative Review

Liz Carlisle

To cite this article: Liz Carlisle (2016): Factors Influencing Farmer Adoption of Soil Health Practices in the United States: a Narrative Review, Agroecology and Sustainable Food Systems, DOI: 10.1080/21683565.2016.1156596

To link to this article: http://dx.doi.org/10.1080/21683565.2016.1156596

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Education & Community Engagement

- BFI Public Forums, Seminars and Other Educational Events
- Student Fellowships/Leadership Program
- Minor in Food Systems
- Equity and Inclusion in Food Programming
- UC Gill Tract Community Farm

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B engaged!

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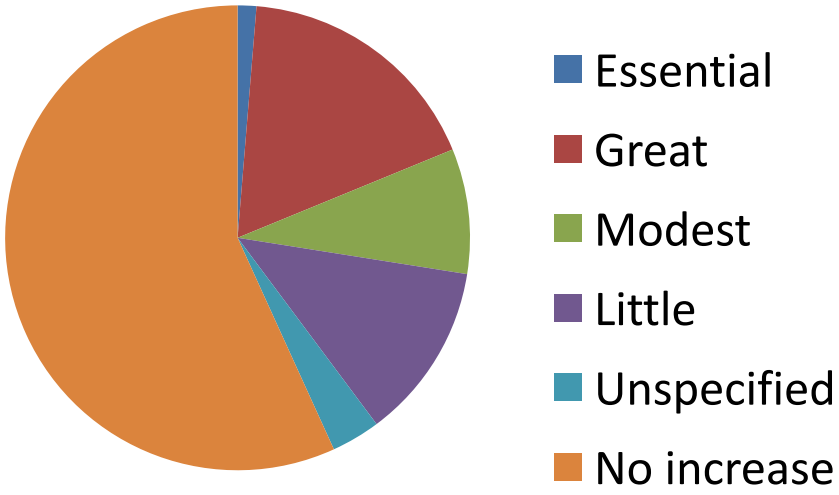
Assessing the benefits, costs, barriers and opportunities for diversified farming systems

Professor Claire Kremen
Faculty Co-Director
Berkeley Food Institute

Environmental challenges for California agriculture

CA Specialty Crops: dependency on pollinators



California crops, $29 billion;
Pollinator-dependent crops, $11 billion

Chaplin-Kramer, Tuxen-Bettman & Kremen 2011

Colony Collapse Disorder

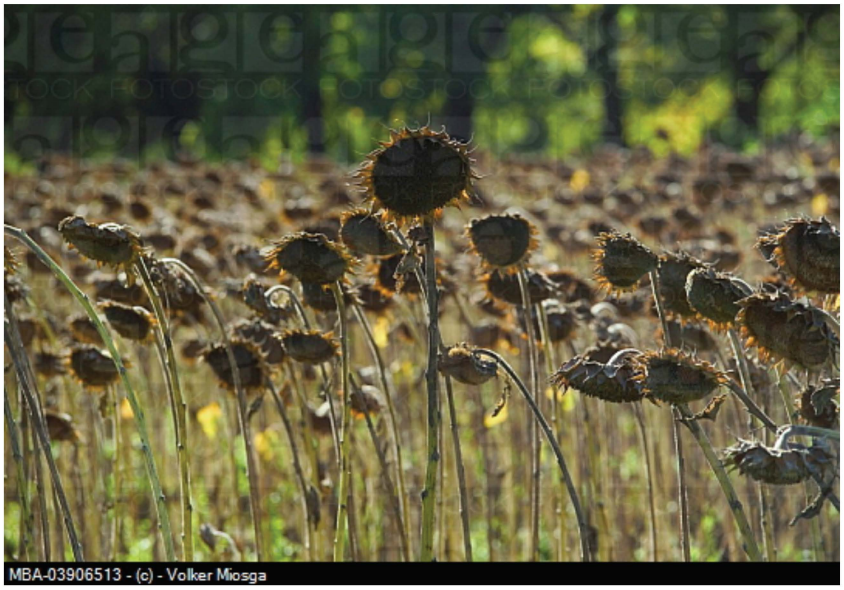
California crops, $29 billion;
Pollinator-dependent crops,
$11 billion

Chaplin-Kramer, Tuxen-Bettman & Kremen 2011

Food safety issues

Vulnerability?

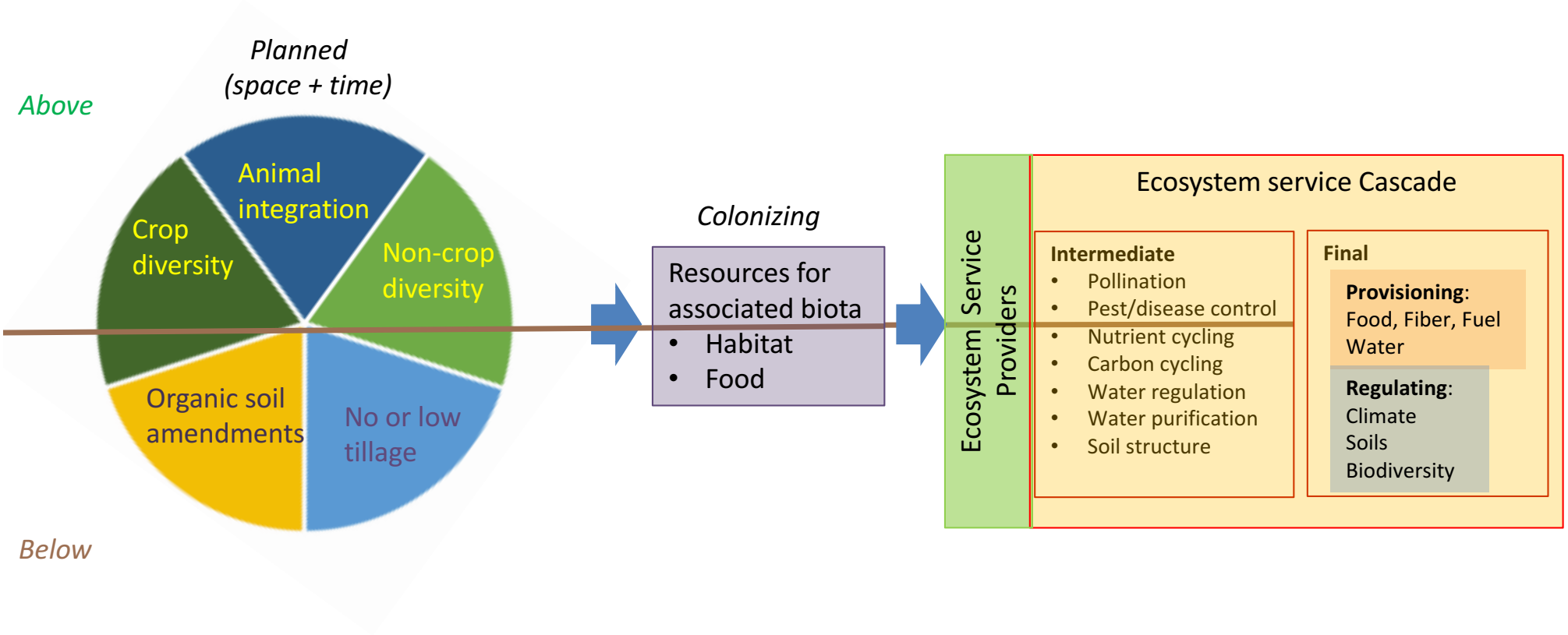
Contribution?


MBA-03906513 - (c) - Volker Miosga

Research Questions (Center for Diversified Farming Systems):

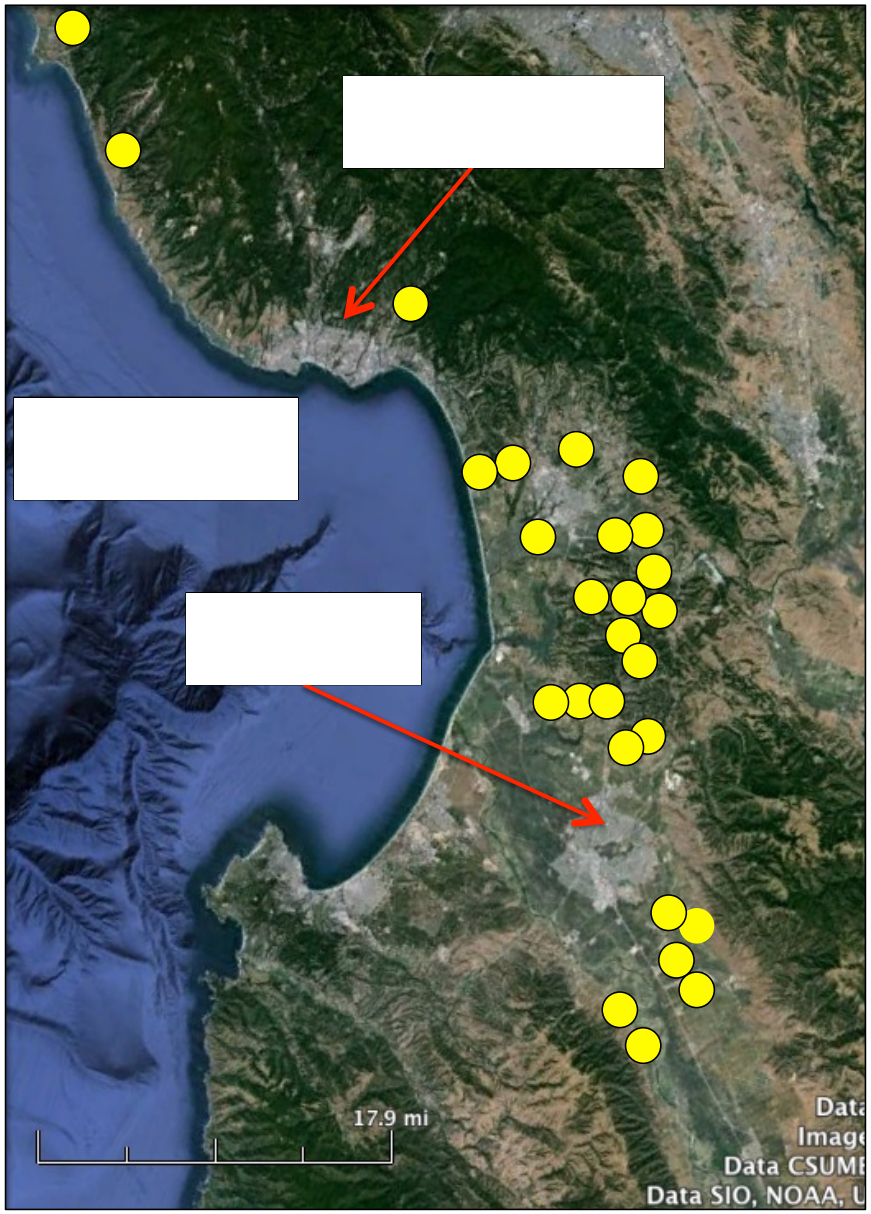
1. **How does diversification of farming systems affect biodiversity, and in turn, ecosystem services?**
2. How does diversification affect crop yields, economic performance and resilience?
3. **Understand grower experiences with diversified farming practices – barriers, opportunities.**

DFS: Conceptual Model



Diversified Farming System

California's Central Coast region



Diversified Farm

Diverse Landscape

Simple

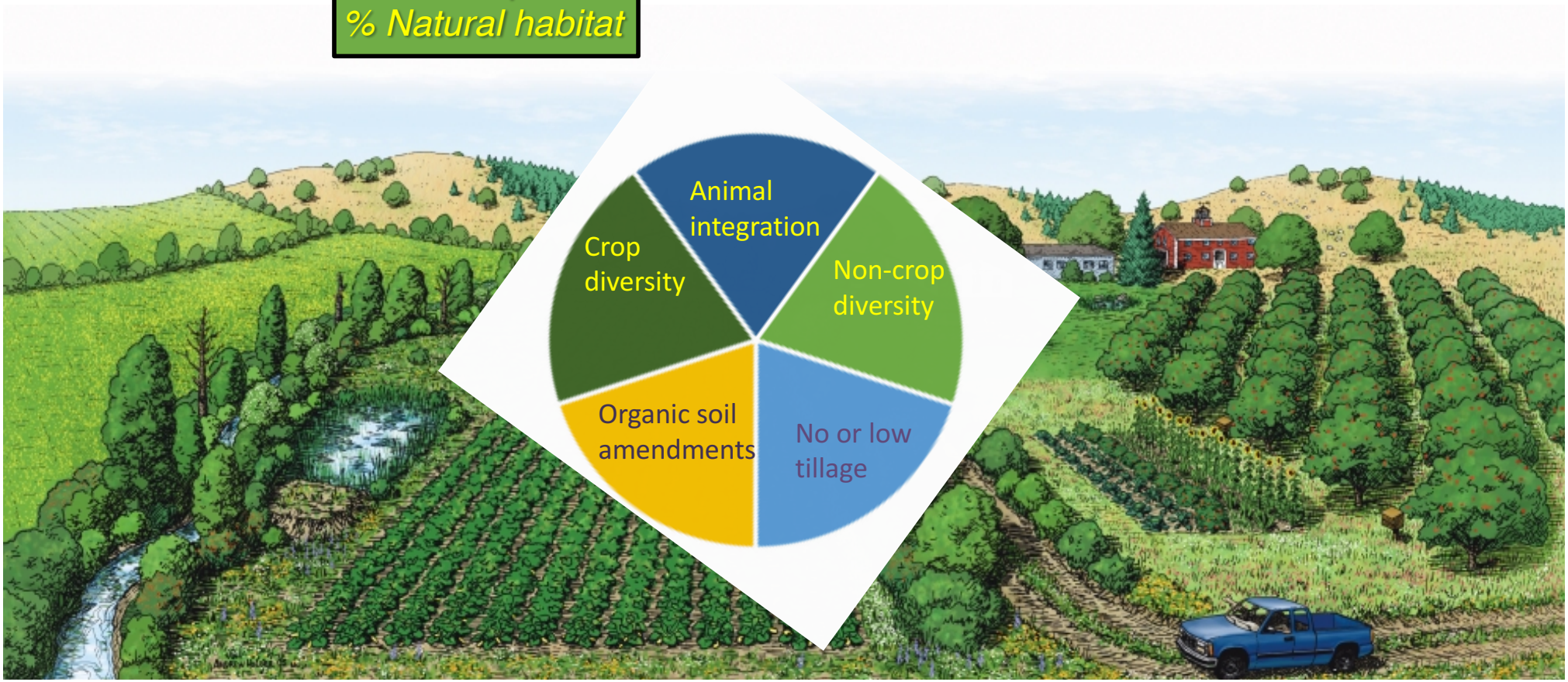
Diversification practices we observed

Crop diversity
Crop rotation
Cover cropping
Fallow field

Hedgerows
Flower strips
Windblocks
Sediment
Retention ponds
% Natural habitat

Livestock

Compost
Fertigation



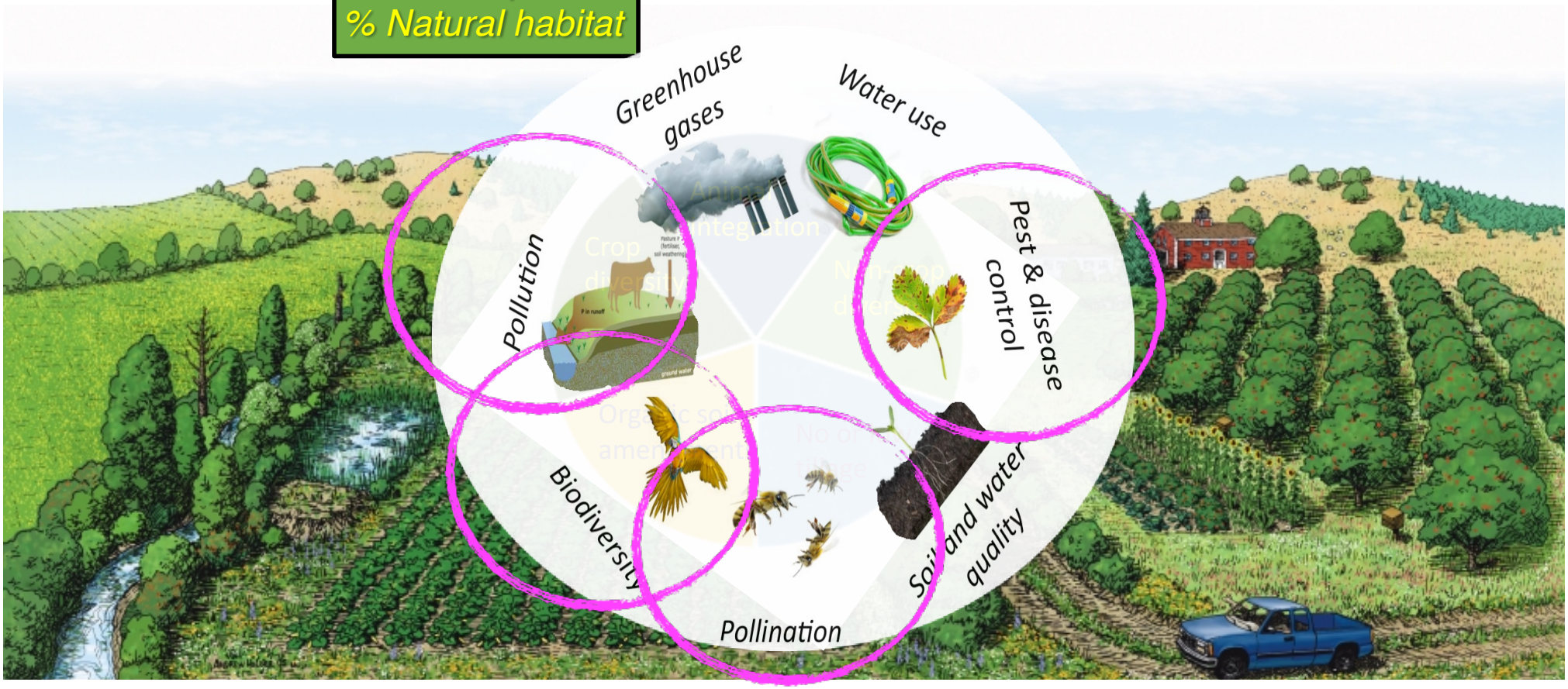
Ecosystem services we measured

Crop diversity
Crop rotation
Cover cropping
Fallow field

Hedgerows
Flower strips
Windblocks
Sediment
Retention ponds
% Natural habitat

Livestock

Compost
Fertigation



Preliminary results: pollinator biodiversity

Diversification → Biodiversity

Farm → Pollinator abundance (+)

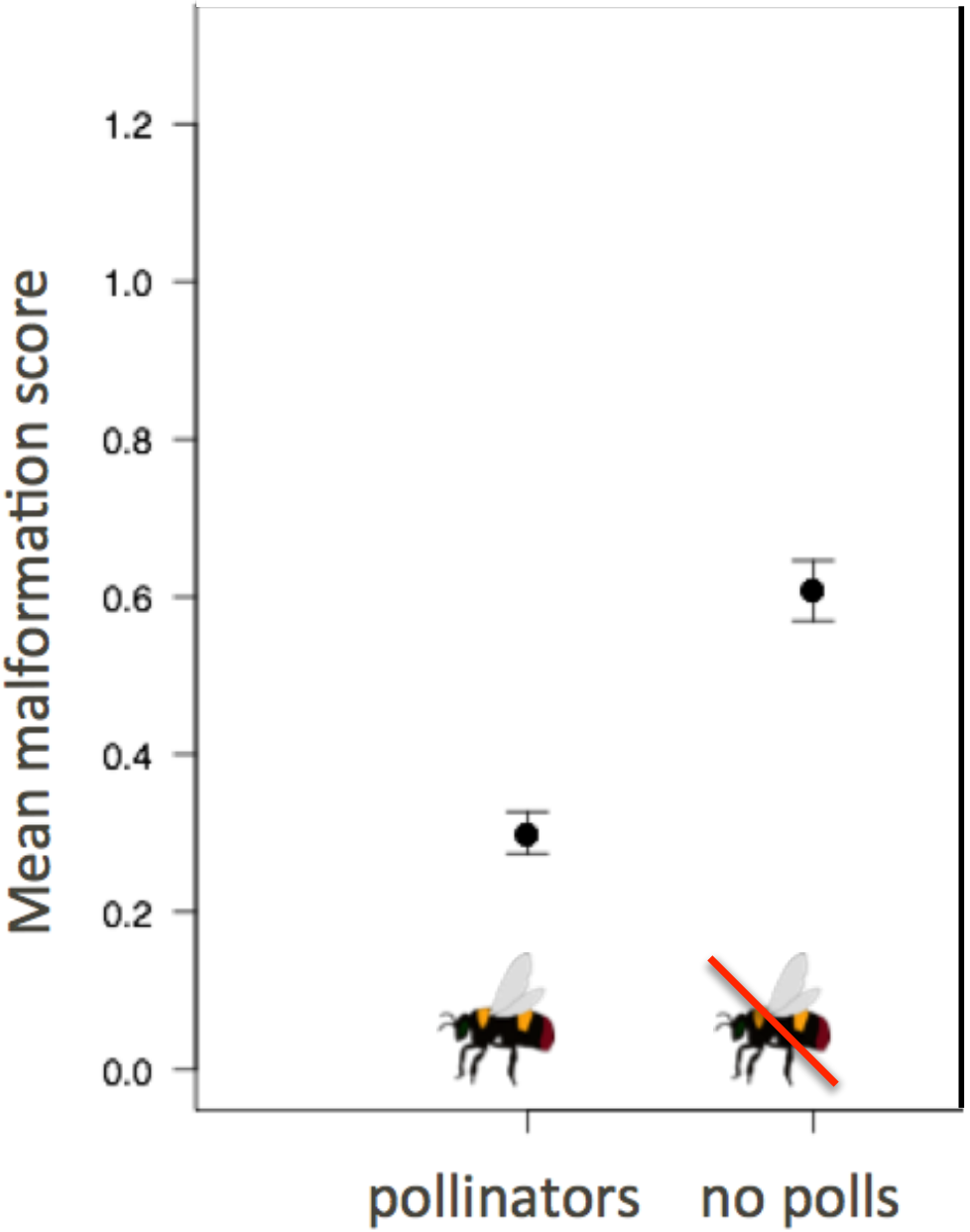
Farm → Pollinator richness (+)

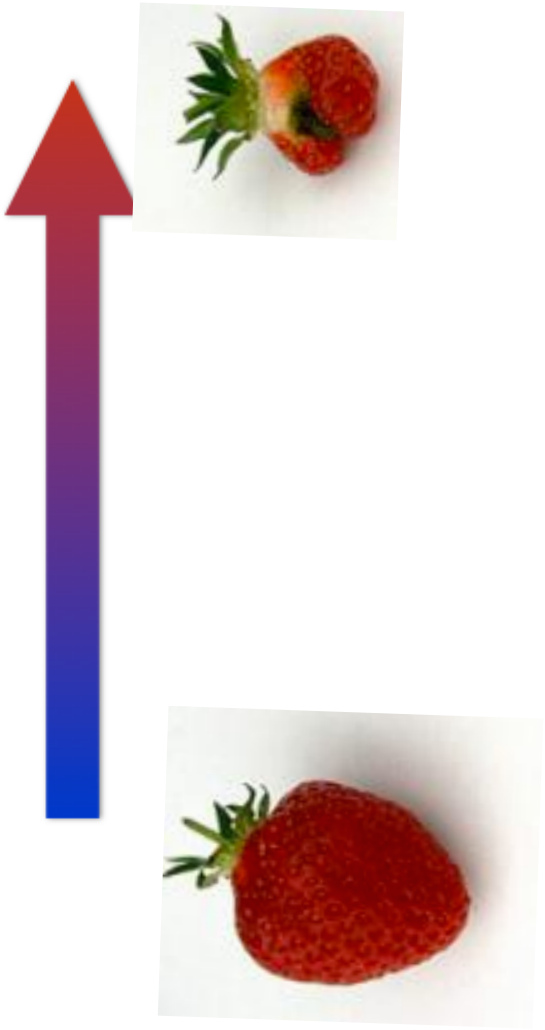
Landscape → Pollinator abundance (+)

Landscape → Pollinator richness (+)

Sciligo, M'Gonigle and Kremen, in prep.

Preliminary results: pollination





Sciligo, M'Gonigle and Kremen, in prep.

Preliminary results: bird biodiversity

Diversification → Biodiversity

Farm → (+) Bird abundance

Farm → (+) Bird richness

Landscape → (+) Bird richness

Gonthier, Sciligo, Karp, Lu, Garcia, Juarez, Chiba & Kremen, in prep.

Not all birds are created equal!

Bird damage

Lygus damage

Preliminary results: bird biodiversity

Diversification → Biodiversity

Farm

Landscape

- → Pest bird abundance
+ → Insectivore abundance

Gonthier, Sciligo, Karp, Lu, Garcia, Juarez, Chiba & Kremen, in prep.

Preliminary results: pest control

Diversification → Biodiversity → Pest control

Farm

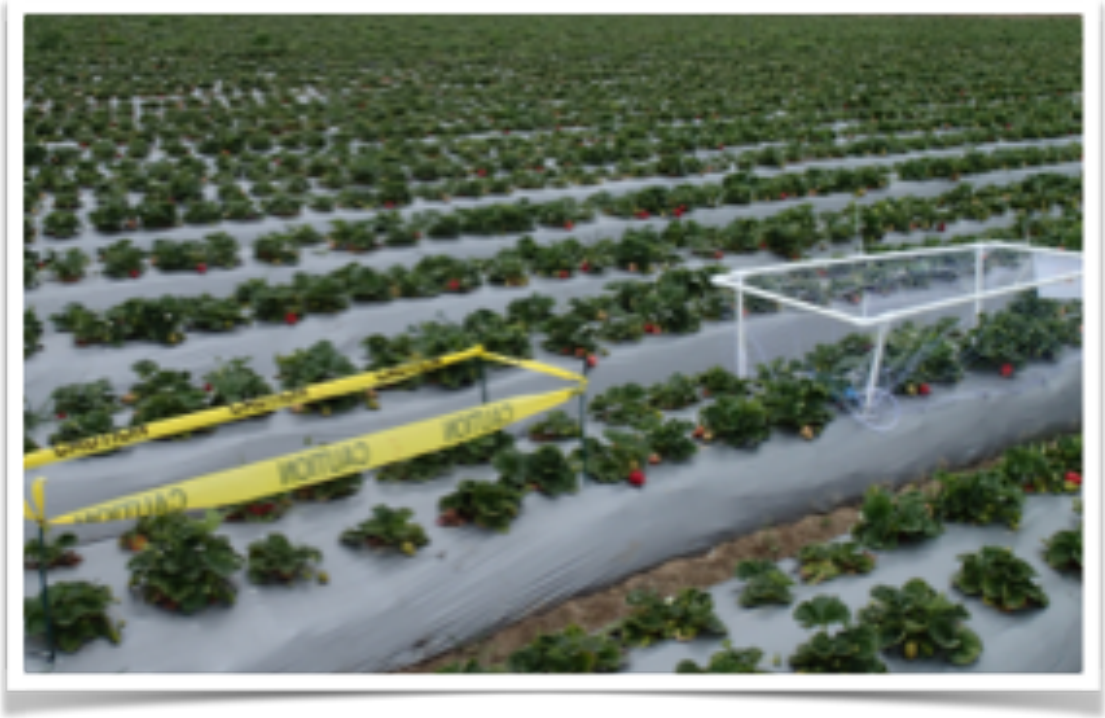
Landscape

- Pest bird abundance
- Bird damage
- Insectivore abundance

\- \- \+

Gonthier, Sciligo, Karp, Lu, Garcia, Juarez, Chiba & Kremen, in prep.

Preliminary results: pest control

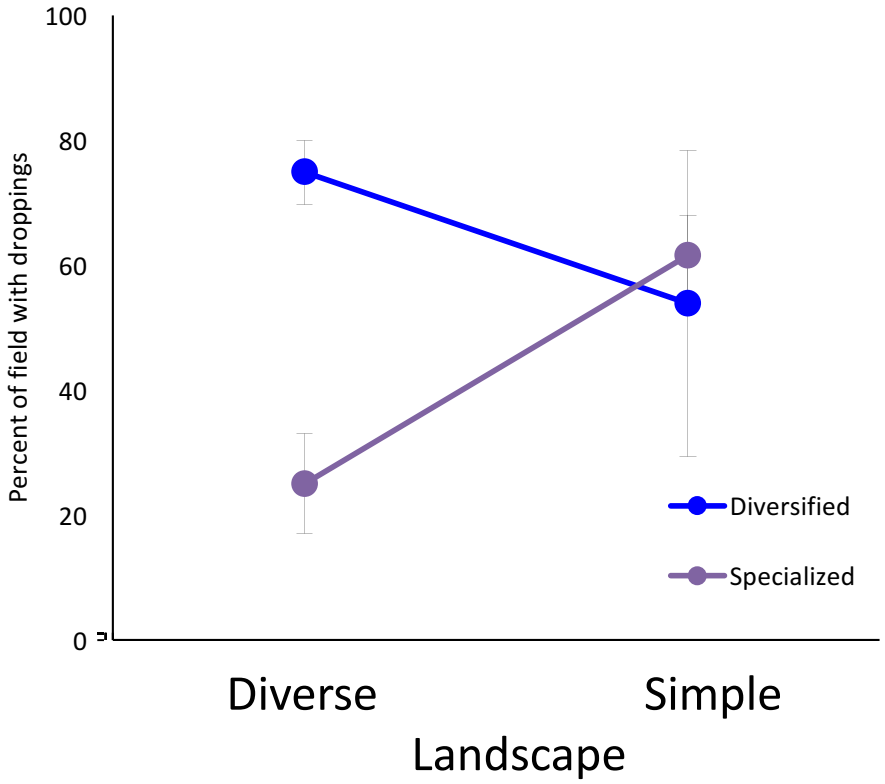


Control (bird) & Exclosure (no bird)

Bird beak damage in controls about the same amount as *Lygus* damage in exclosures…

Conclusion: More natural habitat in the surrounding landscape reduces pest birds and bird damage. Exclosure study suggests negative effects of pest birds may also be balanced by positive effects of insectivorous birds.

Preliminary results: food safety



Conclusion

- High average levels of fecal contamination (~60%)
- Specialized farms are aided by surrounding natural habitat.

Research Questions (Center for Diversified Farming Systems):

1. **How does diversification of farming systems affect biodiversity, and in turn, ecosystem services?**
2. How does diversification affect crop yields, economic performance and resilience?
3. **Understand grower experiences with diversified farming practices – barriers, opportunities.**

Launching new project – DFS through the lens of Soil Health

- Many diversification practices increase soil organic matter, soil biodiversity, and soil-based ES like water infiltration/storage; nutrient capture/cycling; carbon-storage.
- But market, knowledge, agronomic, environmental, and policy barriers can prevent uptake.
- BFI's project goals:
  - RESEARCH: Identify **barriers, motivations**, and **enabling conditions** that affect the ability of California farmers (including organic and non-organic) to implement DFS practices that have beneficial soil health outcomes;
  - POLICY: Develop **policy recommendations** to facilitate adoption of these practices to benefit growers, consumers, and environmental quality; and
  - OUTREACH: Increase adoption of these practices by **communicating** to California's farmers and consumers about the benefits of soil health in sustainable agriculture and the role of diversified practices in improving soil health.

Promoting Soil Health Innovations: Barriers, Motivations, Enabling Conditions

- Builds off of BFI's earlier work at federal level on soil health
- Opportunity to provide information that might help shape HSI's future funding and growth:
  - Baseline data of participant's motivations and challenges
  - Social science data to complement physical (GHG) data
    - [What enables farmers to take up soil health practices? What interferes? What could be altered to improve adoption?]

Promoting Soil Health Innovations

Year 1

- Literature review
- Survey UCCE and RCD networks
- Grower interviews (different crops and regions)
  - Sub-group: HSI
- Convene stakeholders

Year 2

- Synthesis of results
- Policy briefs
- Stakeholder workshops

Currently hiring a postdoc to conduct the research!

All of our farmer partners involved with this research for their time and allowing access to their farms.

Partners who helped up with study design, recruiting, coordination and results discussion: Ben Burgoa, Sacha Lozano, Jenny Broom, Michael Seagraves, Eric Brennan, Shimat Joseph, Mark Bolda, Sasha Gennet, and Nathan Harkleroad

Collaborating organizations: Driscoll's, WFA, OFRF, CCOF, RCD Monterey, RCD Santa Cruz, ALBA, UCCE, USDA-ARS, and TNC

Field assistants: Taiki Chiba, Karina Garcia, Gila Juarez, Hurui Kifle, Bailey Lai, Isaac Medina, Rose Nelson, Fang Ouyang, Kay Sterner, Kenji Tomari, Robyn Quistberg, Neha Vaingankar, Christian Vasquez, Rachel Ward, Sara Winsemius, and Cynthia Zamora.

Funders: Army Research Office, CS Fund, Berkeley Food Institute,, NSF, USDA NIFA (RENRE) Project #CA-B-INS-0143-CG

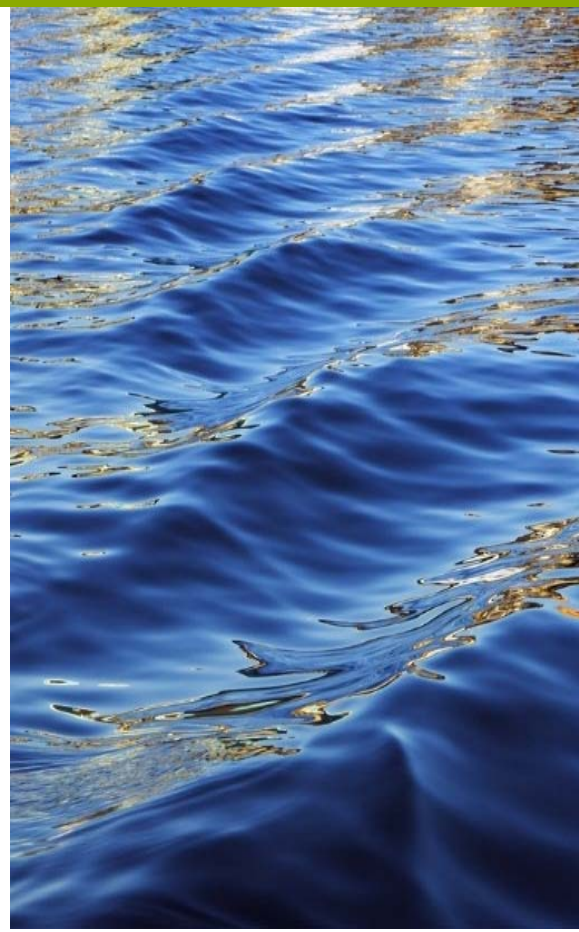
SWEEP UPDATE

EFA SCIENTIFIC ADVISORY PANEL

July 20th 2017

Ravneet Behla
Environmental Scientist

Scott Weeks
Environmental Scientist



cdfa CALIFORNIA DEPARTMENT OF FOOD & AGRICULTURE

SWEEP BACKGROUND

- **$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: Budget Act of 2015**, Item 8570-001-3228 (Chapter 321, Statutes of 2015) appropriate funds from the Greenhouse Gas Reduction Fund
- **7.5 million: AB1613** (Chapter 370, Statutes 2016)

*"...to invest in irrigation and water pumping systems that **reduce water use, energy use and greenhouse gas emissions**."*

PROJECT TYPES

Water Conservation

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

AND

GHG Reductions

- Fuel Conversion
- Improved Energy Efficiency
- Low Pressure Systems
- Variable Frequency Drives
- Reduced Pumping

Drip Irrigation

New Electric Booster Pump

SWEEP 2017

- $7.5 million from AB1613
- Reduction of total grant from $200,000 to $100,000
- OGA is executing agreements for 58 projects
  - CDFA funds: $5.1 million
  - Matching Funds: $7.2 million

SWEEP 2017: AWARD UPDATE

Category	#	Requested Funds (million)	Matching Funds (million)
Received Applications	237	$20.0	$17.3
Incomplete Applications	31	$2.6	$0.9
Reviewed Applications	206	$17.4	$16.4
Awarded Applications	58	$5.1	$7.2
Oversubscription Rate (%)*	409	394	249

Oversubscription Rate (%) = Total funds requested*100/ Total funds awarded

Disclaimer: 2017 grant agreements yet to be executed

2017 SWEEP: Awarded Projects by County

County	#	Acreage	County	#	Acreage
Butte	2	278	San Luis Obispo	6	302
Colusa	2	54	Santa Barbara	2	19
Fresno	11	528	Santa Cruz	2	66
Glenn	4	383	Shasta	1	74
Imperial	1	23	Sutter	3	502
Kern	6	963	Tehama	1	30
Kings	1	74	Tulare	10	2966
Madera	1	460	Ventura	2	52
Monterey	1	80	Yuba	1	95
San Benito	1	180	**Total**	**58**	**7,128**

TECHNICAL ASSISTANCE WORKSHOPS

Total funds $50,000

- $25,000 from NRCS
- $25,000 from SGC

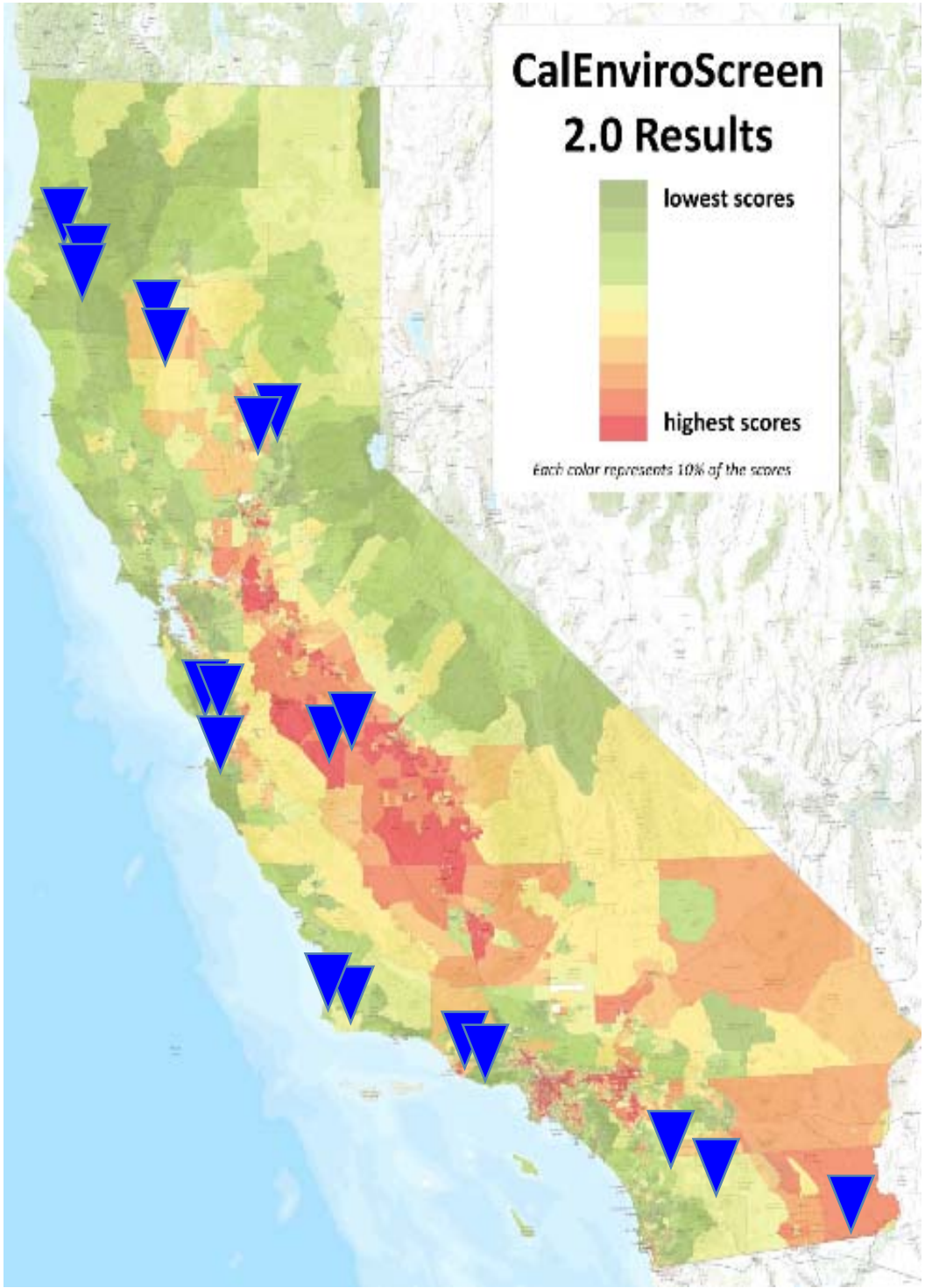
- Accepted applications for Technical Assistance Workshops
- $2,500-5,000 per institution
- News Release on January 13, 2017

Required

- Have an Irrigation systems expert available
- Internet access for applicant assistance
- Having at least one workshop in a DAC (SGC funding requirement)

TECHNICAL ASSISTANCE WORKSHOPS

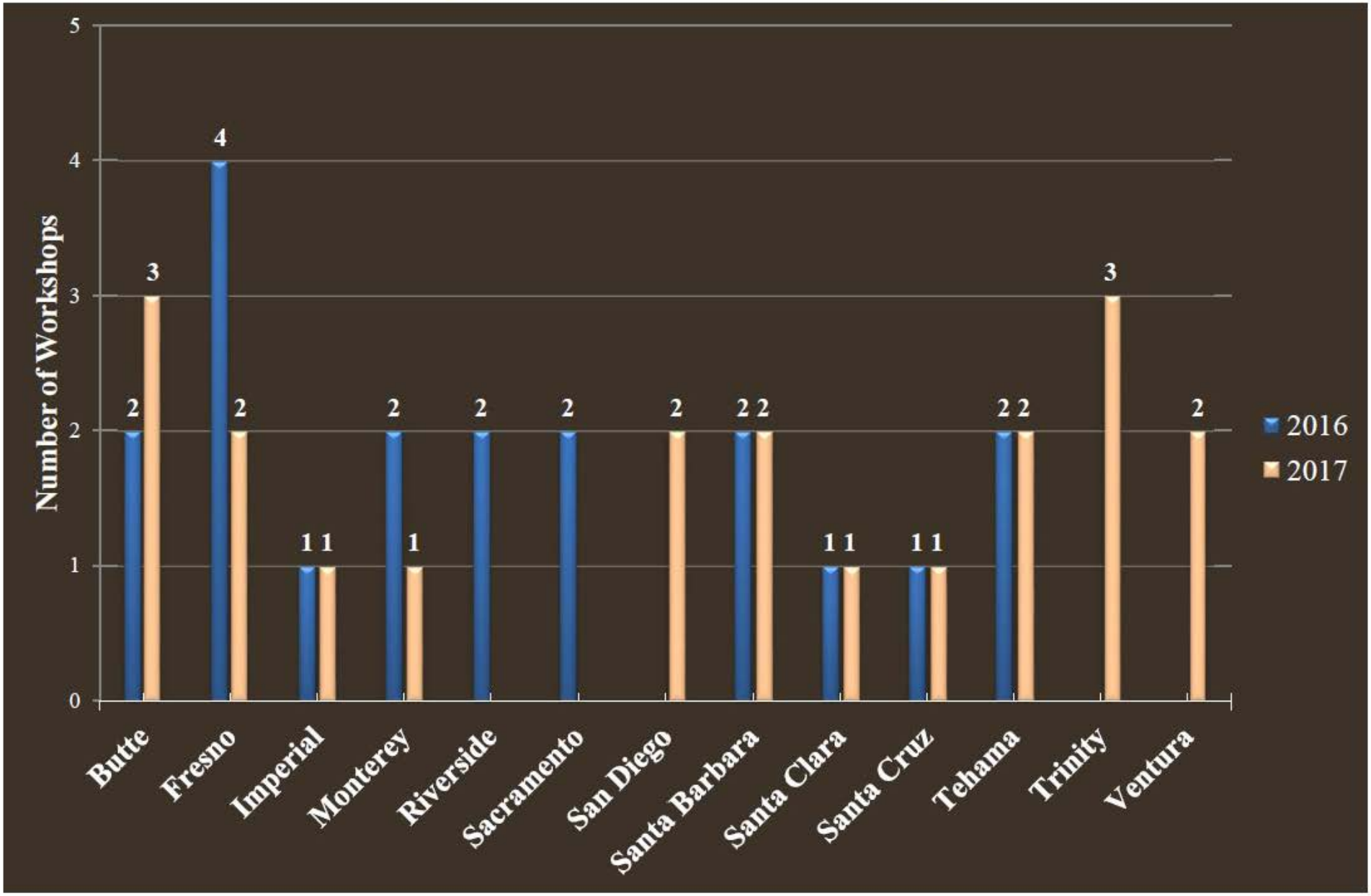
- 11 Providers
- 24 Workshops



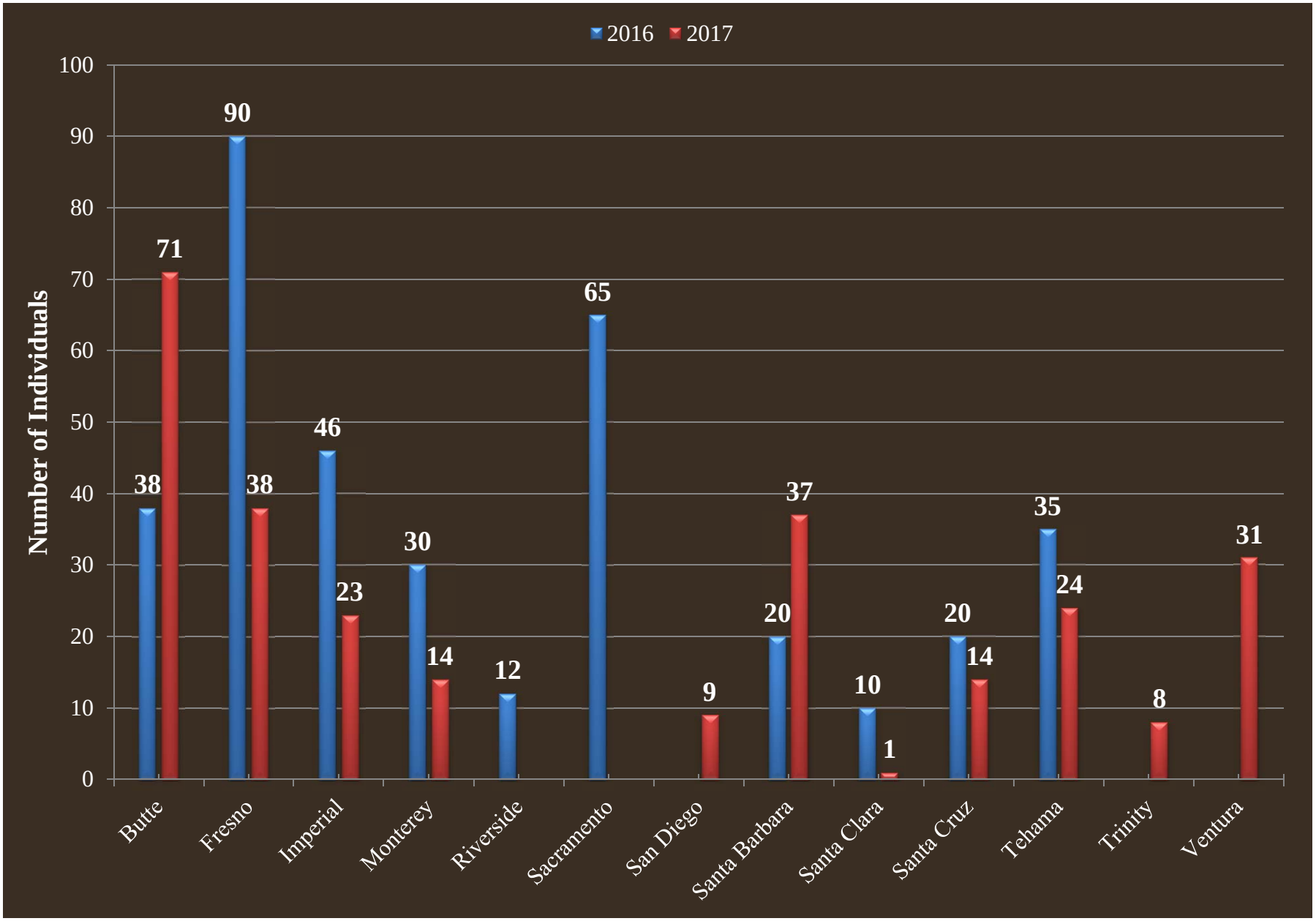
2017 Technical Assistance Workshops by County

County	DAC	Bilingual	Attended	Additional In person	Additional Remote	Total
Butte	Yes	Spanish	32	23	16	71
Trinity	No	-	7	0	1	8
Tehama	Yes	Spanish	13	10	1	24
Santa Barbara	No	Spanish	21	16	0	37
Ventura	Yes	-	19	12	0	31
Santa Cruz	Yes	Spanish	10	5	0	15
Monterey	Yes	Spanish	4	0	10	14
Imperial	Yes	Spanish	21	0	2	23
San Diego	No	-	9	0	0	9
Fresno	Yes	Spanish, Hmong	21	15	2	38
		Total	**157**	**81**	**32**	**270**

SWEEP: Number of Technical Assistance Workshops Held During 2016 and 2017 by County



SWEEP: Total number of Individuals assisted during 2016 and 2017 by County



3 YEAR AUDITING REQUIREMENT

- Required to select 10% of projects for auditing
- Obtain **energy** and **water** records from agricultural operations
- Compute, compare, and report to ARB

DWR/CDFA Joint Project

- **Objective**

  To demonstrate the potential multiple benefits of conveyance enhancements combined with on-farm agricultural water use efficiency improvements and greenhouse gas reductions

- **Goals**

  1) Water use efficiency, conservation and reduction
  2) Greenhouse gas emission reductions
  3) Groundwater protection
  4) 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 and EDA)
- **CDFA Funding**
  - $ 3 million for individual agriculture operations - **AB1613** (Chapter 370, Statutes 2016)
  - Cost sharing encouraged but not required

CALIFORNIA DEPARTMENT OF FOOD AND AGRICULTURE

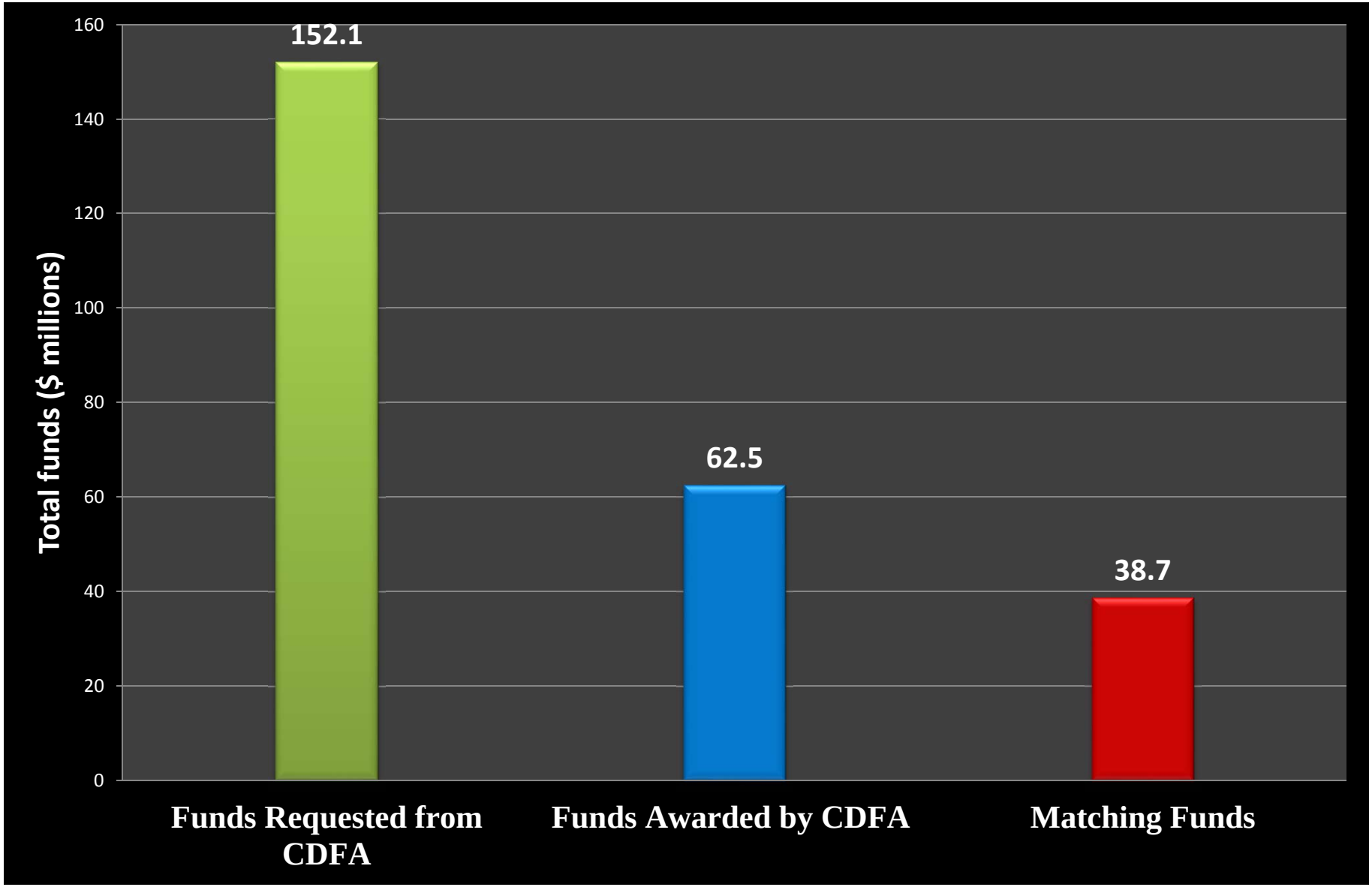
DWR/CDFA Joint Project-Update

Ag Water supplier	Ag Operations	Acreage impacted	DWR Funds requested	CDFA Funds Requested
North San Joaquin Water Conservation District	19	1132	$3,000,000	$1,650,000
Ducks Unlimited, Inc.	1	200	$347,00	$17,700
Shafter-Wasco Irrigation District	3	347	$847,000	$504,000
Tulare Irrigation District	8	1941	$2,111,000	$1,285,000

Latest News section: http://www.water.ca.gov/wuegrants/AgWUEPilot.cfm

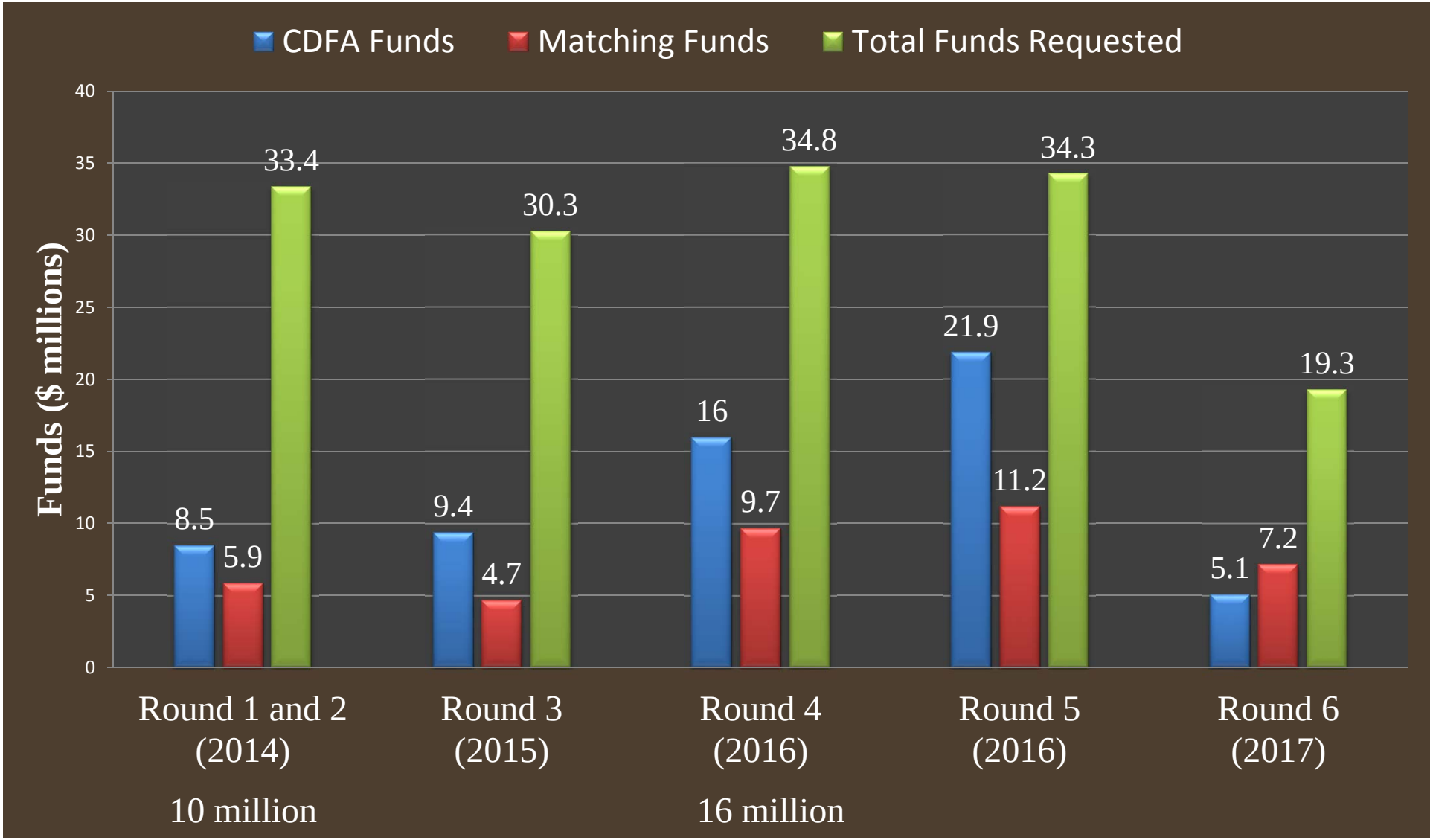
Preliminary Analysis:
2014-17 SWEEP Program

SWEEP $:Total Funds Since Inception

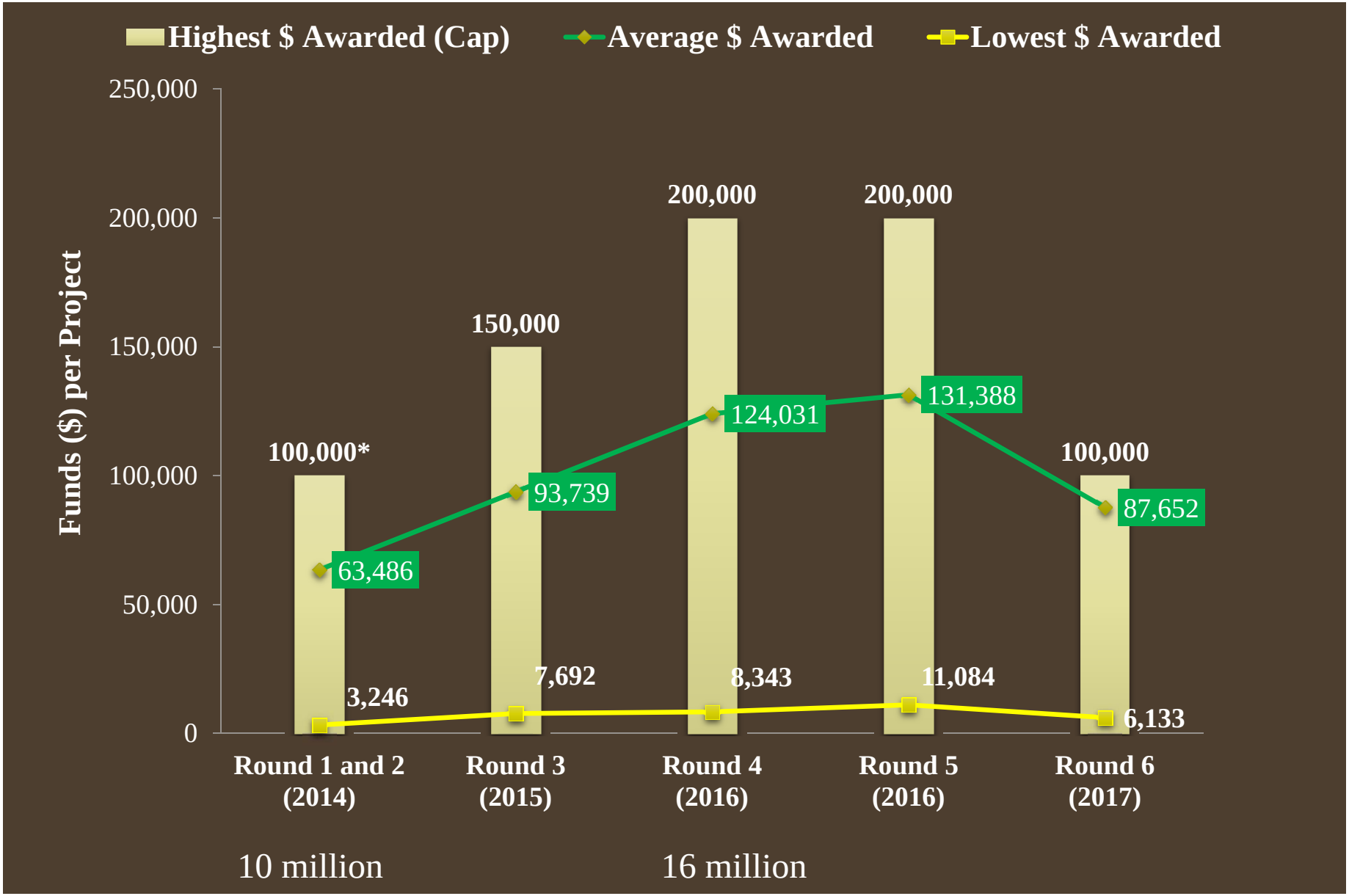


Disclaimer: 2017 grant agreements yet to be executed

SWEEP $: Total Funds by Year Since Inception

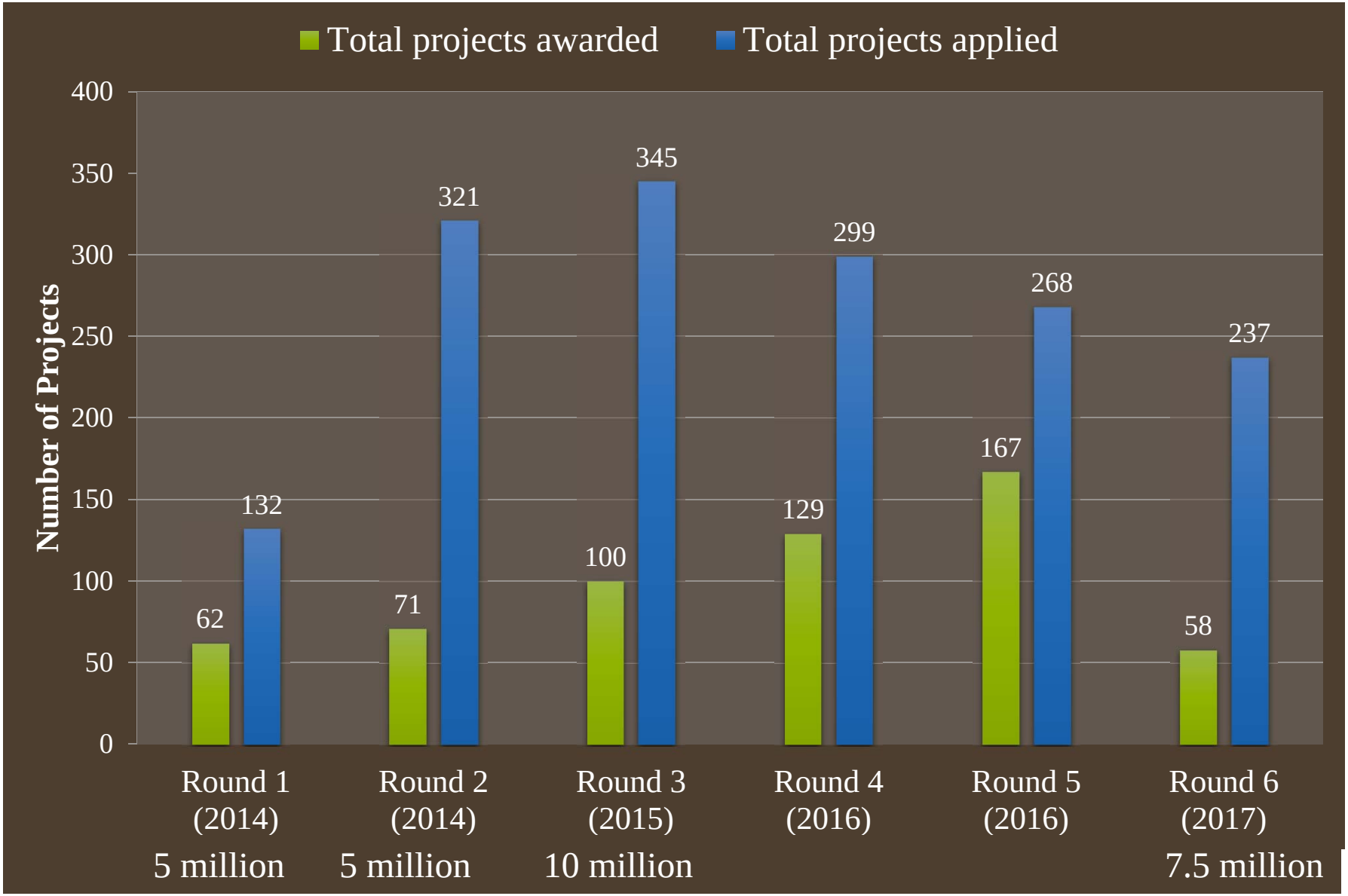


SWEEP $: Funds Awarded per Project by Year Since Inception

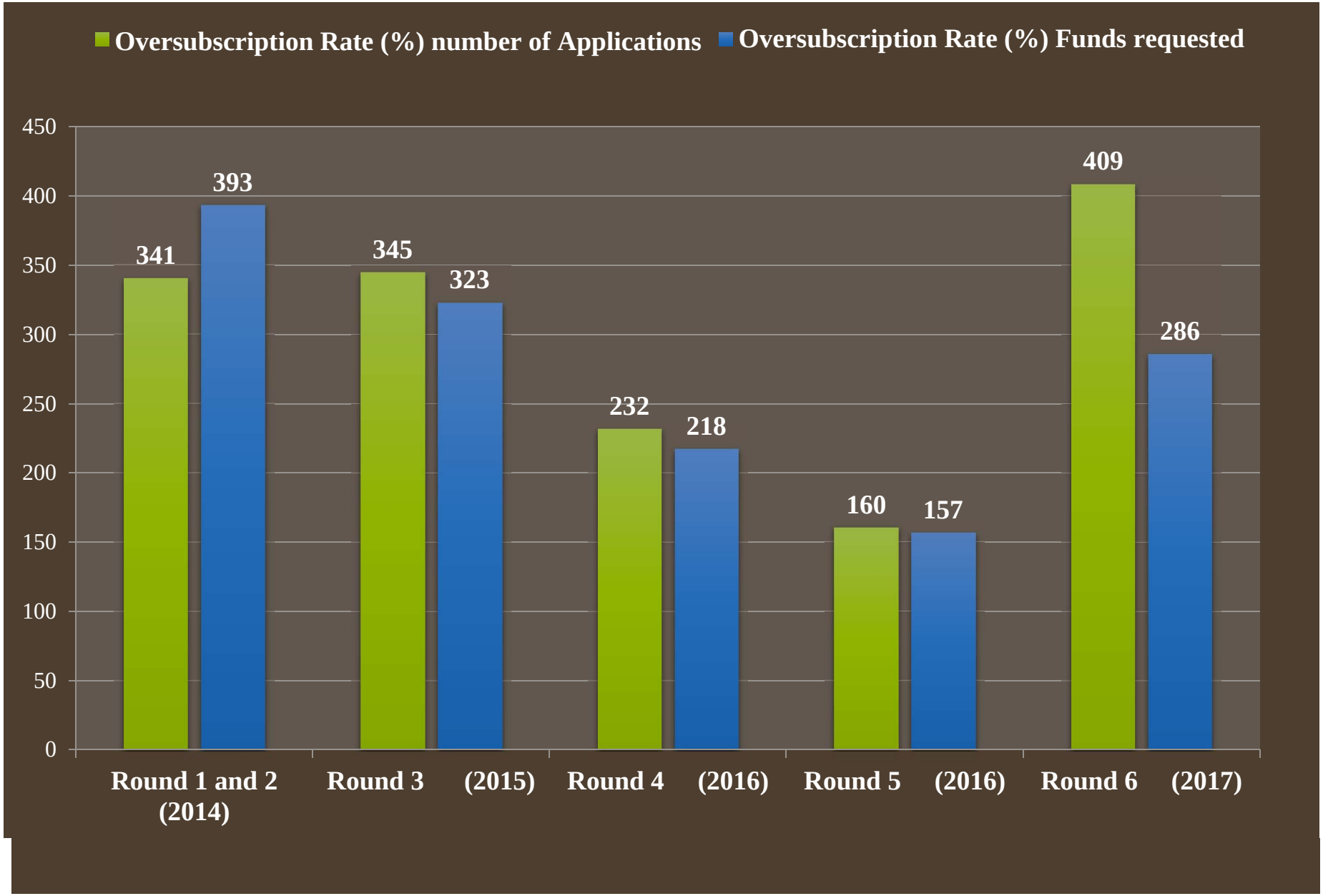


*Average of two rounds

SWEEP: Total Applications by Year

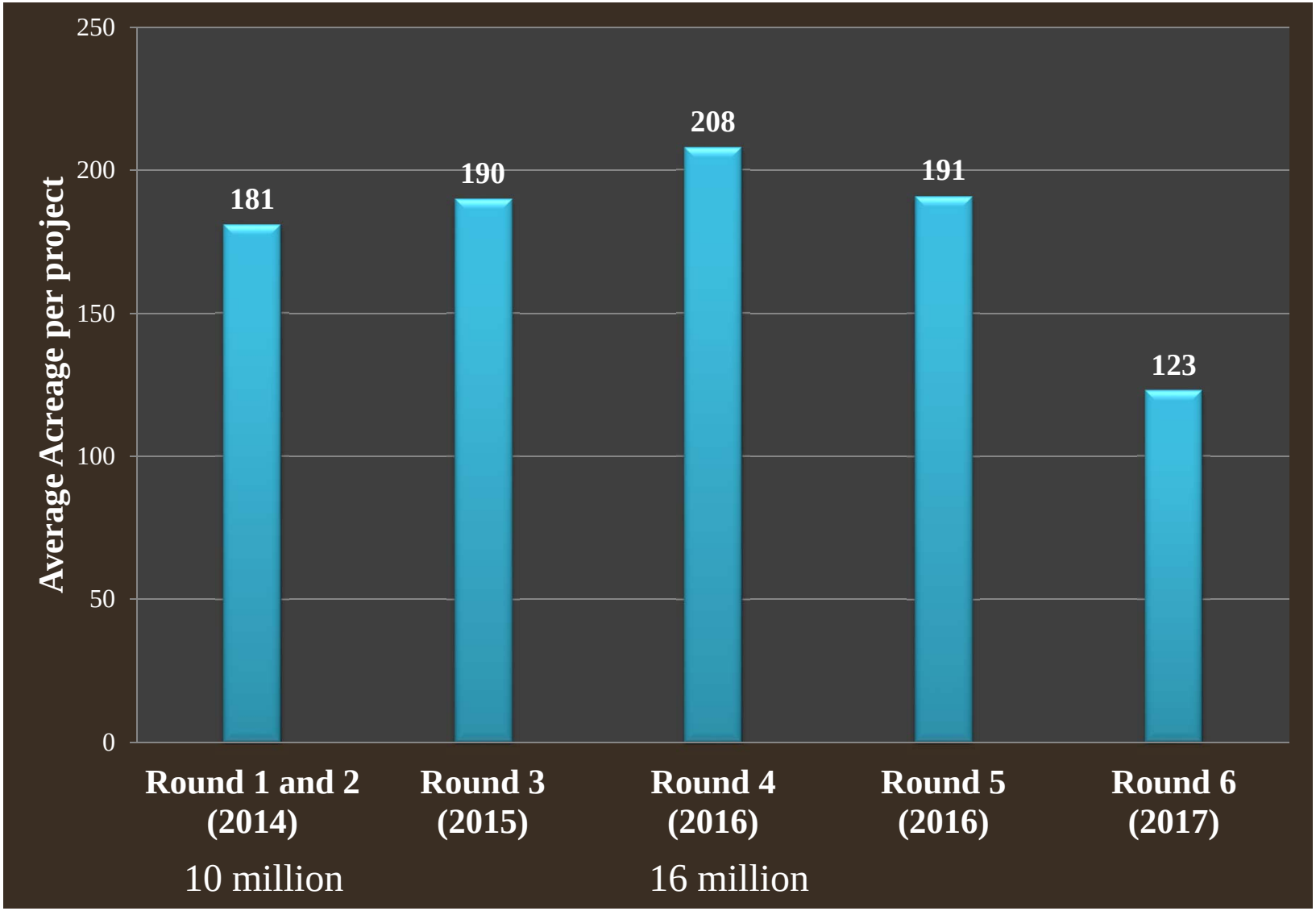


Oversubscription Rates (%) By Year

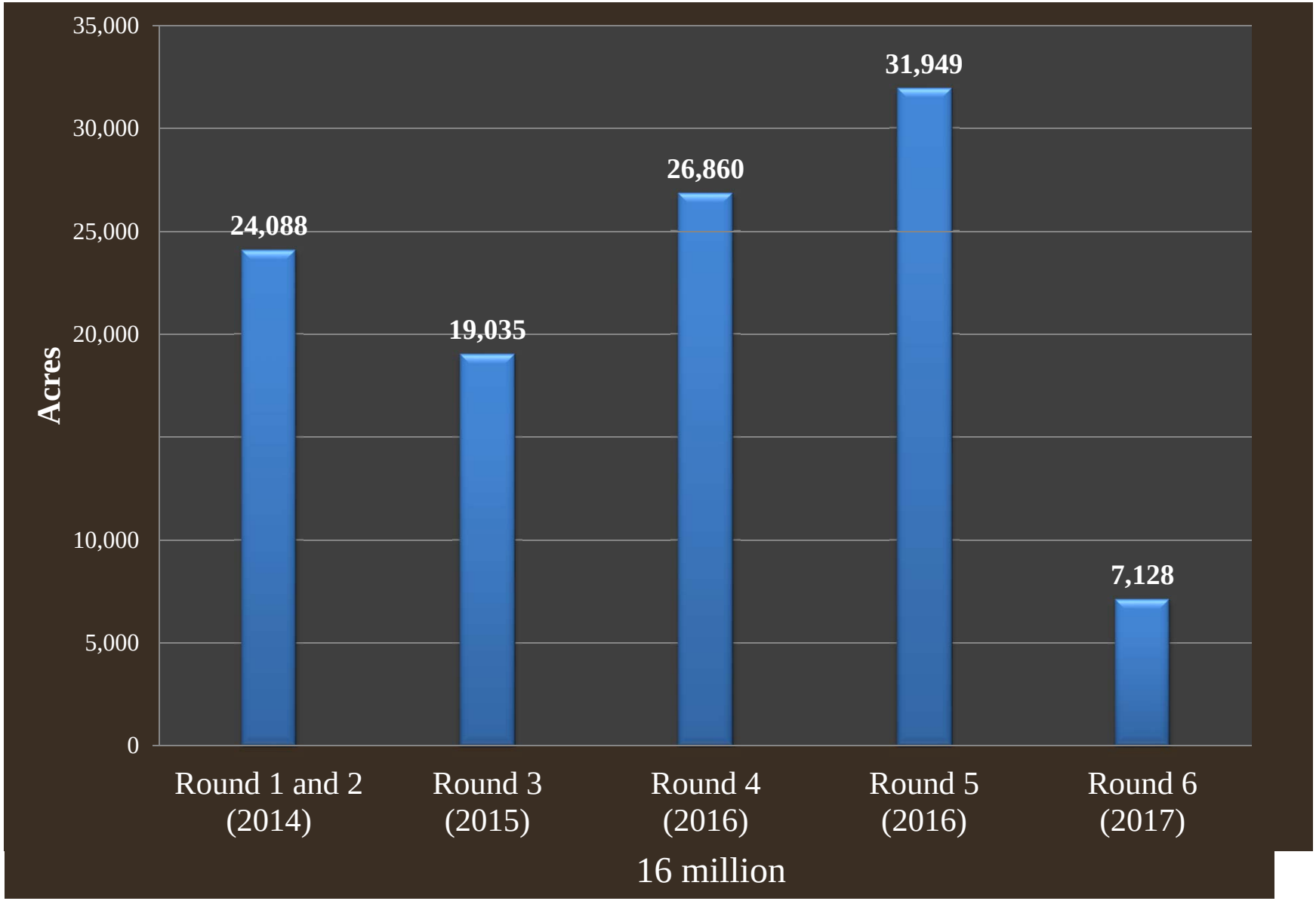


Oversubscription Rate (%)= Total received (requested) / Total awarded

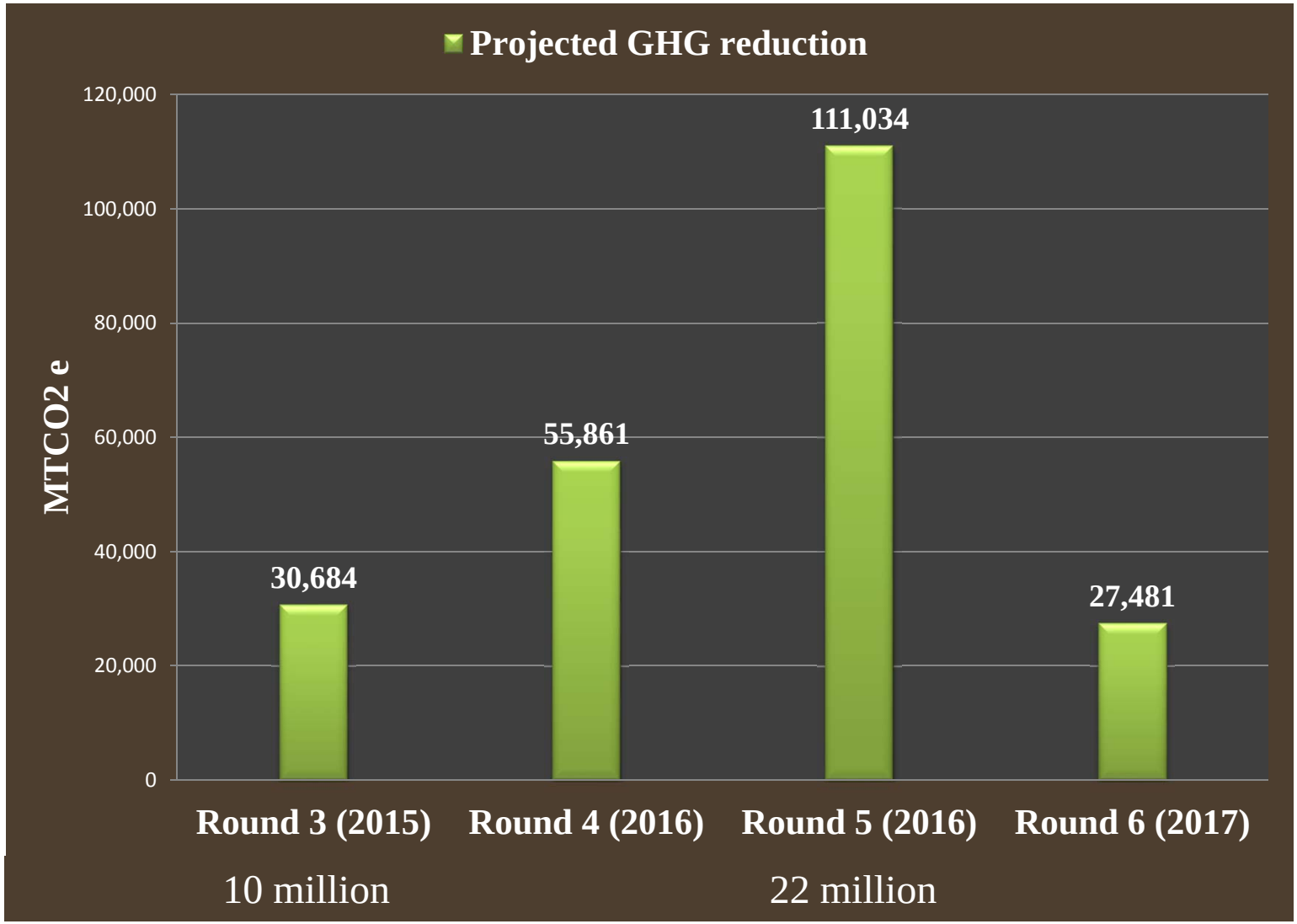
SWEEP: Average Acreage per Project by Year



SWEEP Impact: Total Acreage Impacted by Year



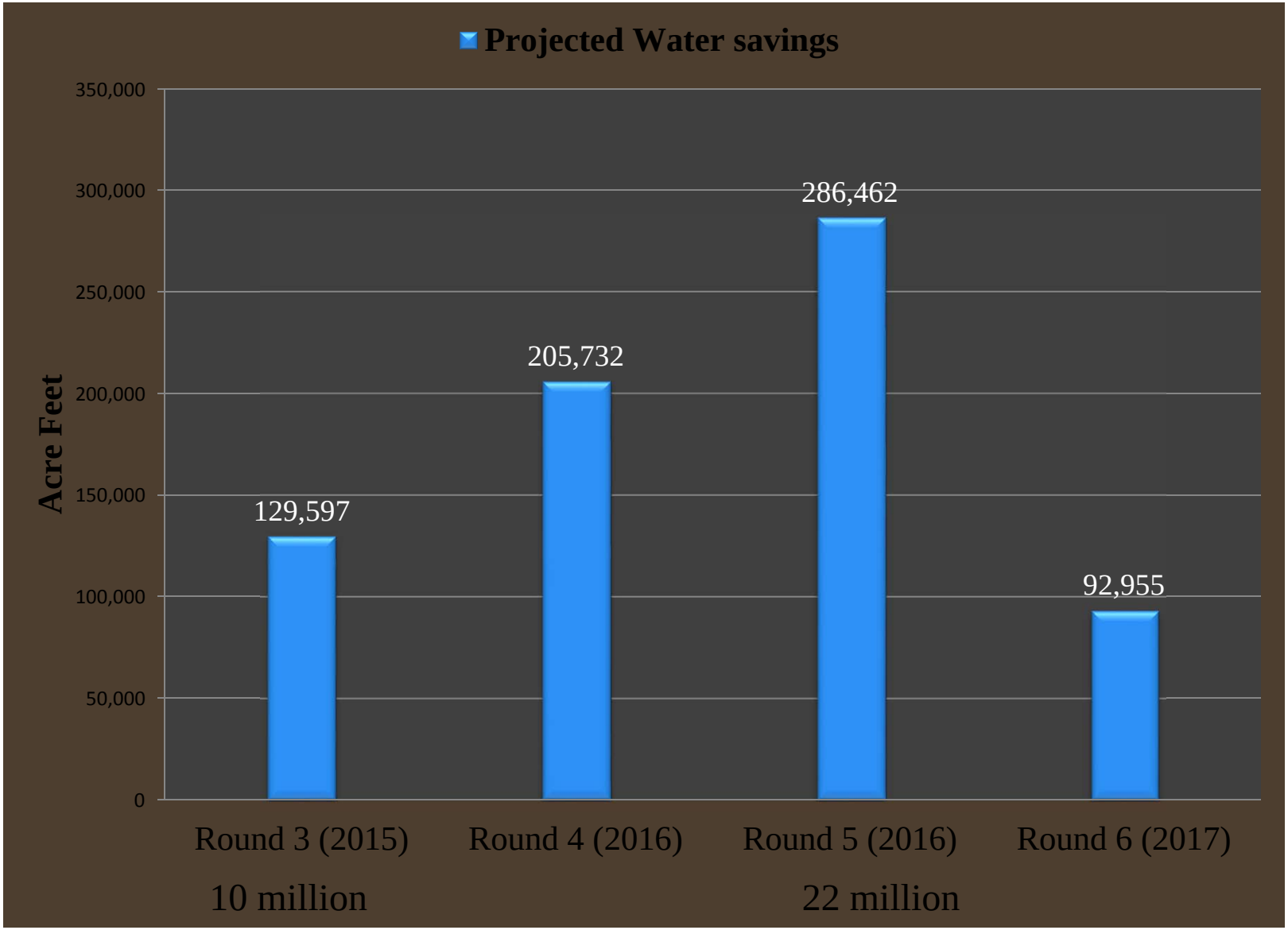
SWEEP Impact: Projected GHG reduction for 10 years of project life



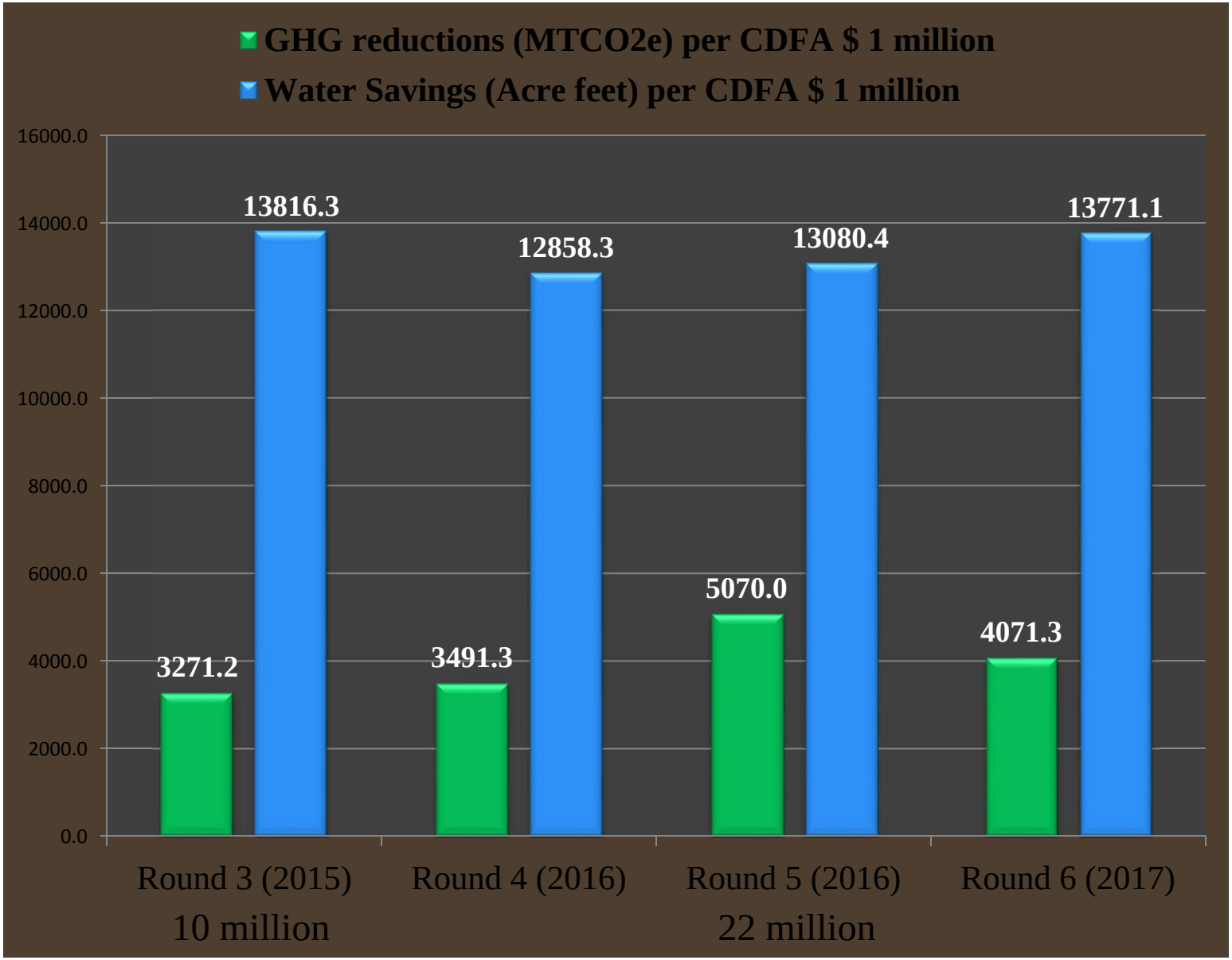
16 million

7.5 million

SWEEP Impact: Projected Water Savings for 10 years of Project Life



SWEEP: Environmental Impact per CDFA $1 million spent



Summary

- CDFA dispersed $ 62.5 million against the request of $152.1 million since 2014
- CDFA leveraged 38.7 millions in matching funds
- Oversubscription rate ranged from 1.6X to 4X.
- To date 587 SWEEP projects has been awarded in 6 rounds impacting a total of 109,060 acres
- Next Steps
  - Analyze data

Thank you for the time and your attention

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HEALTHY SOILS PROGRAM

ENVIRONMENTAL FARMING ACT
SCIENCE ADVISORY PANEL
JULY 20, 2017
BERKELEY, CALIFORNIA

Guihua (Grace) Chen, PhD. Senior Environmental Scientist

PROGRAM UPDATES

- The HSP Incentives Program: no major changes.
- The HSP Demonstration Projects: one major change upon consideration of public comments received May 18, 2017:
  - Type A Projects: Required on-farm GHG measurements; maximum award $250,000/project.
  - Type B projects: No requirements for GHG measurements; maximum award $100,000/project.

PROGRESS UPDATES

- Draft RGAs and supporting documents for Both Incentives Program and Demonstration Projects
  - June 28: Released for public comments.
  - July 07: Webinar on how to comment; Q&A.
  - July 12: Public comments due.
- RGA for Technical Assistance Workshop Grant (for HSP Incentives Program) – *first come first serve*
  - $25,000 available through Strategic Growth Council.
  - RGA released July 07, applications due July 20.
  - Upto $5,000 per workshop provider.

PUBLIC COMMENTS ON DRAFT RGAs

- July 07 webinar:
  - 84 attendees.
  - 53 comments/questions received from 20 individuals.
- June 28 – July 12
  - 29 comment letters/emails received.

PUBLIC COMMENT SUMMARY - TOPICS

1. Eligible Agricultural Management Practices
2. Soil Organic Matter (SOM) and Other Soil Health Data
3. Program Timeline
4. Farm Size
5. Funding
6. Demonstration Projects
7. Incentives Program
8. Others

ONE: ELIGIBLE AGRICULTURAL MANAGEMENT PRACTICES (I)

- **Soil Management Practices: 3 aspects**
  - Not make at least one soil management practice a requirement:
  - Organic farms already implemented soil management practices.
    - Rangeland farms may only select compost application.
  - Inclusion of other soil management practices.
  - Mulching : eligibility for rangeland.
  - Compost application (next slide).

ONE: ELIGIBLE AGRICULTURAL MANAGEMENT PRACTICES (I) – CONT'D

- **Compost Application: 12 aspects**
  - Threshold of SOM excluded for compost application.
  - Compost application rate is too low: 4-fold increase.
  - Payment rate $35 is too low.
  - Availability of a standard compost application practice.
  - Eligibility of on-farm, liquid, and manure compost.
  - Frequency of compost application.
  - Fund on-farm compost facility.
  - Sources of eligible compost.
  - Others: language edits.

ONE: ELIGIBLE AGRICULTURAL MANAGEMENT PRACTICES (II)

- **Woody cover**
  - Payment rate is too low.
  - Windbreak/Shelterbelt establishment: multiple rows be credited additively.
- **Cropland to Herbaceous Cover**
  - Language edits to be consistent with NRCS practices.
- **All NRCS practices**
  - Include both practice standards and site specific implementation requirements.
  - Indicate lifespan for GHG purpose, different from NRCS required lifespan.

TWO: SOM AND OTHER SOIL HEALTH DATA

- Require a standard soil sampling protocol.
- Suggest more option on soil testing laboratories.
- Frequency of SOM sampling.
- Difficulty to get other soil health data in mid-summer.
- Clarify if data from past one or two years be allowed.
- Specify what other soil health data are.
- Grant recipients, not applicants, must submit these data.
- CDFA should pay cost of soil tests.

THREE: PROGRAM TIMELINE

- Application window is short: allow 6 - 8 weeks.
- Allow initiating practice implementation upon notification of proposal acceptance and reimbursement after Dec. 1 2017 or after meeting program requirements.
- Current timeline does not allow completing two compost applications (applying in fall followed by tillage next summer).
- Allow longer project term for perennial tree crops.
- Clarifying starting and ending dates for post-project reporting.

FOUR: FARM SIZE

- Minimum size of farm to be eligible.
- How will GHG benefits be weighed for scoring.
- What other components to be weighed for small farms?

FIVE: FUNDING

- Will CDFA seek funding to continue the program?
- Matching funds or cost sharing (Apr. 1 – Nov. 30, 2020)
  - Allow a flexible timeframe for expending matching funds.
  - Will matching funds more than 1/3 receive scoring points?
  - How will matching funds be calculated? Varys depending on practices.
  - Change "matching funds preferred but not required".

SIX: HSP DEMONSTRATION PROJECTS

- Eligibility
  - Allow tribal governments and cannabis cultivation.
- Project Types
  - Remove Type A projects and increase maximum award to $250,000 for Type B projects.
- GHG measurements
  - Do not require GHG measurements.
  - Provide methodology and protocol.
  - Difficult to replicate in some practices such as windbreak.
- Clarify definitions
  - Multiple farms (sites), same field.
  - Control.

SIX: HSP DEMONSTRATION PROJECTS – CONT'D

- Outreach
  - Not be able to get 100 farmers per year.
  - Remove numerical requirement and use SMART (Specific, Measurable, Achievable, Relevant and Time-bound) goal.
  - Require documentable outreach and attendance records at farm events.
- Review
  - Reviewers should have worked directly with producers and have experiences implementing these practices.
- Scoring Criteria
  - Remove co-benefits.
  - DAC -10 points, GHG & soil health - 10 points, additional consideration - 10 points.

SIX: HSP DEMONSTRATION PROJECTS – CONT'D

- Project budget
  - Will fund be allowed to cover CEQA or other permitting needs?
  - Will indirect costs (per federally approved) be allowed?
  - Will subcontracting costs be allowed?
- Proposal development
  - Clarification of some languages (e.g., rational of crop, possibility and scale for farmers/ranchers to adopt the demonstration management practices).
- Reporting
  - No crop yield.
  - Optional: co-benefits, ecosystem services and economic analysis.

SEVEN: HSP INCENTIVES PROJECTS

- Project proposal requirement
  - Remove narrative, implementation plan and adoption plan and require only work plan and schematic map with provided templates.
  - Provide detail requirements on project evaluation and adoption.
- Conservation plan
  - Remove from scoring criteria as people who do not have one may get discouraged.
  - Simplify language in the RGA as it is in the Appendix C.
- Review criteria
  - Include additional clarification on the content of each criterion.

SEVEN: HSP INCENTIVES PROJECTS – CONT'D

- Project verification and reporting:
  - Provide details on when to happen and what to collect.
  - Specify RCDs are eligible technical service providers.
  - Clarify CDFA will pay.
- Post-project reporting:
  - Specify time length of documentation and practice implementation.
  - Clarify what and when to collect, and who pay.
  - Clarify how subset projects will be selected.
- Technical assistance during application.

EIGHT: OTHER COMMENTS

- Definitions:
  - Agricultural operation: any requirements on minimum annual production thresholds, gross total annual sales, etc.
  - APN.
  - Soil Health definition to be included in a footnote.
- Inclusion of other projects:
  - Will application include water quality improvement projects examples for applicants interested in applying for funding?
- What is maximum of GHG expected to be achieved through this program?

Q&A – EFA-SAP MEMBERS

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