# UC ANR GRADUATE TRAINING IN COOPERATIVE EXTENSION – PILOT PROGRAM

John Battles

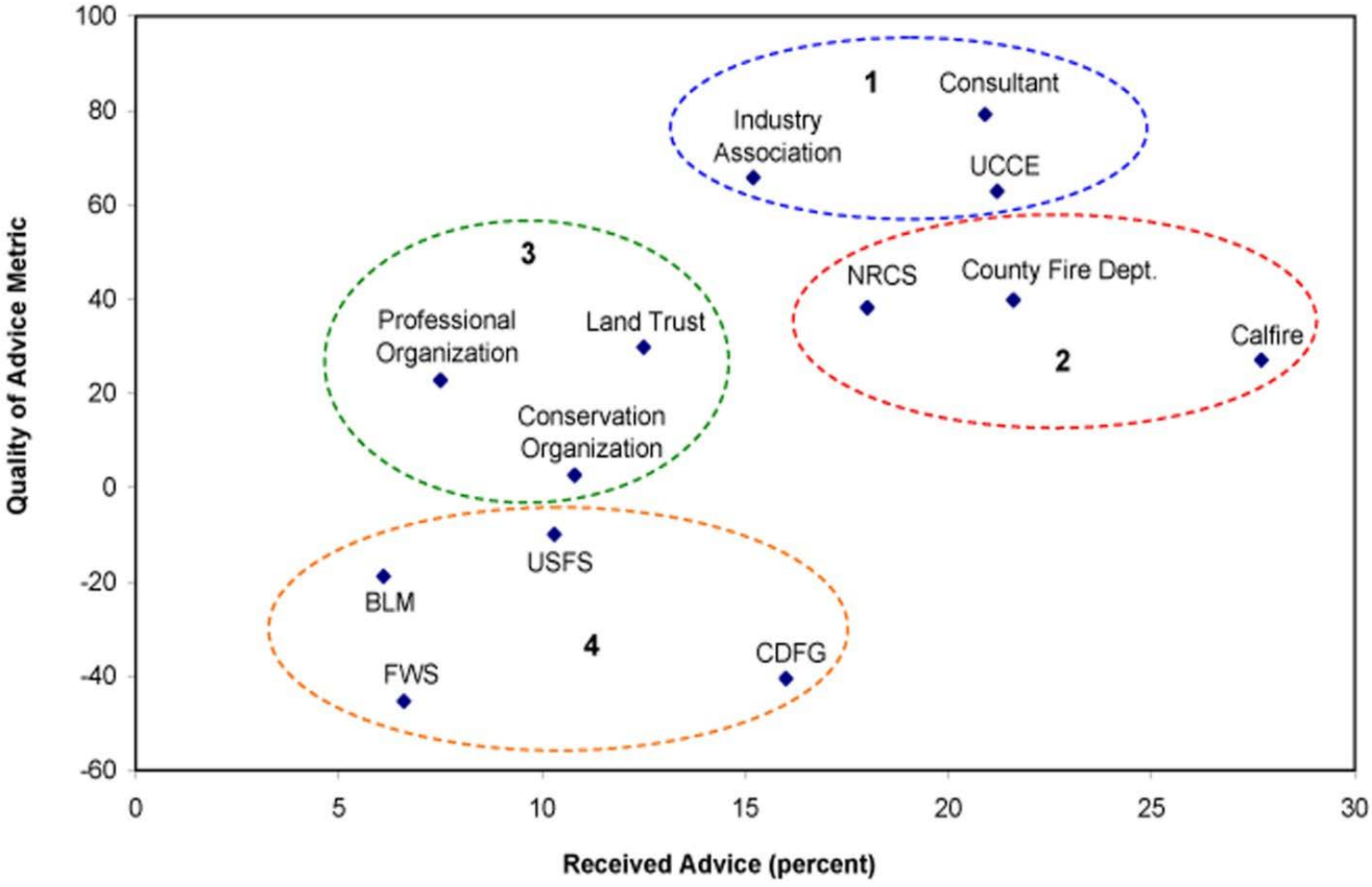
Chair, GSE steering committee

Showcase November 19, 2015

# outline

1) why GSE? why now?
2) elements of pilot program
3) 3rd year opportunities
4) future

# Need to train next generation of cooperative extension academics



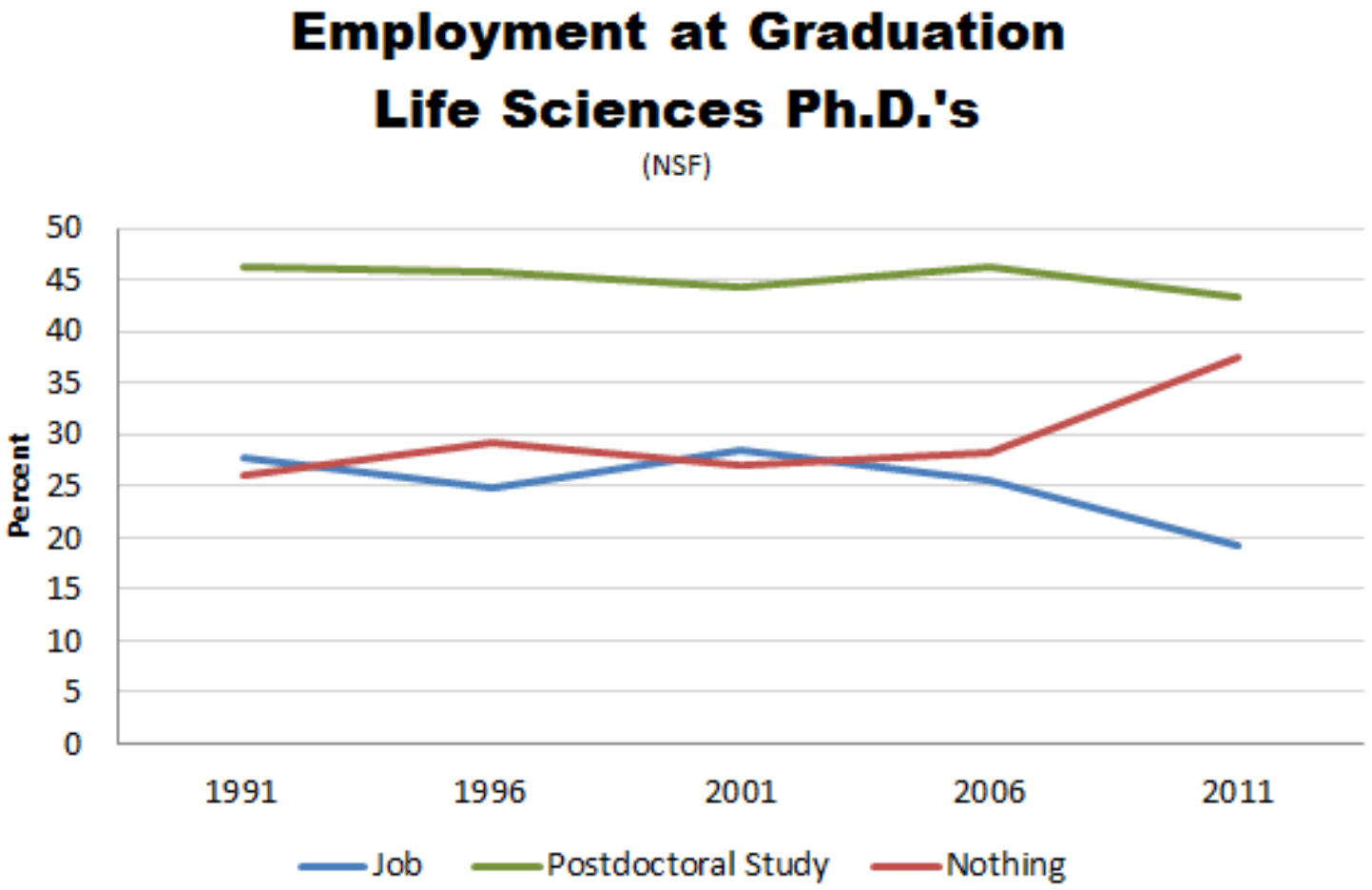

Ferranto et al. 2013. Society and Natural Resources, 26:1082–1100

# Cooperative Extension
## University of California's comparative advantage

Excerpt from the external review of ESPM 2011

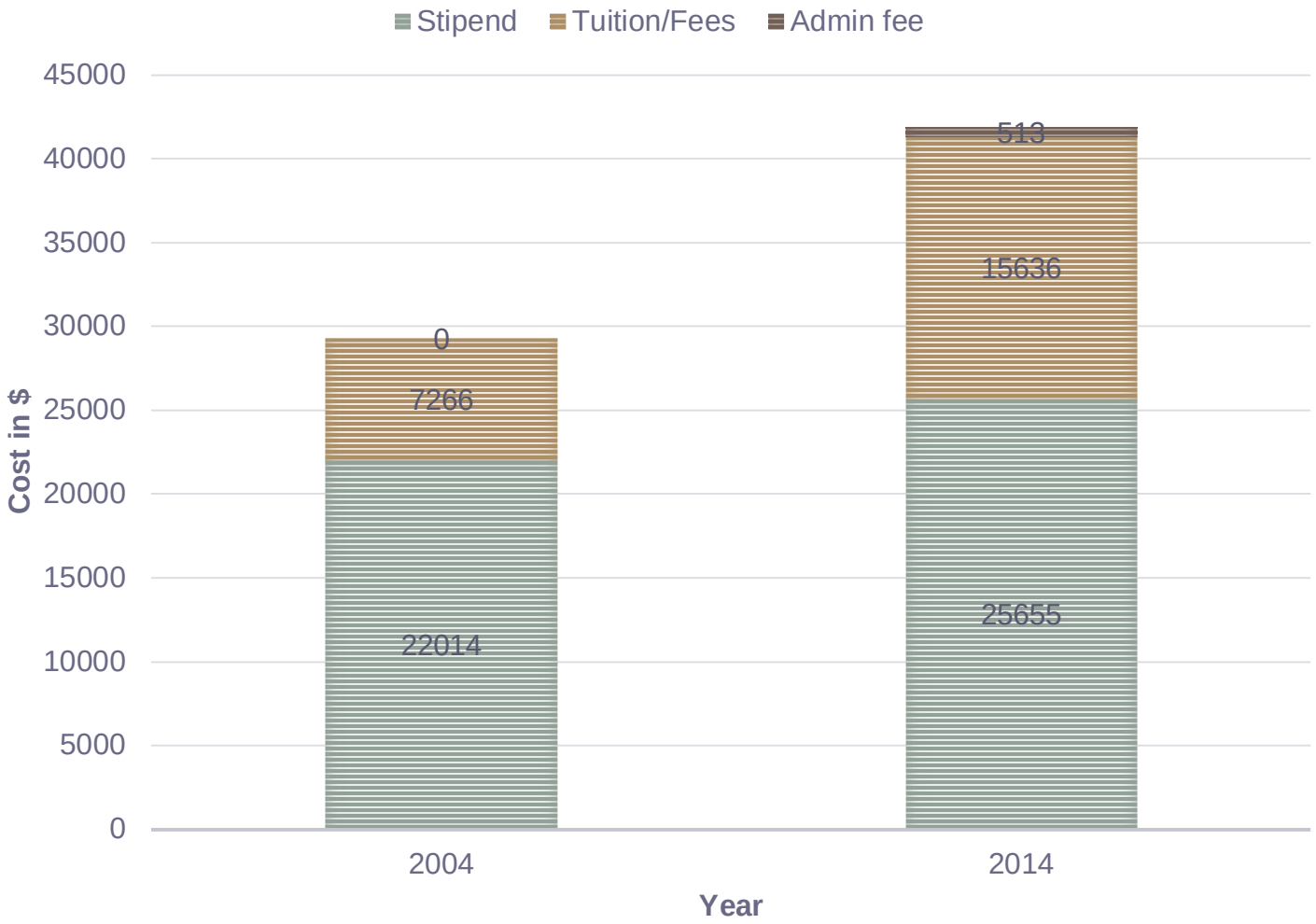
> *The state of the Department of Environmental Science, Policy and Management (ESPM) is strong…. A second unique strength is that the department effectively blends theoretical and applied perspectives,* ***while possessing a proven mechanism for extending its activities into real-world communities***

# Reality of the job market for PhD's in Academe



# Responsibility to provide alternative academic career paths

# Challenge of supporting graduate students




Data for UC Berkeley in-state students

# elements of pilot program

Perspective: benefits across UCCE network

# Key elements -- overview

1. Shared funding model

   50% from ANR
   25% from Department
   25% from Mentor(s)

2. Competitive proposals

   Clearly identified extension products
   Significant hands-on CE mentoring
   Integration into PhD program of study
   Requirement that students “give-back”

3. Program evaluation and transparent accounting

4. Use GSE to catalyze development of broader based graduate training in extension and outreach

# Details

- Guiding professors must approve student participation in GSE program.
- AES faculty as well as Specialist and Advisor may serve as extension and outreach mentors
- An evaluation report of progress and outcomes MUST be submitted to the leaders of the participating units at the end of year 2
- Up-to $50k per year will be provided by CNR departments to support pilot. Matched by $100k per year from ANR.
- Program MUST HAVE ongoing steering committee oversight & include at least one member from each node of the ANR network.

# Steering Committee Members (March 2015 to present)

John Battles, Chair (AES)

Richard Standiford (CE Specialist)

Susie Kocher (CE Advisor)

Faith Kearns (ANR Staff)

Kate Wilkin (Student)

Vanessa Murúa (Analyst Support)

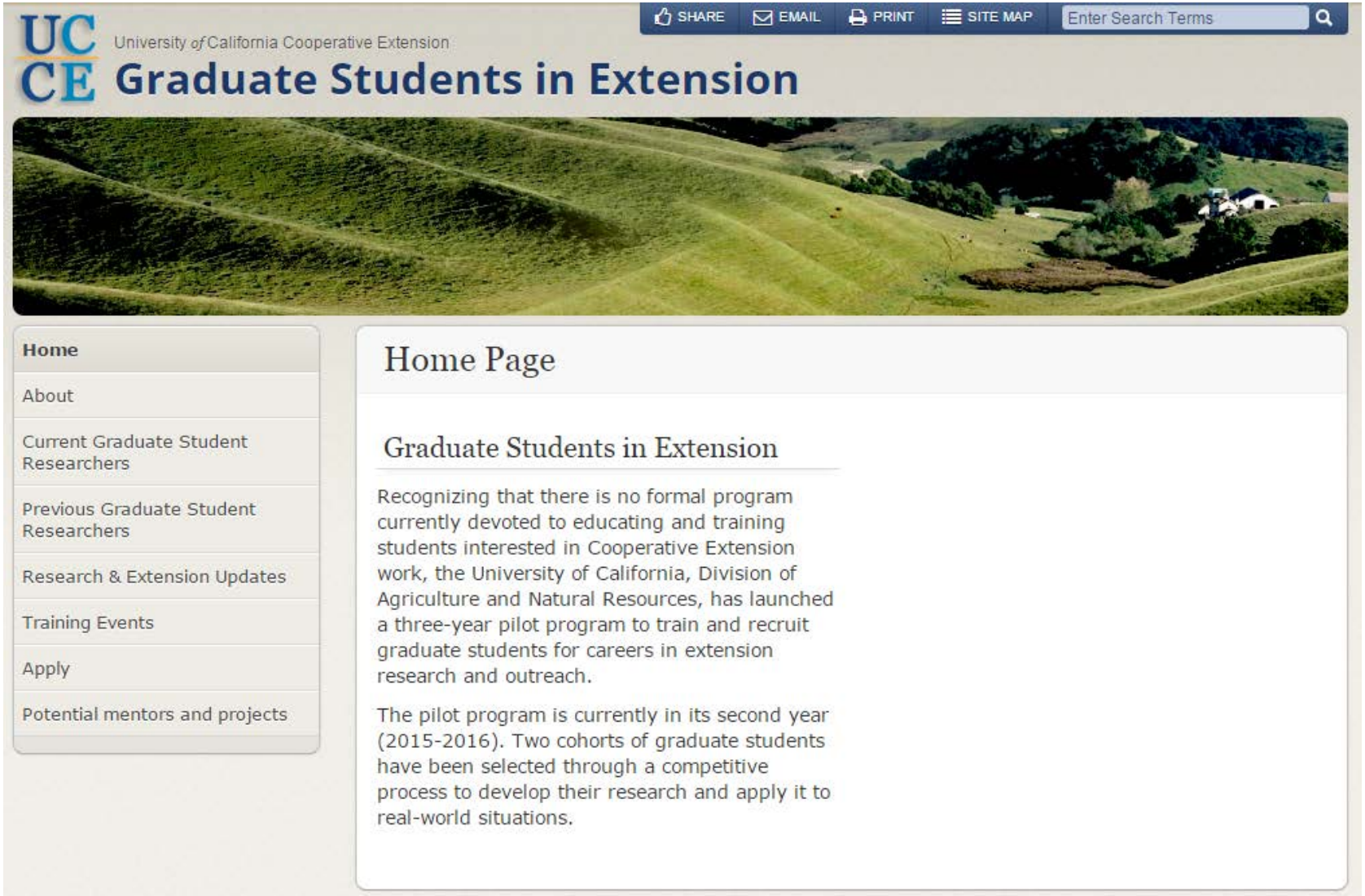
# 3rd year opportunities

Reaching the advisor node

## Request for applications released in September 2015

## Applications are due Friday, March 4,2016

# http://ucanr.edu/sites/GGCE/



# Making a match

**Cooperative Extension Showcase**
**November 19, 2015**
**103 Mulford Hall**

**Agenda**

| | |
|---|---|
| 2:40 | Welcome<br>Nathan Van Schmidt and Adrienne Marshall, 2015-2016 GSEs |
| 2:40-2:55 | Overview of Cooperative Extension<br>Bill Frost, Associate Vice President, UC Agriculture and Natural Resources |
| 2:55-3:10 | Overview of Graduate Students in Extension Fellowship<br>John Battles, UC Berkeley Professor of Forest Ecology |
| 3:10-3:45 | Lightning Talks (7) |
| 3:45-3:55 | *Break* |
| 3:55-4:25 | Lightning Talks (6) |
| 4:25-4:35 | Current GSE projects<br>Nathan Van Schmidt, Adrienne Marshall, Matthew Shapero, Kripa Jagannathan |
| 4:35-5:00 | Breakout Discussion Groups<br>Forests and Rangelands, Human Dimensions, IPM/Entomology, Ag & Food |
| 5:00-6:30 | GSE and ESPM co-hosted Happy Hour, 103 Mulford |

# The Mentor Matching Grant for UCCE Advisors

$ 15,000 in donated program funds to help UCCE advisors meet matching fund obligation.

Thanks to program donors:

Professor Emeritus Barbara Allen-Diaz
The College of Natural Resources
The Division of Ecosystem Sciences

# future

A change in perspective and practice

# Larry Forero

Livestock/Natural Resource Advisor

Shasta/Trinity Counties

# Interest Areas include

- Water/Water Management/irrigated pasture
- Rangelands
- Beef Cattle
  - Management
  - Economics

# Water/Water Management/Irrigated Pasture

- Irrigated Pasture
  - Application of soil and tissue testing to strategically apply soil amendments (conventional and ash)
  - Grazing management options
  - Irrigation (timing, amount, efficiency
  - Economics
  - Groundwater monitoring

# Rangelands

- Rangeland
  - Longterm Monitoring (Hat Creek Rim)
  - Weed Management (Medusa head)
  - Grazing
  - Economics
- Completing Rustici funded "*Common Range and Pasture Plant Field Guide*"
- BeefTracker iPhone Ap

# Beef Cattle

- Beef Cattle
  - Various trials (Se, Wormer, implants)
  - Grazing (weed control)
  - Economics
    - Cow-calf cost study
    - Ranch-to-Rail
  - Management

# What I am interested in doing “next”

- Managing Market risk for the mid-size producer
- Comprehensive practical leasing document
- Ionophore trial on growing steers
- BeefTracker

# SOIL HEALTH & ECOSYSTEM SERVICES

Stephanie Larson, PhD

UC Cooperative Extension

Sonoma & Marin Counties

Stephanie Larson, Sonoma & Marin Counties
Holly George, Sierra & Plumas Counties
Roger Ingram, Nevada & Placer Counties

Livestock & Range/Natural Resources Advisors

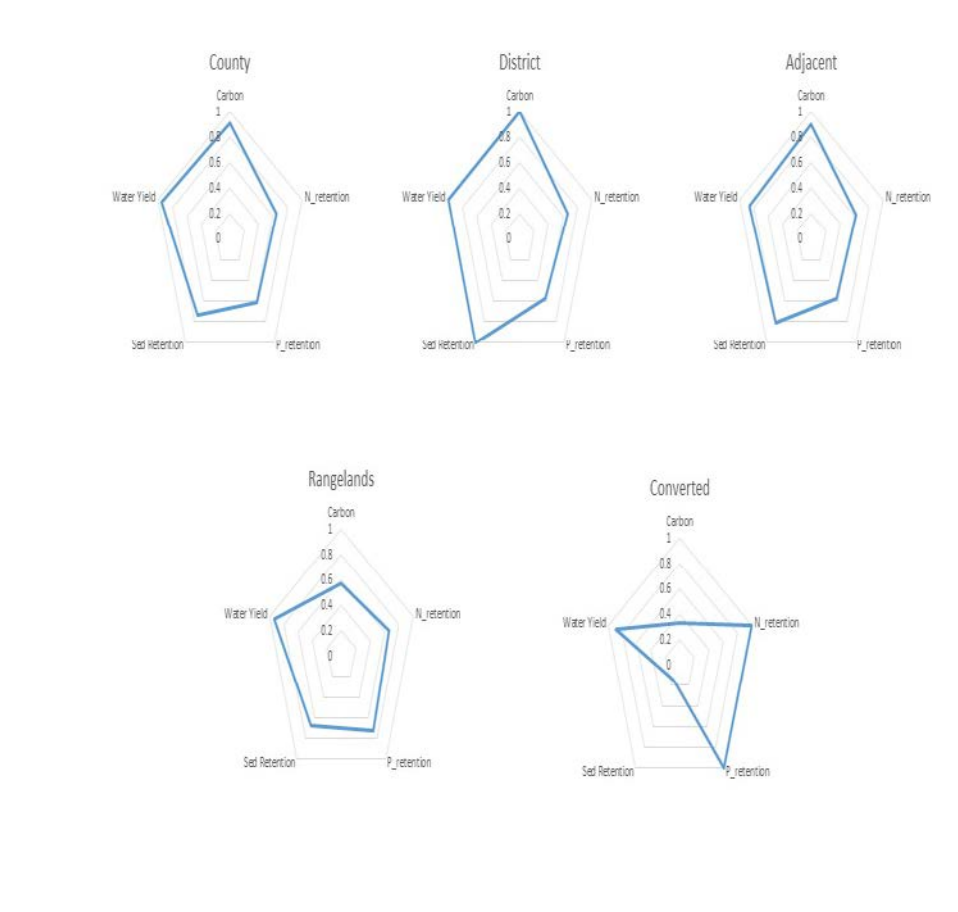
# Soil Health Initiative

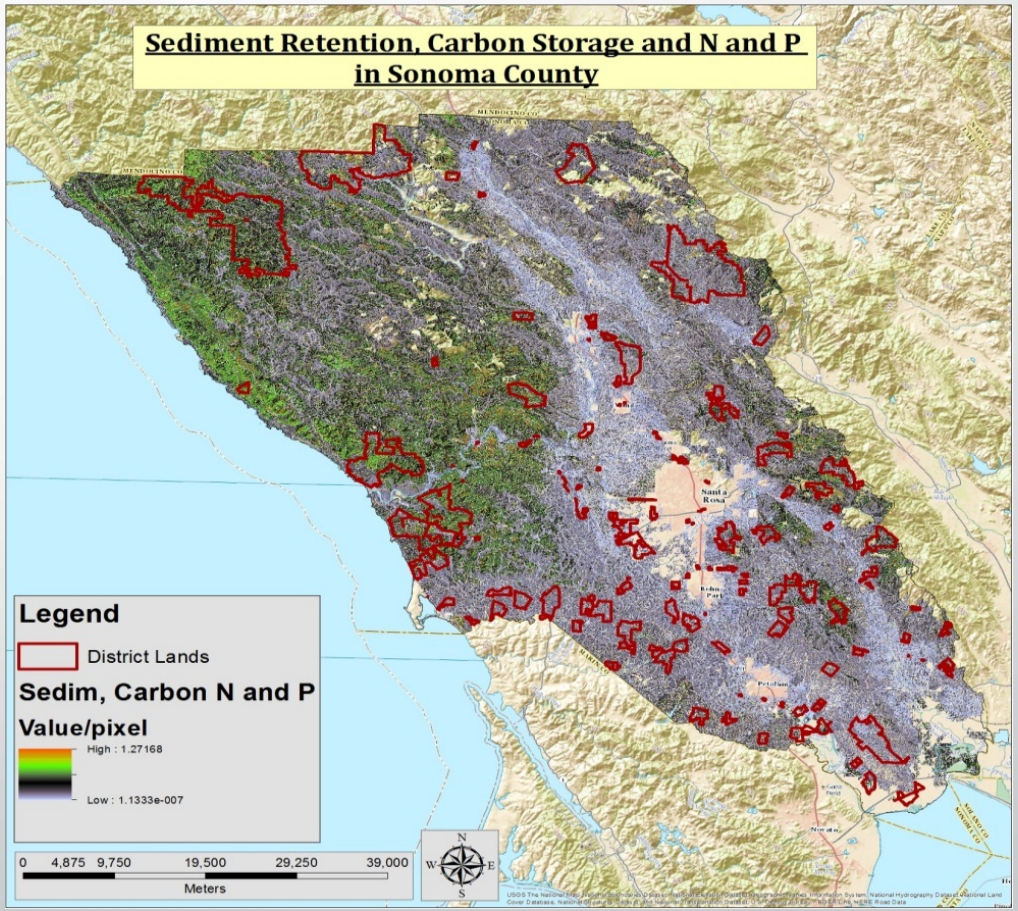
- Understand the importance of soil health
- Develop strategies to evaluate soil
- Make decisions on how to improve soil health

# ECOSYSTEM SERVICES

- Benefits not always taken into account when land use and policy decisions are made
- Working lands have been preserved by conservation easements or mitigation
- Challenge  - to quantify biophysical and economic values of ecosystem services provided by working landscapes
- Document - ecosystem services from working lands; Benefit Relevant Indicators (BRI)

# District lands provide higher levels of ecosystems services
# As a suite, they outperform other land typologies



# Ecosystem Framework

Points of strength & weakness

Methodology to evaluate

| Biophysical Aspects | Political-Economic Control | Community | Management |
|---|---|---|---|
| Research | Climate Change | Health Benefits | Conservation Easements |
| Data sets: LANDFIRE, National land Cover, Soil Surveys, ESD | Functional Landscapes | Perceptions & values | |
| | Access to land | | |
| | | | |

# California's working landscapes – including rangelands, agriculture, and grasslands – represent potential areas for investment to address climate change

Carbon Storage, sequestration

Sediment retention, Scenic Value

Water YIELD

Scenic value

# Trails Project:
# Health Benefits received from Cattle Grazing
# Open Space/Park Lands

East Bay Regional Parks
Sonoma County Regional Parks

Sheila Barry

sbarry@ucanr.edu

Stephanie Larson
slarson@ucanr.edu

# COMMUNITY DEVELOPMENT & LEADERSHIP

## Building capacity and network connections for economic & social viability

Holly George, hageorge@ucanr.edu

# COMPOSTING ON RANGELANDS

Theresa Becchetti, tabecchetti@ucanr.edu

# Research projects on climate change in California for Graduate Students in Extension

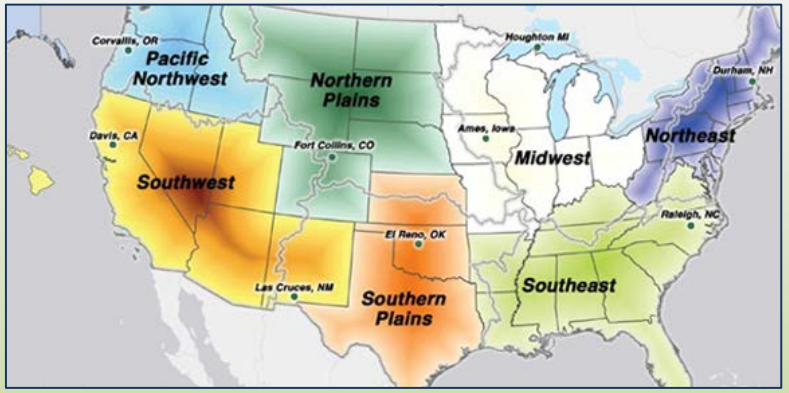
Amber Kerr (ackerr@ucdavis.edu)

University of California, Davis and
USDA Regional Climate Sub Hub for California

Cooperative Extension Showcase, UC Berkeley
November 19, 2015

# What are the USDA Regional Climate Hubs?

- Formed in February 2014, the USDA Climate Hubs aim to assist farmers, ranchers, and foresters adapt to climate variability and change.
- There are 7 Hubs and 3 Sub Hubs; most are co-located at universities or USDA research facilities.
- The CA Sub Hub at UC Davis focuses on specialty crops (fruits, nuts, and vegetables), rangelands, and forests.
- The Hubs do not do original research, but rather serve as a conduit of climate change information for land users.



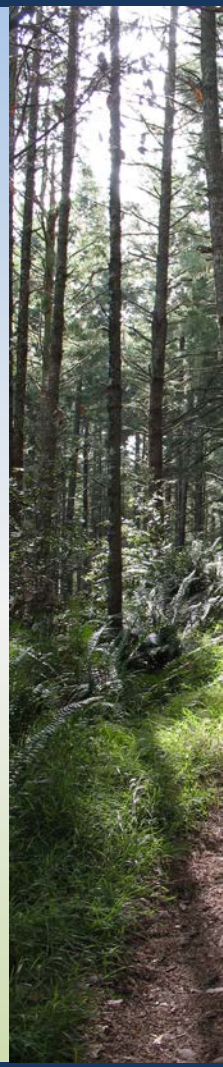
# Sub Hub / GSE collaborations, 2015-16

- Adrienne Marshall:
  Updating UC ANR Forest Stewardship Series to include briefs on climate adaptation and mitigation for forest land owners in California

- Kripa Jagannathan:
  Understanding how climate models can provide output that is useful to California almond growers

# Topic 1: California forests and climate change

- Will tree species selection and planting methods need to be modified under changing climate?
- Will climate change affect pest and disease pressures? If so, how can forest managers best respond?
- Will changing wildfire pressures demand changes in how fuels are managed?
- How much is known about managing CA forests for long-term carbon storage?

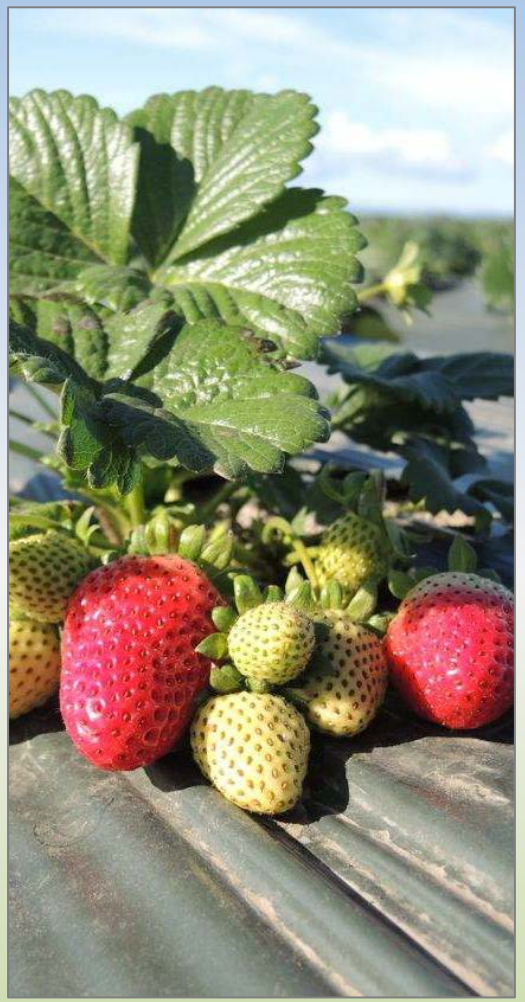


# Forests: current and possible future projects

- Creating a forest adaptation workbook for California land managers, based on USFS Northern Forests Research Station workbook (http://www.nrs.fs.fed.us/pubs/40543)
- Producing a series of fact sheets on current drought-induced tree mortality in California
- Highlighting climate change relevance of USFS forest resilience demonstration landscapes (Western Klamath Restoration Partnership and South Fork American River)
- Investigating potential contribution of Sierra forest management to water production

# Topic 2: Specialty crops and drought

- California is the #1 agricultural state in the nation, with an annual agricultural output of $50 billion (of which over half is specialty crops).
- However, data on how climate change will affect California specialty crops is incomplete and scattered.
- The current drought provides a compelling preview of future challenges. Natural stressors are complicated by water supply policies and infrastructure.



# Crops: current and possible future projects

- What cover crop systems in CA perform best under drought conditions? How could field trials help answer this question? *(Partner with USDA Natural Resources Conservation Service)*
- Where do synergies exist for climate adaptation and climate mitigation in CA specialty crops? *(Partner with CA Dept of Food and Ag)*
- How will climate change affect the nutritional output of California specialty crops? *(Partner with LBNL and UC Global Food Initiative)*

# Topic 3: Rangeland sustainability in California

- Rangeland covers about 50% of California's land area and serves many important ecological functions, as well as sustaining the state's livestock industries.
- The four-year drought has hit ranchers hard and provoked challenging questions about sustainable rangeland management.

# Range: current and possible future projects

- The Sub Hub is currently finishing a climate vulnerability assessment of CA rangelands, which points to current research needs, e.g.:
  - Using GIS land cover and NDVI data along with climate modeling to predict future changes in rangeland productivity in California
  - Understanding dynamics of water levels in stock ponds; mapping their extent; removing barriers to their construction and restoration

# Contacts and potential mentors

- **Forests:**
  **Susie Kocher** <sdkocher@ucanr.edu>, Central Sierra Cooperative Extension, South Lake Tahoe, CA
- **Crops:**
  Tapan Pathak <tpathak@ucmerced.edu>, Climate Adaptation Specialist, UC ANR / UC Merced
  Margaret Smither-Kopperl <Margaret.Smither-Kopperl@ca.usda.gov>, USDA Natural Resources Conservation Service, Plant Materials Center, Lockeford, CA
- **Range:**
  Leslie Roche <lmroche@ucdavis.edu>, Rangeland Management Specialist, UC ANR / UC Davis
- **Sub Hub coordinator:** Amber Kerr <ackerr@ucdavis.edu>

# Urban Integrated Pest Management:
## *a new UCCE program for the Bay Area*

**Andrew Sutherland**
**Bay Area Urban IPM Advisor**
**UCCE and UC IPM**

UC IPM

University of California
Agriculture and Natural Resources

Statewide Integrated Pest Management Program

*Making a Difference for California*

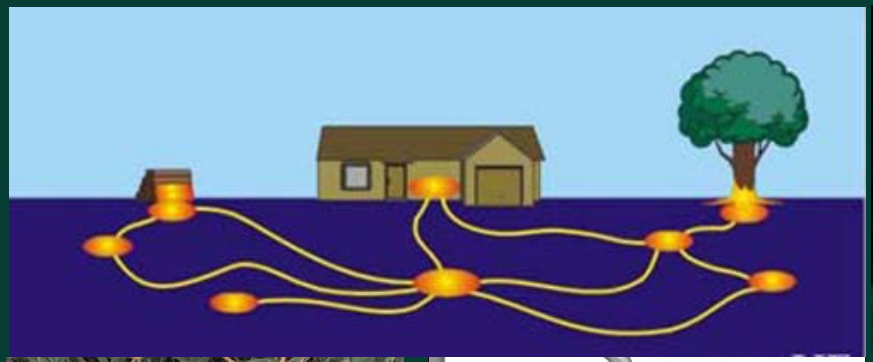
# Urban IPM Advisor?!

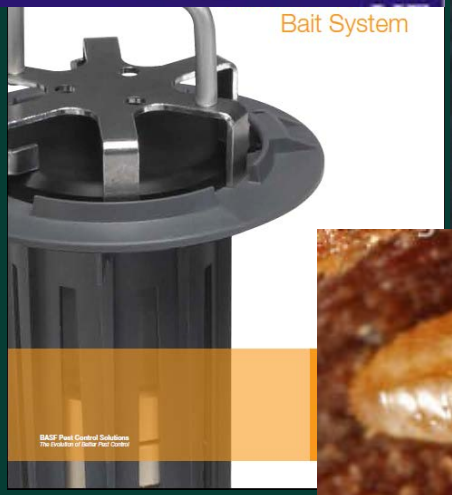
- Andrew Sutherland: Bay Area Urban IPM Advisor
  - Alameda, Contra Costa, San Francisco, San Mateo, Santa Clara counties
  - Structural / industrial IPM
  - Professional / commercial landscape IPM
  - UCCE Master Gardeners
  - Urban agriculture producers
- amsutherland@ucanr.edu
- http://ucanr.edu/sites/urbanIPM/

# Urban IPM as new UCCE program

- 1st in state hired April 2012 (me)
- 2nd hired this summer (July 2015), serving Los Angeles and Orange (Dr. Siavash Taravati)
- ANR Strategic Initiatives (pest management, healthy communities, healthy environment, natural resources)
- Mission: to develop urban IPM principles and practices, to promote demand for and adoption of urban IPM

# Ongoing research: evaluation of bait station systems for subterranean termites






Collaborators: CDPR Pest Management Research Grants program, bait station manufacturers, pest control operators; single-family homeowners throughout California

# Ongoing research: IPM regimes for bed bugs in multiple-occupancy housing

## 2013 ANR competitive grants program

ANR's 2013 competitive grants program will fund 15 projects, for a total of approximately $3.5 million over 5 years. The purpose of this grants program, as outlined in the request for proposals, is to strategically address issues identified by at one least one of the following strategic initiatives: Endemic and Invasive Pests and Diseases (EIPD), Healthy Families and Communities (HFC), Sustainable Food Systems (SFS), Sustainable Natural Ecosystems (SNE), and Water Quality, Quantity and Security (Water).

**Baseline assessment for bed bug impact and control, and demonstration of bed bug IPM for multiple-occupancy housing situations in California**

**Amount Awarded**: $ 246,285
**Award Source**: Federal Smith Lever
**Principal Investigators**:

- Dong-Hwan Choe - Principal Investigator
- Andrew Sutherland - Co PI

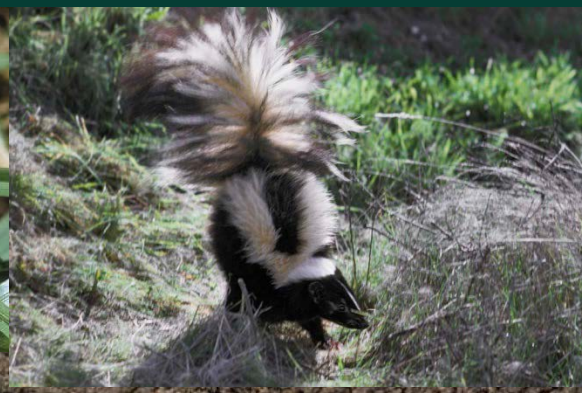
**Collaborators**:

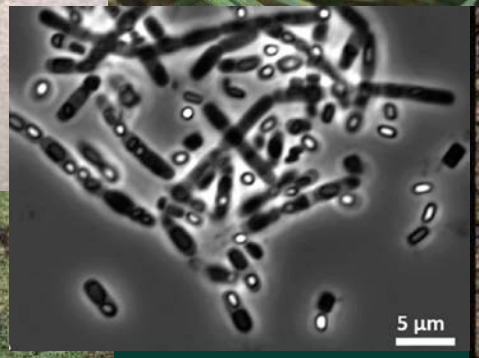
- Patrick Copps
- Tanya Drlik
- Nati Flores
- Cameron Gray
- Jung Kim
- Vernard Lewis
- James Mark
- Heidi Palutke
- Steven Zupko

View project summary

Collaborators: UC ANR Competitive Grants Program, USDA Western IPM Center, counties, pest control operators, public housing, community development

# Proposed research: evaluation of reduced-risk approaches to municipal management of white grubs in turf



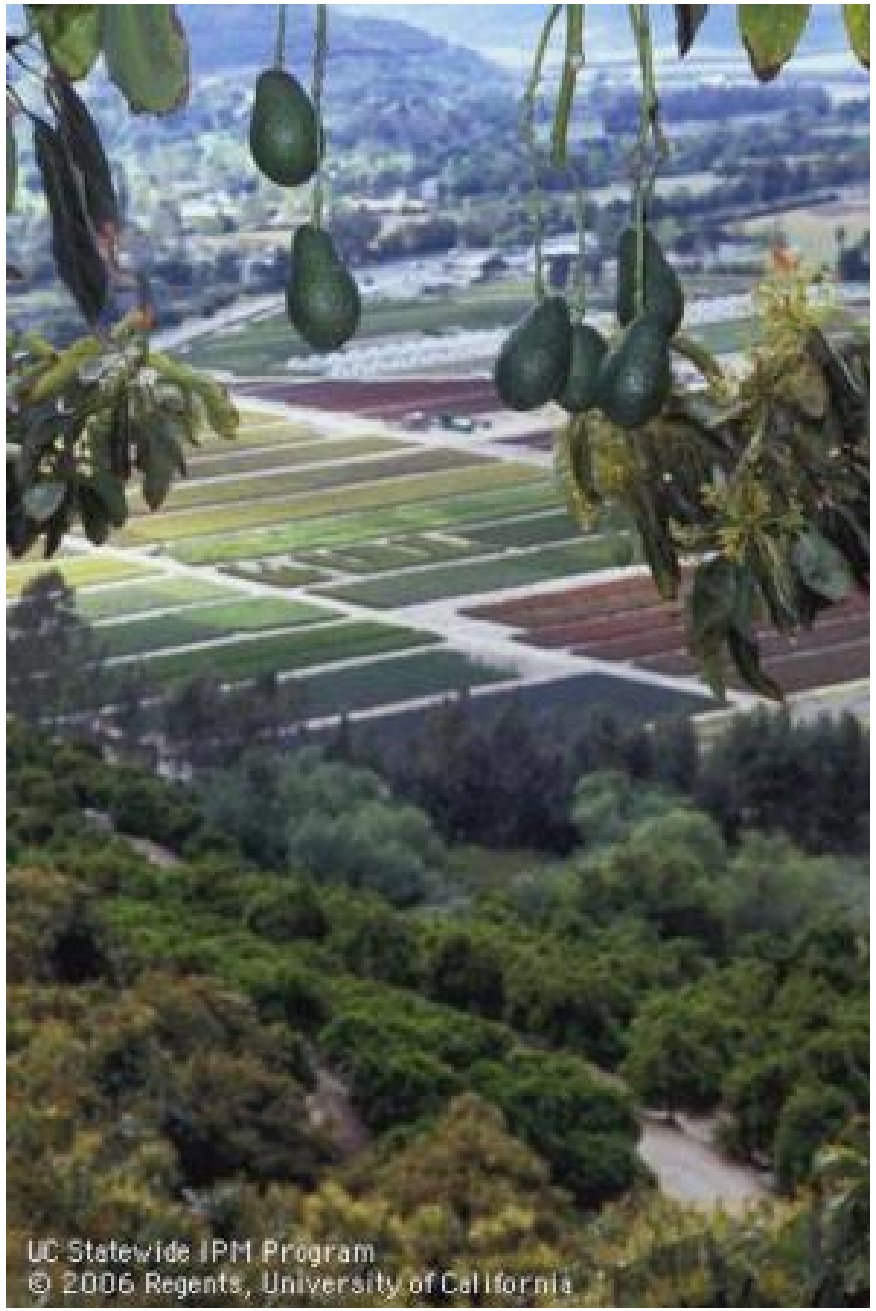



Collaborators: Phyllom Bioproducts, City of Walnut Creek, Santa Clara County, UCCE Master Gardeners?

UC IPM

# Thanks!...Questions?


- Andrew Sutherland
- Bay Area Urban IPM Advisor
- amsutherland@ucanr.edu
- http://ucanr.edu/sites/urbanIPM/
- 510-777-2481 office
- 510-499-2930 cell
- 1131 Harbor Bay Parkway; Alameda




Ben Faber
Soils/Water/Subtropical Crops Advisor
Ventura/Santa Barbara Counties
bafaber@ucanr.edu

Andre Biscaro
Surendra Dara
Oleg Daugovish
Jose de Soto
Jim Downer
Sabrina Drill
Chris Smith

http://ceventura.ucanr.edu/Staff/

Collaborative Research:

Other Advisors, in other counties

Specialists/Faculty from UCB, UCD and UCR

Faculty from UC, Cal State, Community Colleges

Local gov't. – city, county, RCD

State gov't. – CDFA, DPR, Cal EPA

Federal gov't – USDA, EPA, NRCS

Commodity groups – avocado, citrus, strawberry

Growers – those who are our biggest critics

# Pest & Disease Studies

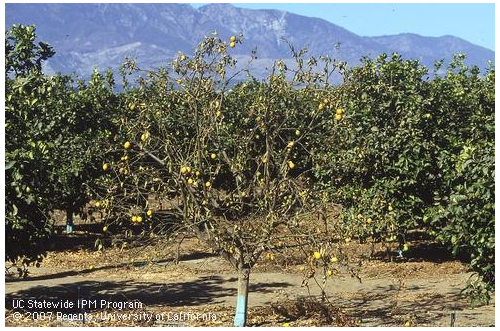
Polyphagous Shot Hole Borer/
Disease Complex

ACP/HLB complex

Anaerobic Soil disinfestation

Olive fruit fly &
Xylella Dieback

Root Rots





Borers – Gold Spotted, Emerald, 1,000 Cankers,
Western Oak, etc.

# Irrigation/Water/Nutrient Management

Enhanced Drip Irrigation

Drought Practices

Managing Tunnel Runoff

# New Crops

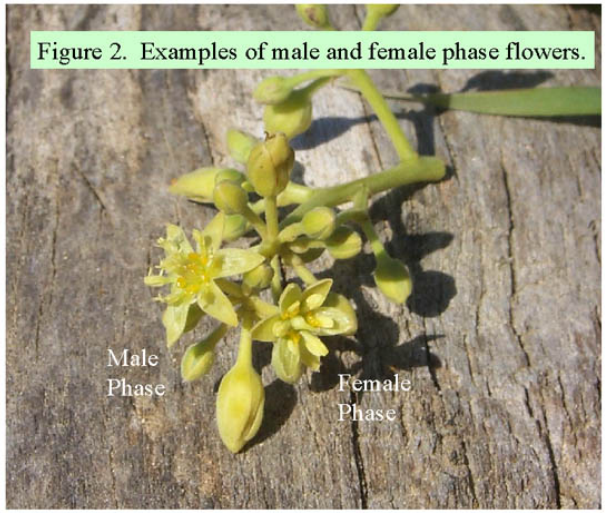

Dragon fruit Culture

New citrus/avocado varieties and rootstocks

Blueberry Culture

# Avocado Pollination

What pollinates it and when?
- How important are honeybees?
  - A & B flower types
    - How important is cross-pollination?
  - What can a grower do?




I million flowers and only 100 fruit. Probably the most energy expended for fruit set of any plant species.

Gordon Frankie – UCB
Ruben Alarcon - CSCI

Thank You

# Research and Outreach Opportunities with UCCE Santa Clara Cooperative Extension

- Martial Cottle Park provides integrated research and outreach in the areas of soil health, composting, grazing management, carbon ranching, small farm production, urban-farming interface, agriculture literacy

- Opportunities to work with UCCE Livestock/Natural Resources Advisor, Small Farm Advisor, Compost Education Program, SCC Food System Alliance

# Thank You

Contact:

Cole B. Smith
*Composting Education Program Coordinator*
cbrsmith@ucanr.edu
408.918.4641

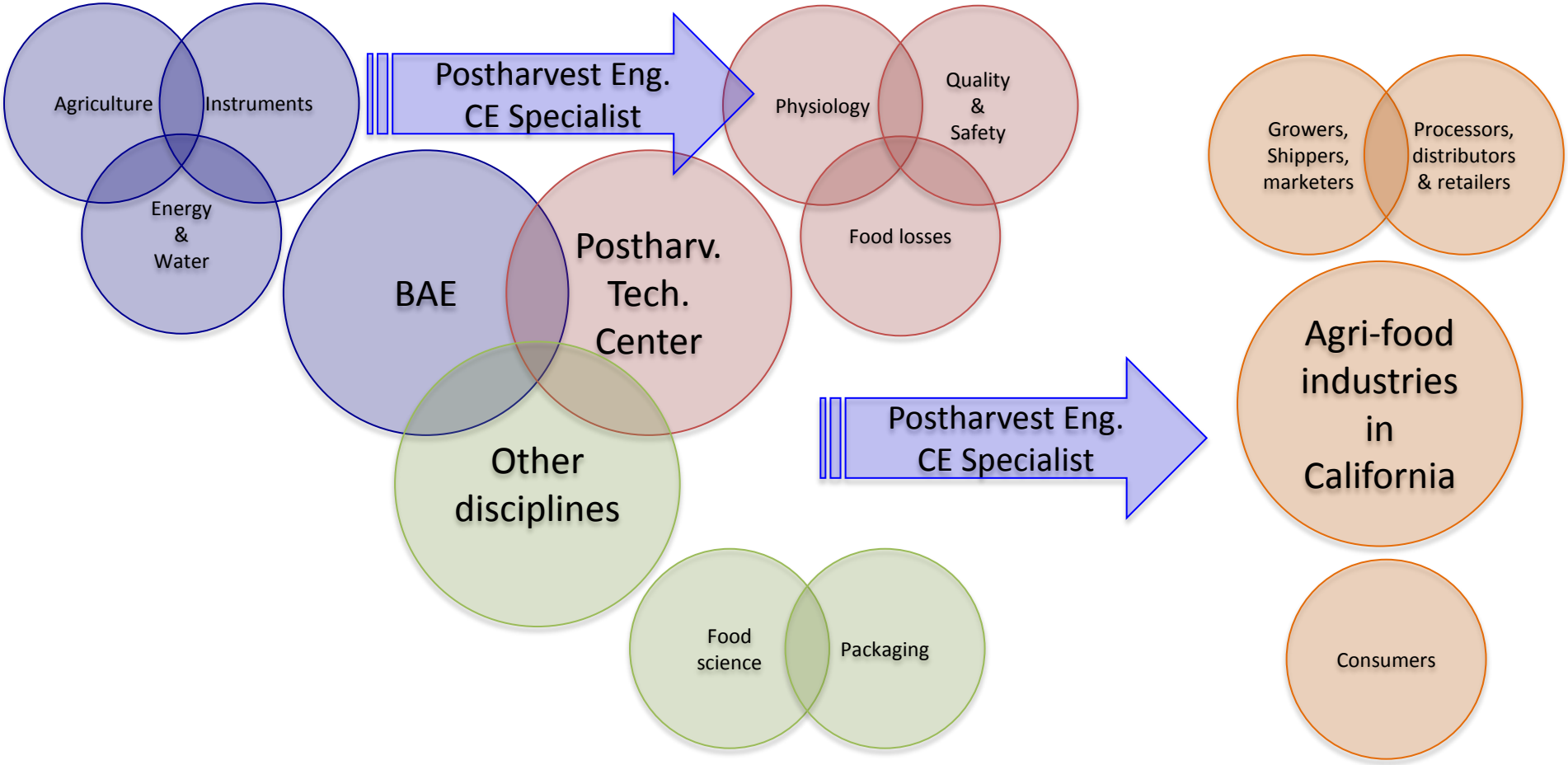

# IRWIN R. DONIS-GONZÁLEZ, PH.D.

Assistant Postharvest Engineering Specialist in Cooperative Extension - Biological and Agricultural Engineering (BAE)

irdonisgon@ucdavis.edu

# Who am I?


[1] http://agrilinks.org/blog/ag-sector-council-recap-preventing-postharvest-loss-field-market


Agriculture
Instruments
Energy
&
Water
Postharvest Eng.
CE Specialist
Physiology
Quality
&
Safety
Food losses
BAE
Postharv.
Tech.
Center
Other
disciplines
Food
science
Packaging
Postharvest Eng.
CE Specialist
Growers,
Shippers,
marketers
Processors,
distributors
& retailers
Agri-food
industries
in
California
Consumers

# PROSPECTIVE PROJECTS

# **Project 1:** How can we improve postharvest walnut quality in California, while reducing energy and water usage?

Harvest

Drying (Energy efficiency, water usage)

Storage (Instruments – Sorting, monitoring)

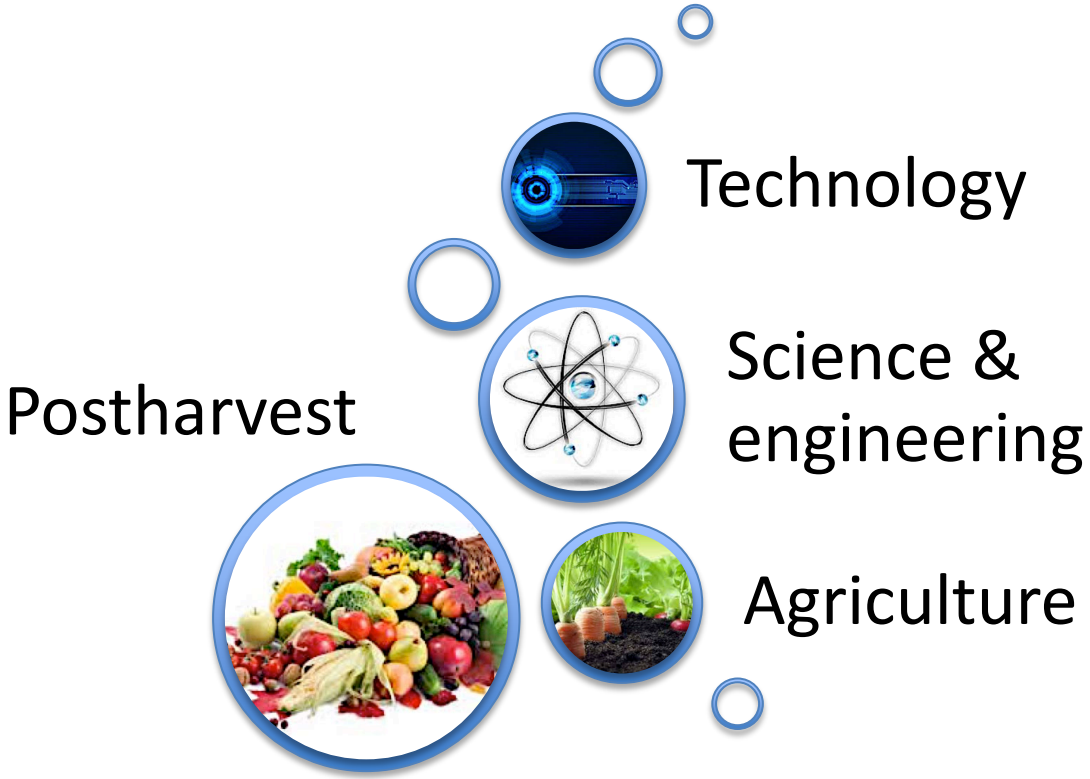
# **Project 2:** How can we reduce the splitting of sweet cherries during pre-cooling?

Harvest

Pre-cooling & Sorting

Splitting & Premium quality

**Overall goal:** Integrate innovative technologies with engineering principles in the field of postharvest & agricultural systems



# THANK YOU!

## CONTACT INFORMATION:

**Irwin R. Donis-Gonzalez, PhD**
Assistant Postharvest Engineering Specialist in Cooperative Extension
Biological and Ag. Engineering
University of California, Davis
3024 Bainer Hall, Davis, CA 95616-5294.
Phone: (530) 752-8986
E-mail:irdonisgon@ucdavis.edu

100 YEARS 1915 - 2015
UCDAVIS BIOLOGICAL AND AGRICULTURAL ENGINEERING


# NUTRITION POLICY INSTITUTE

Lauren Au, PhD, RD

Assistant Researcher

University of California
Agriculture and Natural Resources

# What is NPI's VISION?

A California where healthy food, beverages and opportunities for physical activity are:

- **Convenient**
- **Accessible**
- **Affordable**
- **Sustainable**

# What Does NPI DO?

- Prevention of **food insecurity**, **obesity** and **chronic disease**, and promotion of **health**
- **Federal nutrition programs**
- **Low-resource** communities
- **Children** and **families**
- **Evaluation of communities & schools**

# Projects

- **Women, Infants and Children (WIC) Study**
  - Randomized controlled trial comparing in-person to online nutrition education on breakfast and salt dietary knowledge, attitudes, and behaviors
- **Healthy Communities Study**
  - Observational study assessing associations between characteristics of community programs and polices and BMI, nutrition, and physical activity in children
- **Child Care Study**
  - Observational study of current childcare nutrition as a baseline prior to implementation of new childcare nutrition regulations

# Graduate Student Characteristics

- Nutrition & public health background
- Community or school-based research experience
- Experience with literature reviews
- Understanding of survey design
- Proficiency in statistical analysis (SAS, SPSS)
- Independence & flexibility!

# For More Information?

leau@ucanr.edu

# Juan Bautista de Anza National Historic Trail:

*Bridging environmental education and California history.*

Lynn Schmitt-McQuitty

Youth Development Advisor

San Benito, Santa Cruz and Monterey Counties

831-637-5346 x 12, lschmittmcquitty@ucanr.edu

# Project Goals:

- Provide Professional development and field experiences in education and resource conservation.
- Promote stewardship of the Anza Trail and 4-H by developing and conducting youth activities that bridge environmental education and California history.
- Outreach to youth and Hispanic or Latino audiences.

# Objectives:

- Provide a bilingual student with professional development in the fields of environmental education, youth development, California history, and resource conservation.
- Develop bilingual youth activities/experiences that connect the importance of clean, healthy waterways with the story of migration, settlement, and California history (the story of the Anza Trail).
- Deliver activities/experiences with 4-H members and other community groups.
- Evaluate the impact of the program and publish a summary of the experience in the Anza Trail newsletter and in other lay-person publications.

# Objectives:

- Explore linkages between the NPS and 4-H resources in San Benito, Monterey, and Santa Cruz Counties.
- Conduct 6 or more bilingual presentations promoting 4-H and the Anza Trail to school and community groups, with a focus on Hispanic/Latino youth.
- Build community relationships that support future 4-H/NPS collaboration
- Develop tools and resources that could be replicated with other 4-H members along the Anza Trail in Arizona and California.

# Details:

- Partnership between UC ANR and the National Park Service
- $6000 in funding secured
- March – August, 2016
- Work to be conducted in San Benito, Sana Cruz and Monterey Counties


University of California
Agriculture and Natural Resources
4-H Youth Development Program

# Contact:


**Lynn Schmitt-McQuitty**

**Youth Development Advisor**

**San Benito, Santa Cruz and Monterey Counties**

**831-637-5346 x 12**

**lschmittmcquitty@ucanr.edu**

# Ecology and Management of Invasive Insects and Plant Disease






Matt Daugherty, Department of Entomology, UC Riverside
(mattd@ucr.edu)



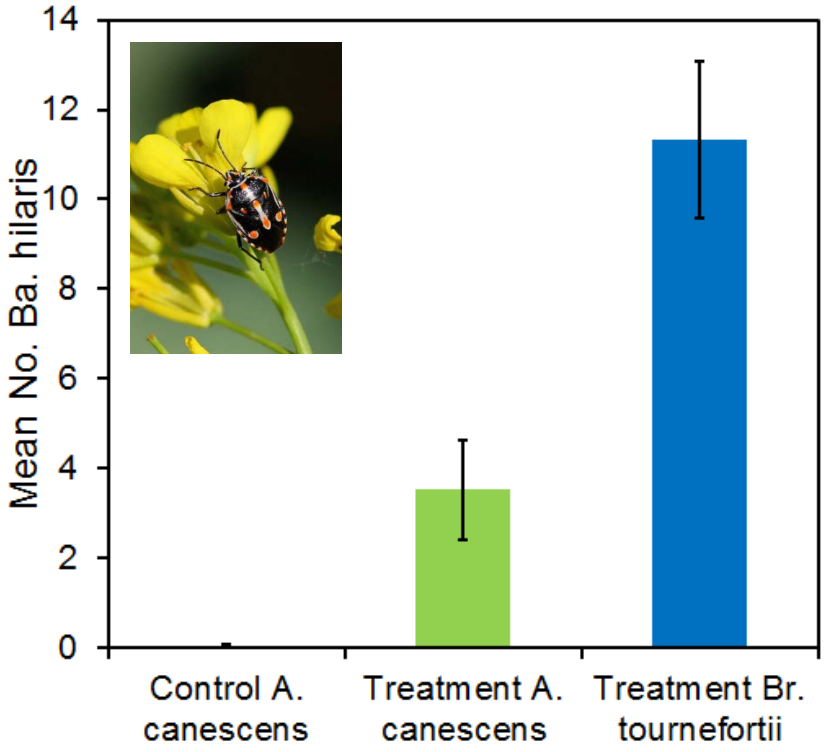
# 1. Arthropod-mediated associational effects between native and exotic plants

Mustard invasion is associated with declines in native CA desert plants

Wet winters favor dramatic mustard recruitment, strong impacts on natives

Mustard may favor spillover herbivory by invasive stinkbug

-”invasional meltdown”


Bagrada preference – *Atriplex* vs. *Brassica*

Tolerance to herbivory

Associational attraction

Density-dependent spillover

Management implications?

-extension activities?

# 2. Improving management of Asian citrus psyllid in urban areas

ACP is a major pest of citrus worldwide

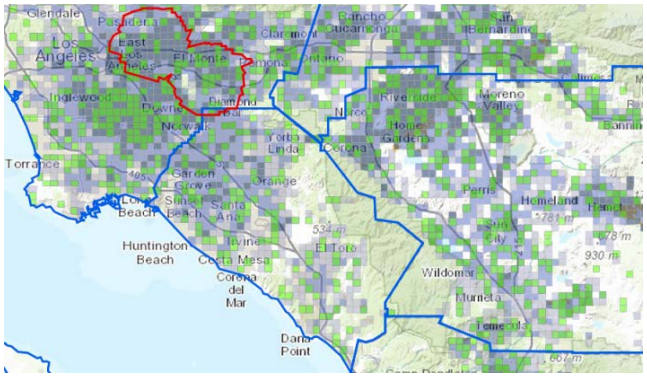
Vector of the pathogen associated with huanglongbing (citrus greening)

Established in CA in 2008, disease found in 2012

ACP has become ubiquitous in urban Southern California

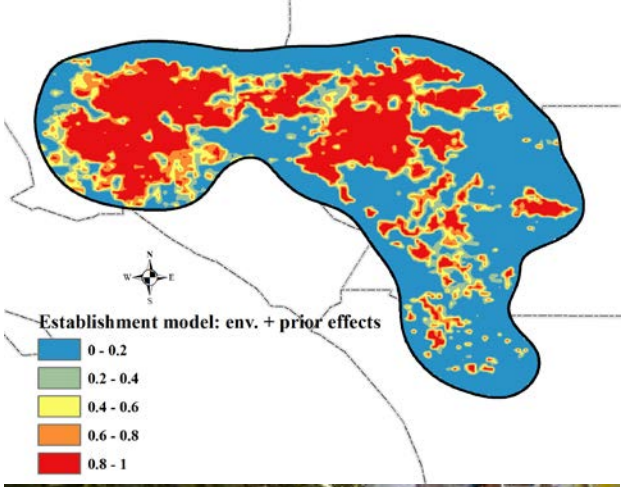
Management in urban areas has proven very challenging





Geospatial analysis of ACP invasion dynamics

-invasion pathway, climate, landscape effects

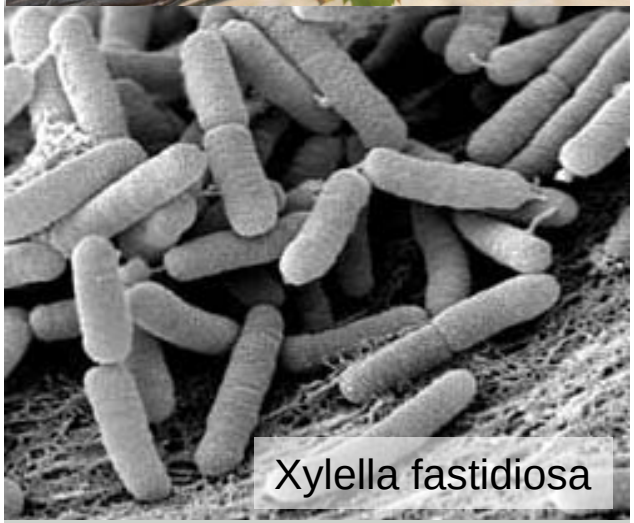



Monitoring and extension for ACP management in residential areas

-MG presentations, print and web materials

Monitoring and extension for ACP management in nursery settings

-training sessions, print and web materials



Xylella fastidiosa

Homalodisca vitripennis

# 3. Pierce's disease epidemiology and management

Historically important disease of grapevines in California

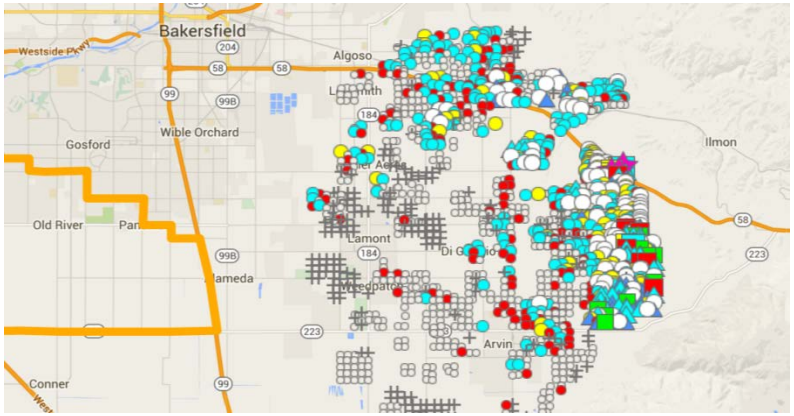
Caused by a bacterial pathogen

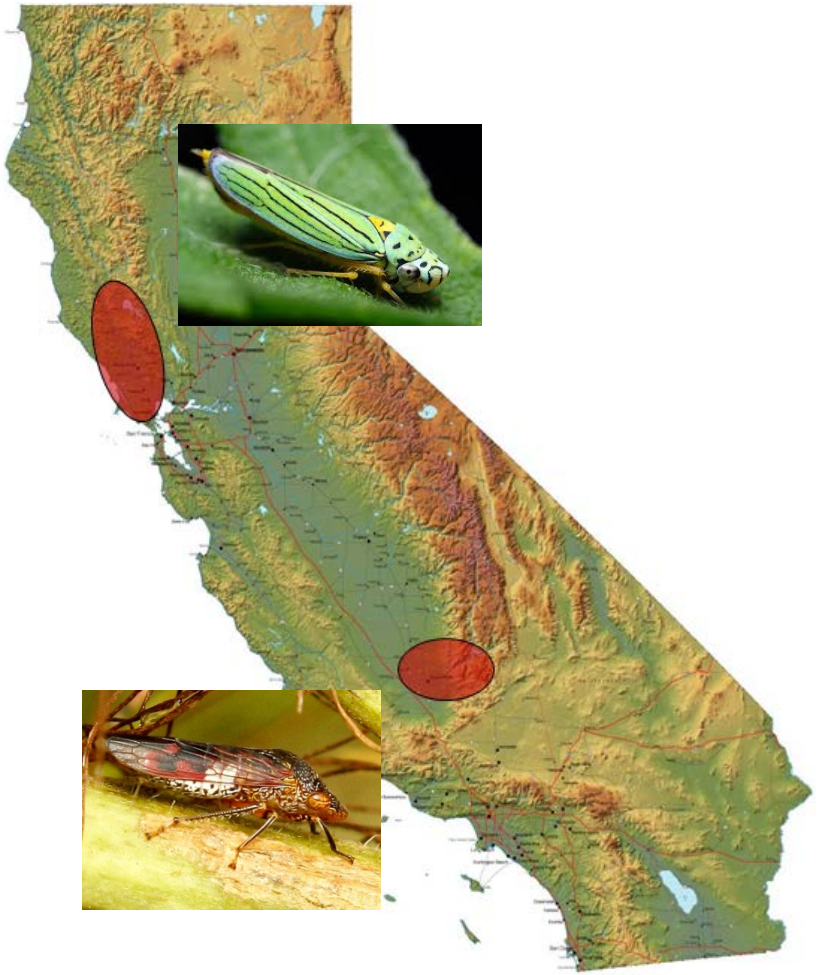
Native and invasive leafhopper vectors

-glassy-winged sharpshooter

Effective management is possible

-vector control, removal of diseased vines, habitat management



Ongoing Pierce's disease resurgence

-climate?

-ineffective vector control?

-complacency?

New vector and disease surveys

Renewed outreach efforts to growers

-coordination with control districts

-updated web resources

# University of California Cooperative Extension

## Alameda County: 100 Years & Counting!

# UCCE's SF Bay Area Urban Agriculture Program

**Rob Bennaton**
**Cooperative Extension County Director, Alameda and Contra Costa Counties**
**&**
**Bay Area Urban Agriculture Advisor**

UC Cooperative Extension | University of California
Agriculture and Natural Resources


# UCANR STRATEGIC INITIATIVES

## Sustainable Food Systems

## Healthy Families and Communities

Endemic and Invasive Pests and Diseases

Sustainable Natural Ecosystems

Water Quality, Quantity and Security

# Statewide Urban Ag Needs Assessment Findings

## Challenges & Barriers in Urban & Community Ag

- Land & Water Access
- Soil Quality/Contamination
- Crop Pest & Disease Management
- Water Management

# Statewide Urban Ag Needs Assessment Findings

## Challenges/Barriers & Needs in Urban & Community Ag

- Securing Capital/Funding
- Zoning/City Ordinances
- Animal Husbandry
- Post Harvest Handling
- Marketing/Distribution

# Grower-Identified Needs

## Workshops/Trainings & Educational Materials for New/Experienced Urban Growers

## Understanding of Risk Management as Per:

- -Local & State Regulations/Liability/Fines
- -Site History/Land Access/Planning
- -Heavy Metals-Safe Growing Practices
- -Food Safety Practices
- -Small Business Risk Management

# Response: Soil Consultations/Workshops for Urban Growers on Managing Soils/Risk

I. Improving Soil Quality for Urban Food Growers

II. Soil Sample Collection

III. Advanced Soil Management

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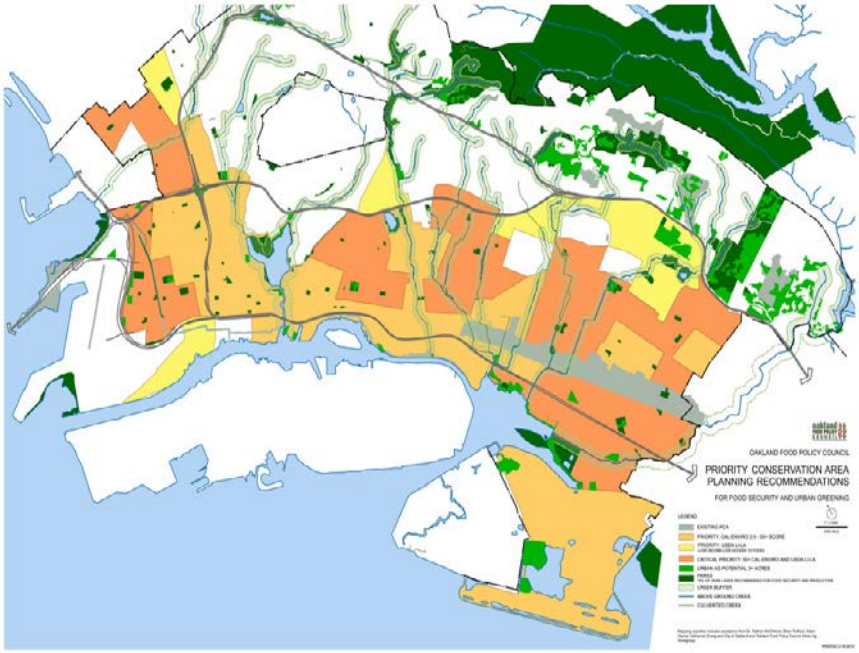
# Response: Mapping Oakland's Urban Ag Potential Spaces

## Oakland-> Alameda-> Bay Area

- **Mapping Potential Grower Sites**

  **-Vacant lots, Housing Authority, Edible Greenways**

- **+ Eco-System Services**
  - **Soil Quality**
  - **Pollinators/Pests/Beneficials**
  - **Yield-Productivity**
  - **Storm Water Capture**



# Response: Urban Ag as Edible Landscaping

## Apartment Complexes/Affordable Housing

- Homeowner/Tenant Associations/Resident Councils
- Neighborhood Food Act:
  'Right to Grow Food'
- Lawn Conversions
- Complex Governance Models…


# Response: La Mesa Verde Program

## San Jose Low Income House Renters/New Grower Training

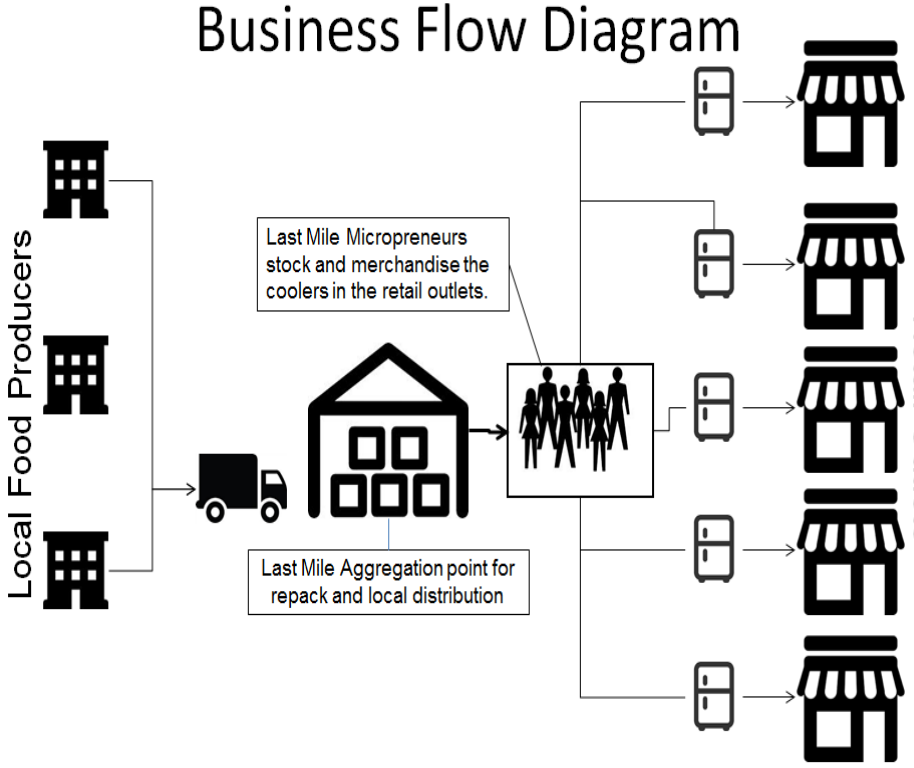
**Research: Document Impacts/Value for Low Income Growers**

**PI: Dr. Susan Algert**

# Response: Local Food Access Mapping (Unincorporated Areas – Alameda Cty)

## Goal: Convenience to Healthy Corner Stores

- **Partner with Local CBOs**
- **Neighborhood Convenience Stores**
- **Food Hub Opportunities**
- **Healthy Mobile Food Vending**




Caption: Workshop at the Gill Tract

# UC Cooperative Extension

## Serving the People of the San Francisco Bay Area Counties!!!

By Rob Bennaton,
Bay Area Urban Agriculture Advisor &
UCCE Alameda and Contra Costa Counties Director

UC Cooperative Extension | University of California
Agriculture and Natural Resources

# POST-FIRE LAND USE AND RECOVERY

Van Butsic
Land systems science specialists, ESPM, UC-Berkeley
vanbutsic@berkeley.edu

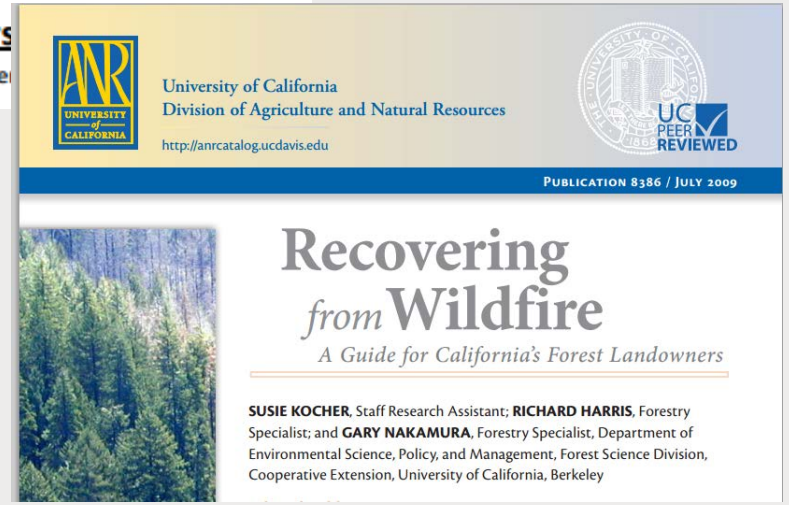
# Fires Happen:  What comes next?

- The public wants to know:
  - *Are my trees dead?*
  - *What will happen to my property values?*
  - *Will the plants and animals return?*
  - *Should I rebuild?*
  - *What can communities do to recover?*

- I would like to know
  - *Do communities change land use law to encourage new development and or rebuilding?*
  - *If so, does this actually impact people's decisions to rebuild?*

# Building a post-fire extension tool kit





# Building a post-fire extension tool kit

- What about the impact on property prices?
  - *A nice literature exists on this question, but needs to be compiled and written up for extension*
- What can communities do to recover?
  - *There seems to be a research gap in this area. More information on individual actions, but less so on what communities can do.*

# Understanding how communities recover: Land use laws and redevelopment

- Anecdotal evidence suggest that communities encourage redevelopment by relaxing land use laws (i.e., zoning, waiving permitting fees).
- Insurance companies also encourage rebuilding by making this the easiest way to collect payments.
- Research questions:
  - *Do communities systematically change land use laws after fires?*
  - *Do these changes lead to more rebuilding?*
  - *Do these changes lead to "recovery" for communities?*

# Understanding how communities recover: Land use laws and redevelopment

- Investigate changes in land use laws in counties that had over 20 homes burned by wildfire since 2010 (n=61)
- Model parcel subdivision in these counties and surrounding counties since 2010, to determine impact of changes in land use law.
- Historic case study of fire and parcelization in 10 counties (5 in California and 5 in Colorado) dating back to 2000.

# Want to help?

- Come and see me at the bar!
- Or stop by my office Mulford Hall 327
- Or send an email: vanbutsic@berkeley.edu