MEETING AGENDA

July 1, 2013
1 pm to 4 PM

California Department of Food and Agriculture
Room 133
1220 N Street
Sacramento, CA 95833
(916) 654-0433

Call in information:
Please call 1-877-238-3859
Participant passcode - 3964856#

Jeff Dlott, PhD, Member and Chair
Mark Nechodom, PhD, Member
Don Cameron, Member
Mike Tollstrup, Member
Ann Thrupp, PhD, Member
Luana Kiger, MSc, Subject Matter Expert
Louise Jackson, PhD, Subject Matter Expert
Amrith Gunasekara, PhD, CDFA Liaison

1. Introductions (10 minutes) Jeff Dlott
2. Updates (10 minutes) Amrith Gunasekara
   a. NRCS CIG Proposal
   b. Ecosystem Services Database
3. Conservation Pivot – Department of Conservation (30 minutes) John Lowrie
   Assistant Director
4. Reward/Recognition System for Ecosystem Services (60 minutes) Jeff Dlott
   a. Examples of Existing Systems
   b. Discussion of a Potential EFA SAP System
5. Future Direction for EFA SAP (60 minutes) Jeff Dlott
6. Next meeting and agenda topics (10 minutes) Jeff Dlott

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
2) Project executive summary
This project will qualitatively and quantitatively examine the many Ecosystem Service benefits of bundling together nitrogen fertilizer budget worksheets (NFBW) and other conservation management practices (e.g., hedgerows) on farms of different sizes in California’s agriculturally intensive San Joaquin Valley. Ecosystem Services have been defined by the California Department of Food and Agriculture (CDFA) Environmental Farming Act Science Advisory Panel as “the multiple benefits we obtain from farming”. The multiple Ecosystem Service benefits from nested or multiple conservation management practices have not been qualitatively evaluated nor quantified in California. This project will explore the benefits of using NFBW as an in-season grower tool to effectively capture the multiple benefits provided by nitrogen management and hedgerows.

The project methodology will involve the following:

- analyzing existing NFBW templates for their potential to capture the multiple Ecosystem Services afforded by bundling conservation practices when supplemented with nitrogen management;
- designing a NFBW to more effectively capture the multiple benefits of nitrogen management and to also quantify the effects of multiple conservation practices;
- implementing NFBW with approximately 20 growers in the San Joaquin Valley, California, to monitor, capture, and document existing conservation practices such as cover cropping;
- qualitatively assessing the benefits from the multiple “bundled” management practices;
- quantitatively assessing the benefits from the multiple “bundled” management practices;
- evaluating the economic benefits of the multiple Ecosystem Services provided by working lands.

In addition to progress reports and other funding agency requirements, the deliverables of this project include qualitative and quantitative information on the Ecosystem Services delivered by using multiple management practices on a farm or single field, demonstrating the applicability of NFBW as an important in-season tool for plant nutrient needs, using NFBW to collect information on other conservation management practices, and validating the information collected in the NFBW using the nitrogen tracking tool (NTT) to develop nitrogen trading environmental markets.

This two-year project has a total budget of $1,062,202. More than half (53%) of the total budget is provided by in-kind support and CDFA Fertilizer Research and Education Program (FREP) cash-match contributions. The in-kind contribution from project collaborators and CDFA is $308,306 for the duration of the project. The CDFA FREP cash-match total is $254,026 for the duration of the project. Financial assistance of $499,870 is requested from the NRCS Conservation Innovation Grant program.

Several collaborators will assist CDFA in the implementation and completion of this project. They include California Association of Resource Conservation Districts, California Farm Bureau Federation, Almond Board of California, the Central Valley Regional Water Quality Control Board, University of California Agricultural Extension Services and the Institute for Water Resources, Xerces Society, Western Growers, Earth Economics, and California Audubon Society.
ENVIRONMENTAL FARMING ACT
SCIENCE ADVISORY PANEL

July 1, 2013
CDFA
Sacramento, CA
AGENDA 2. UPDATES

1. NRCS CIG Proposal (Handout – Exec Summary)
   - Submitted on 5/10/2013 (deadline 5/13/2013)
   - Anticipated announcement date is by August 1, 2013

2. Ecosystem Services Database
   - CDFA IT has developed electronic web-based database
   - Expected to be released by June 30, 2013 (delayed)
     - Grower letters and screenshots for feedback
     - Correct several data translation errors
     - Two week time period for grower response
   - Expected to be released mid to late July
   - Addresses Section 566 (b) of F&C
ECOSYSTEM SERVICES DATABASE

Ecosystem Services in agriculture is defined as "the multiple benefits we gain from farming and ranching including crop and livestock production." This database brings together ecosystem service information from grower websites to easily show and communicate the many social and environmental benefits offered by growers in California. The database can be searched by keyword and categories as well as through the interactive map below.

Search
ECOSYSTEM SERVICES LISTINGS BY COUNTY

CHOOSE A COUNTY TO BEGIN

Alameda  Kern  San Benito
Alpine  Kings  San Bernardino
Amador  Lake  San Diego
Butte  Lassen  San Francisco
Calaveras  Los Angeles  San Joaquin
Colusa  Madera  San Luis Obispo
Contra Costa  Marin  San Mateo
Del Norte  Mariposa  Santa Barbara
El Dorado  Mendocino  Santa Clara
Fresno  Merced  Santa Cruz
Glenn  Mono  Shasta
Humboldt  Monterey  Siskiyou
Imperial  Napa  Solano
Inyo  Nevada  Sonoma
Kern  Orange  Stanislaus
Kings  Placer  Sutter
Lake  Plumas  Tehama
Lassen  Riverside  Trinity
Los Angeles  Sacramento  Tulare
Madera  San Bernardino  Tuolumne
Marin  San Diego  Ventura
Mariposa  San Francisco  Yolo
Mendocino  San Joaquin  Yuba
ABC Farms

Location
West Sacramento

Crop Type
Field Crops

Crops
Garlic

Size
10

County
Yolo

Zip Code
95691

Services Description
This farm is focused on maintaining soil quality and fertility by practicing crop rotation and cover cropping in an effort to put nutrients back into the soil, attract beneficial insects, and increase organic matter. This farm also employs the use of buffer zones and open space to provide wildlife habitat and encourage native plant diversity. The farm also sources compost and fertilizers locally to use on the property.

Website
http://abcfarms.com/
566. (a) 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.

(b) 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.

(c) The department shall conduct the activities specified in this article with existing resources, to the extent they are available.
AGENDA 4. REWARD/RECOGNITION

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AGENDA 4. REWARD/RECOGNITION

EXAMPLES: Leopold Conservation Awards

Highlights
$10,000 Award

Highlights voluntary efforts

Inspires others

"The Leopold Conservation Award program offers corporate sponsors or individual investors an opportunity to align themselves with outstanding agricultural families, while helping to ensure that these landowner conservationists receive the recognition they deserve."
Conservation Award Criteria

Responsible Management

Although the specifics within each category may vary slightly from state to state, these are the base criteria that are used by an independent panel of agricultural professionals in each state to evaluate each application for the Leopold Conservation Award.

Sustainable Revenue

The award seeks landowners who have a strong, personal self-interest in practicing good stewardship, either from a deep, ethical conviction or because they derive a majority of their income from the natural resources they manage.

Leadership

The award seeks landowners who are highly involved in their communities.

Overall Land Health

The award seeks landowners whose land has benefited from current management, either due to active conservation improvements to the land or to current land use resulting in the conservation of existing resources.

Innovation

The award seeks landowners who are willing to try new things, learn from their successes and failures, and adapt their management techniques as a consequence.

Outreach

The award seeks landowners who use their land as a teaching tool to share good management strategies with others, such as management technique demonstration, hunter safety and education, media and community tours, conservation and restoration activity, and/or scientific endeavor.

The recently published Generations on the Land celebrates the conservation leadership of eight recipients of the Leopold Conservation Award. The book captures the sacrifices and rewards these outstanding agricultural families experience as they work to keep their operations economically and environmentally sustainable.

Click here to purchase.

AGENDA 4. REWARD/RECOGNITION

EXAMPLES: Leopold Conservation Awards

Question: Can EFA SAP Develop criteria using QAM?
AGENDA 4. REWARD/RECOGNITION

EXAMPLES: GEELA

2012 Winners (some):
- EDF - Fisheries Fund
- SF Giants AT&T Park
- Joseph Gallo Farms
AGENDA 4. REWARD/RECOGNITION

EXAMPLES: Integrated Pest Management Innovator Award

With its annual Integrated Pest Management (IPM) Innovator awards, the Department of Pesticide Regulation (DPR) honors agricultural and nonagricultural California groups, organizations, or companies for their innovative approaches to IPM and reduced-risk pest management and their leadership role in promoting these practices. Nominations are accepted throughout the year.

Since the inception of the IPM Innovator Award program in 1994, DPR has presented more than 100 IPM Innovator awards to honor California organizations that emphasize pest prevention, favor least-hazardous pest management, and share their successful strategies with others.
AGENDA 4. REWARD/RECOGNITION

EXAMPLES: Integrated Pest Management Innovator Award

"Department of Pesticide Regulation (DPR) honors agricultural and nonagricultural California groups, organizations, or companies for their innovative approaches to IPM and reduced-risk pest management and their leadership role in promoting these practices. Nominations are accepted throughout the year."

WHAT TO LOOK FOR IN AN IPM INNOVATOR NOMINEE

- A pest management systems approach based on preferential use of cultural practices, beneficial organisms and other scientific principles of IPM that reduce risk.
- An organizational structure that allows for research and the continued development of new ideas.
- Education and outreach that encourages the sharing of ideas and information.
- An administrative organization that unifies and supports the collective efforts of participants and provides opportunities to expand the number of participants.
IPM Innovator Awards

The California Department of Pesticide Regulation (DPR) has given out more than 100 IPM Innovator awards to honor California organizations that emphasize pest prevention, favor least-hazardous pest management, and share their successful strategies with others. The awards provide rare public recognition to groups and individuals who are quietly revolutionizing pest management through their efforts to reduce risks associated with pesticide use.

IPM – integrated pest management – works with nature to encourage beneficial plants and animals while making it difficult for pests to survive.

DPR’s IPM Innovator awards are part of a comprehensive, reduced-risk pest management strategy aimed at homes, schools, farms, and the environment.

Demonstrating Leadership
In 1994, DPR presented its first IPM Innovator awards to acknowledge agricultural and urban organizations demonstrating leadership and creativity in new methods of pest management. DPR hosts an annual event where the Innovators are recognized.

An IPM Innovator typically has a history of using pest management systems to reduce the risks posed by the use of traditional control practices, showing that their pest management concept is economically viable, and documenting and sharing that system so others can learn and apply the information to their situation.

Relying on a Systems Approach
IPM Innovators typically rely on pest management systems based on sound scientific principles of IPM, including a preference for using beneficial organisms and cultural practices for pest control when feasible. Pest problems are addressed as part of the overall situation, rather than pest by pest or at only one time of the year.

IPM Innovators often conduct research to find new ways for managing pests. This may include a range of activities from contracted research with academic institutions to on-site trials of participant-identified techniques.

The organizational structure of the IPM Innovator may be very formal, such as a commodity advisory board, a resource conservation district, or a school district, or it may be less formal, such as a community organization that promotes reduced-risk pest management. Many successful IPM Innovators also have representatives from federal, state, or local government, academia, and the business community as
IPM works with nature to encourage beneficial plants and animals while making it difficult for pests to survive.

IPM Innovators emphasize pest prevention, favor least-hazardous pest management, and share their successful strategies with others.

If you would like to nominate your organization or another group or organization as an IPM Innovator, please complete the nomination form and send to DPR. The form is on DPR's Web site. Go to www.cdpr.ca.gov and click on the “A-Z Index” at the top of the page. Scroll down to “IPM Innovator Awards” and click that. You will find not only a link to the nomination form but also previous award recipients and a short description of each group.

To find out more about the IPM Innovators Program or DPR's other pest management programs, you can also contact:

IPM Innovators Program
c/o Ann Schaffner
Department of Pesticide Regulation
Pest Management & Licensing Branch
P.O. Box 4015
Sacramento, California 95812-4015
(916) 324-4156
Fax (916) 324-9006
aschaffner@cdpr.ca.gov

WHAT TO LOOK FOR IN AN IPM INNOVATOR NOMINEE

- A pest management systems approach based on preferential use of cultural practices, beneficial organisms and other scientific principles of IPM that reduce risk.
- An organizational structure that allows for research and the continued development of new ideas.
- Education and outreach that encourages the sharing of ideas and information.
- An administrative organization that unifies and supports the collective efforts of participants and provides opportunities to expand the number of participants.
Another potential aspect -

Funders moving away from incentives for agriculture.

Change is not consistent with the immediate expectations expected by some funders.

Ecosystem Services in agriculture is not all immediate and takes 1, 2 or more years.

Can we engage these folks through an outreach/education effort? Can we partner with them to strengthen Ecosystem Services? Can we use QAM in process?
AGENDA 5. FUTURE DIRECTION

- Revisit January 18th, 2012 presentation by Jeff Dlott
- Revisit the Environmental Farming Act mandate
- Revisit what we have done and how it relates to the Act
- Propose potential projects for EFA SAP to study
ENVIRONMENTAL FARMING ACT SCIENCE ADVISORY PANEL

Future Direction and Focus

January 18, 2012
CDFA
Sacramento, CA

Jeff Dlott, Ph.D.
Chair
560. This article shall be known as the Cannella Environmental Farming Act of 1995.

561. The Legislature finds and declares the following:
   (a) California agriculture helps to feed the world and fuel our economy. Agriculture provides one out of every 10 jobs in California, and our state has led the nation in total farm production every year since 1948. During 1993, California's 76,000 farms generated nearly $20 billion in cash receipts and another $70 billion in economic activity.
   (b) Many farmers engage in practices that contribute to the well-being of ecosystems, air quality, and wildlife and their habitat. Agriculture plays a pivotal role in preserving open space that is vital to the environment. Seventy-five percent of the nation's wildlife live on farms and ranches. Freshwater streams and stockponds on farms and ranches provide habitat to millions of fish. Corn, wheat, rice, and other field crops provide bountiful food and habitat for deer, antelope, ducks, geese, and other wildlife.
   (c) Environmental laws should be based on the best scientific evidence gathered from public and private sources.
   (d) Best scientific evidence should include the net environmental impact provided by agriculture.
   (e) Additional research is necessary to adequately inventory the impact that agriculture has on the environment. Recognition should be afforded to agricultural activities that produce a net benefit for the environment, which is consistent with the growing trend of providing incentives for the private sector to undertake economic activities that benefit the environment.

564. Unless the context otherwise requires, the following definitions govern the construction of this article:
   (a) "Agricultural activities" means those activities that generate products as specified in Section 54004.
   (b) "Department" means the Department of Food and Agriculture.
   (c) "Panel" means the Scientific Advisory Panel on Environmental Farming.
   (d) "Secretary" means the Secretary of Food and Agriculture.

566. (a) 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.
   (b) 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.
   (c) The department shall conduct the activities specified in this article with existing resources, to the extent they are available.
(a) The secretary shall convene a five-member Scientific Advisory Panel on Environmental Farming to advise and assist federal, state, and local government agencies on issues relating to air, water, and wildlife habitat to do the following:

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. A state agency that receives data recommended by the panel may adopt and incorporate the data into the appropriate program. If a state agency does not utilize the data recommended by the panel, it shall provide the panel with a written statement of reasons for not utilizing the data. The reasons, at a minimum, shall specify the scientific basis for not utilizing the data. The reasons shall be provided within 180 days of receiving the data from the panel.

2. Compile the net environmental impacts that agriculture creates for the environment, identified pursuant to paragraph (1).

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.

(b) Members of the panel shall be highly qualified and professionally active or engaged in the conduct of scientific research. Of the members first appointed to the panel, two shall serve for a term of two years and three shall serve for a term of three years, as determined by lot. Thereafter, members shall be appointed for a term of three years. The members shall be appointed as follows:

1. Three members shall be appointed by the secretary. At least one of these members shall have a minimum of five years of training and experience in the field of agriculture and shall represent production agriculture.

2. One member, who has a minimum of five years of training and experience in the field of human health or environmental science, shall be appointed by the Secretary of the Environmental Protection Agency.

3. One member, who has a minimum of five years of training and experience in the field of resource management, shall be appointed by the Secretary of the Resources Agency.

(c) The panel may establish ad hoc committees, which may include professionals or scientists, to assist it in performing its functions.

(d) The panel shall be created and maintained with funds made available from existing resources within the department to the extent they are available.
Addressing the Act’s Objectives

The EFA includes the following objectives for the SAP:

- **Recommend to appropriate state agencies data that the panel approves**
  - Addresses Food and Agriculture Code 568 a 1
The EFA includes the following objectives for the SAP:

- Recommend to appropriate state agencies data that the panel approves
  - Addresses Food and Agriculture Code 568 a 1
- Compile information on the net environmental impacts that agriculture creates for the environment
  - Addresses Food and Agriculture Code 568 a 2

- Ecosystem Services definition
  - white paper and website
- Qualitative Assessment Model
  - white paper, website, ongoing case studies
- Ecosystem Services database
  - database, website, ongoing work
Addressing the Act’s Objectives

- The EFA includes the following objectives for the SAP:
  - Recommend to appropriate state agencies data that the panel approves
    - Addresses Food and Agriculture Code 568 a 1
  - Compile information on the net environmental impacts that agriculture creates for the environment
    - Addresses Food and Agriculture Code 568 a 2
  - Research and review, data upon which proposed environmental policies and regulatory programs are based to ensure that the environmental impacts of agricultural activities are accurately portrayed
    - Addresses Food and Agriculture code 568 a 3
Addressing the Act’s Objectives

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    - Addresses Food and Agriculture code 568 a 3
  - Identify incentives that may be provided to encourage agricultural practices with environmental benefits
    - Addresses Food and Agriculture code 568 a 3

- Ecosystem Services pilot projects
  - white paper, website, CIG grant
Addressing the Act’s Objectives

- The EFA includes the following objectives for the SAP:
  - Recommend to appropriate state agencies data that the panel approves
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  - Compile information on the net environmental impacts that agriculture creates for the environment
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  - Research and review, data upon which proposed environmental policies and regulatory programs are based to ensure that the environmental impacts of agricultural activities are accurately portrayed
    - Addresses Food and Agriculture code 568 a 3
  - Identify incentives that may be provided to encourage agricultural practices with environmental benefits
    - Addresses Food and Agriculture code 568 a 3
  - Assist government agencies to incorporate benefits identified into environmental regulatory programs
    - Addresses Food and Agriculture code 568 a 4
Summary of Proposed Process and Tools

1. **Define Ecosystems for EFA SAP**
   - Definition based on MEA
   - Acknowledges multiple ES in time and space
   - Acknowledges ES tradeoffs
   - Supports local, landscape, larger scales

2. **Build Framework to Assess Net Environmental Impact Based on ES Definition**
   - Build and/or adapt ES assessment frameworks that includes multiple resources and is useful at multiple scales (farm, landscape, watershed)
   - Tie into SISC and other metrics/initiatives/methodologies
   - Acknowledge that quantification methodologies are not all equal. We will use the best available science

3. **Select Ag System(s) to Review and Run through Assessment Framework**
   - Select several ag systems that are high priority to pilot test the approach
   - Once refined run additional priority ag systems through the approach
   - Build Case Studies


5. **Recommend to appropriate state agencies data that the panel approves 568(a)(1)**

6. **Compile the net environmental impacts that agriculture creates for the environment, 568(a)(2)**

7. **Further Research and review, data upon which proposed environmental policies and regulatory programs are based to ensure that the environmental impacts of agricultural activities are accurately portrayed 568(a)(3)**

8. **Identify incentives that may be provided to encourage agricultural practices with environmental benefits. 568(a)(3)**

9. **Assist government agencies to incorporate benefits identified into environmental regulatory programs. 568(a)(4)**
AGENDA 5. FUTURE DIRECTION

A potential project for the Science Panel that will address the following...

- Research and review, data upon which proposed environmental policies and regulatory programs are based to ensure that the environmental impacts of agricultural activities are accurately portrayed
  - Addresses Food and Agriculture code 568 a 3
- Assist government agencies to incorporate benefits identified into environmental regulatory programs
  - Addresses Food and Agriculture code 568 a 4
- Recommend to appropriate state agencies data that the panel approves
  - Addresses Food and Agriculture Code 568 a 1

EFA SAP can...

Identify the number of regulations/permits that agriculture has
Establish any scientific reasons for these regulations/permits
Evaluate options for streamlining the regulations/permits
Share information with pertinent agencies - regulatory certainty
Thanks

The facts are coming! The facts are coming!
AGENDA 5. FUTURE DIRECTION

What have we completed over the past two years?

- Ecosystem Services definition
  - white paper and website
- Qualitative Assessment Model
  - white paper, website, ongoing case studies
- Ecosystem Services pilot projects
  - white paper, website, CIG grant
- Ecosystem Services database
  - database, website, ongoing work
- Ecosystem Services survey
  - survey and final report - in progress
- Ecosystem Services literature review
  - white paper - in progress