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Agricultural Outlook Forum
U.S. Department of Agriculture

Presented: February 24-25, 2011

Co-management of Food Safety and Conservation

Jo Ann Baumgartner
Wild Farm Alliance

Co-management of Food Safety and Conservation



Jo Ann Baumgartner
Wild Farm Alliance

Overview

Unintended Consequences

What is at Stake

**Shaping Future Food Safety
& Conservation Outcomes**

Historical Perspective of Food Safety with Regard to Fresh-Cut Leafy Greens



Environmental Conflicts After 2006 *E. coli* 0157: H7 Spinach Contamination

Denuded vegetative buffers

Hunted and poisoned wildlife

Installed fences



S. Earnshaw

- Resource Conservation District (RCD). 2007. A Grower Survey: Reconciling Food Safety and Environmental Protection. Monterey County.
- RCD. 2009. Challenges to Co-Management for Food Safety and Environmental Protection: A Grower Survey. Monterey County.
- Stuart, D. 2009a. Constrained Choice and Ethical Dilemmas in Land Management: Environmental Quality and Food Safety in California. J of Ag and Environ. Ethics.

One Mile of Salinas River Habitat Removed



NAIP 2005

Before



Lighthawk

After



After

20 Acre Lake Bulldozed



Before

During

After

One Lone Tree Left of What Was a Windbreak



Before



After

Rodent Bait /Traps Along the Salinas River



Fencing Out Small and Large Wildlife



Cattle Are a Major Reservoir of *E. coli* 0157: H7



Wildlife Typically Have a Low Incidence of Food Borne Pathogens



B. Anderson

K. McAllister

There is no published research demonstrating that removing vegetation or water-bodies reduces food safety risk.



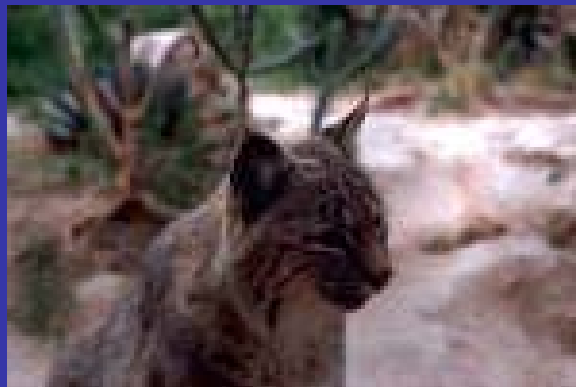
What is at Stake

Biodiversity

Biological diversity includes the variety of all forms of all rare and common life, from bacteria and fungi to grasses, ferns, trees, insects, and mammals.



Taylor F. Lockwood



USFWS



Jack Kelly Clark, University of Calif.

What is at Stake

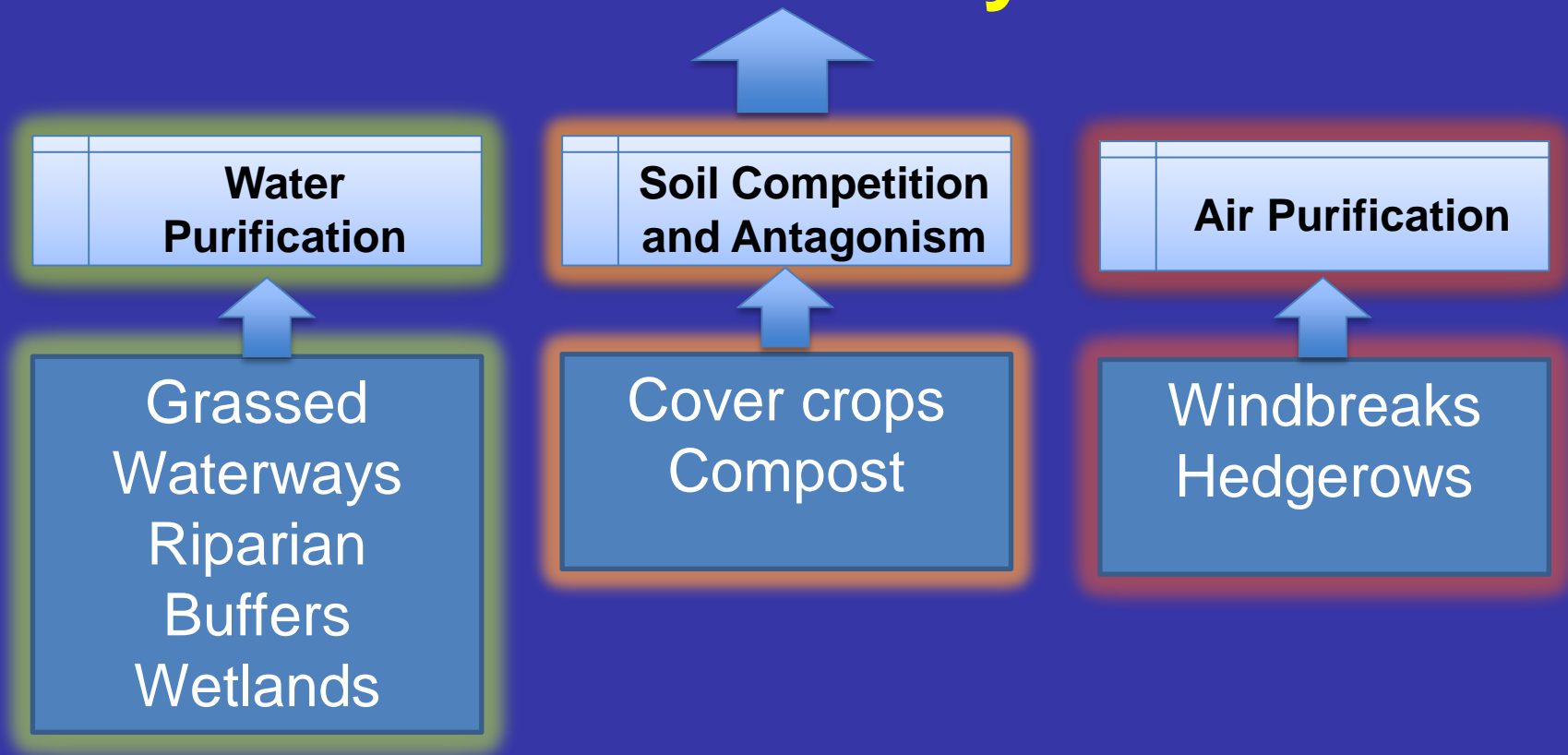
Public Health

- Food Safety
- Food Quality
- Nutrition
- Environment



Farm Conservation Practices That Support Public Health

Food Safety



Franz, E. and A.H.C. van Bruggen. 2008. Ecology of *E. coli* O157:H7 and *Salmonella enterica* in the Primary Vegetable Production Chain. *Critical Reviews in Microbiology*, 34.

Tate, K., E. Atwill, J. W. Bartolome, and G. Naderd. 2006. Significant *Escherichia coli* attenuation by vegetative buffers on annual grasslands. *Journal of Environmental Quality* 35.

Farm Conservation Practices That Support Public Health

Food Quality, Nutrition & Environment



Filtration of Nutrients and Pesticides
Soil Stabilization
Flood Control

Nutrient Cycling
Reduction of Plant Pathogens
Water Conservation
Nutrient Holding Capacity

Reduction of Airborne Pesticides
Pollination Services
Predatory Insect and Raptor Pest Control



Grassed Waterways
Riparian Buffers
Wetlands



Cover crops
Compost



Windbreaks
Hedgerows



Next Several Slides are Examples of Co-management from Jacobs Farm

VEGETATED DRAINAGE DITCH



VEGETATED DRAINAGE DITCH

BENEFITS

- PREVENTS MOVEMENT OF SOIL INTO DOWNSTREAM WATER BODIES
- PREVENTS MOVEMENT OF PESTICIDES AND FERTILIZERS
- PROVIDES HABITAT FOR BENEFICIAL INSECTS AND WILD LIFE OUTSIDE OF CROPPED AREAS

RISKS

- POTENTIAL HARBORAGE FOR RODENTS

MITIGATION

- PRE OPERATIONS INSPECTION
- PRE HARVEST BLOCK INSPECTIONS



COVER CROP



COVER CROP AS HABITAT



COVER CROP

BENEFITS

- PROTECTS BARE SOIL DURING NON CROP SEASON
- FIXES ATMOSPHERIC NITROGEN INTO SOIL, REDUCING NEED FOR FERTILIZER INPUTS
- IMPROVES CROP PLANT HEALTH REDUCING PEST AND DISEASE PROBLEMS
- HABITAT FOR BENEFICIAL INSECTS
- HABITAT FOR WILD LIFE DURING NON CROP SEASON

RISKS

- POTENTIAL HARBORAGE FOR RODENTS
- CONTAMINATION FROM WILD LIFE DURING NON CROP SEASON

MITIGATION

- CONTAMINATION DURING NON CROP SEASON UNLIKELY TO CARRY OVER INTO CROPPING SEASON
- MONITORING
 - PRE OPERATIONAL INSPECTIONS
 - PRE HARVEST BLOCK INSPECTIONS



WINDBREAK



WINDBREAKS

BENEFITS

- PREVENTS WIND EROSION OF SOIL
- PROTECTS CROP FROM WIND STRESS
- IMPROVES PLANT HEALTH, REDUCING PEST AND DISEASE PROBLEMS
- HABITAT FOR BENEFICIAL INSECTS
- HABITAT FOR PREDATORS OF RODENTS

RISKS

- POTENTIAL HARBORAGE FOR RODENTS

MITIGATION

- MONITORING
 - PRE OPERATIONAL INSPECTIONS
 - PRE HARVEST BLOCK INSPECTIONS



RED-TAILED HAWK



RED-TAILED HAWK – Natural Vertebrate Pest Control



BENEFITS

- FENCES AND WIND BREAKS PROVIDE ROOSTS
- CONSUME RODENTS, RABBITS, AND SQUIRRELS



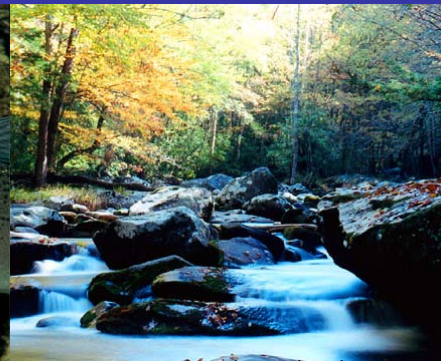
What is at Stake

Federal, State, and Local Mandates

- State and Federal Wildlife Agencies
- National Marine Fisheries Service
- Environmental Protection Agency
- State Water Agencies
- US Army Corps of Engineers
- USDA National Organic Program



Bill Mitchell



R. Weisser and smokyphotos.com



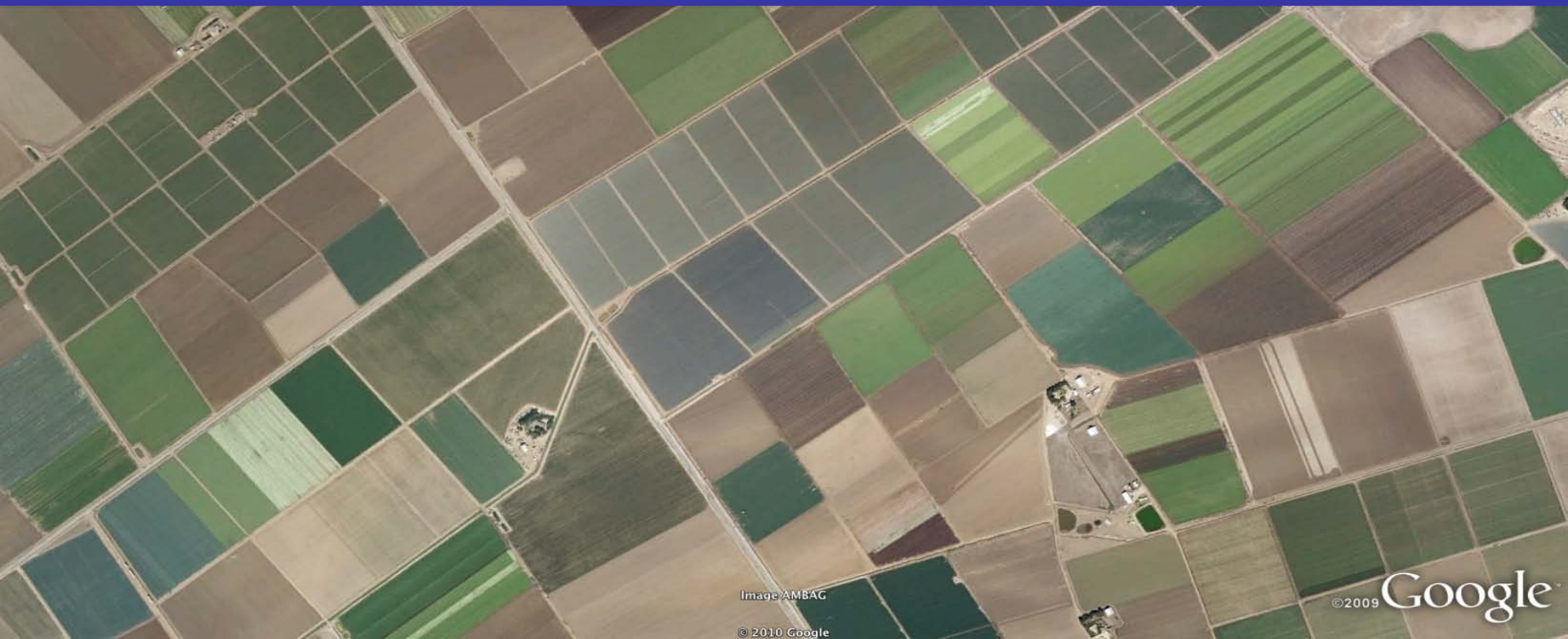
USFWS

Shaping Future Food Safety & Conservation Outcomes

Co-management principles should be:

- Science-based
- Accommodate New Research Findings
- Adaptable Depending on the:
 - Crop
 - Harvesting Method
 - Whether it is Processed or Not
 - Farm Size
 - Natural Diversity

Less Diverse Farms on CA's Central Coast

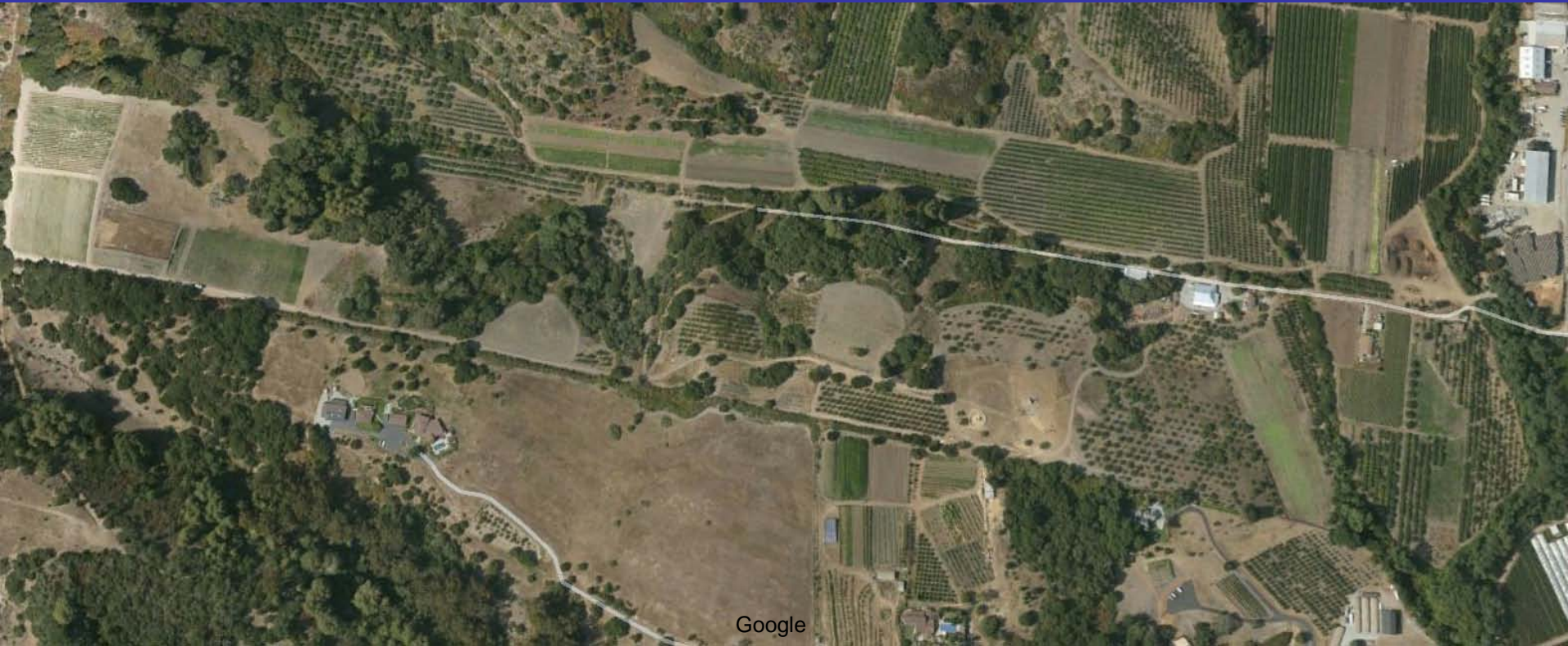


More Diverse Farm on CA's Central Coast



Lighthawk

Highly Diverse Farm on CA's Central Coast



Opportunity to Learn from CA's Conflicts & Progress Toward Co-management

FDA Rule Making Should Include Co-management Concepts Based on:

- Science &
- Common Sense

Agricultural Industry and Government Should Collaboratively Address the Co-existence of Food Safety and Conservation Through:

Education for:

Auditors

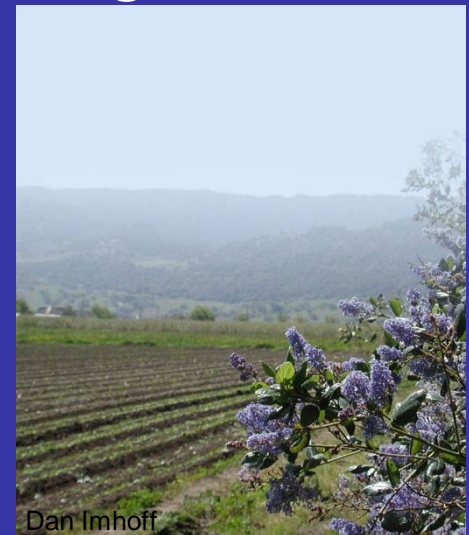
Buyers

Farmers

GAPs (Good Agricultural Practices)

Audits Questions

Guidance for Auditors



Dan Imhoff

Food Safety Modernization Act

- Take into consideration, consistent with ensuring enforceable public health protection, **conservation and environmental practice standards and policies established by Federal natural resource conservation, wildlife conservation, and environmental agencies**; and in the case of production that is certified organic, not include any requirements that conflict with or duplicate the requirements of the national organic program established under the **Organic Foods Production Act** of 1990 (7 U.S.C. 6501 et seq.), while providing for public health protection consistent with the requirements of this Act.

Co-managing Food Safety and Conservation Summary

Avoid replicating the unintended consequences occurring in California.

Always keep in mind that conservation practices support many aspects of public health (food safety, food quality, nutrition, and the environment).

Until we better understand whether or not wildlife presence near farms plays a part in crop contamination, FDA rules, and USDA and industry GAPs should be carefully crafted to avoid impacts to wildlife and their habitat and to conflicts with laws and regulations.





**WILD
FARM
ALLIANCE**

PO Box 2570,

Watsonville, CA 95077

831.761.8408

info@wildfarmalliance.org

www.wildfarmalliance.org