

# Enhancing Conservation on Agricultural Landscapes: A Vision for the Future of CEAP

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You may have  
noticed that I am  
not Lisa  
Duriancik.



Lisa was unable to travel to the conference this year. She sends her regrets that you have to tolerate me making her presentation.

# Goal for the Future of CEAP

- **Developing and applying knowledge to improve conservation effectiveness**
  - Practice design and effectiveness
  - Program design and implementation
  - Conservation planning to address environmental goals

# Original Goals of CEAP

- Quantify and establish the scientific understanding of the effects of conservation practices at the watershed scale, and
- Estimate conservation effects and benefits at regional and national scales

# Recommendations Inform Vision

- Workshops
  - “Managing Agricultural Landscapes for Environmental Quality”, Oct. 2006
- SWCS Blue Ribbon Panel
  - “CEAP should... answer the question, ‘What should we do next year?’ rather than, ‘What did we do last year?’.”

# Developing and Applying Knowledge to Improve Conservation Effectiveness

- Three principal coordinated activities:
  - Research
  - Assessment
  - Using knowledge
- Unique and necessary contributions toward the goal

# CEAP Research

- Field-level effects
- Off-site effects
  - The result of multiple conservation activities within a watershed or landscape
- **Disproportionality** (Nowack, 2006)
  - Biophysical settings
  - Human dimensions
    - Conservation adoption or management



# Research: Strengthening the Science Base

Building the science base for strategic resource management on working lands must be a primary purpose for CEAP.

*-SWCS Blue Ribbon Panel*

- Primary focus: How to manage agricultural landscapes for environmental quality
  - Evaluate alternative conservation strategies
  - Identify social and economic factors related to adoption of practices

# Ecosystem Services

- Processes or products attributable to the natural environment that are valued by humans.

- Millennium Ecosystem Assessment (2005)
  - Supporting services (nutrient cycling)
  - Provisioning services (food, fiber, fuel)
  - Regulating services (water purification)
  - Cultural services (aesthetic)



# CEAP Research

- Measure a broader suite of benefits from conservation
  - Wildlife habitat, air quality, water availability
- Methods to value benefits
- What should be measured and where, to account for benefits?
- Watershed scale studies for Grazing Lands: rangelands and pasturelands

# Using Knowledge: Translating Science Into Practice

The best science base will produce few results unless technically proficient people and technical tools are available to translate that science into on-the-ground changes in farm, ranch, and landscape management.

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- Fundamentally about linking:
  - biophysical knowledge and models with
  - social, economic, and behavioral knowledge and models
- to achieve desired environmental goals.

# Translating Science into Practice

- Complex decision-making arena for managing agricultural landscapes
- Integrate research, education, and outreach to engage decision-makers
- Collaborate to build a “blueprint” for science-based delivery of conservation programs

The primary objective of the CEAP case studies should be to build the capacity to effectively direct conservation efforts within designated areas of resource concerns to achieve environmental benefits in the most cost effective way.

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# Using Knowledge: Translating Science into Practice

- Determine tools and resources needed to carry out a landscape management approach, including local goal setting
- Develop tools for field offices, extension, others, to determine where and what practices are most needed to meet goals
- Engage conservation planners and producers in pilot watershed studies to demonstrate landscape and adaptive management approaches to conservation implementation

# Assessment: Estimating Effects of Conservation

Two primary goals for next 5 years:

- “What if” questions to inform policy and conservation program design
- Estimation of conservation treatment needs

The scope of CEAP should be broadened beyond reporting the effects of conservation practices to include evaluation of alternative strategies.

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# Cropland Component

- Assess conservation treatment needs
- Assess impacts of climate change and land use change on practice benefits and conservation treatment needs
- Update the NRI-CEAP survey database in 2011 and assess reductions in nutrient loads from agricultural land within the Mississippi River Basin

# Wetlands Component

- Complete regional investigations underway and initiate new investigations
- Continue to develop modeling and remote sensing data collection capability
- Support model calibration and validation
- Develop an operational National Wetlands Monitoring Framework



# Grazing Lands Component

- Synthesize literature for rangeland, pastureland, grazed forestland
- Initiate regional assessments using NRI data, ground-based measurements, and aerial images with hydro-ecological simulation models
- Initiate new grazing land watersheds with CSREES on rangeland, pastureland, and grazed forestland
- Increase collaboration with federal land management agencies and other efforts



# Wildlife Component

- Complete active regional assessments
- Initiate additional regional assessments to address high priorities, especially aquatics
- Develop framework for estimating contributions to meeting established habitat and population goals
- Continue to collaborate with other CEAP components, AWCC and other relevant efforts

