

WORKSHOP PROGRAM & ABSTRACT BOOK

MANAGING AGRICULTURAL LANDSCAPES
FOR ENVIRONMENTAL QUALITY
STRENGTHENING THE SCIENCE BASE



Organized by the
Soil and Water Conservation Society

October 11-13, 2006
Westin Crown Center Hotel | Kansas City, Missouri

A workshop organized by SWCS in support
of the U.S. Department of Agriculture's Conservation Effects Assessment Project (CEAP).

Managing Agricultural Landscapes for Environmental Quality: Strengthening the Science Base
Westin Crown Center – Kansas City, MO – October 11-13, 2006

Schedule at a Glance

Wednesday, October 11

- 7:00 a.m. Registration
8:30 a.m. Opening Session (Century)
10:00 a.m. Break
10:30 a.m. Concurrent Sessions
1. Resource Assessment: Measuring Socioeconomic Dimensions (Shawnee)
 2. Resource Assessment: Monitoring and Estimation Techniques (Mission)
 3. Research Methods: Watershed-scale Approaches (Pershing North)
 4. Targeting: Policy Initiatives and Targeting (Pershing South)
 5. Realistic Expectations: Environmental Response to Management Changes (Pershing West)
- 12:00 p.m. Lunch
1:15 p.m. Plenary Session I - Resource Assessment & Perspectives (Century)
2:45 p.m. Break
3:15 p.m. Concurrent Sessions
1. Resource Assessment: Lessons Learned (Shawnee)
 2. Research Methods: A Matter of Scale (Mission)
 3. Targeting: Field Risk Assessment and Targeting (Pershing North)
 4. Targeting: Models for Targeting (Pershing South)
 5. Realistic Expectations: The Timing of Environmental Response (Pershing West)
- 5:00 p.m. Adjourn
5:30-7:00 p.m. Reception and Poster Papers (Century)

Thursday, October 12

- 8:00 a.m. Plenary Session II - Research Methods & Perspectives (Century)
9:30 a.m. Break
10:00 a.m. Concurrent Sessions
1. Resource Assessment: Models and Measurement (Shawnee)
 2. Research Methods: Guidelines for Management (Mission)
 3. Targeting: Stakeholder Planning Groups and Targeting (Pershing North)
 4. Targeting: Agency Programs and Targeting (Pershing South)
 5. Realistic Expectations: Socioeconomic and Programmatic Perspectives (Pershing West)
- 12:00 p.m. Lunch
1:15 p.m. Plenary Session III - Targeting & Perspectives (Century)
2:45 p.m. Break
3:15 p.m. Concurrent Sessions
1. Resource Assessment: Indicators and Indices (Shawnee)
 2. Resource Assessment: CEAP—An NRCS Perspective (Mission)
 3. Research Methods: Integrating Economics (Pershing North)
 4. Targeting: Models for Targeting (Pershing South)
 5. Realistic Expectations: Simulating and Measuring Environmental Response (Pershing West)
- 5:00 p.m. Adjourn (Dinner on your own)
7:30 p.m. Key-issue Roundtables
- Resource Assessment (Shawnee)
 - Research Methods (Mission)
 - Targeting (Pershing North)
 - Realistic Expectations (Pershing South)

Friday, October 13

- 8:00 a.m. Plenary Session IV - Realistic Expectations & Perspectives (Century)
9:30 a.m. Break
10:00 a.m. Concurrent Sessions
1. Resource Assessment: Impacts of Best Management Practices (Shawnee)
 2. Research Methods: Techniques (Mission)
 3. Research Methods: Communicating with Constituencies (Pershing North)
 4. Targeting: Technologies for Targeting (Pershing South)
 5. Realistic Expectations: Environmental Response in the Short & Long Term (Pershing West)
- 12:00 p.m. Concluding Luncheon Session (Century)



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Workshop Objectives

The primary objective of this workshop is to foster discussion among scientists and technicians who are working to quantify the environmental benefits of conservation practices on agricultural land at landscape or watershed scales. The workshop is multidisciplinary by design, involving biophysical and social scientists who strive to protect or restore soil, water, and habitat across multiple farms and ranches. Speakers and poster paper presenters will share their research findings, offer “lessons learned” from on-the-ground experience, and discuss key issues surrounding conservation science and practice at landscape or watershed scales. Participants, in turn, will have the opportunity to interact with speakers and identify “next steps” for strengthening the science during key-issue roundtables on Thursday evening.

Secondary objectives for the workshop are (1) to expose the scientific community to the needs and expectations of practitioners and policymakers struggling to account for environmental benefits of projects intended to enhance soil, water, and habitat at landscape or watershed scales and (2) to characterize the implications for policy and practice from what research results have shown at landscape or watershed scales. The first of these two objectives will be accomplished through the workshop’s opening and closing sessions, which will feature representatives of constituencies that regularly use science in making conservation policy and administering conservation programs. The second objective will be accomplished through discussions held during the workshop and subsequent analysis of the papers presented.

SWCS thanks these workshop sponsors:

- Agricultural Research Service
- Agriculture and Agri-Food Canada
- Cooperative State Research, Education and Extension Service (CSREES)
- Economic Research Service
- Farm Service Agency
- International Cooperation Office, Mexico National Institute for Forestry, Agriculture and Animal Husbandry Research
- Natural Resources Conservation Service
- U.S. Fish and Wildlife Service
- U.S. Forest Service
- U.S. Geological Survey

Special thanks to the members of three committees who worked so hard to develop, construct, review, and deliver this workshop!

CEAP Technical Committee:

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Andrew Sharpley, ARS
Janice Ward, USGS



Detailed Schedule

Wednesday, October 11

- 7:00 a.m. Registration**
- 8:30 a.m. Opening Session** (All plenary sessions will be held in the Century Ballrooms)
Welcome and introductory comments
Craig Cox, Soil and Water Conservation Society, Ankeny, Iowa
Caird Rexroad, Agricultural Research Service, Beltsville, Maryland
- Demands on the science: Needs and expectations of conservation policymakers and practitioners.** (a moderated panel discussion)
Moderator
Otto Doering, Purdue University, West Lafayette, Indiana
Panelists
Steve John, Agriculture Watershed Institute, Decatur, Illinois
Todd Ambts, Wisconsin Department of Natural Resources, Madison
Davis Minton, Minton Farms, Dexter, Missouri
Jason Weller, Office of Management and Budget, Washington, D.C.
Bill Puckett, Natural Resources Conservation Service, Washington, D.C.
Anne Simmons, Committee on Agriculture, U.S. House of Representatives
- 10:00 a.m. Break**
- 10:30 a.m. Concurrent Sessions** (full schedule on page 7)
1. Resource Assessment: Measuring Socioeconomic Dimensions (Shawnee)
2. Resource Assessment: Monitoring and Estimation Techniques (Mission)
3. Research Methods: Watershed-scale Approaches (Pershing North)
4. Targeting: Policy Initiatives and Targeting (Pershing South)
5. Realistic Expectations: Environmental Response to Management Changes (Pershing West)
- 12:00 p.m. Lunch**
- 1:15 p.m. Plenary Session I: What should we measure, and how, to account for environmental effects?**
Moderator
Wayne Maresch, Natural Resources Conservation Service, Washington, D.C.
Presenter
Peter Groffman, Institute of Ecosystem Studies, Millbrook, New York
Collaborators
Jeff Arnold, Agricultural Research Service, Temple, Texas
Paul Capel, U.S. Geological Survey, St. Paul, Minnesota
Kurt Riitters, U.S. Forest Service, Research Triangle Park, North Carolina
Wanhong Yang, University of Guelph, Guelph, Ontario
- Perspectives**
Integrating the Biophysical and Social Sciences
Ken Sylvester, University of Michigan, Ann Arbor
What Science Can and Cannot Provide Policymakers
Otto Doering, Purdue University, West Lafayette, Indiana
- 2:45 p.m. Break**
- 3:15 p.m. Concurrent Sessions** (full schedule on page 8)
1. Resource Assessment: Lessons Learned (Shawnee)
2. Research Methods: A Matter of Scale (Mission)
3. Targeting: Field Risk Assessment and Targeting (Pershing North)
4. Targeting: Models for Targeting (Pershing South)
5. Realistic Expectations: The Timing of Environmental Response (Pershing West)
- 5:00 p.m. Adjourn**
- 5:30-7:00 p.m. Reception (cash bar) and Poster Papers**
Authors/presenters are asked to be at their poster during the reception on Wednesday evening.
A full list of posters begins on page 12. Abstract for the posters begin on page 74.

Detailed Schedule

Thursday, October 12

8:00 a.m. Plenary Session II: Methods for environmental management research at landscape and watershed scales

Moderator

Mark Wetz, Agricultural Research Service, Beltsville, Maryland

Presenter

Phil Robertson, Michigan State University, Hickory Corners

Collaborators

Wes Burger, Mississippi State University, Mississippi State

Cathy Kling, Iowa State University, Ames

Richard Lowrance, Agricultural Research Service, Tifton, Georgia

David Mulla, University of Minnesota, St. Paul

Perspectives

Coping with the Data Dilemma

Fran Pierce, Washington State University, Pullman

Responding to New Research Paradigms

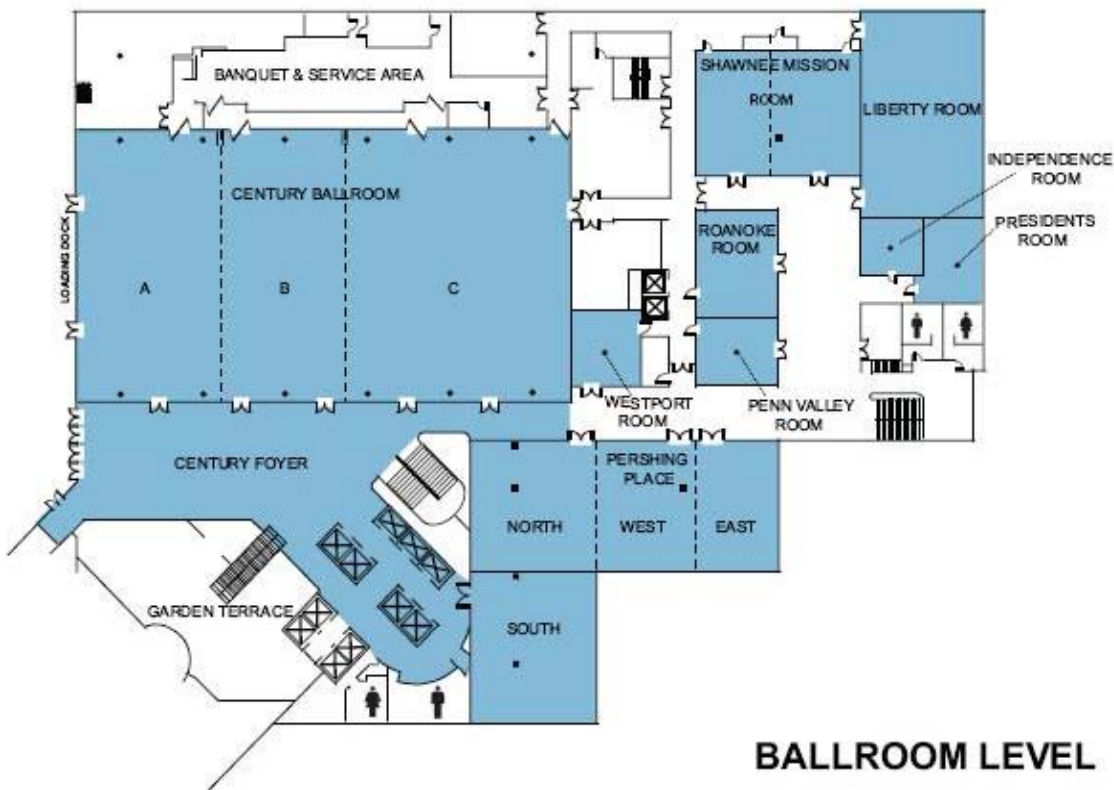
Daniel Kugler, Cooperative State Research, Education and Extension Service, Washington, D.C.

9:30 a.m. Break

10:00 a.m. Concurrent Sessions (full schedule on page 9)

1. Resource Assessment: Models and Measurement (Shawnee)
2. Research Methods: Guidelines for Management (Mission)
3. Targeting: Stakeholder Planning Groups and Targeting (Pershing North)
4. Targeting: Agency Programs and Targeting (Pershing South)
5. Realistic Expectations: Socioeconomic and Programmatic Perspectives (Pershing West)

12:00 p.m. Lunch



Thursday, October 12 continued

1:15 p.m. Plenary Session III: The science of targeting within landscapes and watersheds to improve conservation effectiveness

Moderator

Jean Steiner, Agricultural Research Service, El Reno, Oklahoma

Presenter

Todd Walter, Cornell University, Ithaca, New York

Collaborators

Mike Dosskey, National Agroforestry Center, Lincoln, Nebraska

Madhu Khanna, University of Illinois, Champaign-Urbana, Illinois

Mark Tomer, Agricultural Research Service, Ames, Iowa

Jim Miller, Agriculture and Agri-Food Canada

John Wiens, The Nature Conservancy, Arlington, Virginia

Perspectives

The Disproportionality Conundrum

Peter Nowak, University of Wisconsin, Madison

Buying Environmental Services: Some New Uses for Old Economic Tools

Roger Claassen, Economic Research Service, Washington, D.C.

2:45 p.m. Break

3:15 p.m. Concurrent Sessions (full schedule on page 10)

1. Resource Assessment: Indicators and Indices (Shawnee)
2. Resource Assessment: CEAP—An NRCS Perspective (Mission)
3. Research Methods: Integrating Economics (Pershing North)
4. Targeting: Models for Targeting (Pershing South)
5. Realistic Expectations: Simulating and Measuring Environmental Response (Pershing West)

5:00 p.m. Adjourn (Dinner on your own)

7:30 p.m. Key-issue Roundtables

The evening roundtables are an opportunity for workshop participants to interact with presenters from the themed plenary session of their choice and identify “next steps” for strengthening the science surrounding each issue area.

Resource Assessment (Shawnee)

Moderator

Carolyn Adams, Natural Resources Conservation Service, Greensboro, North Carolina

Research Methods (Mission)

Moderator

Scott Knight, Agricultural Research Service, Oxford, Mississippi

Targeting (Pershing North)

Moderator

Andrew Sharpley, Agricultural Research Service, University Park, Pennsylvania

Realistic Expectations (Pershing South)

Moderator

Pete Richards, Heidelberg College, Tiffin, Ohio

Detailed Schedule

Friday, October 13

8:00 a.m. Plenary Session IV: Realistic expectations about the timing between conservation implementation and environmental effects—lessons learned from long-term research (or what scale of change is possible over what period of time)

Moderator

Brook Harker, Agriculture and Agri-Food Canada, Regina, Saskatchewan

Lead Author/Presenter

Stan Gregory, Oregon State University, Corvallis

Collaborators

Art Allen, U.S. Geological Survey, Fort Collins, Colorado

Matt Baker, Utah State University, Logan

Kathryn Boyer, Natural Resources Conservation Service, Portland, Oregon

Theo Dillaha, Virginia Tech University, Blacksburg

Jane Elliott, Environment Canada, Ottawa, Ontario

Perspectives

The Promise of Adaptive Management

Mary Watzin, University of Vermont, Burlington

The Chesapeake Bay Experience: Learning About Adaptive Management the Hard Way

Tom Simpson, University of Maryland, College Park

9:30 a.m. Break

10:00 a.m. Concurrent Sessions (full schedule on page 11)

1. Resource Assessment: Impacts of Best Management Practices (Shawnee)

2. Research Methods: Techniques (Mission)

3. Research Methods: Communicating with Constituencies (Pershing North)

4. Targeting: Technologies for Targeting (Pershing South)

5. Realistic Expectations: Environmental Response in the Short and Long Term (Pershing West)

12:00 p.m. Concluding Luncheon Session (moderated panel discussion)

Demands on the science: A second look at the needs and expectations of conservation policymakers and practitioners

Moderator

Otto Doering, Purdue University, West Lafayette, Indiana

Panelists

Panel members from the opening session return to offer their reactions to what they heard at the workshop.

Concluding Remarks

Craig Cox, Soil and Water Conservation Society, Ankeny, Iowa.

1:30 p.m. Adjourn

Wednesday Morning – Introductions for all speakers at 10:30 a.m.

	Shawnee	Mission	Pershing North	Pershing South	Pershing West
Topic	Resource Assessment: Measuring Socioeconomic Dimensions	Resource Assessment: Monitoring and Estimation Techniques	Research Methods: Watershed-scale Approaches	Targeting: Policy Initiatives and Targeting	Realistic Expectations: Environmental Response to Management Changes
Moderator	<i>Mary Ann Rozum, Cooperative State Research, Education and Extension Service</i>	<i>Jim Miller, Agriculture and Agri-Food Canada</i>	<i>Jerry Bernard, Natural Resources Conservation Service</i>	<i>Roberta Parry, Natural Resources Conservation Service</i>	<i>Bill Hargrove, Kansas State University</i>
10:35 a.m.	Integrating Economic Analysis into Watershed Evaluation of Beneficial Management Practices (WEBS) (Carlyle Ross)	Designing Stream Sampling Protocols for Measuring Ecological Effects of Conservation Practices (Peter Smiley)	National, Holistic Watershed-Scale Approach for Studying Agricultural Chemicals (Paul Capel)	The WEBS (Watershed Evaluation of BMPs) Project - Quantifying Environmental and Economic Effects Across Canada. (B. Harker)	Detecting Water Quality Responses to Land Management Changes: Why Is It so Difficult? (R. Peter Richards)
10:55 a.m.	Evaluating Relative Costs and Benefits of Environmental Services Using A Geographic Framework: Where Do Conservation Practices Generate the Most Bang for the Buck? (Lisa A. Wainger)	Equipment and Methods for Environmental Monitoring of Edge-of-Field, Stream, and Subsurface Tile Sites for the Wisconsin Discovery Farms Program (David W. Owens)	Using Paired Watersheds to Evaluate the Effects of Agricultural Best Management Practices on Water Quality in South-Central Minnesota (Adam Birr)	Agroforestry in the 2007 Farm Bill: Using Science To Target Landscape Change and Inform Policy (Dean Current)	Soil Cover Change: Cropping Intensification vs. Conservation Tillage (Ted Huffman)
11:15 a.m.	Economic Costs and Benefits Associated with Improved Environmental Quality in Two Agricultural Watersheds (John Westra)	Modeling the Effects of Rangeland Conservation Practices on Water-Soil Quality, and Plant Productivity. (Kenneth Spaeth)	An Integrated Economic-Hydrologic Modeling Framework for the Watershed Evaluation of Beneficial Management Practices (Wanhong Yang)	Adoption of Conservation Initiatives on Midwest Farms: Farm Size Matters (Zachary Cain)	Soil Management Practices to Reduce Erosion and Improve Soil Quality (Randall Reeder)
11:35 a.m.	A Watershed Report Card: Social Considerations in Establishing and Implementing TMDLs (Gail Brant)	Cancelled	Cancelled	Why Science Is Not Enough: Collaborative Watershed Planning (Pamela Helfer)	Using Small-Plot Research Information to Guide Development of Conservation Practice Research at the Watershed Scale (Gyles Randall)

Wednesday Afternoon – Introductions for all speakers at 3:15 p.m.

	Shawnee	Mission	Pershing North	Pershing South	Pershing West
Topic	Resource Assessment: Lessons Learned	Research Methods: A Matter of Scale	Targeting: Field Risk Assessment and Targeting	Targeting: Models for Targeting	Realistic Expectations: The Timing of Environmental Response
Moderator	<i>Lisa Duriancik, Cooperative State Research, Education and Extension Service</i>	<i>David Mulla, University of Minnesota</i>	<i>Tom Simpson, University of Maryland</i>	<i>Tom Drewes, Natural Resources Conservation Service</i>	<i>Mary Ann Rozum, Cooperative State Research, Education and Extension Service</i>
3:20 p.m.	Changes in Cropping Patterns Affect Nitrate-N in the Raccoon River Basin (Jerry Hatfield)	A Multiscale Approach for Assessing Effects of Landscape Characteristics on Stream Biota in Midwestern Agricultural Basins (Julie Hambrook Berkman)	Targeting Best Management in Contrasting Watersheds (Andrew Sharpley)	Considerations for National-Level Targeting of Conservation Program Efforts for Water Quality Protection (Robert Kellogg)	Transport of Agricultural Chemicals: Estimating Lag Times in Different Hydrologic Environments (David Wolock)
3:40 p.m.	Atmospheric Transport and Deposition of Agricultural Chemicals in Rainfall (Jason Vogel)	Comparison of Plot Studies and Farm Simulations for Different Manure Management Strategies. (A. M. Garcia)	Discovery Farms: Producer Education Targeting Management Practices during Critical Time Periods (Dennis Frame)	Watershed Conservation Management Planning Using the Integrated Field and Channel Technology of AnnAGNPS and CONCEPTS (Eddy Langendoen)	Evaluating the Timeframe for Measuring Changes in Stream Nitrate Concentrations from Large-Scale Land Use Change (Keith Schilling)
4:00 p.m.	The Need to Account for Site-Specific Information on Farming Activities in Assessing the Environmental Impact of Agriculture. (Jay Atwood)	The Effectiveness of Conservation Practices on Water Quality: A State-Level Analysis at the Watershed Scale (Manoj Jha)	Documenting the Effects of Agricultural Practices on Stream Habitats and Their Species: Case Studies From Oregon, Wyoming, South Dakota, and Washington. (Kathryn Boyer)	Using the Spatially Explicit Delivery Model and the Revised Universal Soil-Loss Equation to Target High-Risk Sediment Loading Areas at Multiple Scales (Glenn O'Neil)	Long-Term Watershed Studies of Conservation Tillage Highlight the Impact of Infrequent Events on Sediment and Herbicide Transport (Martin Shipitalo)
4:20 p.m.	Effectiveness of Agricultural Best Management Practices on the Ecological Integrity of A Mackinaw River Subwatershed, Illinois (Maria Lemke)	Integrating Field Studies and Watershed Models To Improve Lake Water Quality (Chandra Madramootoo)	Targeting Riparian Buffer Strips for Water Quality Protection: Where and When Do They Work? (Sharon Reedyk)	Using AnnAGNPS to Evaluate BMP Effectiveness in Reducing N and P into the Choptank River and the Chesapeake Bay (Carrie Graff)	Multi-Year Change in Water Quality From Small, Single Use Pasture Watersheds (Lloyd Owens)
4:40 p.m.	Learning from the National Non Point Source Monitoring Program (Thomas Davenport)	Regionalization of SWAT Model Parameters in Arkansas Priority Watersheds (Margaret Gitau)	Nutrient and Herbicide Transport in Streams of the Salt River Basin, Missouri (Robert N. Lerch)	Assessing Ephemeral Gully Erosion in the Cheney Lake CEAP Watershed Using GIS, TIEGEM and the AnnAGNPS Model To Improve Conservation Effectiveness (Lyle Frees)	Cancelled

Thursday Morning – Introductions for all speakers at 10:00 a.m.

	Shawnee	Mission	Pershing North	Pershing South	Pershing West
Topic	Resource Assessment: Models and Measurement	Research Methods: Guidelines for Management	Targeting: Stakeholder Planning Groups and Targeting	Targeting: Agency Programs and Targeting	Realistic Expectations: Socioeconomic and Programmatic Perspectives
Moderator	<i>Janice Ward, U.S. Geological Survey</i>	<i>Peter Groffman, Institute of Ecosystem Studies</i>	<i>Steve Kraft, Southern Illinois University</i>	<i>Skip Hyberg, Farm Service Agency</i>	<i>Tony Prato, University of Missouri</i>
10:05 a.m.	The USGS National Water-Quality Assessment Program: Understanding the Effects of Nutrients on the Ecology of Agricultural Streams (Mark Munn)	Conservation Practices and Water Quality in the Iowa River's South Fork Watershed (Mark Tomer)	Evaluation of Conservation Practices in a Mixed-Land Use Watershed Using Interdisciplinary Analyses (Jan Boll)	Willingness of Michigan Farmers to Participate in and Cooperate Within the Conservation Security Program (Sandra Batie)	CEAP-ARMS: Evidence on Conservation Practice Adoption from an Integrated National Survey (Glenn Schaible)
10:25 a.m.	Assessing Watershed Soil Quality: Approaches and Preliminary Results (Douglas Karlen)	Impact of Beneficial Management Practices (BMPs) on Water Quality for Three Beef Cattle Farms in the Salmon River Watershed in British Columbia. (Cindy Meays)	United States and Australian Environmental Conservation Programs: Contrasts in History, Propensity to Conserve, and Focus (Felix Spinelli)	Improving The Cost-Effectiveness Of USFWS Wetland Easements Through The Mapping Of Agricultural Land Values Across Landscapes (Steven Shultz)	Valuing and Compensating Environmental Services from Wisconsin Agricultural Landscapes: The Role of Private Markets (Frank Casey)
10:45 a.m.	The Impact of Agricultural Conservation Practices on Stream Biota: A Spatially-Explicit Model (Richard Iovanna)	Impacts of Decade-Long Precipitation Variations on Watershed Sediment Yield and Implications for the Conservation Effects Assessment Project. (Jurgen Garbrecht)	Targeting for Environmental Improvement When Multiple Conservation Programs Co-exist: an Application to the Upper Mississippi River Basin (Hongli Feng)	An Agency Approach to Resource Management Plans (Corey Mason)	BMP Challenge: Protecting Corn Farmers Who Adopt BMPs From Yield and Income Risk, and Documenting Economic and Environmental Outcomes (Thomas Green)
11:05 a.m.	Evaluation of BMPs Using Statistical and SWAT Modeling in the Goodwater Creek Watershed (Amanda Koelling)	Potential Use, Limitations, and Research Needs for Duration Curves for Evaluating the Effectiveness of Land Management Practices (James Bonta)	The Public Policy Challenge of Working Agricultural Landscapes: Trade Offs among Ecosystem Services and Traditional Agricultural Commodities– Implication for Watersheds (Steven Kraft)	Missing the Bull's Eye With Targeting? (Gary Bentrup)	Maximizing Conservation Benefits from the 1997 Farm Bill: Holistic Policy Options from an NGO (Mark Muller)
11:25 a.m.	Riparian Land Management for Sediment Trapping in A Headwater Catchment of Northern Laos (Olga Vigiak)	Application of SWAT to assess the Illinois Conservation Reserve Enhancement Program in the La Moine River Basin (Thomas K. O'Donnell)	Cancelled	Multi-Attribute Decision Analysis for Improving Federal Conservation Program Effectiveness (C. Derya Ozgoc-Caglar)	Adaptive Management and CEAP: Linking Project Management with Better Accountability (Andrew Manale)

Thursday Afternoon – Introductions for all speakers at 3:15 p.m.

	Shawnee	Mission	Pershing North	Pershing South	Pershing West
Topic	Resource Assessment: Indicators and Indices	Resource Assessment: CEAP—An NRCS Perspective	Research Methods: Integrating Economics	Targeting: Models for Targeting	Realistic Expectations: Simulating and Measuring Environmental Response
Moderator	<i>Robert Kellogg, Natural Resources Conservation Service</i>	<i>Melvin Womack, Natural Resources Conservation Service</i>	<i>Cathy Kling, Iowa State University</i>	<i>Jan Boll, University of Idaho</i>	<i>Yongping Yuan, Agricultural Research Service</i>
3:20 p.m.	Canada's National Program to Assess Environmental Performance of Agriculture: National Agri-Environmental Health Analysis and Reporting Program (Warren Eilers)	Measuring Agricultural Conservation Practice Effects on Fish and Wildlife (Charles Rewa)	Integrated Analysis of Weed Management Practices to Reduce Atrazine Contamination in a Missouri Watershed (Tony Prato)	Using Genetic Algorithms and an Integrated Water Quality-Economic Model to Identify Optimal Placement of Conservation Practices in a Watershed (Sergey Rabotyagov)	Simulation of Conservation Practice Adoption and Water Quality Impacts in an Iowa CEAP Watershed with SWAT (Philip Gassman)
3:40 p.m.	Developing Standards for Nitrogen and Phosphorus to Prevent Eutrophication of Canadian Agricultural Streams (Patricia Chambers)	Relative Magnitudes and Sources of Sediment in CEAP-Benchmark Watersheds (Roger Kuhnle)	Watershed-Scale Economic Assessment of BMP Effect on Improving Water Quality within South Tobacco Creek, Manitoba (Mohammad Khakbazan)	Simulating the Effects of Alternative Management Practices on Suspended Sediment and Phosphorus Loads to Green Bay using the Soil and Water Assessment Tool (SWAT) and SNAP-Plus (Paul Baumgart)	Effect of Sprinkler and Surface Irrigation on Return Flow Water Quality and Quantity (D.T. Westermann)
4:00 p.m.	County- and Watershed-Level Assessment of NRCS Conservation Program Effectiveness: Development of A New Michigan-Wide Assessment Method (Nancy French)	The Prairie Pothole Regional Assessment: Results of a Survey to Estimate Ecosystem Services Derived from USDA CRP and Wetlands Reserve Program Lands (Robert Gleason)	Economic and Phosphorus-related Effects of Precision Feeding and Forage Management on a Dairy Farm: Cannonsville Reservoir Watershed, NY. (Lula Ghebremichael)	Integrated Management Strategy for the Development and Implementation of An Atrazine TMDL for Aquilla Lake. (Monty Dozier)	Impacts of Intensive Potato Production on Water Yield and Sediment Load (Black Brook Experimental Watershed: 1992-2002) (Lien Chow)
4:20 p.m.	Measuring the Success of Conservation Programs (Kitty Smith)	The Conservation Effects Assessment Project (CEAP) for Wetlands in the Lower Mississippi Alluvial Valley (LMV) (Stephen Faulkner)	Water Resource Degradation in the Boone Watershed: Integrating Economic and Watershed Models (Silvia Secchi)	An Application of a National-Level Modeling Approach for Estimating Cropland Acres in Need of Conservation Treatment (Jerry Lemunyon)	AnnAGNPS Application for Beasley Lake Watershed Conservation Practices Assessment (Yongping Yuan)
4:40 p.m.	Key National Indicators of Soil and Water Conservation & Maintenance for Sustainable Rangelands (Dennis Child)	Grazing Lands CEAP: An NRCS Vision (Leonard Jolley)	Environmental and Economic Assessment of Five Conservation Practises in the Stepler – South Tobacco Creek Watershed Project (James Yarotski)	Effect of Irrigation Practices on Water Use in the Groundwater Management Districts Within the Kansas High Plains, 1991-2003 (Charles Perry)	Cancelled

Friday Morning – Introductions for all speakers at 10:00 a.m.

	Shawnee	Mission	Pershing North	Pershing South	Pershing West
Topic	Resource Assessment: Impacts of Best Management Practices	Research Methods: Techniques	Research Methods: Communicating with Constituencies	Targeting: Technologies for Targeting	Realistic Expectations: Environmental Response in the Short & Long Term
Moderator	Leonard Jolley, Natural Resources Conservation Service	Demetrio Zourarakis, Kentucky Div. of Geographic Information	Andy Manale, U.S. Environmental Protection Agency	Wanhong Yang, University of Guelph	Lee Norfleet, Natural Resources Conservation Service
10:05 a.m.	Watershed Evaluation of Beneficial Management Practices (WEBS) in the Lower Little Bow River Basin of Southern Alberta (Jim Miller)	Effects of Input Uncertainties on Scenario Predictions for National Assessments of Conservation Practices (Xiuying Wang)	I-FARM: A Web-Based Model for Quantifying Farm and Regional Scale - Impacts of Bio-Refinery Feedstock Supply (Ed Van Ouwkerk)	Remote Sensing Techniques to Target Conservation Efforts at the Field Level and Beyond (Brian Gelder)	A Historical Look at Land Use Changes and Conservation Problems in the Goodwin Creek CEAP Watershed (Seth Dabney)
10:25 a.m.	Effects of Best-Management Practices in Three Agricultural Watersheds in Wisconsin, 1989-2002 (David J. Graczyk)	Integrating Multi-Temporal and Multi-Platform Agricultural Remote Sensing With Water Quality and Geospatial Data for Evaluating the Effectiveness of Conservation Practices in Michigan. (Colin Brooks)	Community-Agriculture Cooperation to Protect Source Quality: Institutions, Programs and Social Relations (Stephen Gasteyer)	A GIS-based Approach to Target Low Cost Agricultural Land Sensitive to Degradation (Nicholas Schmitz)	Assessing the Biodiversity Benefits of Farmland Revegetation in the Western Australian Wheatbelt. (Patrick Smith)
10:45 a.m.	Assessing the Relative Timing and Contribution of Mechanical and Hydrologic Effects of Vegetation on Stream-Bank Stability (Andrew Simon)	Relating Herbicide Loadings to Satellite-Derived Land Use on Watersheds with Runoff-Prone Soils (Gab-Sue Jang)	Public Benefit and Cost Analysis of Alterations to Intensive Livestock Operations: Agricultural Operations Act Saskatchewan Case Study (Edward Knopf)	An Evaluation of Data Availability and Monitoring of Conservation Policies and Practices in the Lower Little Blue River Watershed of Nebraska and Kansas. (Lisa Kelly)	Steep Slopes and Narrow Valleys: Should We Be Farming Here? (Joe Bragger)
11:05 a.m.	Environmental Impacts of Managed Haying and Biomass Harvests in Conservation Reserve Program Buffers (Verel W. Benson)	Estimating Preferential Flow to a Subsurface Drain with Implications for Glyphosate Transport in a Small Agricultural Watershed (Wesley Stone)	Estimating the In-stream Water Quality Benefits of Conservation Practices at a Regional Scale: An Integrated Modeling Approach (Santhi Chinnasamy)	Stream Bank and Overland Flow Contribution to Suspended Sediment in Two Iowa CEAP Watersheds (Thomas Isenhardt)	The Effluent Limitations Guidelines and NPDES Permit Regulations for CAFO's (Allison Wiedeman)
11:25 a.m.	Has the Conservation Reserve Program Benefited Grassland Birds in the United States? (James Herkert)	Watershed-Level Influences on the Development of Environmental Performance Standards for Stream Sediments in Potato Production Regions of Atlantic Canada (Glenn Benoy)	From Conflict to Cooperation: Enlisting Stakeholders to Address Water Quality Disputes in an Embattled Watershed (Jennie Popp)	Effectiveness and Optimization of BMPs in Improving Water Quality Impacted by Land-Application of Animal Manure (Indrajeet Chaubey)	Cancelled

Poster Presentations

Authors of the following abstracts will make poster presentations at the workshop.
Presenters are asked to be at their poster during the reception on Wednesday evening.

What should we measure, and how, to account for environmental effects?

1	Standardized Reference Evapotranspiration: A Uniform Procedure for Estimating Environmental Evaporative Demand.	Paul Brown
2	Integrating adaptive management into the Conservation Effects Assessment Project Wetlands National Assessment Component - A pilot investigation in the Prairie Pothole Region of the U.S.	S. Diane Eckles
3	Environmental benefits of Conservation Reserve Program buffers	D. Todd Farrand
4	Stratification of soil organic carbon and its impact on environmental quality.	Alan Franzluebbers
5	Carbon Sequestered in Bison Ranges of South Dakota.	Joe French
6	Assessing the Runoff and Atmospheric Contributions of Pesticides to the Choptank River Watershed.	Cathleen Hapeman
7	Modeling particulate and microbial transport during center pivot wastewater irrigation.	Minyoung Kim
8	Hydrologic Simulation in Two CEAP Watersheds in Iowa: A Comparison of SWAT and GFLOW Modeling Approaches.	Lucie Macalister
9	Valuing Water Quality Benefits from Agricultural Best Management Practices.	Rebecca Madsen
10	Conservation Tillage: What Do We really Know about How Much Land is under Continuous versus Rotational No-till and Other Soil Conserving Practices?	Andrew Manale
11	Bacterial source tracking and land-use: determining the sources of <i>E. coli</i> in 4 watersheds in B.C. from their headwaters to lower elevation sites using ribotyping.	Cindy Meays
12	Edge-of-field wetland management practices for agricultural runoff mitigation: Is greener better?	M.T. Moore
13	Soil erosion estimation in conservation tillage systems with poultry litter application using RUSLE 2.0 model.	Ermson Z. Nyakatawa
14	The Rock Creek (Ohio) CEAP Project: Water Quality Trends Looking for Causes.	R. Peter Richards
15	Watershed Evaluation of Beneficial Management Practices (WEB's): An Economic Evaluation of On-Farm Benefits and Costs of Adopting BMP's.	Carlyle Ross
16	Database Structure for Long-Term Hydrologic Data in the Goodwater Creek Watershed.	John Sadler
17	Remote sensing to identify preferential flow of water and nutrients in Maryland riparian areas.	Amy Sprinkle
18	Field-Level Modeling and Data Use for the Cropland Component of the CEAP National Assessment, an initial evaluation.	Dennis Timlin
19	Leon River: Development of a CEAP dataset.	June Wolfe

Methods for environmental management research at landscape and/or watershed scales

20	Tools for Best Management of Fields, Watersheds, and Streams: Watershed Physical Processes Research Unit.	Carlos Alonso
21	Transport of Glyphosate through Various Environmental Compartments in a Small Watershed in East-Central Indiana.	Nancy T. Baker
22	Transfer Function Modeling and Characteristics of Rainfall-Runoff Behaviors in an Oklahoma Watershed.	Jin-Song Chen
23	The Leon River Watershed: A CEAP Joint ARS Benchmark and Special Emphasis Watershed.	Tim Dybala
24	Little River Experimental Watershed Water Quality Record: The First Three Decades.	Gary Feyerisen
25	Evaluation of SWAT for the Little River Experimental Watershed: Work in Progress.	Gary Feyerisen
26	Influence of Scale on SWAT Model Calibration Parameters for Stream Flow in the St. Joseph River Watershed.	Gary Heathman
27	Remote Sensing of Cover Crop Performance on Maryland's Eastern Shore.	Megan Lang ¹
28	Quantifying water and air quality tradeoffs of nutrient and sediment loss under no-till with different manure application methods.	K. N. Johnson
29	Radar Monitoring Of Wetland Hydrology In An Agricultural Watershed: New Information For Improved Water Quality Management In The Choptank River Watershed, Maryland.	Megan Lang
30	Digital Atlas of the Upper Washita River Basin, including the Fort Cobb Watershed, Southwestern Oklahoma.	Jason Masoner
31	How Do We Quantify the Relative Value of Agricultural Landscape Services? Lessons Learned from the Design of A Choice Experiment.	Leah Mathews
32	<i>Escherichia coli</i> and <i>Enterococcus</i> in the South Fork of the Iowa River Watershed.	Thomas Moorman
33	Model Evaluation Guidelines for Systematic Quantification of Accuracy in the ARS Benchmark Watershed Simulations.	Daniel Moriasi
34	Developing an Historical Landuse Record for Sub-Basins of the Calapooia River Watershed in Oregon.	George Mueller-Warrant

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35	The significance of soil variability across twin watersheds in assessing the impact of agricultural practices on water quality: within the Bras d'Henri basin, Quebec, Canada.	Michel C. Nolin
36	Using the Competitive Grant Process to Address Science and Education Needs.	Michael O'Neill
37	USDA's Conservation Effects Assessment Program (CEAP) Poster.	Roberta Parry
38	An experimental approach to assess the influence of nutrient and pesticide practices on headwater agricultural watersheds in central Ohio.	Peter Smiley
39	STEWARDS: A Web-Based Data System for Watershed Research.	Jean L. Steiner
40	Integrating science and common sense for watershed conservation decisions.	J.D. Wulfhorst
41	Field Windbreak and Living Snow Fence Crop Yield Assessment.	Gary Wyatt
42	Monitoring Temporal Landscape Change In Kentucky's Watersheds: Baselines And Methods.	Demetrio Zourarakis

Targeting within landscapes and/or watersheds to improve conservation effectiveness

43	Using Soil Surveys to Guide the Placement of Water Quality Buffers.	Michael Dosskey
44	The Coordination of State and Federal Programs: An Iowa Example.	Hongli Feng
45	Identification of Conservation Focus Areas in the Central Midwest.	Walter Foster
46	Drainage Water Management as a BMP to Reduce Nitrate Loss from Cropland to Surface Waters in the Mississippi River Basin and the Hypoxic Zone in the Gulf.	James Fouss
47	Field Scale Evaluation of Crop Residue Cover Distribution & Soil Organic Carbon Accretion.	J.L. Fulmer
48	Understanding Human Impacts on the Nitrogen Cycle in Agroecosystems Using a Mass Balance Approach.	Jennifer Gardner
49	Development of the fertilizing wooden mulch.	Tamayo Hada
50	Why Science Is Not Enough: Collaborative Watershed Planning.	Roger Hunt
51	Flux of dissolved N ₂ O in groundwater from crop field to riparian buffers.	Dong-Gill Kim
52	Turning Precision Agriculture Information Into Precision Conservation Decisions.	Newell R. Kitchen
53	Dynamic Bibliographies: A Simple Tool for Finding Current Science on Conservation Practices.	Joseph Makuch
54	A Tool for Estimating Best Management Practice Effectiveness in Arkansas.	Katherine Merriman
55	Using NRI simulation modeling to identify potential priority cropland acres for conservation program implementation.	Dean Oman
56	Increasing agricultural output through the use of bio-based boards as soil moisture conservation materials.	Siaw Onwona-Agyeman
57	Stream Bank Contribution to Suspended Sediment in Two Iowa CEAP Watersheds.	Jason Palmer
58	Effectiveness of agricultural conservation policies and alternative metrics of water quality.	Silvia Secchi
59	Reducing Runoff and Sediments in Bayou Wikoff Sub-Watershed.	H. M. Selim
60	Evaluation of manure management practices to reduce risk of off-site movement through subsurface tile flow.	Ruth Shaffer
61	Dredging Midwestern Drainage Ditches: Water quality impacts.	Douglas Smith
62	Pesticides in Lake Water in the Beasley Lake Watershed, 1998-2005.	Sammie Smith
63	Documentation and Analysis of Expenses of EEP-Administered Stream Restorations in North Carolina	Scott R. Templeton

Realistic expectations for measurable change in environmental quality

64	Factors Affecting Manure Transfers in the Midwest.	Jessica Amidei
65	Surface water modeling in support of establishment of total maximum daily loads for nitrate in the Cedar River Basin, Iowa.	Daniel Christiansen
66	Conservation Effects Assessment Project (CEAP) Watershed Studies.	Tom Drewes
67	Adoption of Manure Management Practices: The Case of Manure Testing.	Haluk Gedikoglu
68	Comparison of Conservation and Conventional Tillage Effects on Water Quality in a Coastal Plain Soil.	Robert Hubbard
69	Effects of watershed conservation practices on Beasley Lake water quality.	Scott S. Knight
70	Manure Management Impacts on Surface-Water Runoff at a Discovery Farm in Southwest Wisconsin.	Matthew J. Komiskey
71	Nutrients and Sediment in Runoff at Two Wisconsin Discovery Farms.	Matthew J. Komiskey
72	Water and Sediment Modeling in the Upper Auglaize Watershed.	Jim Stafford

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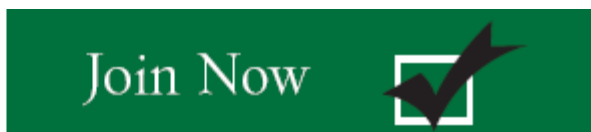
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