

2015

# NATIONAL WORKSHOP ON WATER QUALITY MARKETS

September 15-17, 2015  
Lincoln, Nebraska

## WORKSHOP AGENDA

### Learning Tracks

#### **Trading Fundamentals:**

Core sessions on the major aspects of trading programs.

#### **Regional Forums:**

Highlights from existing water quality trading activities across the United States.

#### **Economics:**

Analysis and insights into water quality markets and economic trends, and supply and demand.

#### **Tools for Trading:**

Survey of tools employed by various programs and opportunities and challenges for broader use in water quality.

#### **Science & Technology:**

Underlying science and developing technologies that support water quality trading.

#### **Other Markets:**

Explore other water market types, including watershed services, water rights, and links to species and habitat markets.

#### **Innovators:**

Hear short presentations from workshop participants and students on new projects, tools, and resources for water quality markets.

KEY	TRADING FUNDAMENTALS	REGIONAL FORUMS	ECONOMICS	TOOLS FOR TRADING	SCIENCE & TECHNOLOGY	OTHER MARKETS	INNOVATORS
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## DAY 1 — TUESDAY

## SEPTEMBER 15TH, 2015

TIME	LOCATION: AUDITORIUM
12:00—2:00 PM	<b>CHECK-IN / REGISTRATION</b> <i>(Light Buffet Lunch Provided)</i>
2:00 —2:05 PM	<b>WELCOME &amp; WORKSHOP OVERVIEW</b>  <i>Kris Hoellen, Senior Vice President of Sustainable Programs, The Conservation Fund</i>
2:05 -2:35 PM	<b>IMPORTANCE OF WATER</b> Welcome and introduction to the University of Nebraska-Lincoln, the Robert B. Daugherty Water for Food Institute, and the roles of water policy and public-private partnerships in environmental markets.  <i>Harvey Perlman, Chancellor, University of Nebraska-Lincoln</i>
2:35—3:30 PM	<b>OPENING PLENARY</b>  <i>Tom Vilsack, Secretary, U.S. Department of Agriculture (via video)</i> <i>Gina McCarthy, Administrator, U.S. Environmental Protection Agency (via video)</i> <i>Ann Mills, USDA Deputy Under Secretary, Natural Resources &amp; Environment</i> <i>Ellen Gilinsky, EPA Senior Policy Advisor in the Office of Water</i> <i>Jason Weller, Chief, USDA Natural Resources Conservation Service</i>
3:30—3:45 PM	<b>BREAK</b>
3:45—4:30 PM	<b>WATER QUALITY TRADING OVERVIEW</b> What is water quality trading, why is it necessary and how does it fit into the Clean Water Act?  <i>Ben Grumbles, Maryland Secretary of the Environment</i>
4:30—5:30 PM	<b>STATE OF REGIONAL WATER QUALITY MARKETS</b> Introduction to where water markets exist, how they are structured, how they differ, and what is needed to move them forward.  <i>Bobby Cochran, Willamette Partnership</i>
5:30—7:00 PM	<b>EVENING RECEPTION: SOUTH HALLWAY</b> <i>(Hors d'Oeuvres, Cash Bar, &amp; Resource Displays)</i>

## DAY 2 — WEDNESDAY

## SEPTEMBER 16TH, 2015

TIME	LOCATION
8:30—8:45 AM	<b>AUDITORIUM</b> <b>MORNING ANNOUNCEMENTS</b> <i>Kris Hoellen, The Conservation Fund</i>
8:45—9:45 AM	<b>AUDITORIUM</b> <b>TRADING FUNDAMENTALS</b> An introductory plenary session on water quality trading presented by practitioners in the field currently involved in trading programs.  <i>Shannon Varner, Troutman Sanders, LLP (moderator)</i> <i>Jimmy Daukas, American Farmland Trust</i> <i>Pat Sinicropi, National Association of Clean Water Agencies</i> <i>Carrie Sanneman, Willamette Partnership</i>
9:45—10:00 AM	<b>BREAK</b>
10:00 –10:55 AM	<b>AUDITORIUM</b> <b>SETTING BASELINE &amp; WHO CAN TRADE</b> Determining who is eligible to buy and sell credits within a Water Quality Trading market is a critical decision. The panel will discuss the regulatory requirements for baseline and what water quality regulators see as important, and how baselines are viewed by the agricultural community and their impacts on what becomes a credit that can be traded.  <i>Ann Sorensen, American Farmland Trust (moderator)</i> <i>Amelia Letnes, U.S. Environmental Protection Agency</i> <i>Melissa McCoy, Association of Clean Water Administrators</i> <i>Tim Wigington, The Freshwater Trust</i> <i>Larry Antosch, The Ohio Farm Bureau Federation</i>
<b>ROOM A **Session will run until 12:00pm</b>	
	<b>CHESAPEAKE BAY REGIONAL FORUM</b> This regional forum will highlight existing water quality trading activities within the Chesapeake Bay watershed. This session will allow practitioners (state officials, credit buyers, credit sellers, and non-profit organizations) to share their experiences and discuss the current operational state of programs, as well as the future of water quality trading in this area.  <i>Jeff Corbin, U.S. Environmental Protection Agency (moderator)</i>  <b>Panel 1: Background, History, and Current Status of Trading Programs</b> <i>Shannon Varner, Troutman Sanders, LLP</i> <i>Ben Grumbles, Maryland Department of the Environment</i> <i>Veronica Kasi, Pennsylvania Department of Environmental Protection</i>  <b>Panel 2: Critical Components of a Workable Trading Program</b> <i>Brent Fults, Chesapeake Bay Nutrient Land Trust</i> <i>John Olenik, Virginia Department of Transportation</i> <i>John Preyer, Restoration Systems</i>

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TIME	LOCATION
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**10:00—10:55 AM**     **BANQUET HALL**

**INNOVATOR PRESENTATIONS: Performance, Cost, & Results**

Exciting, new presentations from workshop participants on their own projects, programs, tools, and resources related to water quality trading.

*Rachael Herpel, University of Nebraska-Lincoln (moderator)*

Where Rubber Meets the Road: Payment for Performance: *Jon Winsten, Winrock International*

Ancillary Benefits from Water Quality Credits: Experimental Approach to Integrate Values in Ohio River Water Quality Trading: *Stephen Swallow, University of Connecticut*

Developing Decision Support Tools in South Saskatchewan River Basin: *Marian Weber, Alberta Innovates*

Overcoming Challenges to Implementing Water Quality Markets: *Alex Echols, Ecosystem Services Exchange*

**11:05—12:00 PM**     **AUDITORIUM**

**MANAGING RISK & UNCERTAINTY**

An introduction to the many decisions focused on addressing and mitigating various forms of uncertainty and tools available to trading program developers to manage risk.

*Mindy Selman, U.S. Department of Agriculture (moderator)*

*Joe Britt, Sand County Foundation*

*Ryan Bennett, National Milk Producers Federation*

*Jim Klang, Kieser & Associates*

**ROOM B**

**CREDIT PRICING & ACCOUNTING**

Discussion of credit pricing and how credits are treated from an accounting standpoint.

*Bob Rose, U.S. Environmental Protection Agency (moderator)*

*Nick Brozovic, University of Nebraska*

*Amanda Gonzales, University of Nebraska*

**BANQUET HALL**

**INNOVATOR PRESENTATIONS: Government Resources**

Exciting, new presentations from workshop participants on their own projects, programs, tools, and resources related to water quality trading.

*Rachael Herpel, University of Nebraska-Lincoln (moderator)*

RIBITS Demonstration: *Stephen Decker, U.S. Army Corps of Engineers*

i-Tree Urban Forest Management Software Suite: *Greg Arthaud, U.S. Forest Service*

**12:00—1:30 PM**

**LUNCH: BANQUET HALL**

**Meeting of the National Network on Water Quality**

All participants are invited to meet with the National Network on Water Quality Trading during lunch beginning at 12:15 pm in Room A.

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TIME	LOCATION
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1:30—2:25 PM	<p><b>AUDITORIUM</b></p> <p><b>HOW DO YOU KNOW CREDITS ARE REAL?</b>  This session will provide practitioner and state agency perspectives on the trading program elements that confirm credits are real (e.g., verification, registration) and provide insight on balancing transparency and accountability with cost.</p> <p><i>Carrie Sanneman, Willamette Partnership (moderator)</i>  <i>Melissa McCoy, Association of Clean Water Administrators</i>  <i>Susan Payne, Maryland Department of Agriculture</i>  <i>Ryan Anderson, Delta Institute</i></p>
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**ROOM A \*\*Session will run until 3:30pm**

	<p><b>MISSISSIPPI RIVER BASIN &amp; GULF COAST REGIONAL FORUM</b>  Presentations will include an overview of nutrient issues in the Mississippi River Basin, States' nutrient frameworks, planned trading approaches, and future perspectives. An open discussion with audience members will follow presentations.</p> <p><i>Ellen Gilinsky, U.S. Environmental Protection Agency (moderator)</i>  <i>Karen Flournoy, U.S. Environmental Protection Agency</i>  <i>Michelle Perez, World Resources Institute</i>  <i>Brian Brandt, American Farmland Trust</i>  <i>Dustin Miller, Iowa League of Cities</i></p>
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**ROOM B**

	<p><b>UNCERTAINTY &amp; THIN MARKETS</b>  A discussion of two major barriers to successful water quality trading: 1) understanding the uncertainties associated with watershed modeling and 2) dealing with too few willing and able participants.</p> <p><i>Christopher Nietch, U.S. Environmental Protection Agency</i>  <i>Matthew Heberling, U.S. Environmental Protection Agency</i></p>
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2:35—3:30 PM	<p><b>AUDITORIUM</b></p>
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	<p><b>LEGAL CONSIDERATIONS FOR TRADING</b>  Water quality trading is a compliance option available to NPDES permittees under the Clean Water Act. Unlike traditional end-of-pipe compliance options, trading relies on dispersed credit-generating activities to achieve compliance. As a result, trading poses a new set of legal challenges and opportunities. Panelists will discuss key sideboards (including sideboards flowing from EPA regulations and policy, and relevant case law), and discuss a real-world example where state trading rules are attempting to balance all of various legal considerations for water quality trading.</p> <p><i>Tim Wigington, The Freshwater Trust (moderator)</i>  <i>Bob Rose, U.S. Environmental Protection Agency</i>  <i>Brent Fewell, Troutman Sanders, LLP</i>  <i>Teresa Jacobs, Perkins Coie, LLP</i>  <i>Courtney Brown, Oregon Department of Environmental Quality</i></p>
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2:35—3:30 PM	<b>ROOM B</b> <b>ADDRESSING RISK &amp; LIABILITY</b> This session will explore means of addressing risk and uncertainty in nutrient credit trading markets, and examine how lag times in nutrient delivery impact program design.  <i>Lydia Olander, Duke University</i> <i>Dave Abler, Pennsylvania State University</i>
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	<b>BANQUET HALL</b> <b>CONSERVATION PRACTICE EVALUATION: From Edge of Field to Satellite Imagery</b> A discussion of tools and approaches used to evaluate conservation best practices on the landscape at multiple scales.  <i>Chris Hartley, U.S. Department of Agriculture (moderator)</i> <i>Jim Klang, Kieser &amp; Associates</i> <i>Dennis Busch, University of Wisconsin-Platteville</i> <i>Carrick Detweiler, University of Nebraska-Lincoln</i> <i>Steven E. Lohrenz, University of Massachusetts-Dartmouth</i>
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3:30—3:45 PM	<b>BREAK</b>
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3:45—4:40 PM	<b>AUDITORIUM</b> <b>FACILITATING WATER QUALITY TRADING MARKET DESIGN &amp; DEVELOPMENT</b> Water quality trading can be an important tool to help achieve the goals of the Clean Water Act. When designed well and combined with other tools, trading can help achieve water quality goals in ways that are beneficial for landowners, communities, and the environment. This session will explore what goes into building a successful trading program.  <i>Mark Kieser, Kieser &amp; Associates (moderator)</i> <i>George Kelly, Resource Environmental Solutions, LLC</i> <i>Jessica Fox, Electric Power Research Institute</i> <i>Alex Johnson, The Freshwater Trust</i>
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	<b>ROOM A **Session will run until 5:45pm</b> <b>PACIFIC NORTHWEST &amp; CALIFORNIA REGIONAL FORUM</b> Presenters will discuss the Pacific Northwest water quality trading recommendations, highlighting trading programs in development in Oregon, Idaho, Washington, and California.  <i>Claire Schary, U.S. Environmental Protection Agency (moderator)</i> <i>Carrie Sanneman, Willamette Partnership</i> <i>Courtney Brown, Oregon Department of Environmental Quality</i> <i>Bruce Roll, Clean Water Service</i> <i>Robbin Finch, City of Boise, Idaho</i> <i>David Primozych, The Freshwater Trust</i> <i>Valerie Minton, Sonoma Resource Conservation District</i>
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TIME	LOCATION
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3:45—4:40 PM	ROOM B
	<p><b>PROGRAM COST AND SOCIAL CONDITIONS</b> Presentations on costs and key social considerations to take into account when implementing water quality trading programs.</p> <p><i>Kurt Stephenson, Virginia Tech</i> <i>Dan Fiorino, American University</i></p>

	<p><b>BANQUET HALL</b></p> <p><b>LIVESTOCK &amp; DAIRY: Digesters, Waste Stream Separation, and More</b> This session will focus on credit generation from dairy and livestock operations.</p> <p><i>Venus Welch-White, U.S. Department of Agriculture (moderator)</i> <i>Tibor Vegh, Duke University</i> <i>Candace Vinke, Viresco Solutions</i></p>
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4:50—5:45 PM	AUDITORIUM
	<p><b>IMPROVING WATER QUALITY TRADING PROGRAMS OVER TIME</b> A discussion on how to adapt trading programs over time to make better progress toward watershed goals.</p> <p><i>Bobby Cochran, Willamette Partnership (moderator)</i> <i>Dennis O’Grady, South Nation Conservation</i> <i>Chad Praul, Environmental Incentives</i> <i>Chris Hartley, U.S. Department of Agriculture</i></p>

	<p><b>ROOM B</b></p> <p><b>ENVIROATLAS</b> USDA and EPA have a variety of information tools and resources that have recently become available. One of these tools is the EnviroAtlas Interactive Map, which has recently added an ecosystem markets layer that includes data on the location, scope and value of water quality trading programs. Attendees will learn about the new EnviroAtlas tool and the ecosystem markets data, and how they can use them to participate in or learn about markets across the country.</p> <p><i>Kate Zook, U.S. Department of Agriculture (moderator)</i> <i>Genevieve Bennett, Forest Trends</i> <i>Anne Neale, U.S. Environmental Protection Agency</i></p>
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5:45—7:00 PM	<p><b>EVENING RECEPTION: SOUTH HALLWAY</b> <i>(Hors d’Oeuvres, Cash Bar, &amp; Resource Displays)</i></p>
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6:00—7:30 PM	<p><b>BANQUET HALL</b></p> <p><b>TRADING SIMULATION: Water Quality Market Mock Transaction</b> A hands-on, live-action learning experience! Join us and grapple with both the complexities and benefits of new investment approaches in a fun, low-risk setting. The Water Quality Market Mock Transaction will engage and challenge you in a simulation role-play where you will be placed into an active decision-making role—both as credit buyers and credit sellers. During this interactive group activity, you will be engaged to select credit projects to the best of your ability, with market signals and without. All participants will gain a better understanding of how accounting for performance-based outcomes creates value and provides the foundations for markets, regardless of the eventual function of the market.</p> <p><i>Provided by Environmental Incentives.</i></p>
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TIME	LOCATION
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8:30—8:40 AM	AUDITORIUM <b>MORNING ANNOUNCEMENTS</b> <i>Kendra Briechle, The Conservation Fund</i>
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**AUDITORIUM**

	<p><b>BUILDING WATER QUANTITY MARKETS</b> Presenters will discuss legal, economic, business, and regulatory aspects of water quantity trading for managing ecological and transboundary stream flow impacts in complex regulatory regimes. Topics discussed will include design and evaluation of trading rules, building trust with market participants, and monitoring and verification of compliance. The examples provided will be from the High Plains region, involving a variety of active water trading programs between agricultural producers.</p> <p><i>Nick Brozovic, University of Nebraska (moderator)</i> <i>Karina Schoengold, University of Nebraska</i> <i>Richael Young, Mammoth Trading</i> <i>Dave Aiken, University of Nebraska</i></p>
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8:50—9:45 AM	<b>ROOM A</b> <b>**Session will run until 10:55am</b>
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	<p><b>GREAT LAKES REGIONAL FORUM</b> Presenters will discuss the market opportunities, tools, and conservation efforts in the Great Lakes region, followed by an in-depth look at recent trading advances in Wisconsin.</p> <p><i>Cameron Davis, U.S. Environmental Protection Agency (moderator)</i></p> <p><b>Panel 1: Overview of the Great Lakes</b> <i>Mark Kieser, Kieser &amp; Associates</i> <i>Victoria Pebbles, Great Lakes Commission</i> <i>Jimmy Bramblett, USDA - Natural Resource Conservation Service</i></p> <p><b>Panel 2: Trading in Wisconsin</b> <i>Russ Rasmussen, Wisconsin Department of Natural Resources</i> <i>Bill Hafz, NEW Water—Green Bay Metropolitan Sewerage District</i> <i>Jessica Schultz, Fox-Wolf Watershed Alliance</i></p>
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**ROOM B**

	<p><b>INFORMATION RESOURCES &amp; TRAINING</b> USDA and EPA have a variety of information tools and resources that have recently become available. This session will provide an introduction to the EPA Permit Writer’s Guide, the newly available Water Quality Trading Roadmap, and other soon to be released training and support resources.</p> <p><i>Kate Zook, U.S. Department of Agriculture (moderator)</i> <i>Amelia Letnes, U.S. Environmental Protection Agency</i> <i>Chris Hartley, U.S. Department of Agriculture</i></p>
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**BANQUET HALL**

	<p><b>INNOVATOR PRESENTATIONS: Stormwater Tools &amp; Markets</b> Exciting, new presentations from workshop participants on their own projects, programs, tools, and resources related to water quality trading.</p> <p><i>Rachael Herpel, University of Nebraska-Lincoln (moderator)</i> <u>Pollutant Load Reduction Model</u>: <i>Chad Praul, Environmental Incentives</i> <u>Rapid Assessment Method Tools</u>: <i>Chad Praul, Environmental Incentives</i> <u>Great Lakes Urban Stormwater Calculator</u>: <i>Elain Sterrett Isely, West Michigan Environmental Action Council</i> <u>A Water Quality Trading-like Strategy for Bacteria Loading</u>: <i>Jim Klang, Kieser &amp; Associates</i></p>
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9:45—10:00	<b>BREAK</b>
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TIME		LOCATION					

10:00—10:55 AM

AUDITORIUM **\*\*Session will run until 12:00pm**

**LINKAGES TO OTHER MARKETS & STACKING**

The ability to generate multiple environmental credits from a single conservation activity has often been discussed, yet seldom occurs in real life. This session will discuss credit stacking in terms of additionality and estimation challenges and timing and market opportunities. This session will also explore other markets with links to water quality trading.

*Frank Casey, U.S. Geological Survey (moderator)*  
*Jenny Thomas, U.S. Environmental Protection Agency*  
*Morgan Robertson, University of Wisconsin*  
*Sandi Zellmer, University of Nebraska*  
*Carrie Sanneman, Willamette Partnership*  
*Will Allen, The Conservation Fund*  
*Pat Coady, Seale & Associates*

**ROOM B**

**TOOLS FOR TRADING 1**

Water quality trading programs depend on a combination of quantification and administrative tools to calculate credits and track transactions. This session will introduce a variety of site-level and watershed scale quantification tools and program registries, discuss their strengths and weaknesses, and provide suggestions for future development.

*Shaun McKinney, Natural Resource Conservation Service (moderator)*  
*Sara Walker, World Resources Institute*  
*Jim Klang, Kieser & Associates*

**BANQUET HALL**

**INNOVATOR PRESENTATIONS: Credits, Practices, & Benefits Assessment**

Exciting, new presentations from workshop participants on their own projects, programs, tools, and resources related to water quality trading.

*Rachael Herpel, University of Nebraska-Lincoln (moderator)*  
Harnessing Private Investment in Conservation: Eric Sprague, Alliance for the Bay  
Drainage Water Management: Alex Echols, Ecosystem Services Exchange  
Imagine, Design, Build...Fully Functioning, But Where's the Market?:  
*Rob Tiedemann, Clean Water Partners, LLC*

**ROOM A**

**STORMWATER**

This session will highlight a cross-section of existing and emerging stormwater trading programs, examine regulatory drivers for stormwater offsets, and explore different stormwater trading program designs.

*Amelia Letnes, U.S. Environmental Protection Agency (moderator)*  
*Cy Jones, World Resources Institute*  
*Evan Branosky, DC Department of Energy and Environment*  
*Josh Rogers, City of Chattanooga, Tennessee*

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TIME	LOCATION
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11:05—12:00 PM ROOM B



**TOOLS FOR TRADING 2**

Water quality trading programs depend on a combination of quantification and administrative tools to calculate credits and track transactions. This session will introduce a variety of site-level and watershed scale quantification tools and program registries, discuss their strengths and weaknesses, and provide suggestions for future development.

*Shaun McKinney, Natural Resource Conservation Service (moderator)*  
*Ali Saleh, Texas A&M*  
*Mindy Selman, U.S. Department of Agriculture (moderator)*

**BANQUET HALL**



**NRCS Conservation Innovation Grants Showcase**

Recipients of the NRCS Conservation Innovation Grant Awards to support water quality trading will present their projects, lesson learned, and future projections.

12:00—1:00PM LUNCH: BANQUET HALL

1:00—1:55 PM AUDITORIUM

**THE POLITICS & BUSINESS OF WATER QUALITY TRADING**

There are widespread concerns that water quality markets will not advance until there is a clear regulatory driver. This session will focus on private sector perspectives of when agencies should get involved and when they should step back.

*Jeff Corbin, U.S. Environmental Protection Agency (moderator)*  
*Doug Lashley, Greenvest*  
*Jessica Fox, Electric Power Research Institute*  
*Dave Taylor, National Association of Clean Water Agencies*

1:55—3:15 PM AUDITORIUM

**NEXT STEPS**

A facilitated discussion on next steps and open roundtable for questions.

*Brent Fewell, Troutman Sanders, LLP (moderator)*  
*Ellen Gilinsky, U.S. Environmental Protection Agency*  
*Ann Mills, U.S. Department of Agriculture*  
*Bobby Cochran, Willamette Partnership*  
*Brian Brandt, American Farmland Trust*  
*Cy Jones, World Resources Institute*  
*Nick Brozovic, University of Nebraska*

