



Credit Stacking in Practice

Jessica Fox, Technical Executive
ACES 2014

Workshop: Coordinated Environmental Markets

Resources

- **Academic Research**

- R. Gardner and J. Fox, “The Legal Status of Environmental Credit Stacking,” *Ecology Law Quarterly*,” Vol. 40, No. 4, March 2014.
- *U.S. National Opinion Survey on Stacking Environmental Credits*, EPRI Report 1024803, December 2011.
- J. Fox, R. C. Gardner, and T. Maki, “Stacking Opportunities and Risks in Environmental Credit Markets,” *The Environmental Law Reporter*, Vol. 41, No. 2, February 2011.
- J. Fox, “Getting Two for One: Opportunities and Challenges in Credit Stacking,” *Conservation and Biodiversity Banking: A Guide to Setting Up and Running Biodiversity Credit Trading Systems*, Earthscan, Sterling VA, 2008.

- **Project Implementation**

- EPRI Ohio River Basin Water Quality Trading Project
- MSU-EPRI Nitrous Oxide Protocol & Projects

Terms, Agencies, and Policies

7 agencies involved in environmental credit markets.

Terms:

- Bundling
- Unbundling
- Credit stacking
- Payment stacking
- Double dipping
- Double counting
- Horizontal stacking
- Vertical stacking
- Temporal Stacking

Credit Type	Oversight Agency
Carbon	Private organizations, DOE, EPA, USDA
Endangered Species	FWS, state Departments of Fish and Game, NOAA
Wetlands	U.S. Army Corps of Engineers, NOAA, EPA
Water Quality	EPA, Office of Water. Some states.

The Crux of Stacking

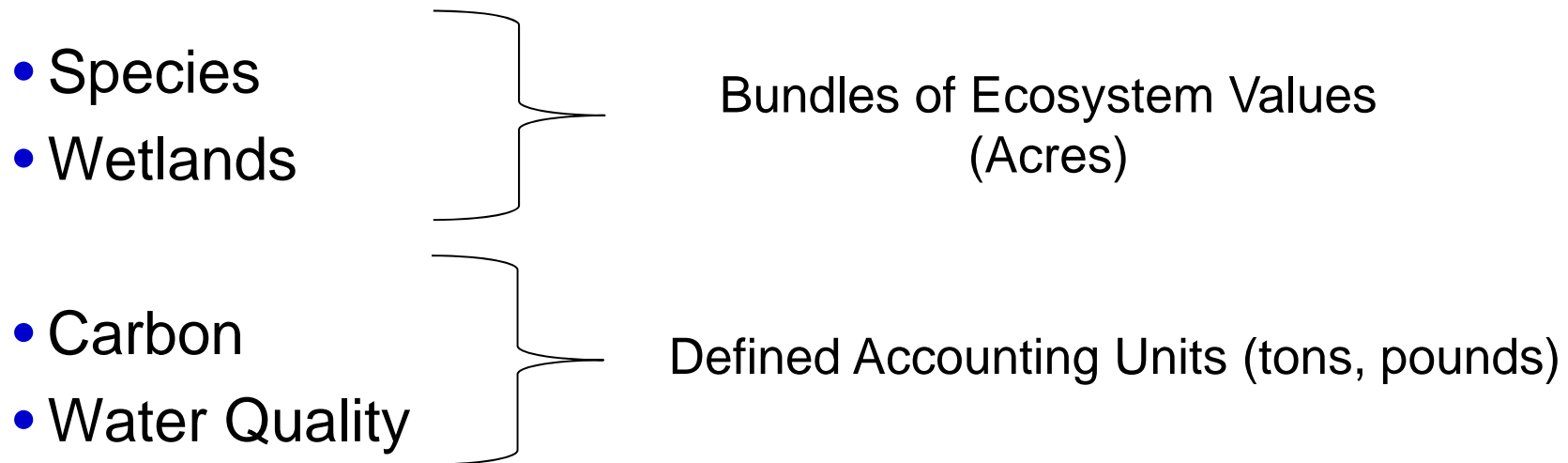
Can you get paid twice for the same conservation action?

- Drive to maximize **Economic Returns**
- Concern over **Ecological Validation**
- Development of **Policy**

Regulatory Uncertainty: Payment Stacking

- Thumbs Up from USDA:
 - USDA allows for “the sale of carbon, water quality, or other environmental credits” associated with federal grants (EQIP, CRP, WRP).
- Thumbs Down from EPA & ACE:
 - United States Army Corps of Engineers (USACE) and USEPA have issued a regulation that precludes the use of CRP or WRP monies to generate wetland credits.

Accounting Units & Defensible Stacking Scenario



Based on our analysis, the most appropriate credit stacking scenario is when the accounting units are pollutant-specific, such as pounds of nitrogen in water quality trading, and tons of CO₂ equivalents in carbon markets.

Move the ball by moving projects: Bringing GHG Offsets to EPRI WQT Project

Ohio River Basin Trading Project

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Ohio River Basin Water Quality Trading Project



EPRI is conducting trailblazing work to create trading exchanges that assign economic value to the improvement of water quality across the Ohio River Basin. [Watch our Video](#) [View our Infographic](#) (1.3 MB)



Water quality trading is an innovative market-based approach to achieving water quality goals for nutrients such as phosphorus and nitrogen through programs that allow permitted emitters to purchase nutrient reductions from another source.

Our Farmers



[Wall Street Journal](#) (2/20/2014)



Check out our U-Tube Video that summarize the Project!

<http://wqt.epri.com>

Credit Trading Registry Operational

Store Registry BOAT Dividends Source CDS & Bonds RED Loan Pricing Indices 3

Welcome, Ufe Test1 Logout Support

markit environmental registry

Home All Units Projects/Issuances RFI Bids/Offers User Admin Activity Log

Find Units By

More Options... Show All Units

Project

Account

Search...

Name

☐ American Farmland Trust

☐ American Farmland Trust Sub-Account

Standard

Project Type

Unit Measurement

Unit Class

Unit State

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Project	Account	Vintage	Origin	Holdings	Measurement	Status
Angel Mounds	American Farmland Trust	2012 - 2013	United States	10 lbs/year	RFI Listed	
Ohio River Basin Interstate Trading Program - Nitrogen reduction/removal ORB-BAW-US-100000000001275-01102012-30092013-2051-2060-MER-0-P						
Angel Mounds	American Farmland Trust	2012 - 2013	United States	250 lbs/year	RFI Listed	
Ohio River Basin Interstate Trading Program - Nitrogen reduction/removal ORB-BAW-US-100000000001275-01102012-30092013-2061-2310-MER-0-P						
Angel Mounds	American Farmland Trust	2012	United States	34 lbs/year	Active	
Ohio River Basin Interstate Trading Program - Nitrogen reduction/removal ORB-BAW-US-100000000001275-01012012-31122012-4101-4134-MER-0-P						
Angel Mounds	American Farmland Trust Sub-Account	2012 - 2013	United States	95 lbs/year	Active	
Ohio River Basin Interstate Trading Program - Nitrogen reduction/removal ORB-BAW-US-100000000001275-01102012-30092013-2556-2650-MER-0-P						
Lexington Plain	American Farmland Trust	2012 - 2013	United States	800 lbs/year	Active	
Ohio River Basin Interstate Trading Program - Nitrogen reduction/removal ORB-BAW-US-100000000001276-01102012-30092013-3301-4100-MER-0-P						
Lexington Plain	American Farmland Trust	2012 - 2013	United States	199 lbs/year	Active	
Ohio River Basin Interstate Trading Program - Phosphorus reduction/removal ORB-BAW-US-100000000001276-01102012-30092013-3052-3250-MER-0-P						
Lexington Plain	American Farmland Trust	2012 - 2013	United States	1 lbs/year	RFI Listed	
Ohio River Basin Interstate Trading Program - Phosphorus reduction/removal ORB-BAW-US-100000000001276-01102012-30092013-2951-2951-MER-0-P						
Lexington Plain	American Farmland Trust	2012 - 2013	United States	100 lbs/year	Retired	
Ohio River Basin Interstate Trading Program - Phosphorus reduction/removal ORB-BAW-US-100000000001276-01102012-30092013-2952-3051-MER-0-P						
Lexington Plain	American Farmland Trust	2012 - 2013	United States	50 lbs/year	Active	
Ohio River Basin Interstate Trading Program - Nitrogen reduction/removal ORB-BAW-US-100000000001276-01102012-30092013-3251-3300-MER-0-P						

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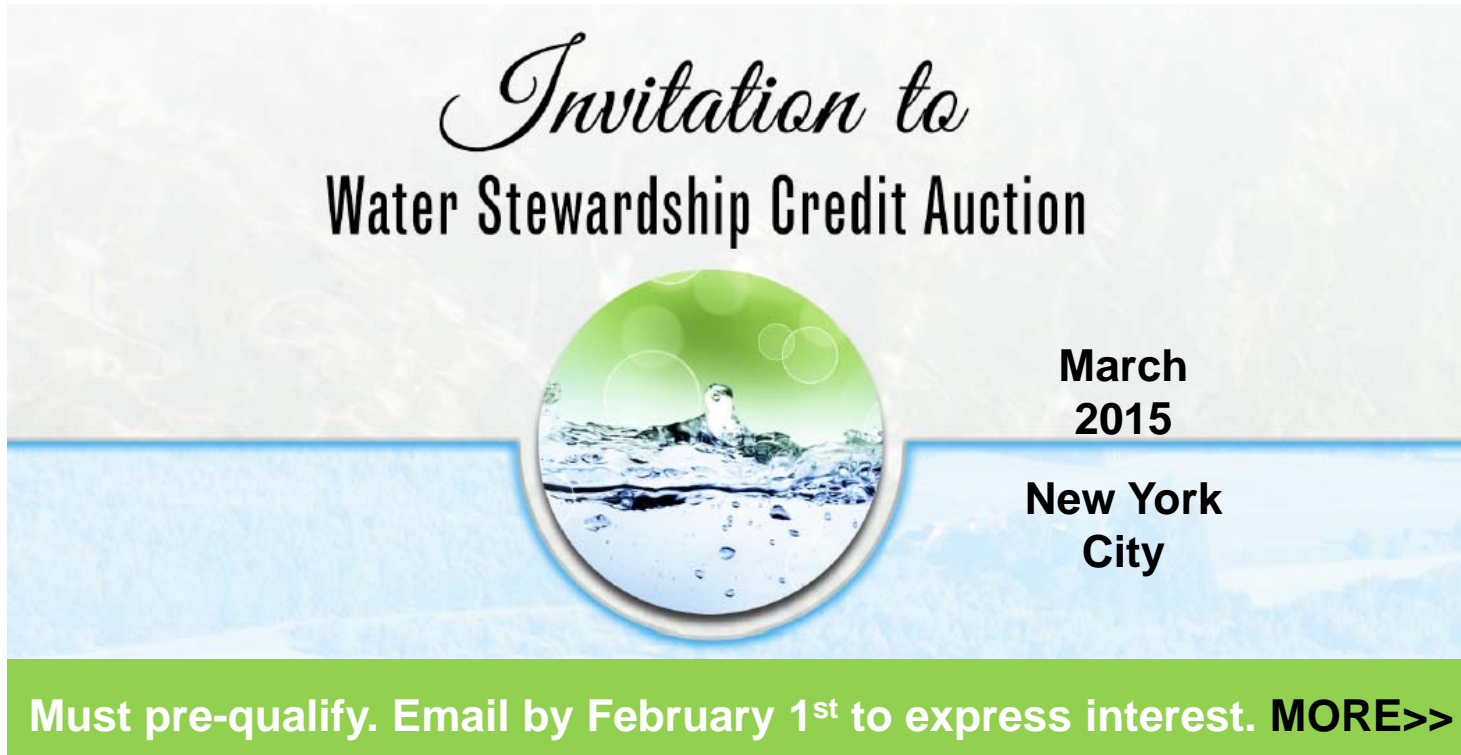
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March 11, 2014: First Transactions



First Public Auction



Invitation to
Water Stewardship Credit Auction



**March
2015**

**New York
City**

Must pre-qualify. Email by February 1st to express interest. [MORE>>](#)

Stacking TN and TP Decision Point

Credit Purchase Receipt



Transfer Details:

Source Account ID: 100000000026540
Source Account Name: EPRI Holdings Account
Project Name: TEST ORB PROJECT 09162013
Standard Name: Ohio River Basin Water Quality Interstate Trading Program
Vintage Year: 2014
Quantity: 20.00000
Credit Type: TP lbs/year
Serial number: ORB-BAW-US-100000000033830-01102013-30092014-1680154.001-1680174-MER-0-P
Watershed (HUC4): Scioto
Sub Watershed (HUC10): Headwaters Scioto River

Additional Information:

Nutrient Type: Nitrogen
Calculation Methodology: EPA Region 5 Model
Best Management Practice: Cover Crops & Buffer Strips
Potential Ancillary Benefits*: Carbon Sequestration, Pollinator Habitat, Soil Health, Erosion Control



GHG Offsets from Agriculture

ACR Approves MSU-EPRI Offset Methodology for Emissions Reductions from Agricultural Nitrous Oxide

19 July 2012



July 18, 2012: The American Carbon Registry (ACR), a nonprofit enterprise of Winrock International, announced today the approval of a carbon offset Methodology for Quantifying Nitrous Oxide (N₂O) Emissions Reductions from Reduced Use of Nitrogen Fertilizer on Agricultural Crops.

Greenhouse gas emissions offsets issued in first agricultural offsets transaction

posted on June 20, 2014 2:15pm

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Greenhouse gas emissions offsets issued in first agricultural offsets transaction

EAST LANSING, Mich. – The Electric Power Research Institute (EPRI) announced the first agricultural greenhouse gas (GHG) emissions offsets transaction based on validation and verification methodology developed by EPRI and Michigan State University (MSU). The methodology enables farmers to participate in emerging carbon markets by creating GHG offsets, which can be sold to other carbon market participants to meet GHG emission reduction targets or to achieve corporate sustainability goals.

The American Carbon Registry issued the offsets, called Emission Reduction Tons, to a Michigan farmer for voluntarily reducing nitrous oxide (N₂O) emissions by curbing the amount of nitrogen-based fertilizer used to

MSU-EPRI N₂O Offsets Methodology Wins Key Approval. April 2013

New Verified Carbon Standard
Methodology Gives Farmers Access
to the Economic Benefits of Carbon
Finance

Considerations for a Credit Stacking Protocol

“Credit stacking could provide great economic incentives for effective conservation, but only after the fundamental considerations described here are addressed.”

Consideration 1: Ecosystem credits that consist of a suite of functions should not be stacked and unbundled.

Consideration 2: Stacking and unbundling credits should not result in habitat loss.

Consideration 3: Managing the site for one credit type should not denigrate the ecological values represented by other credit types.

Considerations for a Credit Stacking Protocol

Consideration 4: Regulatory agencies need the resources and capacity to confirm the ecological validity of the transactions.

Consideration 5: Any stacking and unbundling of credits should be transparent.

Consideration 6: Tests for additionality should be applied.

Contacts & Questions

<http://wqt.epri.com>

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Water quality trading is an innovative market-based approach to achieving water quality standards through credit programs. [MORE >>](#)

Water quality trading is an innovative market-based approach to achieving water quality goals for nutrients such as phosphorus and nitrogen through programs that allow permitted emitters to purchase nutrient reductions from another source.

Updates

Update - Summer 2013
(2.8 MB)

Webcast Summer 2012
(17.8MB)

Water Quality Trading in the News

NARUC Resolution Recognizing EPRI Water Quality Trading Project
7/24/2013 - *Nation Association of Regulatory Commissioners*

Southeast Indiana SWCDs Breaking New Ground in Water Quality Trading
6/25/2013 - *Indiana Association of Soil and Water Conservation Districts*

Kentucky to develop water pollution plan to curb 'dead zone'

Recent Activities

Public Webcast Update on July 25th - View the Recording
(13.7MB)

Mississippi River Gulf of