

Nutrients Issues:

Trading

US EPA Criteria Assistance

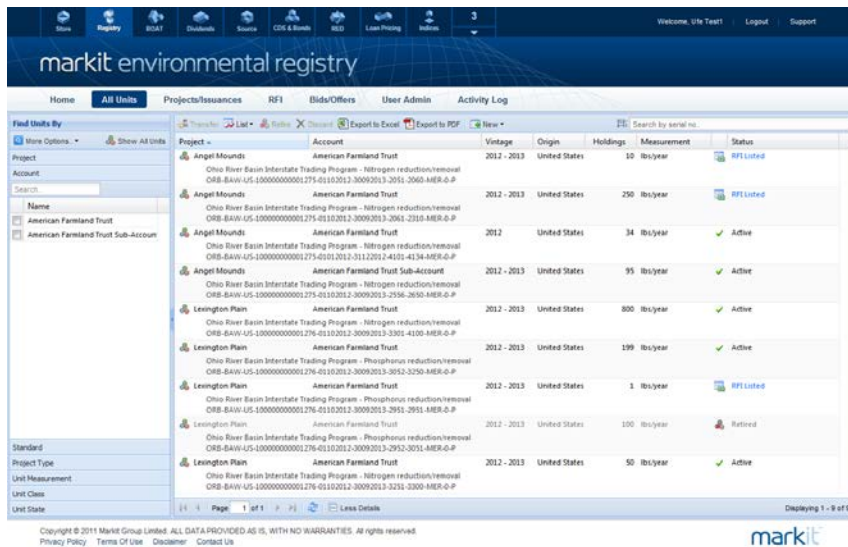
Agenda Item 7c

Pilot Trading Plan Amended Oct 2013

- Stewardship Credits
- Eligibility for inducements for early involvement in trading
- Use of credits for SEPs
- Farm specific variables rather than default values for modeling
- Use of ODNR Load Reduction Spreadsheet to determine reductions from improved milkhouse waste handling
- Amendments signed all the signatories of the *Pilot Trading Plan 1.0 for the Ohio River Basin Interstate Water Quality Trading Project*

Credit Trading Registry Training

- ORSANCO hosted training on the Credit Registry November 19, 2013
- Agriculture and Permitting Agencies from Indiana, Kentucky, Ohio



The screenshot displays the 'markit environmental registry' interface. The top navigation bar includes links for Home, All Units, Projects/Issuances, RFI, Bids/Offer, User Admin, and Activity Log. A search bar is located at the top right. The main content area shows a table of credit trading projects with columns for Project, Account, Vintage, Origin, Holdings, Measurement, and Status. The table lists several projects, including 'Angel Mounds' and 'Levington Plan', with details on their vintage, origin, and measurement units. The bottom of the page includes a copyright notice for Markit Group Limited and links for Privacy Policy, Terms of Use, Disclaimer, and Contact Us.

Project	Account	Vintage	Origin	Holdings	Measurement	Status
Angel Mounds	American Farmstead Trust	2012 - 2013	United States	10 lbs/year		RFListed
Angel Mounds	Ohio River Basin Interstate Trading Program - Nitrogen reduction/removal	2012 - 2013	United States	250 lbs/year		RFListed
Angel Mounds	Ohio River Basin Interstate Trading Program - Nitrogen reduction/removal	2012	United States	34 lbs/year		Active
Angel Mounds	American Farmstead Trust Sub-Account	2012 - 2013	United States	95 lbs/year		Active
Levington Plan	American Farmstead Trust	2012 - 2013	United States	800 lbs/year		Active
Levington Plan	Ohio River Basin Interstate Trading Program - Nitrogen reduction/removal	2012 - 2013	United States	199 lbs/year		Active
Levington Plan	Ohio River Basin Interstate Trading Program - Phosphorus reduction/removal	2012 - 2013	United States	1 lbs/year		RFListed
Levington Plan	American Farmstead Trust	2012 - 2013	United States	100 lbs/year		Retired
Levington Plan	Ohio River Basin Interstate Trading Program - Phosphorus reduction/removal	2012 - 2013	United States	50 lbs/year		Active

Website Updates

- Case Studies of Water Quality Trading Being Used for Compliance with Nutrient NPDES Permit Limits – EPRI Report
- The Legal Status of Environmental Credit Stacking – Ecology Law Quarterly
- Calibrated Watershed Models for the Ohio River Basin – WARMF
 - Muskingum
 - Scioto
 - Allegheny
 - Great Miami
 - Upper and Middle Ohio
- www.wqt.epri.com



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

New resources posted:

- Watershed model
- Project templates
- Amended trading plan (5.3 MB)

Trading registry set to launch March of 2014

Update - Summer 2013 (2.8 MB)

Water Quality Trading in the News

Water Quality Trading Network Will Seek To Promote Consistency Among Programs

1/22/2014 - Bloomberg BNA

EPRI Provides Seed Funding for National Network on Water Quality Trading

1/14/2014 - National Network on Water Quality Trading

After Suit Dismissed, Calls Grow For EPA To Clarify Water Trading Power

1/8/2014 - InsideEPA

USDA, EPA Partnership Supports Water Quality Trading To Benefit Environment, Economy

12/3/2013 - EPA Press Release

NARUC Resolution Recognizing EPRI Water Quality Trading Project

7/24/2013 - National Association of Regulatory Commissioners

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Recent Activities

EPRI to host public event for first stewardship credit transactions. March 11th in Cincinnati. [View Event Summary](#) [Register](#)

Ohio River WQT Project addressed in keynote of NACD national conference [2/3-5/2014](#)

States sign amendment to Trading Plan (2.8 MB) [EPRI publishes technical report](#) on WQT in water

Media Event March 11, 2014



**Ohio River Basin Trading Project
Stewardship Credit Transaction Event 2014**

With participation from Ohio, Indiana, Kentucky, United States Department of Agriculture, Natural Resource Conservation Service, United States Environmental Protection Agency, advisory groups, farmers and other stakeholders, the Electric Power Research Institute (EPRI) will showcase the first voluntary, verified, and quantified stewardship credits for water nutrients in the project. This event will mark a historic milestone for the only interstate water quality trading project in the world. Please plan to join us for an event that will officially transfer the credits, share perspectives from key federal and state agency staff, hear from farmers and credit buyers themselves, and provide an unmatched networking event. More project information can be found at [Ohio River Basin Trading Project](#).

When
Tuesday, March 11, 2014 9:00 AM - 4:00 PM
Eastern Time

Where
Westin Cincinnati
21 E. 5th Street, Cincinnati, Ohio 45202 USA

Attire
Business Casual

[View Event Summary](#)

[Register](#)

RSVP
Tuesday, March 4, 2014

Together...Shaping the Future of Electricity

Numeric Nutrient Criteria Workshop

- USEPA HQ Nutrient Criteria “Roadshow”
 - Visiting all 10 regions
 - Region 5 meeting February 3-5
- State Updates
- National Program Technical Topics
- Dealing with Agricultural-Dominated Streams
- Implementation Issues
- ORSANCO Data exercise

Topics

State Updates

- Minnesota – Proposed Rivers and Streams criteria in process
- Wisconsin – Rivers and Streams criteria in 2012
- Illinois – Pursuing narrative criteria
- Indiana – Working with USGS
- Ohio – pursuing criteria for streams
- Michigan – Not allowed to pass new rules
- Orsanco – So far nothing works

USEPA Technical Topics

- Assessment Endpoints
- Reference Condition Approach
- Stressor Response Analysis
- Mechanistic Modeling
- Duration and Frequency
- Downstream Protections
- Combined Criteria Approach

ORSANCO Data Exercise

- EPA offered technical assistance to look at a limited dataset for an example exercise
- ORSANCO offered up our macroinvertebrate data but we want to do the analysis in-house
- Technical assistance amounted to “We like Minnesota’s approach. Try that.”
- Quantile regression and change-point analysis of “wedge shaped” data

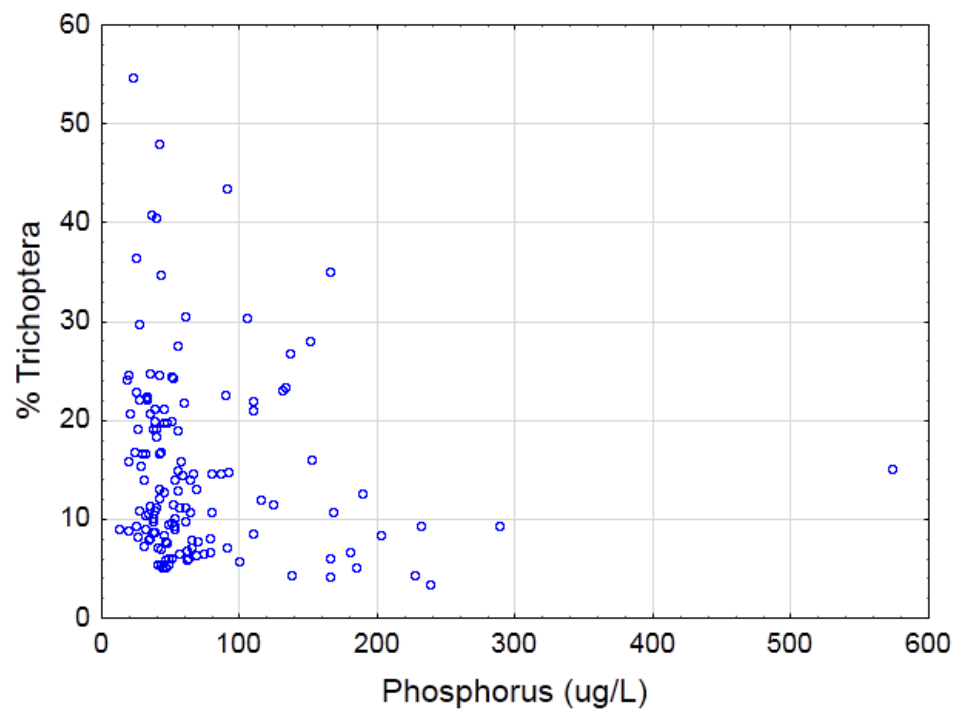
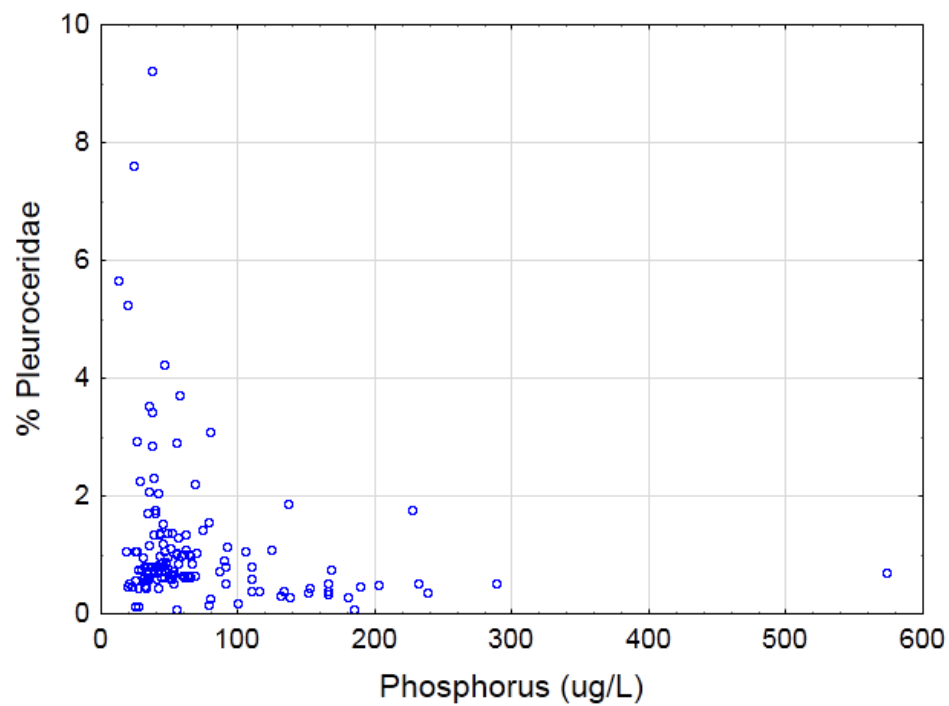
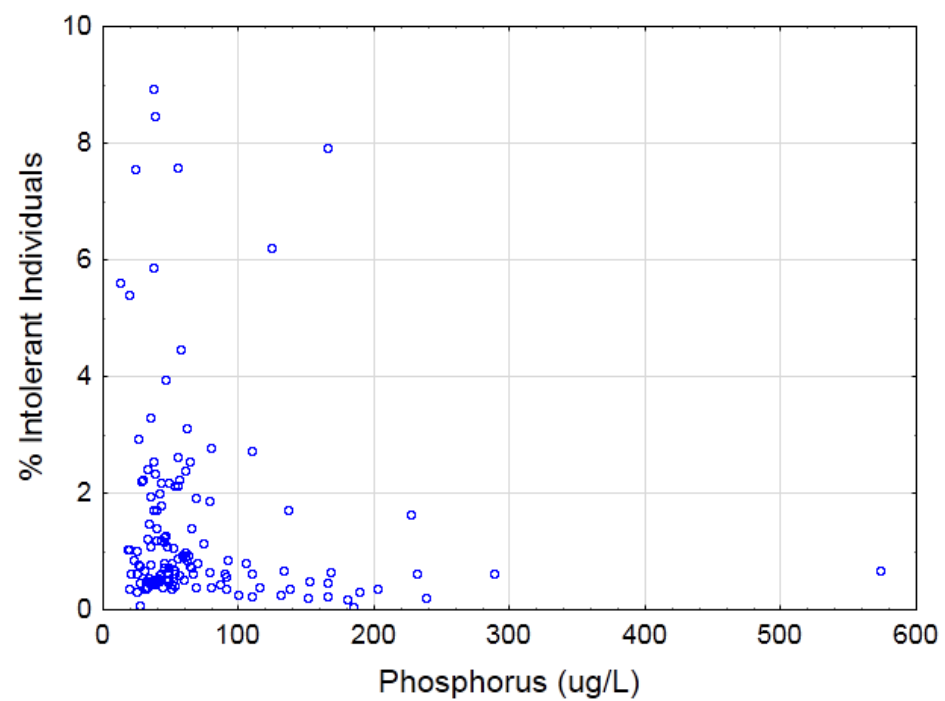
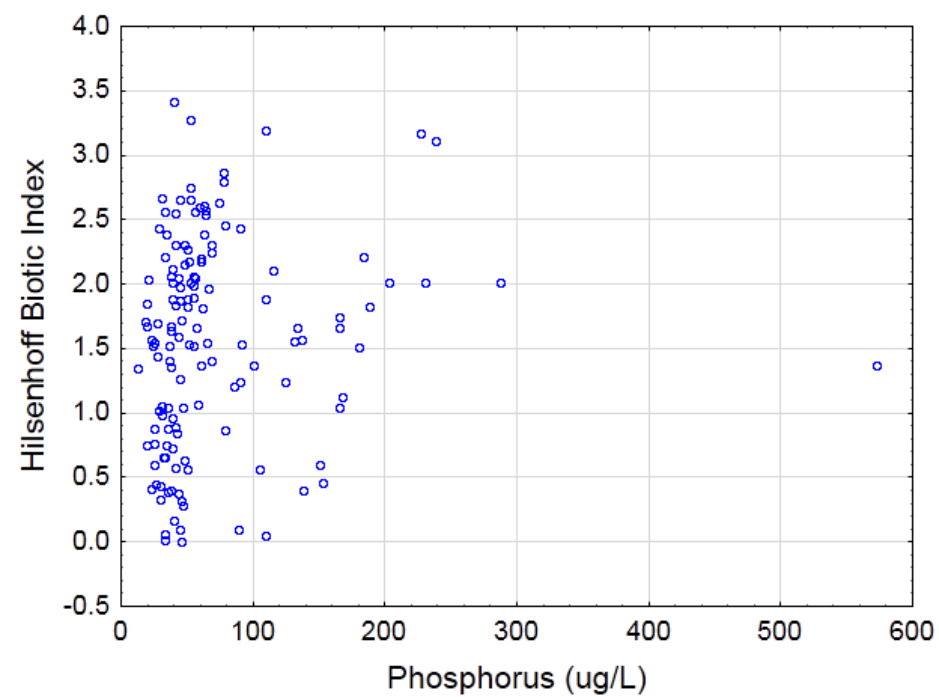
Taxonomic Groups	
Individuals	Coenagrionidae
No Taxa	Hemiptera
Ind-ZM	Coleoptera
Zebra Mussels	EPT
Corbicula	Ephemeroptera
Clitellata	Plecoptera
Oligocheata	Trichoptera
Diptera	Hydroptilidae
Chironomidae	Non-Insecta
Chironominae	Polycentropodidae
Tanytarsini	Amphipoda
Orthocladinae	Crustacea
Cricotopus	Gammaridae
Tanypodinae	Bivalvia (-C&D)
Megaloptera	Gastropoda
Odonata	Pleuroceridae
Tolerance & Diversity	Functional Feeding Guilds
Shannon Diversity	Collector-Filterers
Hilsenhoff Biotic Index	Collector-Gatherers
Intolerants	Piercer-Carnivores
Tolerants	Piercer-Herbivores
Habits	Predators
Burrowers	Scrapers
Climbers	Shredders
Clingers	
Sprawlers	
Swimmers	

Metric Calculation

- From this base list calculated 160 candidate metrics
 - Including both individual and taxa abundance and relative abundance measures
- This list was paired down based on range, and redundancy
 - Spatial (longitudinal) trends were removed from the remaining metrics

Metric Correlations with TP

Metric	Sign. Spearman R ($p < 0.05$)
% Sprawlers	-0.346
% Pleuroceridae	-0.273
% Corbicula	-0.265
% Collector-Gatherers Taxa	-0.243
% Predators	-0.232
% Intolerants	-0.219
% Trichoptera	-0.208
% EPT	-0.168
% Gammaridae	0.183
HBI	0.221



Next Steps

- Evaluate macroinvertebrate metrics using the suggested methods
- Fish metrics
- Work with USEPA on statistical methods and understanding significance of results
- Development of future data needs
 - Continue collecting paired nutrients and macroinvertebrate samples
 - Evaluation of causal link – Continuous DO