

US EPA ARCHIVE DOCUMENT

Nutrient Trading Marketplace: What's Getting in the Way?

In Pursuit of Efficient, Market-Driven Environmental Mitigation

State Level Nutrient Reduction Strategies Workshop
—Agricultural Component, U.S. Environmental Protection Agency
Hyatt Regency, Columbus Ohio, June 2011

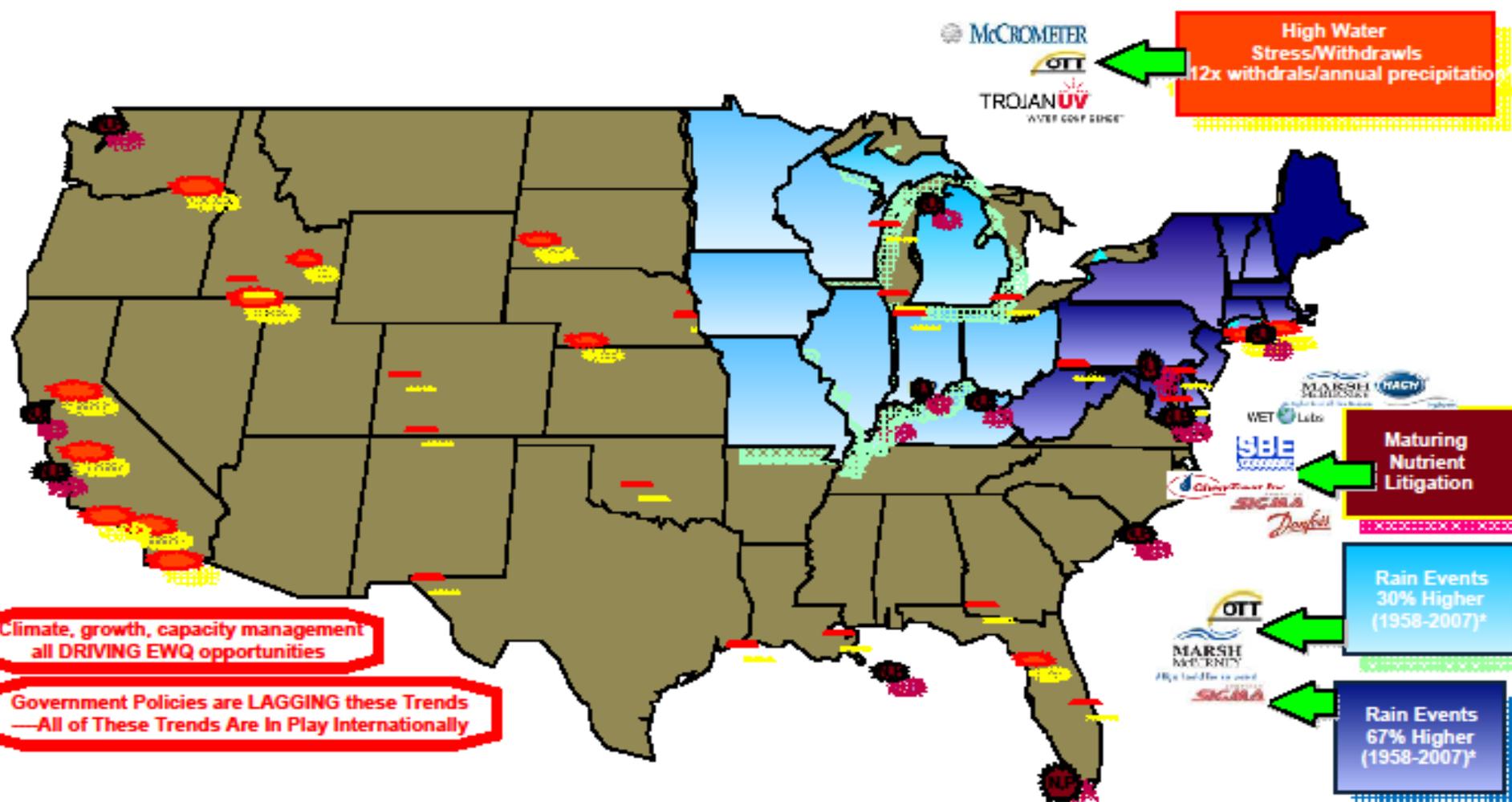
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Salient U.S. Water Trends Driving New Government Policies



High Water Stress/Withdrawals
12x withdrawals/annual precipitation

McCrometer
OTT
Trojan UV
WATER GOLF SERIES

Maturing Nutrient Litigation

Rain Events
30% Higher
(1958-2007)*

Rain Events
67% Higher
(1958-2007)*

Climate, growth, capacity management
all DRIVING EWQ opportunities

Government Policies are LAGGING these Trends
—All of These Trends Are In Play Internationally

Chesapeake advocates target lawn fertilizer



**Cardin proposal to clean up Chesapeake Bay
advances**

**Bipartisan compromise moves measure to full
Senate**

ultimate fate still in doubt

June 30, 2010|By Paul West, The Baltimore Sun

PA's Reduction Goals:

	Baseline Load	2010 Cap Goal Load	Total Reductions Needed	2005 Progress Load	2005 Reductions Achieved	2005 % Reductions Achieved
TN (Mill. Lbs.)	129.6	71.9	57.7	105.6	24	42%
TP (Mill. Lbs.)	5.32	2.46	2.86	3.59	1.73	60%
Sed. (Mill. Tons)	1.52	1.0	0.52	1.13	0.39	75%

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Premise (Political Reality):

- Mitigating Eutrophication is a Necessary Public Policy..

....The Polluter Can and Does Pay

- We are All Responsible for Eutrophication

.....and evolving nutrient litigation will make it so..

- Wastewater Plants and Municipalities are Getting Most of the Heat....

...while farmers, developers and the public get to walk...

- Farmers Are Going to Be Immune from the CWA.....

.....get used to it...

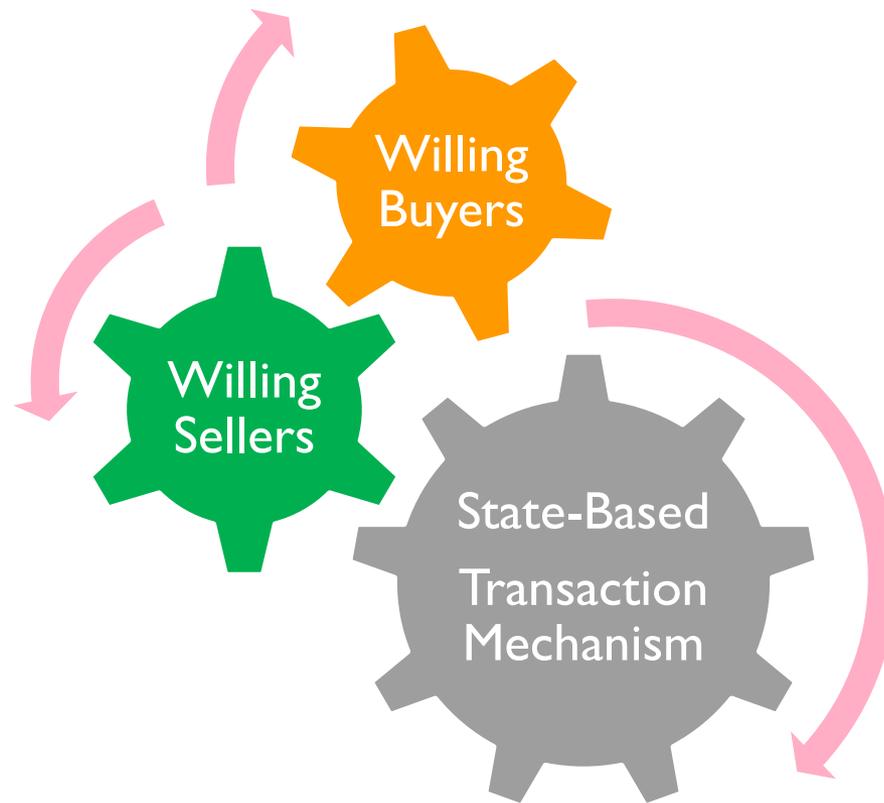
- Municipal/Local Environmental Compliance is Reasonable Venue for CWA Issue Debate.....

What is the Least-Cost Path for Municipalities/Regional Governments??

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Necessary Conditions---



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What's Getting in the Way??

“Why Should WE Pay?”

**“EPA Has Established NO
Causal Relationships
...Bad Science = Bad Policy”**

**“We Meet Our Permit
Requirements Today.”**

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Can We Establish New Markets for Farmers??

What's Getting in the Way??

Is there a viable product??

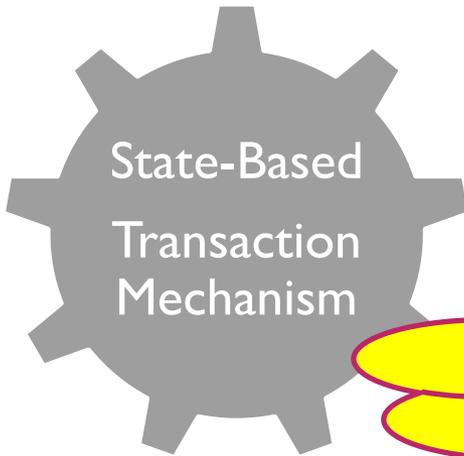
"We Don't Want to Be Regulated."

Trading Ratios

Land Banking

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What's Getting in the Way??

“EPA hasn’t told us how to do it.”
“We want technology standards.”

“NPS to PS trading isn’t allowed.”

“There are conflicts with the CWA.”

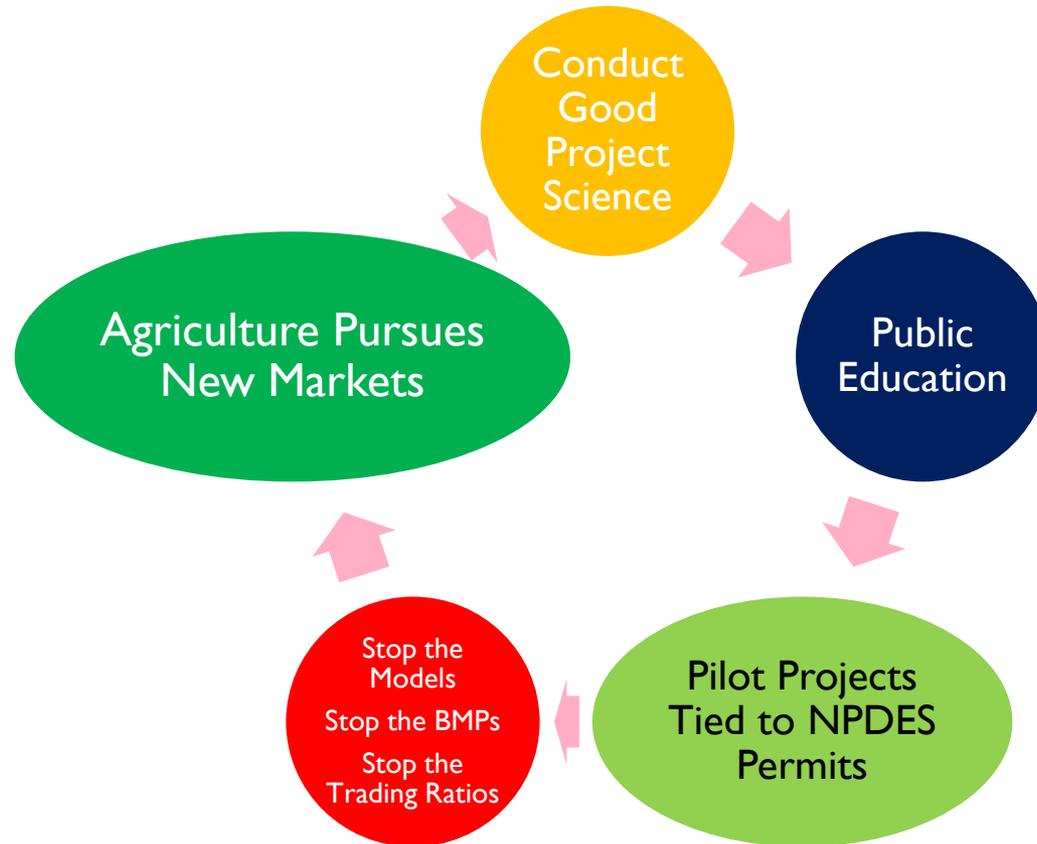
**“Market-based environmental policies
are evil.”**

Where is the end-to-end accounting network?!

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How Do We Fix This???



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Agriculture Pursues
New Markets

- Entrepreneurial vs. Academic Mindset
- “As Always, Agriculture Should Be Paid for its Products.”



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--Create New Revenue Streams for Farmers--

Conduct
Good
Project
Science



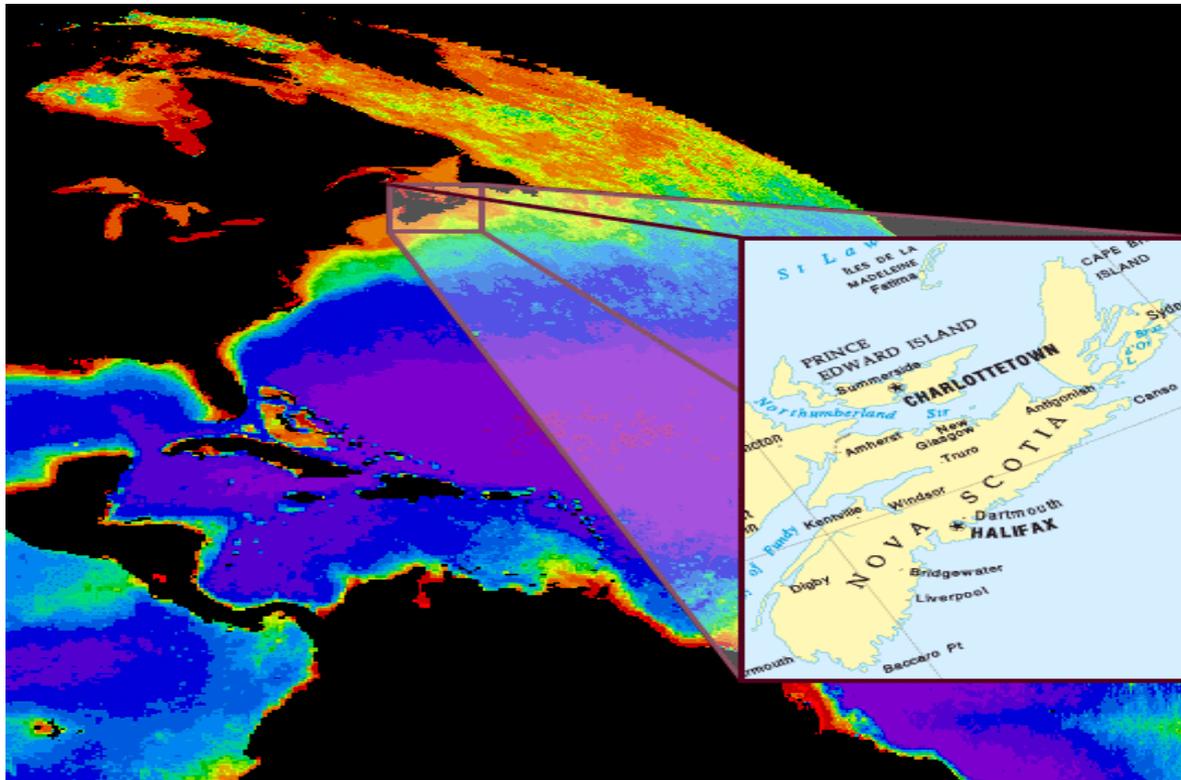
- + Focus on high-yield, material, nutrient mitigation.
- + Undertake Edge-of-Field Monitoring Compliant with CWA NPDES reporting requirements (40 CFR 136).
- + Create viable use-models for monitoring, mitigation.
- + Work by the same rules required of NPDES permittees.
- + Characterize all salient dynamics---surface vs. subsurface.
- + Measure FLOW VERY accurately (Turbs are the key).
- + Real-Time Analyses linked to eutrophication cycles.
- + Measure C/B and quantify tangible results.

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Public
Education

- Web-Based Real-Time Public Reporting and Analysis
- Link Actions to Environmental Conditions



Real-Time Network
Reporting--

NOAA's Chesapeake
John Smith Water Trail

Newfoundland's Water
Quality Network

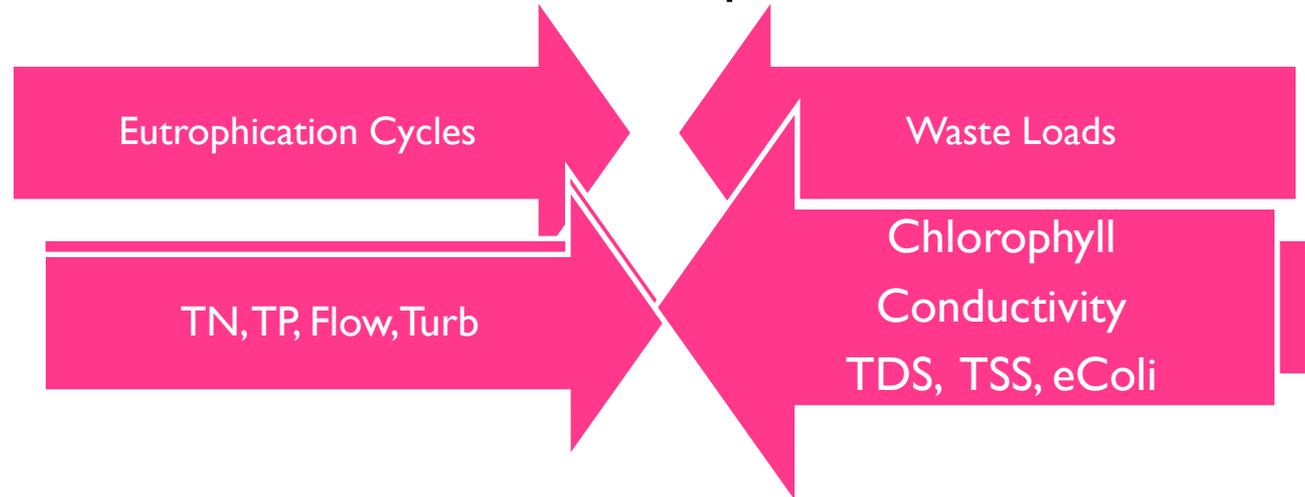
ShangHai EPA Network

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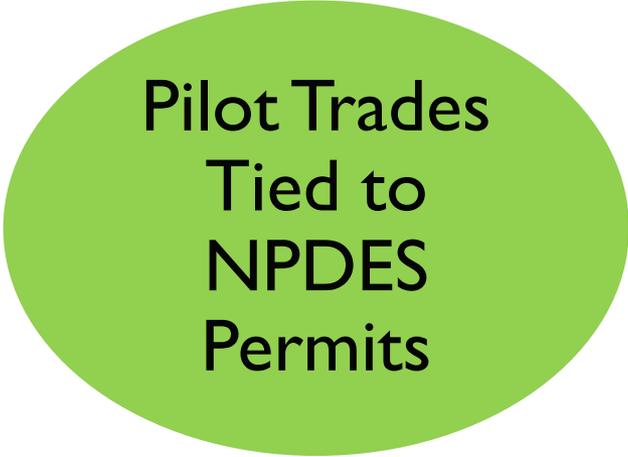
What we really need to understand is these relationships...



----Where is USGS?????----

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Pilot Trades Tied to NPDES Permits

- Establish and Demonstrate Trading Precedents
- Link to NPDES Permit Compliance
- Establish End-to-End Real-Time Monitoring Networks
 - Amend State Laws
- Prove and quantify multiple benefits

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References, Readings and Thoughtful Analyses

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