BENEFITS AND OBSTACLES IN WQT – Indianapolis, IN

August 27, 2009
CTIC Water Quality Trading Workshop
George W. Kelly
<table>
<thead>
<tr>
<th>Capital</th>
<th>Expertise</th>
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<tr>
<td>Financing provided for over 50 mitigation projects</td>
<td>Broad proficiency with the legal, tax, easement and regulatory requirements of mitigation</td>
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<tr>
<td>■ Structured to carry the long term liability associated with mitigation</td>
<td>■ Stream, wetlands, and habitat restoration; water quality trading and carbon sequestration</td>
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<td>■ Invested in and sponsored mitigation banks throughout the US</td>
<td>■ Build project-specific teams with top engineering and ecological firms</td>
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<td>■ Funds available for large tract conservation acquisitions</td>
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**Experience**

Founded in 1997, EBX is one of the leading mitigation banking firms in the United States

- Over 50 miles of stream and over 13,000 acres of wetland, forest, buffer and habitat acres restored or under contract
- Long and successful track record working with rural land-owners
EBX Background

- Viewpoint of practitioner that has developed, financed and sold over $80 million in environmental credits
- Project sponsor that has participated in over 100 turnkey environmental credit projects resulting in the restoration and enhancement of over 50 miles of stream, 6,000 acres of restored wetlands, and the protection of 7,300 acres of critical species habitat, forest and buffer, including nutrient offset projects in the Mid-Atlantic
- President of National Mitigation Banking Association
- Participant in Nutrient Trading Task Forces in Chesapeake Bay, including serving on the Advisory Committee of the Water Quality Fund for the Chesapeake Bay; Advisory Committee to Bay Bank; and Member of the Maryland Climate Change Commission (Mitigation Work Group)
- Early stage private sponsor of Ecosystem Marketplace - www.ecosystemmarketplace.com
- Working with landowners and project developers on the placement of investments
- Primarily focused on U.S. domestic market
Policy Background

- Chesapeake Bay Program Nutrient Trading
  Fundamental Principles and Guidelines, March 2001

- EPA Office of Water: Water Quality Trading Policy,
  January 2003

- Pennsylvania Policy and Guidelines, December 30, 2006

- Virginia Guidance, February 5, 2008

- Maryland Guidance slated for mid-2009

- Ohio Water Quality Trading Rules, January 1, 2007
<table>
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<tr>
<th>Basic Factors</th>
<th>Water Quality Trading</th>
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<tr>
<td><strong>Regulatory Drivers</strong></td>
<td>- 402/CWA/State delegated Programs / TMDL</td>
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<tr>
<td><strong>Baseline</strong></td>
<td>- WLA in TMDL, WQBEL</td>
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<tr>
<td><strong>Permit timeline of Buyers</strong></td>
<td>5-year permit</td>
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<td><strong>Sale period</strong></td>
<td>Minimum period: 5 – 10 years typical</td>
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<tr>
<td><strong>Banking</strong></td>
<td>Not typically authorized</td>
</tr>
<tr>
<td><strong>Currency</strong></td>
<td>Pounds of nitrogen / phosphorus / sediment</td>
</tr>
<tr>
<td><strong>Service Area</strong></td>
<td>Watershed – based, TMDL area or other areas designated by state agencies</td>
</tr>
<tr>
<td><strong>Certification process of NPS credits</strong></td>
<td>Qualified soil and water conservation professional or state agencies</td>
</tr>
<tr>
<td><strong>Liability for success</strong></td>
<td>Permittee responsible unless private contractual agreement</td>
</tr>
<tr>
<td><strong>Trading Ratios</strong></td>
<td>Include uncertainty, delivery and retirement factors; (2:1 – 3:1 typical)</td>
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<tr>
<td><strong>Options other than trade</strong></td>
<td>Capital improvements to PS</td>
</tr>
<tr>
<td><strong>Credit release schedule</strong></td>
<td>After certification? After implementation?</td>
</tr>
<tr>
<td><strong>Verification</strong></td>
<td>Qualified soil and water conservation professional</td>
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<td><strong>Approval of sale</strong></td>
<td>Water Quality Trading Management Plan approval</td>
</tr>
<tr>
<td><strong>Credit generation</strong></td>
<td>Multiple BMPs (soil and water conservation professional)</td>
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<td><strong>Pricing</strong></td>
<td>Needs further market discovery</td>
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<td><strong>Registry</strong></td>
<td>State (with possible assistance from private sector)</td>
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Transactional Factors

- Market conditions
- Eligibility determination
- Baseline
- Cost differential to support trade
- Market pricing discovery
- Credit generation
- Certification process approval of transaction
- Approval of transaction
- Types of practices
- Duration of trades
- Trading contracts
- Verification
- Registry
- Deed restrictions / covenants?
- Insurance
- Enforcement
Market Conditions

- Demand market analysis

- Preliminary analysis on expected cost of credits (could be a blended rate from one farm)

- Comparative analysis of credits with other BMP credits in the marketplace.
Eligibility

**Buyer:**
- Permit authorizes
- Mass loading, cannot trade technology – based effluent limits

**Seller:**
- Compliant with all laws
- Meets baseline requirements
- Federal or state / state funding for practices? 319?
- Idling a substantial portion of farms?
Baseline

Seller:

- TMDL?
- Can cost-share programs be used to achieve baseline?

Buyer:

- Cannot buy NPS credits to achieve technology standards
Cost Differential to Trade

- NPS must be cheaper than capital improvements to PS

- Discovery of capital improvement cost to PS is hard to discern - it needs to include O&M costs; design; permit, etc.

- Trading ratios have an impact on costs to NPS buyer
Market Pricing Discovery

- Pricing reflects both BMP practice, land costs and market structure
- Trading ratios increase price of credit
- Function of demand and risk
When are Credits Generated?

- After certification and implementation?
- This may require capital investments before credits can be sold.
Certification Process for Seller

- Proposal review process
- Consistent with rules
- No designated timeline
- Approved BMPs (qualified soil and water conservation professional)
Approval of Transaction

- Approve in permit to PS
- Certify NPS BMPs through water quality trading management plan
- Consistent with permit conditions
- NPS credits must be within the same designated watershed as PS
Types of Practices

- Both annual and structural practices
- BMPs with peer review
Duration of Trades

- Some states require 10 year minimum and up to 20 years
- Ohio appears to set no minimum
- This presents problems for annual practices
- Needs to be blend of both annual and structural practices
- Economies of scale
Trading Contracts

- Negotiated between buyer and seller (bilateral)
- Not yet standardized
- Buyer will want seller to take liability for non-performance
- Penalties for non-performance are a key issue
Verification

- Use NRCS standards

- Verify the practice, not on-the-ground measurements

- Term of verification consistent with lifespan of BMP
Registry

- Credits should be registered
- Vintage years noted
- Provides market oversight
- Update to ledger and permits
Deed Restrictions / Covenants?

- Depends on practice as to whether some form of restrictive covenants is required
- Not likely require permanent easements
Insurance

- Self-insured?
- Reserve of credits or payment to insurance pool likely required
Enforcement

- Penalty for exceeding effluent limitation on PS (ceiling on market)

- Requirement to authorize enforcement in any trading contract
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