Water Quality Trading

Government Affairs Seminar
What is Water Quality Trading?

• Water quality trading is an exchange of pollutant reduction credits.

• A buyer with a high pollutant control cost can purchase pollutant reduction or treatment from a willing seller.

• Trading can produce cost savings but must result in an improvement in water quality and a net reduction of the pollutant being traded.
Several options exist to meet WQBELs and TMDL allocations including:

- Adaptive Management
- Modifying wastewater treatment systems
- Modifying your production process to limit additives or raw materials
- Trading

Options can be used in combination
Appropriate Circumstances for WQT

- **WQT May be Used To:**
  - Demonstrate compliance with WQBELs
  - Offset pollutant load from new or expanding discharger

- **WQT Guidance Not Applicable to TBELs (1 mg/L)**

- **WQT not allowed when localized exceedance of water quality standards will occur**
Pollutant Parameters Acceptable for WQT

- **Nutrients**
  - Phosphorus
  - Nitrogen

- **Total Suspended Solids (sediment)**

- **Temperature**

- **Dissolved Oxygen-related Parameters** (e.g., biochemical oxygen demand)
Location and Geographic Scope

- **Non-TMDL WQBELs**
  - Credits should be generated upstream of credit user’s discharge.

- **TMDL WQBELs**
  - Credits may be generated within the drainage area for the impaired segment (segmentshed).
Credit Threshold

Credit threshold is the pollutant load below which reductions must be made to generate pollutant reduction credits.

• **Credits Generated by Point Source**
  - Threshold is lesser of WQBEL or TBEL

• **Credits Generated by Nonpoint Source**
  - Lesser of TMDL LA or Performance Standard (e.g., ch. NR 151)
  - 5-yr Interim Credit = Reduction from Existing Pollutant Load
Final Trade Ratio = Delivery + Equivalency + Reserve + Uncertainty – Habitat Adjustment

For trades involving nonpoint sources the trade ratio cannot be lower than 1.2:1 (1.2 pounds of nonpoint for every pound of point source pollutant). For trades located upstream in the same HUC-12 the equation simplifies to:

Final Trade Ratio = (0.2 + Uncertainty)
Trade Ratio - DRAFT

• Delivery (distance between generator and user)
  • TMDL – Same factors used in TMDL
  • Non-TMDL – USGS SPARROW model for P, N and sediment
  • Not needed if trading within same HUC-12

• Equivalency (form of pollutant)
  • Not necessary with phosphorus
  • Not yet specified for N and TSS (sediment)
Delivery - SPARROW Output Example
Downstream Trade Ratio Factor: Allow downstream trading but minimize risk of exceedances to water quality.

<table>
<thead>
<tr>
<th>Percent Difference between Buyer’s Load and Total Load at Point of Discharge</th>
<th>Downstream Trade Ratio Factor</th>
</tr>
</thead>
<tbody>
<tr>
<td>&lt; 25%</td>
<td>0.2</td>
</tr>
<tr>
<td>25 - 50%</td>
<td>0.4</td>
</tr>
<tr>
<td>50 - 75%</td>
<td>0.6</td>
</tr>
<tr>
<td>75% &gt;</td>
<td>0.8</td>
</tr>
</tbody>
</table>
Reserve Factor

Reserve sets aside a portion of the pollutant credits to help offset liability and uncertainty between the buyer and seller associated with potential failure of management practices.

<table>
<thead>
<tr>
<th>Pollutant / Constituent</th>
<th>Reserve Factor</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Phosphorus</td>
<td>0.2</td>
</tr>
<tr>
<td>Total Suspended Solids (TSS or SSC)</td>
<td>0.2</td>
</tr>
<tr>
<td>Total Nitrogen</td>
<td>Currently Not Available</td>
</tr>
<tr>
<td>Thermal</td>
<td>Not Applicable</td>
</tr>
<tr>
<td>Management Practice</td>
<td>Uncertainty Factor</td>
</tr>
<tr>
<td>---------------------------------------------</td>
<td>--------------------</td>
</tr>
<tr>
<td><strong>Agricultural Practices</strong></td>
<td></td>
</tr>
<tr>
<td>Whole Field Management (Requires an approved management plan, filter strips/buffer strips, grassed water ways, conservation or no till, and cover crops. For fields with applicable slopes contour buffer strips or additional practices as deemed by NRCS or County Conservationist.)</td>
<td>1</td>
</tr>
<tr>
<td>Companion Crops (perennial vegetation)</td>
<td>1</td>
</tr>
<tr>
<td>Conservation Easement</td>
<td>1</td>
</tr>
<tr>
<td>Nutrient Management and support practices.</td>
<td>3 (2)</td>
</tr>
<tr>
<td>Initial and (Third Permit Term)</td>
<td></td>
</tr>
<tr>
<td>Tillage</td>
<td></td>
</tr>
<tr>
<td>Mulch Till</td>
<td>3 (2)</td>
</tr>
<tr>
<td>No Till</td>
<td>3 (2)</td>
</tr>
<tr>
<td>Riparian Filter Strip (edge of field)</td>
<td>3 (2)</td>
</tr>
<tr>
<td>Grassed Waterway</td>
<td>3 (2)</td>
</tr>
<tr>
<td>Cover Crop</td>
<td>3 (2)</td>
</tr>
</tbody>
</table>
## Trade Ratio - DRAFT

- **Aquatic Habitat Adjustment Factor**

<table>
<thead>
<tr>
<th>NRCS Technical Standard</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>395</td>
<td>Stream Habitat and Improvement and Management</td>
</tr>
<tr>
<td>658</td>
<td>Wetland Creation</td>
</tr>
<tr>
<td>657</td>
<td>Wetland Restoration</td>
</tr>
</tbody>
</table>
For trades involving nonpoint sources the trade ratio cannot be lower than 1.2:1 (1.2 pounds of nonpoint for every pound of point source pollutant). For trades located upstream in the same HUC-12 the equation simplifies to:

- Final Trade Ratio = (0.2 + Uncertainty)
Quantifying Credits

• **Credits Generated by a Nonpoint Source**
  - SNAP-Plus and RUSLE2 for agricultural field practices
  - New Barnyard Tool – working with UW APLE
  - SLAMM and P-8 for urban practices
  - Establishment of baseline condition.

• **Credits Generated by a Point Source**
  - Effluent monitoring
Timing of Credit Generation and Use

• Credits must be generated before they are used
  • Point source pollutant reduction must be measurable
  • Nonpoint management practices in-place and effective

• Credit use timing depends on credit source
  • Point source – Averaging period of limit (daily max., weekly average, monthly average).
  • Nonpoint – Anytime during calendar year but must be expressed in the same period as the permit limits.
What’s included in the permit?

- Phosphorus WQBEL (TMDL or NR 217)
- **Permit language allowing credits to be used when demonstrating compliance with the limit**
- Reporting requirements for source and amount of credits acquired. Separate Document referred to by permit.
- Certification by permittee that BMPs are in place and are effective
Conceptual Market Structure

Oversight

Credit Generator

Credits

Credit User

Credits

Enforcement

WISCONSIN DEPT. OF NATURAL RESOURCES

1
Status Of Water Quality Trading Documents

• Developed Framework with Stakeholder Committee (July 2011)

• Implementation Guidance Development
  • Internal DNR Review During March
  • Stakeholder Review April (21 Day Comment Period)
Questions