Water Quality Trading Opportunities in MD and the Bay

...Are you ready to trade?
What makes this setting ripe for WQT?

• High nutrient (TN and TP) and sediment loading where pending regulatory drivers will create potential WQT credit demand
  o Loading caps
    - Local TMDLs
    - Chesapeake Bay/Tributary Strategies
• Presence of multiple types and sources of discharges (POTWs, agriculture, urban stormwater, septic systems)
• Regulatory climate favorable to WQT(?)
Why trading (PS/NPS)?

<table>
<thead>
<tr>
<th>Potential Improvements</th>
<th>WWTP Upgrade</th>
<th>Ag. Practices</th>
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</thead>
<tbody>
<tr>
<td>TN &amp; TP load reduction</td>
<td>Yes</td>
<td>Yes</td>
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<tr>
<td>Sediment load reduction</td>
<td>No</td>
<td>Yes</td>
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<tr>
<td>New habitat</td>
<td>No</td>
<td>Yes</td>
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<tr>
<td>Stream shading</td>
<td>No</td>
<td>Yes</td>
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<tr>
<td>Stream bank stability</td>
<td>No</td>
<td>Yes</td>
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<td>Stream scour (velocity) reduction</td>
<td>No</td>
<td>Yes</td>
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<td>New wetlands</td>
<td>No</td>
<td>Yes</td>
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<td>Floodplain enhancement</td>
<td>No</td>
<td>Yes</td>
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<td>New assimilative capacity</td>
<td>No</td>
<td>Yes</td>
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Anticipated Trading Program Outcomes

• Allow new point sources to cost-effectively address compliance needs
• Accommodate growth under restrictive cap
• Inform local and state agencies
• Provide uniformity in credit calculations across the state/subbasins to accommodate more trading at scale
• A framework for interstate trading with other Bay states
• Provide a foundation of educational, operational and marketing materials
• Incentivize agricultural participation
• Water quality improvements (WQT or “PS offsets”)(???)
Role-playing Trading Exercise - Assumptions

- **Scenario:** PS-NPS trading for 8 new/expanding WWTPs
- **WQT Driver:** Loading caps on new discharges are creating demand as these caps require offset for all new and expanded discharges.
- **Pollutants being capped:** Total Nitrogen and Total Phosphorus
- **New/expanding sources:** These are not being permitted unless they can meet the load reduction cap with offsets. This potentially caps growth.
- **Compliance options:** NPS credit offsets for new loads using Tier 1 BMPs.
New/expanding WWTPs (hypothetical)
Assumptions (continued)

- **Water quality data:** Sufficient to have characterized current conditions. No local TMDLs; only Trib. Strategies apply.
- **Cost data:**
  - WWTP costs: Does it matter? Offset required?
  - Agricultural BMP costs: $4.00/lb TP/TN
  - Urban BMP costs: $8,000-12,000/lb TP/TN
  - Administrative trading program costs included in costs/lb
- **Stakeholder Groups:**
  - There are watershed organizations but these are volunteers.
  - There is limited historic interaction amongst farmers/developers/WWTPs.
  - Soil Conservation Districts (SCDs) with technical staff but not trained on trading tools.
  - Ag participation with SCDs varies from county to county.
  - Private CCAs, other third parties are in MD with WQT assistance capabilities.
Assumptions (concluded)

• **Agricultural baseline**: Farmers interested in participating are 25% below trading baseline per Trib. Strategies, but interested in possible participation. *(Remember $4 cost/pound.)*

• **Water Quality Trading Guidance**: is in place that allows for PS/NPS trading at 1.05:1 for Tier 1 BMPs.

• **Credits**: Those used by PSs are obtained from immediately upstream sources.

• **No Credit Discounting**: Distance ratios yield 100% delivery of NPS loads *(for simplicity).*
Breakout Group Questions

1. At what price would you consider buying (WWTPs) or selling (farmers and aggregators)?

2. Who do you want to negotiate your trade?

3. What do you see as barriers or critical steps to pursue trading opportunities?

Are You Ready to Trade?
Several ways to facilitate credit trading:

- Direct contracts
- **Brokers**: third parties that bring trading partners together
- **Aggregators**: third parties that collect trading credits and sell in bulk to buyers