Conservation Marketplace of Minnesota: Credit Valuation and Stacking

James A. Klang, PE
Senior Project Engineer
Kieser & Associates, LLC
536 E. Michigan Ave., Ste. 300
Kalamazoo, MI 49007
Conservation Marketplace of Minnesota (CMM)

- Group of local, trusted natural resource professionals *mostly agricultural backgrounds*
- Provides administrative services for buyers and sellers entering ecosystem service type conservation programs
  - Water Quality Trading
  - Pollinator Credits
  - Wellhead protection
  - Carbon neutral purchases
- Lake protection *(Lake Associations/Districts)*
CMM Focusses on Providing Additional Funding Sources

- CMM is NOT a mitigation bank
- Valuation of credits competes with row crop production and benefits from stacking
- Purpose of CMM is to work alongside other conservation efforts in MN
- When CMM provides services for mitigation, the operating rules of the mitigation program apply
- Current corn cropping prices are competitive ($4-5 per bushel)
Farmers Familiar with Conservation Funding that Limits Options

- Past programs paid the cost of implementation
- May include: maximum # of acres, set # of contract years and, cropping restrictions
- Land retirement programs include land rental rates, but have restrictions on uses
  - EQIP (Environmental Quality Incentives Program; NRCS) payment schedules up to 90% of cost
  - Water Quality Trading, capped by facility upgrade costs
Agricultural lands in Midwest trending back towards “fence row-to-fence row” crop production
  – High commodity payments exceeding high fuel and fertilizer input costs
  – Farmers pay retail prices for inputs and sell wholesale (So when times are good; its time to make Corn)
  – Current net prices range from ~$130-200 per corn acre
  – These economics make adding new conservation measures a tougher sell
**GOAL:**
Keep “Working Lands” Working

- Limit land taken out of production, or replace it with another form of production
- Consider operational Best Management Practices (e.g., cover crops, high residue)
- Some producers leery of land retirement programs; “…they tie up the farm options for my kids”
- Some converting “idle” land into production in response to “green tax”
# Targeted Buyers and Ecosystem Service Programs

<table>
<thead>
<tr>
<th>Buyer/Funder</th>
<th>Stormwater (Non-NPDES or NPDES Potentially in the Future)</th>
<th>Nitrate Wellhead Protection</th>
<th>Nutrient Water Quality Trading</th>
<th>Water Quality Protection and Implementation Plans</th>
<th>Social Responsibility (e.g., pollinator credits or carbon neutral goals)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Alternative Costs</strong></td>
<td>$1000s/unit</td>
<td>~$10,000s/year</td>
<td>$10s/lb</td>
<td>Situational</td>
<td>Situational</td>
</tr>
<tr>
<td>Cities</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Corporations</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>~</td>
<td>✓</td>
</tr>
<tr>
<td>Clean Water Organizations</td>
<td>✓</td>
<td>✓</td>
<td></td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Public Money</td>
<td>✓</td>
<td>✓</td>
<td></td>
<td></td>
<td>✓</td>
</tr>
</tbody>
</table>
Acceptable Methods of Funding

• Stacked credits
  – Federal/State conservation programs leveraged with private buyer
  – Local government utility money (e.g., wellhead protection) with private buyer (e.g., pollinator)
  – Private/local government money with flexible crop alternatives (e.g., biomass)
• Bundled services to one buyer
Acceptable Stacking Methods

• Stacking credits:
  – When a new specified uplift is provided
    • Requires minimum specification (e.g., seed mix) or implemented history in the first application in order to demonstrate a real uplift in second application
  – Granted by delineated parcels
  – Granted by ratio of percentage of funding contributed
  – Granted by percent of total credits sold of one credit type reducing all other credit types by same percent
Example of Stacking Specified Uplift

Requirement: Farm Bill and State programs combined with other funders cannot provide a producer greater than 100% of the cost of implementation

- EQIP conservation cover specification:
  “Select combinations of plant species and cultivars best adapted to site conditions. ...” No forb specification requirement for all season flowering. Also, producer can select native plantings, but the mix does not fully support pollinator credits.

- Add pollinator uplift:
  Flowering plants throughout the growing season—early, mid & late periods, at least one forb is a legume, plants must remain undisturbed and be available throughout the growing season, at least 15 native species
Example of Stacking By Parcels

- Surface tile intake
- Manure Pack
- Animal Barn
- Homestead
- Creek
Example of Stacking By Parcels (as Segments)

Segment 1
- Expected Higher Nutrient Values
- Expected Typical Nutrient Values

Segment 2
- Expected Typical Nutrient Values

Segment 3
- Expected Higher Nutrient Values

Segment 4
- Expected Typical Nutrient Values

Surface tile intake

Pastured area without adequate vegetation

Animal Barn

Homestead
Ecosystem Service Payments by Segments Should Consider:

- Farmers do not like to crop around irregular shapes
- Square off areas by selling the four segments to different markets:
  - Some areas provide higher water quality credits than others:
    - Use higher crediting areas for WQT services and as a buffer zone for the other ecosystem services requiring buffers (e.g., pollinators)
    - Use less lucrative water quality segments for Social Responsibility programs like carbon neutral goals
Example of Stacking Funders by Ratio of Funding

**IF:**
Total Funds = 50% Farm Bill + 50% Private

**THEN:**
Credits allowed to private funder = 50% of total credits possible at site
Willamette Partnership approach...

- A site has 100 phosphorus credits, 10 carbon credits and 20 pollinator credits available to sell
- If you sell 10 phosphorus credits
- The remaining credits that can be sold are now:
  - 90 phosphorus credits
  - 9 carbon credits, or
  - 18 pollinator credits
Ecosystem Service Payments

Need to:

• Cover cost of implementation
• Provide an extra annual payment that covers
  – Land rental lost opportunity
  – A significant portion of cropping profits lost to be competitive
• May not get it perfect at first, therefore include adaptive management
## Ecosystem Service Payment Hypothetical Examples

<table>
<thead>
<tr>
<th>Buyer/Funder</th>
<th>Cash Crop Yield Base</th>
<th>EQIP Payments</th>
<th>Nitrate Wellhead Protection</th>
<th>Nutrient Water Quality Trading</th>
<th>Social Responsibility ($75 pollinator credit; 1 credit per ½ acre, requires buffer)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Annually</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Current Corn Economy</strong></td>
<td>$180/acre</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cropping and 1 Buyer (Reduced N application)</td>
<td>$120/acre</td>
<td>$80/acre</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2 Buyers</td>
<td></td>
<td></td>
<td></td>
<td>$55/acre</td>
<td>$130</td>
</tr>
<tr>
<td>EQIP &amp; 1 Buyer</td>
<td>$89</td>
<td></td>
<td></td>
<td></td>
<td>$130</td>
</tr>
</tbody>
</table>
CMM Findings

• In markets competing with *high commodity prices*, or driven by *thin cost margins*, consider:
  – Farm economy
  – Lost opportunity costs
  – Acceptable stacking method
  – Ancillary incentives like flexible cropping restrictions and contract terms
  – Vetting options and preferred valuation methods with buyer(s)
Conclusions

• Restrictive stacking policies can limit market activity (consider intent of the ecosystem service framework, e.g., mitigation vs. voluntary)

• Annual payments, above implementation costs, make these markets attractive (e.g., $75 per pollinator credit paid annually, a “bee” payment)

• Stacking appears necessary to spur additional conservation practices that compete with traditional fence row to fence row cropping.
CMM Collaborators and Contributors

- Minnesota River Board
- Stearns County Soil & Water Conservation District
- Rural Advantage
- Sauk River Watershed District
- GBERBA
- Greater Blue Earth River Basin Alliance
- Agflex
- American Farmland Trust
  Saving the Land that Sustains Us
- Kieser & Associates
  Environmental Science & Engineering