The Role of In lieu Fee Programs in Accelerating Third Party Compensatory Mitigation

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December 2016
Background

- Permitting programs allow third party compensation for wetland impacts since 1990s.
- 2008 mitigation rule ushers in important changes in compensatory mitigation
  - Maintained avoid & minimize sequencing
  - Changed regulatory preferences for compensatory mitigation (now prefer offsite)
2008 Compensatory Mitigation Rule: The ILF Debate

- Criticisms of ILF programs
- Retained ILF as a back-up for circumstances in which commercial mitigation credits are unavailable.
- Requires ILF to meet “equivalent” standards for compensatory mitigation providers
  - Biggest exception: ILF can accept fees in advance of mitigation (“advance credits”). Mitigation must begin within 3 years
Demand Side Challenges

- Like many environmental trading programs, compensatory wetland credit markets confronted with limited and uncertain demand.
Objectives

- Examine private investment incentives to invest in compensatory wetland mitigation projects under low credit demand
- Identify the degree to which ILF programs can provide financially feasible compensation in limited demand situations
Financial Simulation Model

- Estimates rates of return and net present value for compensatory wetland mitigation project

- Includes:
  - Pre construction design and permitting costs
  - Land acquisition
  - Construction
  - Post construction monitoring/maintenance
  - Financial Assurances
  - Maintenance and long term management fund
Example Hypothetical Project

- 50 acre wetland restoration
- 2 year planning/permitting process
- Construction in year 3
- First credit sale in year 3, credits released over 10 years
- Costs generally representative of mid-Atlantic piedmont/coastal plain
Example Hypothetical Project

Calculate rates of return under:

- Annual credit sales, ranging from 1 to 8 credits/year
- Prices ranging from $40,000 to $60,000
### Internal Rates of Return for 50 Acre Compensatory Wetland Mitigation Site

<table>
<thead>
<tr>
<th>Potential Credit Sales per year</th>
<th>Nontidal Wetland Credit Price</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>$40,000</td>
</tr>
<tr>
<td>1</td>
<td>-3.8%</td>
</tr>
<tr>
<td>2</td>
<td>3.6%</td>
</tr>
<tr>
<td>3</td>
<td>7.7%</td>
</tr>
<tr>
<td>4</td>
<td>10.5%</td>
</tr>
<tr>
<td>5</td>
<td>13.4%</td>
</tr>
<tr>
<td>6</td>
<td>15.6%</td>
</tr>
<tr>
<td>7</td>
<td>16.2%</td>
</tr>
<tr>
<td>8</td>
<td>16.4%</td>
</tr>
</tbody>
</table>
To what extent can the financial situation be improved in limited demand situations by altering the size of wetland project?
Rates of Return for Different Wetland Project Sizes
(Credit Price = $50,000

- 1 Credit Per Year
- 2 Credit Per Year
- 3 Credit Per Year

Rate of Return

Wetland Project Size
- 50 Acres
- 40 Acres
- 30 Acres
- 20 Acres
- 10 Acres
Well established credit markets still face uneven demand and in some regions no private supply is forthcoming
<table>
<thead>
<tr>
<th>Region</th>
<th>Avg Annual Credit Sales/Region</th>
<th>Avg Annual Credit Sales/Bank</th>
<th>ILF Avg Annual Adv Credit Sale</th>
</tr>
</thead>
<tbody>
<tr>
<td>Atlantic Ocean</td>
<td>0.0</td>
<td>0</td>
<td>1.07</td>
</tr>
<tr>
<td>Chesapeake Bay</td>
<td>6.7</td>
<td>6.74</td>
<td>0.31</td>
</tr>
<tr>
<td>Chowan</td>
<td>53.0</td>
<td>6.63</td>
<td>1.00</td>
</tr>
<tr>
<td>Lower James</td>
<td>46.5</td>
<td>6.64</td>
<td>0</td>
</tr>
<tr>
<td>Middle James</td>
<td>30.5</td>
<td>6.10</td>
<td>0</td>
</tr>
<tr>
<td>New River</td>
<td>0.0</td>
<td>0</td>
<td>0.99</td>
</tr>
<tr>
<td>Potomac</td>
<td>27.9</td>
<td>1.55</td>
<td>0.06</td>
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<tr>
<td>Rappahannock</td>
<td>5.4</td>
<td>1.08</td>
<td>0.01</td>
</tr>
<tr>
<td>Roanoke</td>
<td>1.7</td>
<td>0.56</td>
<td>0.96</td>
</tr>
<tr>
<td>Shenandoah</td>
<td>0.0</td>
<td>0</td>
<td>0.36</td>
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<tr>
<td>Tennessee</td>
<td>0.0</td>
<td>0</td>
<td>0.46</td>
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<tr>
<td>Upper James</td>
<td>0.0</td>
<td>0</td>
<td>0.41</td>
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<tr>
<td>York</td>
<td>7.0</td>
<td>1.74</td>
<td>0.01</td>
</tr>
</tbody>
</table>
Rate of Return with Demand of 1 Credit per year

Difference due to moving sales up 3 years and tax advantages

Note: In this simulation, ILF cannot generate positive NPV for potential demand of ½ acre
Conclusion

- Even in well developed markets, some areas face limited demand conditions.
- There are financial limits on the ability of private banks to serve off-site compensatory mitigation needs.
- ILF programs selling advance credits have some financial advantages that but still face challenges.
Acknowledgement: Funding provided USDA, Office of Environmental Markets.

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