Wetland Restoration for Flood Reduction and Water Quality Improvement in the Rock River Basin

Using Potentially Restorable Wetlands Mapping to Target Restoration

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Outline

• Mapping Potentially Restorable Wetlands (PRW’s)
• Flood Damage Reduction: PRWs and the Floods of 2008
• PRWs and Water Quality
• Prioritizing Opportunities

PRW Assumptions

• All hydric soils were once wetlands.
  “Hydric” = soil units =>85% hydric in “Percent Hydric” field in SSURGO soils database from NRCS
• Wetlands shown on the WI Wetland Inventory are still remaining.
  – could be rehabilitated or enhanced but not re-established
• Hydric soils in urban areas are not likely to be restored, so are not mapped as PRWs
  – Forested hydric soils have been retained as PRWs though the feasibility of restoration is also low

Simple PRW Equation

Hydric soils (not in urban areas)
- current wetlands (on WI Wetland Inventory)
- recently restored (from restoration data)
= Potentially Restorable Wetlands

Could also call these “Drained wetlands”

Other Terms

All Hydric soils (Original Wetlands)
- current wetlands (on WI Wetland Inventory)
- recently restored (from restoration data)
= Lost wetlands
Timeline

• Original process developed for Milwaukee River Basin - 2006
• Applied to Rock River Basin (version 1) – 2008
• PRW Mapping of Flooded Area Basins (Version 2.0) March 2009
• Emergency Watershed Protection Program Floodplain Easement sign up March-April 2009

Summer 2008 Flood Event

“If it’s wetland, it’s okay to flood. If it’s farmland, we suffer crop losses.”

2008 Flooded Lands: Wetlands, PRWs and Flooded Upland in Rock River Basin

<table>
<thead>
<tr>
<th>Type</th>
<th>Acres</th>
</tr>
</thead>
<tbody>
<tr>
<td>Flooded Wetland</td>
<td>78,902</td>
</tr>
<tr>
<td>Flooded PRWs</td>
<td>29,235</td>
</tr>
<tr>
<td>Flooded Upland</td>
<td>25,855</td>
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</tbody>
</table>
2008 Flooding of Wetlands in Rock River Basin

<table>
<thead>
<tr>
<th>Wetland Type</th>
<th>Acres</th>
</tr>
</thead>
<tbody>
<tr>
<td>Flooded Wetland</td>
<td>78,902</td>
</tr>
<tr>
<td>Not Flooded Wetland</td>
<td>282,727</td>
</tr>
</tbody>
</table>

- Flooded Wetland: 22% of total wetland area
- Not Flooded Wetland: 78% of total wetland area

Relative Need for Wetland Restoration

- Surrogate for Water Function
- Including Water Quality Improvement
- TMDL Implementation
FUTURE USES

- Currently Relative Need for Restoration and Relative Opportunity
- TMDL Implementation
- Link to Explicit PRIORITIZATION Tools
- Best Area vs Best Site