Federal Clean Water Act

- US Environmental Protection Agency requires each state to identify water bodies that are not ‘fishable or swimmable’
- Each state also needs to identify the pollutants causing the water body impairment

Municipal Stormwater Discharge Permit

Nick Vande Hey, P.E.
April 30, 2013

MUNICIPAL STORMWATER DISCHARGE PERMIT

PCB Pollutant
Lower Fox River

Sediment Pollutant
Lower Fox River
Green Bay, WI

Sediment Impact
Sediment Pollutant
Lower Fox River

Phosphorus Pollutant
Lower Fox River
Kimberly, WI

Total Maximum Daily Load (TMDL)

- Maximum amount of a pollutant that a water body can receive and still meet water quality standards
- TMDL = Nonpoint Allocation + Point Allocation
MUNICIPAL STORMWATER DISCHARGE PERMIT

TMDLs for Streams, Rivers & Lakes Impacted by Phosphorus

Source: DNR

Lower Fox River Basin TMDL
- Phosphorus and sediment pollutants
- Approved by US Environmental Protection Agency on May 18, 2012

Lower Fox River Basin TMDL Land Uses

Lower Fox River Basin TMDL Sources

Lower Fox River Basin TMDL Sources

TMDL Allocations
- Municipal & Industrial Wastewater Permits
- Municipal, Industrial, and Construction Site Stormwater Permits
- CAFO Permits and Other Agriculture

Sediment Baseline Load

Phosphorus Baseline Load

Source: DNR
**Municipal Stormwater Permit**

- TMDL phosphorus and sediment allocations implemented thru Municipal Stormwater Permit
- Town received its Municipal Stormwater Permit from Wisconsin DNR on October 13, 2006
- Wisconsin DNR anticipates renewing Town’s Municipal Stormwater Permit in 2013

**TMDL Allocations in Town of Neenah**

<table>
<thead>
<tr>
<th>Water Body</th>
<th>Phosphorus Allocation (pounds/year)</th>
<th>Sediment Allocation (tons/year)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fox River</td>
<td>136</td>
<td>20</td>
</tr>
<tr>
<td>Neenah Slough</td>
<td>392</td>
<td>82</td>
</tr>
</tbody>
</table>

*The TMDL allocations will likely be split among the Town of Neenah, Wisconsin DOT, Winnebago County Highway, riparian properties*

**Fox River TP Allocations**

<table>
<thead>
<tr>
<th>Watershed Area Method</th>
<th>Baseline Load Method</th>
</tr>
</thead>
<tbody>
<tr>
<td>81% Town Urban MS4</td>
<td>67% Town Urban MS4</td>
</tr>
</tbody>
</table>

**Municipal Jurisdictions**
Neenah Slough TP Allocations

<table>
<thead>
<tr>
<th>Watershed Area Method</th>
<th>Baseline Load Method</th>
</tr>
</thead>
<tbody>
<tr>
<td>Outside UP 17%</td>
<td>Outside UP 16%</td>
</tr>
<tr>
<td>State Highway 4%</td>
<td>State Highway 4%</td>
</tr>
<tr>
<td>County Highway 2%</td>
<td>County Highway 2%</td>
</tr>
<tr>
<td>Total UP 8%</td>
<td>Total UP 8%</td>
</tr>
</tbody>
</table>

86% Town Urban MS4
72% Town Urban MS4

Current Town-Wide (TMDL 2012)

<table>
<thead>
<tr>
<th>Water Body</th>
<th>Phosphorus TMDL Reduction Required</th>
<th>Sediment TMDL Reduction Required</th>
</tr>
</thead>
<tbody>
<tr>
<td>Neenah Slough</td>
<td>56%</td>
<td>43%</td>
</tr>
<tr>
<td>Fox River</td>
<td>59%</td>
<td>72%</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Water Body</th>
<th>Phosphorus 2012 Reduction Provided</th>
<th>Sediment 2012 Reduction Provided</th>
</tr>
</thead>
<tbody>
<tr>
<td>Neenah Slough</td>
<td>32%</td>
<td>35%</td>
</tr>
<tr>
<td>Fox River</td>
<td>38%</td>
<td>41%</td>
</tr>
<tr>
<td>Lake Winnebago</td>
<td>64%</td>
<td>75%</td>
</tr>
</tbody>
</table>

42% TSS Reduction Provided NR 151.13

Best Management Practices (BMPs)

- Street Sweeping
- Proprietary Devices
- Porous Pavement
- Grass Swales / Filters
- Biofilters / Rain Gardens
- Wetlands / Wet Ponds

Working Together BMPs

Redevelopment BMPs

Town of Buchanan
Road Reconstruction BMPs
- 40% TSS reduction required for road reconstruction projects that convert grass swales to curb & gutter

Road Biofilter / Rain Garden BMPs
- Madison, WI
- River Falls, WI

Stream & Shoreline Restoration BMPs
- Town of Harrison

Municipal Leaf Collection BMPs
- Source: DNR

Impact of Tree Canopy on Phosphorus Load
- Low Canopy
- Medium Canopy
- High Canopy

Impact of Lawn Fertilizers on Available Phosphorus in Madison
- Source: DNR
Questions