What’s in your TMDL?

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2015 Environmental Workshop
Impaired Waters

- Metro area from 2012 list there are 320 impaired waters. 2014 proposed list add 66.
- These waters are listed on EPA’s 303d list.
- Impaired waters require a TMDL study.
- We need to know how this impacts us.

- **TURBIDITY**
  - Nutrients
  - Bacterial Impairments (E.coli)
  - Dissolved Oxygen
  - Chloride
  - These need to address in SWPPP.
• TMDL study looks at how much of a given pollutant a waterbody can receive and still meet MN Water Quality Standards.

• This amount is then divided up into waste load allocations (WLA) and assigned to the different regulated sources. There is also a (LA) Load Allocation and fudge factor.

• If your existing load is higher than your WLA you need to install treatment or modify operations to bring down your contribution.

• May also affect stabilization times (7 or 14 days) for construction projects.
<table>
<thead>
<tr>
<th>Waterbody Name</th>
<th>Categorical/Individual</th>
<th>Date</th>
<th>Analysis</th>
<th>Chemistry</th>
<th>Status</th>
<th>Compliance</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>South Twin Lake</td>
<td>Categorical 0.4</td>
<td>11/9/2007</td>
<td>N/A</td>
<td>Phosphorus</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Parley Lake</td>
<td>Individual 0.00442 lbs/day</td>
<td>4/25/2011</td>
<td>N/A</td>
<td>Phosphorus</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Spring Lake</td>
<td>Categorical 0.8</td>
<td>9/14/2011</td>
<td>TSS 6/18/2009</td>
<td>Phosphorus</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Middle Twin Lake</td>
<td>Individual 0%</td>
<td>11/9/2007</td>
<td>N/A</td>
<td>Phosphorus</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lake Nokomis</td>
<td>Individual 0.0296 lbs/day</td>
<td>4/25/2011</td>
<td>N/A</td>
<td>Phosphorus</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Wirth Lake</td>
<td>Individual 0.077 lbs/day</td>
<td>10/25/2010</td>
<td>N/A</td>
<td>Phosphorus</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bald Eagle Lake</td>
<td>Individual 22 lbs/year</td>
<td>6/11/2012</td>
<td>N/A</td>
<td>Phosphorus</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Sweeney Lake</td>
<td>Individual 0.65 lbs/day</td>
<td>8/10/2011</td>
<td>N/A</td>
<td>Phosphorus</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bass Lake</td>
<td>Categorical 1.12 kg/day</td>
<td>9/25/2009</td>
<td>N/A</td>
<td>Phosphorus</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Medicine Lake</td>
<td>Individual 0.26 lbs/day</td>
<td>2/8/2011</td>
<td>N/A</td>
<td>Phosphorus</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pike Lake</td>
<td>Categorical 0.810 kg/day</td>
<td>4/14/2010</td>
<td>N/A</td>
<td>Phosphorus</td>
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<td></td>
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<tr>
<td>Eagle Lake</td>
<td>Categorical 0.350 kg/day</td>
<td>4/14/2010</td>
<td>N/A</td>
<td>Phosphorus</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Golden Lake</td>
<td>Individual 0.007 lbs/day</td>
<td>9/30/2009</td>
<td>N/A</td>
<td>Phosphorus</td>
<td></td>
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<td></td>
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<tr>
<td>Fish Lake</td>
<td>Individual 0.005 lbs/day</td>
<td>9/9/2010</td>
<td>N/A</td>
<td>Phosphorus</td>
<td></td>
<td></td>
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</tr>
</tbody>
</table>

For 2013 permit cycle 56 WLAs for MnDOT Metro
• Annual MS4 reports to MPCA need to show progress toward meeting each WLA.
Access Database

Issues:

• Multiple lakes with same name
• Many unnamed creeks
• Need to see where in relation impaired water is to our R/W
Communication between MS4 and WRE Design Staff

- What TMDL?
- Where is it?
- Do we have a WLA?
- What do we need to do about it?

MnDOT has 100’s of project in the Metro area each year. So question becomes how to communicate TMDL and WLA needs with designers.
• GIS tool on MnDOT’s iHUB website
• Used familiar transportation theme - stop lights
• Allows designers to see where their project is in relation to impaired water, what water is impaired for, if we have a WLA, if it is met, and if not, how to address it in the design and SWPPP.
What we did?

• Used MPCA’s spatial information from their GIS database and merged it with ours.

• Went through TMDL reports and added information (do we drain to waterbody, if so, what is our WLA, what % of watershed is ours, what highways drain to it...)

• Have our geodatabase loaded onto Georilla and regularly updated.
To Use

• Go to MnDOT iHUB A to Z list.
• Go to G scroll down to Georilla
• Once Georilla has opened, go to the Natural Resources layer, then water.
• You’ll see TMDL Lakes 2012 and TMDL Streams 2012. Click on layer you want to open.
• Use information tool to see more information on the waterbody you are interested in.
## Traffic Light Theme

<table>
<thead>
<tr>
<th>Color</th>
<th>Data Shows</th>
<th>What Extra You Need to Do:</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>RED</strong></td>
<td>MnDOT WLA YES, MnDOT WLA Met NO, MnDOT Drain To YES</td>
<td>List in SWPPP* and see if you can provide extra treatment.</td>
</tr>
<tr>
<td><strong>ORANGE</strong></td>
<td>MnDOT WLA NO, TBD, MnDOT WLA Met NO, TBD, NA, MnDOT Drain To YES, TBD</td>
<td>List in SWPPP* if MnDOT has drainage to the impaired water.</td>
</tr>
<tr>
<td><strong>YELLOW</strong></td>
<td>MnDOT WLA YES, MnDOT WLA Met YES, MnDOT Drain To YES</td>
<td>List in SWPPP*.</td>
</tr>
<tr>
<td><strong>GREEN</strong></td>
<td>MnDOT WLA NA, MnDOT WLA Met NA, MnDOT Drain To No</td>
<td>You don’t have to do anything!</td>
</tr>
<tr>
<td><strong>WHITE</strong></td>
<td>For Chloride and E.coli</td>
<td>Check if bridge drainage and see if treatment is possible.</td>
</tr>
</tbody>
</table>
• Impaired waters list updated every two years.

• Each impaired water has many subwatersheds. Still need for designers to look closer at areas since all subwatershed layers are too extensive to put on Georilla.

• Need for TMDL studies to show existing loads for all lakes and streams so know what our targets are.
Recap

• Provides an effective tool for communicating between designers and MS4 staff for how to address TMDLs, WLAs and impaired waters in projects.

• Captures project information in our database for our annual MS4 report.

• Tool designed and created in house by Beth Neuendorf (Imagineer), Barb Loida (Data Extraordinaire) and Kellie Thom (1st Place GIS Jockey).
Questions?