

This document provides a summary of some case studies for Total Maximum Daily Load (TMDL) studies involving regulated stormwater. Links to individual TMDL reports can be found at <http://www.pca.state.mn.us/index.php/water/water-types-and-programs/minnesotas-impaired-waters-and-tmdls/tmdl-projects/tmdl-projects-and-staff-contacts.html>.

1. Construction and industrial stormwater

- a. If all watershed loading is Wasteload Allocation (WLA), include construction and industrial stormwater with municipal stormwater in an overall WLA. See sections 7.1.2 and 10.3 of the Cedar Island, Pike and Eagle Lake excess nutrient TMDL.
- b. If watershed loading includes nonpoint sources, construction and industrial stormwater WLAs should not be combined with Municipal Separate Storm Sewer System (MS4) stormwater but may be combined with each other. The TMDL must include an allocation and standard language. See pages 15, 16, 20, and 27 of the Mustinka River turbidity TMDL.
- c. **Specific requirements in a TMDL** – A TMDL may establish specific Best Management Practice (BMP) requirements for construction stormwater. The Hardwood Creek TMDL provides specific TMDL requirements for construction stormwater related to ditch maintenance. See page 41 of the final TMDL report.

2. Municipal stormwater

- a. **Reasonable Assurances** – The Lake Independence TMDL places all watershed loading into WLAs for Loretto, Medina, and Independence, all of which are under permit coverage. Most of the watershed is not urbanized. The TMDL contains language on reasonable assurances that justifies placing the entire load into the WLA. See Section 7.2, page 37 of the report.
- b. **WLA for non-regulated MS4** – Providing a WLA for a non-regulated city that meets the population criteria for permit designation. The city of Morris was given a WLA for the Pomme de Terre fecal coliform TMDL. At the time of the TMDL, Morris was not regulated, but it had a population greater than 5000 and was adjacent to the river. See the final TMDL report.
- c. **WLA for non-regulated MS4** – Providing a WLA for a non-regulated city that does not meet population criteria for designation. The Lower Otter Tail River turbidity TMDL provides a WLA to the city of Breckenridge even though the city is well below population criteria for designation and is unlikely to increase above the population threshold. By giving Breckenridge a WLA, the TMDL would not have to be re-opened if Minnesota Pollution Control Agency designates Breckenridge for permit coverage through the petition process. See page 25 (Wasteload Allocation section) of the final report.
- d. **Load transfers** – all TMDLs, but in particular TMDL studies conducted near the boundary of a Census Bureau-defined Urban Area should include language on transfer of WLA. Only WLA to WLA transfers should be discussed. See Section 5.1.4 of the draft Spring Lake-Upper Prior Lake excess nutrient TMDL (<http://www.pca.state.mn.us/index.php/water/water-types-and-programs/minnesotas-impaired-waters-and-tmdls/tmdl-projects/minnesota-river-basin-tmdl-projects/project-upper-prior-spring-lakes-excess-nutrients.html?menuid=&missing=0&redirect=1>).
- e. **Future growth** – several TMDLs address future growth.
 - i. Draft Prior Lake Upper Spring Lake excess nutrient TMDL – this TMDL assigns allocations based on annexation and development plans for the city of Prior Lake. See Section 5 of the draft TMDL report (<http://www.pca.state.mn.us/index.php/water/water-types-and-programs/minnesotas-impaired-waters-and-tmdls/tmdl-projects/minnesota-river-basin-tmdl-projects/project-upper-prior-spring-lakes-excess-nutrients.html?menuid=&missing=0&redirect=1>).

- ii. Draft Reitz Lake excess nutrient TMDL – this TMDL assigns a WLA to the city of Waconia based on their annexation and comprehensive land use plans. Laketown Township is assigned a WLA, but the WLA will be transferred to Waconia as annexation occurs. The city of Victoria will also annex portions of the watershed but will not develop these areas. It therefore has no WLA.
(<http://www.pca.state.mn.us/index.php/water/water-types-and-programs/minnesotas-impaired-waters-and-tmdls/tmdl-projects/minnesota-river-basin-tmdl-projects/project-reitz-lake-excess-nutrients.html>).
 - iii. Burandt Lake excess nutrient TMDL – this TMDL assigns a WLA to the city of Waconia based on 2030 land use information. See Section 6.1 of the TMDL report.
- f. **Categorical and individual WLAs** – individual WLAs are preferred, but categorical WLAs can be developed if one or more of the following conditions apply.
- i. The load from MS4s is difficult to quantify.
 - ii. Reasonable assurances exist for meeting the WLA. An example would be presence of a watershed district that has regulatory authority.
 - iii. The BMPs necessary to meet the TMDL are the same for all MS4s.

Minnesota Department of Transportation (MnDOT) often wants an individual WLA. The draft Prior Lake Upper Spring Lake excess nutrient TMDL provides an example of a categorical WLA for multiple MS4s and an individual WLA for MnDOT (<http://www.pca.state.mn.us/index.php/water/water-types-and-programs/minnesotas-impaired-waters-and-tmdls/tmdl-projects/minnesota-river-basin-tmdl-projects/project-upper-prior-spring-lakes-excess-nutrients.html?menuid=&missing=0&redirect=1>).

- g. **Expressing the TMDL** – the allocation section of a TMDL should contain a load reduction from a defined baseline. Table 6.1 on page 38 of the Long-Farquar excess nutrient TMDL illustrates a useful way of expressing the load reduction. The report, however, does not provide a baseline year. Several draft TMDLs (Magda Lake excess nutrients, Reitz lake excess nutrients, and Carver Lakes excess nutrients) also contain reductions, usually in pounds, but baselines are not clearly defined. The final reports for these TMDLs likely will contain the baseline information.