

TMDL Development for the Lower Fox River Basin: Restoring Our Water Heritage through a Watershed Approach

Key Points for Municipal Separate Storm Sewer Systems

Urban Municipal Separate Storm Sewer Systems (MS4s) in the Lower Fox River Basin

- The Fox River Valley is the 2nd largest urbanized area in the State of WI (2000 Census Data). 35% of the land use is urbanized (MS4 – 26%, non-regulated urban – 9%).
- There are 29 regulated MS4s in the LFR Basin.
- Current loadings for MS4s were calculated using SWAT and compared to output from MS4 SLAMM models (results were similar).
- MS4s currently contribute 12% of TP and 22.3% of TSS loading to the LFR Basin.

Allocating loads to MS4s

- All MS4s (the entire permitted municipal boundary) received a WLA for each impaired watershed they drain to.
- Given the scale of the TMDL and inconsistency of mapping provided by municipalities it was not possible to separate out areas that drain through an MS4 within the municipal boundary (e.g., DOT or County Roads).

The starting point for allocations for all storm water entities was compliance with existing permit requirements and NR 151 performance standards for construction sites and permitted MS4s including: 80% sediment control during construction phase, 80% TSS control during post-construction phase for new development, 40% TSS control during post-construction phase for re-development or in-fill areas, and 40% TSS control for existing urban areas by 2013.

Determining the MS4 WLA:

- TSS reductions were determined by assuming all MS4s will meet NR 151 requirements.
- If the baseline TSS load was >40% of the total load, the TSS reduction needed for that MS4 was equivalent to the percent contribution from that municipality.
- TP loads were determined by looking at the relationship between 40% TSS and the corresponding reduction in TP (in this Basin ~ 30% reduction of TP = 40% reduction of TSS)
- If the baseline TP load was >30% of the total load, the TP reduction needed for that MS4 was equivalent to the percent contribution from that municipality.
- For municipalities that lie within the same watershed, the needed percent reduction was equally distributed among municipalities within a given watershed and the WLA for each municipality was listed separately.
- A municipality located in several different watersheds received a WLA for each watershed it is located in. Therefore, different parts of a municipality may have different % reductions needed for TSS and TP depending on the watershed.
- Given the scale of the TMDL, it was not possible to separate out WisDOT roads from roads under municipal or county jurisdiction. It was assumed that WisDOT and other permitted areas will attain a 40% reduction in TSS (and corresponding 30% reduction in TP).

Non-regulated Urban areas in the Lower Fox River Basin:

- Non-regulated urban areas currently contribute 2.9% of TP and 3.2% of TSS loading to the LFR Basin.
- Non-permitted areas were assigned a load allocation under the TMDL and are not required to have a WLA (only permitted dischargers are).
- No additional reductions were assigned to the non-permitted areas. However, adoption of BMPs in these areas should be encouraged.