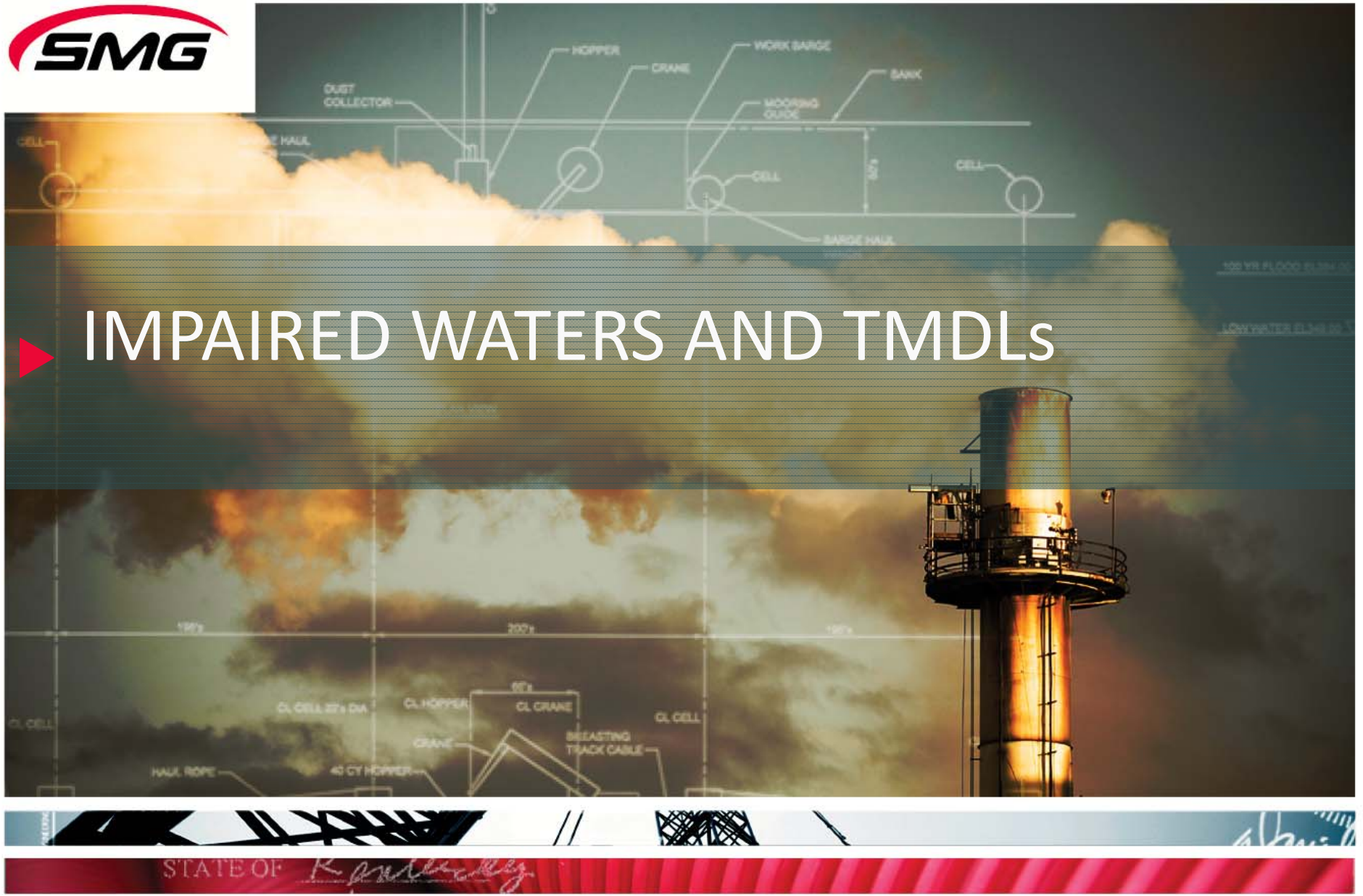
UNDERSTANDING HOW IMPAIRED WATERS AND TMDLs AFFECT AN MS4

Shri Vani Sripada

July 9, 2015

IMPAIRED WATERS AND TMDLs



IMPAIRED WATERS

- Goal of Clean Water Act (CWA) is to restore and maintain the chemical, physical and biological integrity of the Nation's waters.
- CWA requires states to adopt water quality standards to protect lakes, streams and wetlands from pollution.
- Impaired Waters are waters for which technology based regulations, required controls and BMPs are not effective enough to meet the water quality standards.
- States are required to develop lists of Impaired waters that do not meet the standards - "303(d) list".

Source EPA:
http://www2.epa.gov/nutrient-policy-data/waters-assessed-impaired-due-nutrient-related-causes

No. of Waters on 303(d) list – 1,433 (2012)
No. of TMDLs completed until 2014 - 329

*Information as per National Summary of Impaired Water Streams – Kentucky

TOTAL MAXIMUM DAILY LOAD (TMDL)

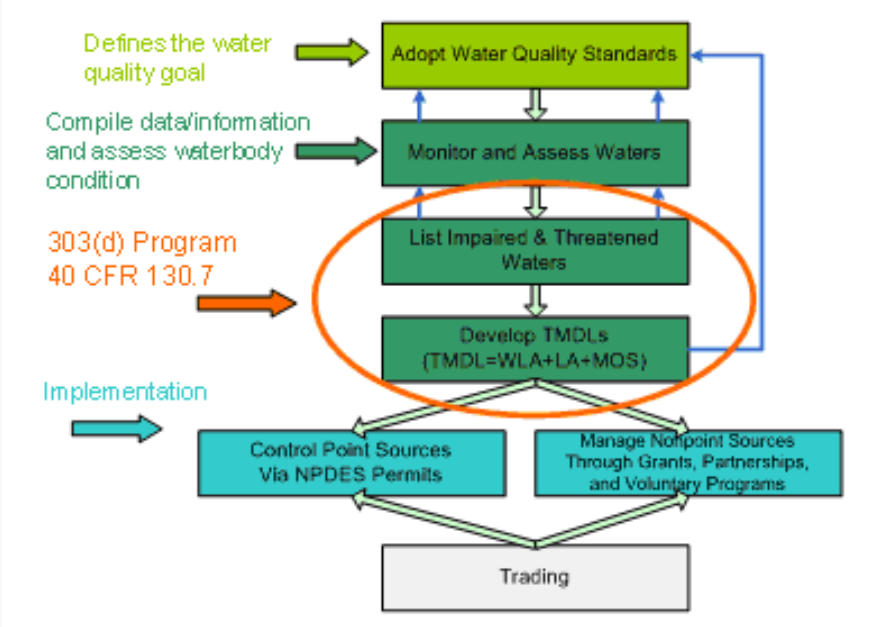
- States are required to establish priority rankings for impaired waters on the list and develop TMDLs.
- TMDL is a calculation of the maximum amount of a pollutant load that a water body can receive and still safely meet water quality standards.
- The total load is divided among different sources of the pollutant.

TMDL = ΣWLA+ΣLA+MOS

WLA – Waste Load Allocation for point sources

LA – Load Allocation for non point sources

MOS – Margin of Safety



Source EPA:
http://water.epa.gov/lawsregs/lawsguidance/cwa/tmdl/intro.cfm

TOTAL MAXIMUM DAILY LOAD (TMDL)

Continued

- TMDL analysis will determine the source(s) of applicable pollutants and their loads.
- If the TMDL WLA requires more effective or improved BMPs for point sources these will be implemented through the KPDES permit requirements.
- If non-point sources are identified a major cause of impairment, the state can apply for EPA funded grants which can be used to fund state programs for non-point source assessment and control as well as individual projects.
- Development of TMDL is complicated. Get Involved!

AFFECT ON MS4 PERMIT

HOW DOES THIS IMPACT MY MS4 PERMIT?

- Your MS4 will be affected by a TMDL. A WLA will be assigned and your KPDES permit will include limits or BMPs, consistent with the requirements of the WLA.

- EPA issued a revised memorandum to 2002 memo on November 26, 2014 for stormwater discharges – Recommends including clear, specific and measurable permit requirements and where feasible numeric effluent limitations in permits for stormwater discharges.

HOW DOES THIS IMPACT MY MS4 PERMIT?

Continued

- Evaluation of Best Management Practices (BMPs) in the Stormwater Quality Management Program (SWQMP).

- Assessment of effectiveness of SWQMP and BMPs in achieving pollutant reductions in impaired waters.
  - For impaired waters with an approved TMDL, you must evaluate BMPs in the SWQMP with respect to MS4 discharges for pollutants of concern.
  - Requirements to develop BMPs to discharge into waterbodies that lack TMDL

- Schedule of implementation for the new BMPs will be evaluated.

- SWQMP will need to be updated to improve BMPs.

HOW DOES THIS IMPACT MY MS4 PERMIT?

Continued

- The Permits have five year terms, therefore requirements for discharges into impaired waters might change as the state reissues your MS4 Stormwater permit.

- Monitoring or improved BMPs will be required relative to the TMDL.

HOW CAN YOU HELP YOURSELF?

THINGS TO DO

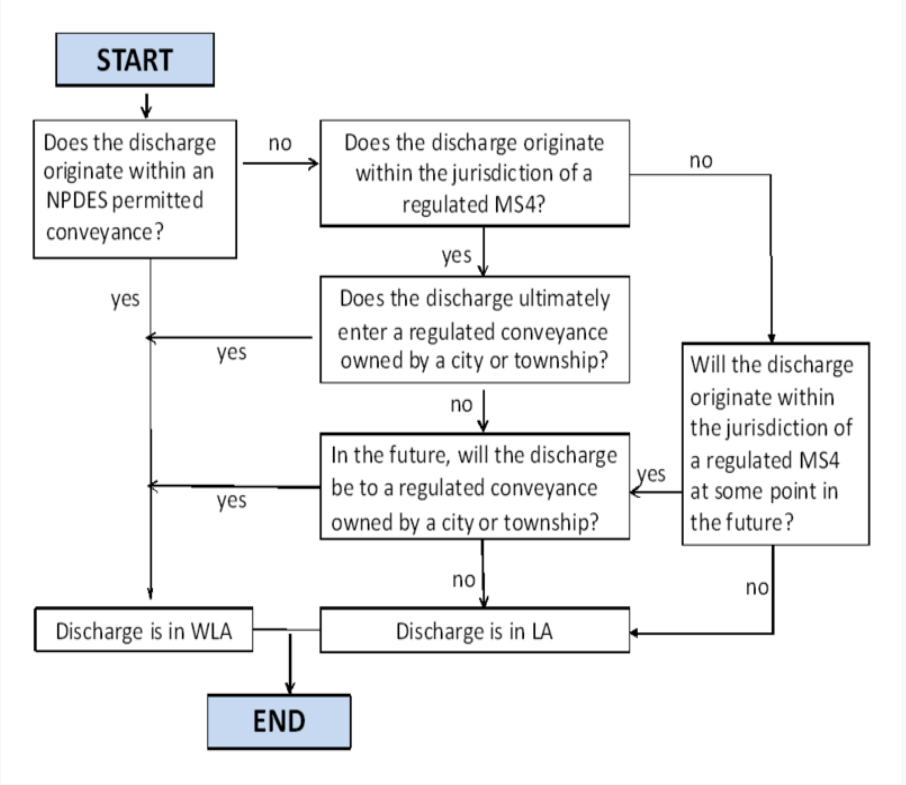
1) Monitor the status of the waterbody into which your MS4 discharges. Is it impaired?

- Make a list of all waterbodies into which your outfalls discharge.
- Determine if any of these waterbodies are impaired and have assigned TMDL by referring to the State's 303(d) list.
- Know what impairments impact MS4.
- If a receiving stream is impaired, form a work group to see what you can do to get it delisted.
- If a TMDL is being developed – GET INVOLVED!
- ANTICIPATE – DON'T JUST REACT!

THINGS TO DO
Continued

2) If applicable determine what TMDL and impaired water requirements apply to your MS4.

- Determine what kind of impairments affect your MS4.
- Understand WLA allocations in the TMDL.
- This flow chart from MN Pollution Control Agency helps in determining if a specific load should be placed into the LA or the WLA.



Source: Minnesota Pollution Control Agency
http://stormwater.pca.state.mn.us/index.php/Guidance_on_what_discharges_should_be_included_in_the_TMDL_wasteload_allocation_for_MS4_stormwater

THINGS TO DO
Continued

- Review your permit for any specific allocations or requirements in regards to applicable TMDL or impaired waters:
  - Impaired water bodies for which a TMDL has not yet been developed.
  - Impaired waterbodies with approved TMDLs.

- Get a better sense of your MS4's specific contribution to the pollutants of concern to enable to design and implement appropriate controls:
  - To what extent your MS4 discharge contributes to the impairment listed in the 303(d) list.
  - Where in your jurisdiction are the anticipated hotspots that is causing water quality standards exceedances.

- Does your stormwater ordinance allow you to impose standards on your customers.

THINGS TO DO
Continued

3) Continuously review, update and improve your Stormwater Management Program

- Anticipate how you would update your Stormwater Management Program to address allocations in the applicable TMDL:
  - What controls will be necessary to reduce the discharge of pollutants from MS4 conveyances.
  - Restrictions will be based on pollutant loads from land uses across your MS4.
  - Based on the requirements listed in your permit:
    - » Impaired waterbodies with approved TMDL.
    - » Impaired waterbodies that do not have a TMDL yet.

- Know the programs and practices that will be used to address impaired waters and TMDL requirements.

THINGS TO DO
Continued

4) Evaluate effectiveness of the overall stormwater program

- Assess effectiveness of BMPs in meeting the water quality standards:
  - Meet regulatory permit requirements;
  - Document progress toward water quality goals;
  - Cost effective implementation and management of the Program;
  - Assess reductions in pollutants of concern.

QUESTIONS??

Shri Vani Sripada
Smith Management Group
shrivani@smithmanage.com
(859) 231-8936 ext. 117

THANK YOU

from Smith Management Group

www.smithmanage.com

LEXINGTON	LOUISVILLE
859-231-8936	502-587-6482