



Minnesota  
Pollution  
Control  
Agency

# The TMDL Process as it Relates to Stormwater



wq-strm7-83a

Stormwater Module 3a  
Minnesota Pollution Control Agency

# Training Goals

- ❑ Understand what a TMDL is
- ❑ How TMDLs are developed
- ❑ How TMDLs relate to stormwater

# Acronyms

TMDL total maximum daily load

MS4 municipal separate storm sewer system

WLA waste load allocation

LA load allocation

NPDES National Pollutant Discharge Elimination System

SWPPP stormwater pollution prevention plan (construction) OR  
stormwater pollution prevention program (municipal)

BMP best management practice

WMO Watershed Management Organization

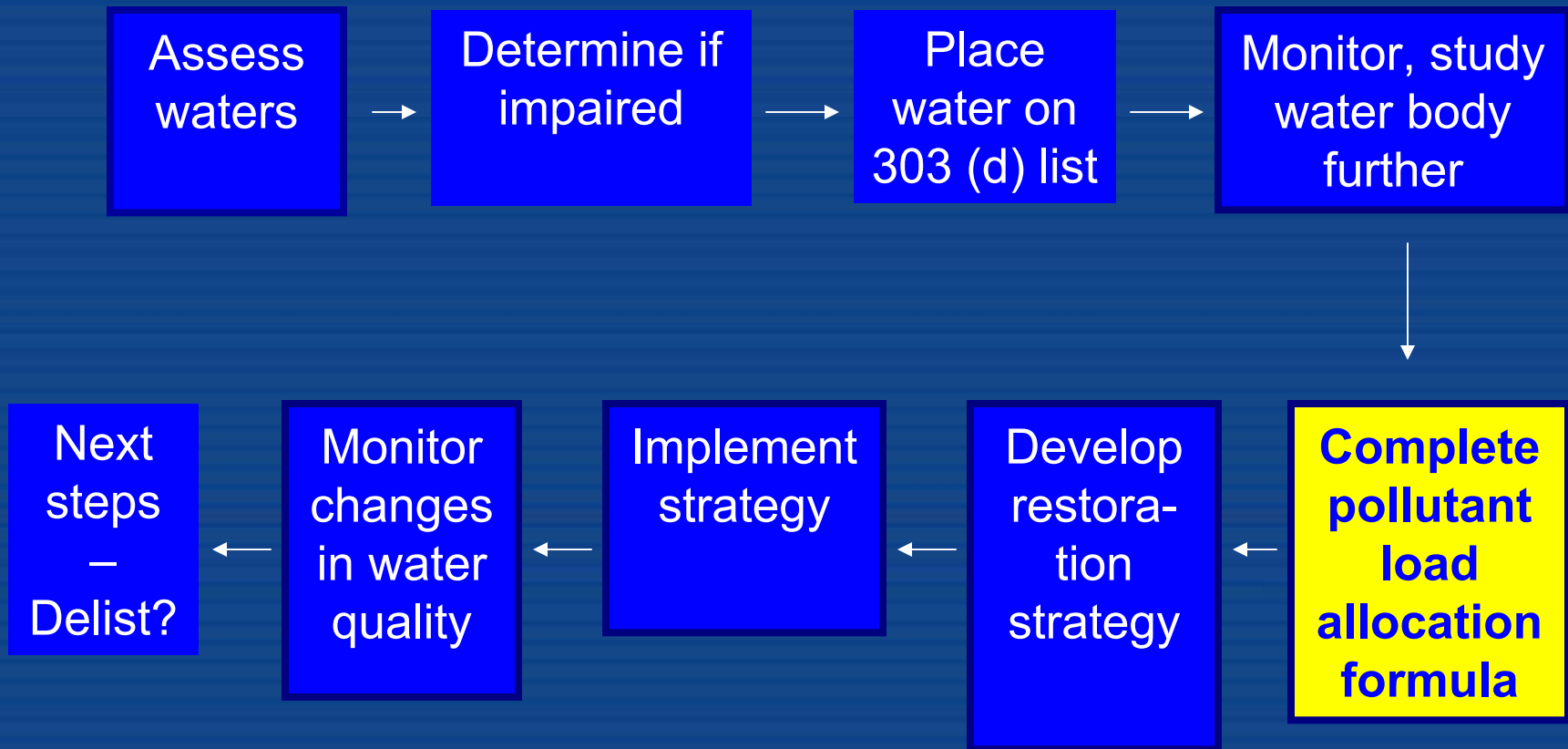
# What is a TMDL?

- ❑ The maximum amount of a pollutant that can be discharged into a water body from all sources (point and non-point) and still maintain water quality standards.
- ❑  $TMDL = WLA + LA + MOS + RC$ 
  - ❑ WLA = NPDES permitted loads (point sources)
  - ❑ LA = non-permitted sources (nonpoint sources)
  - ❑ MOS = margin of safety (accounts for uncertainty in estimates of WLA and LA)
  - ❑ RC = reserve capacity (allows for future growth)

# What is a TMDL?

- A study that identifies pollutant loadings and necessary reductions in pollutant loadings needed to bring a lake or stream into compliance with water quality standards
- A TMDL contains some information on implementation and monitoring and provides reasonable assurances that the pollutant load reductions can be met

# TMDLs are part of a process to assess and improve water quality



# What must a TMDL Study include?

1. A *public participation plan* to ensure engagement, collaboration, success
2. An *assessment of what's causing impairment*  
(may include biological, chemical, habitat, flow, etc.)
3. A *technical analysis* of existing pollutant loads from point and nonpoint sources

# What must a TMDL Study include?

4. An *allocation* of acceptable pollutant loads from point and nonpoint sources

5. An *implementation strategy*

6. A *monitoring strategy* to determine effectiveness of restoration activities



# How does a TMDL relate to Permitted Stormwater

- ❑ TMDL identifies pollutant loads and needed reductions in loads
- ❑ Stormwater contributes pollutants to receiving waters
- ❑ Reductions in pollutant loads from stormwater may be needed to bring a water into compliance with standards
- ❑ Stormwater permits require compliance with TMDL requirements
- ❑ TMDL describes what reductions are needed from stormwater

# What makes a good TMDL?

- ❑ Accurate load calculations
- ❑ Clear language about how loads were calculated and needed reductions in loading
- ❑ Flexible load calculations that account for future growth and loading from the different stormwater sectors
- ❑ Some language that describes activities needed to meet the load reduction requirements

# Summary

- ❑ A TMDL study will determine what pollutant load reductions are necessary and identify strategies for achieving load reductions
- ❑ Stormwater can have pollutant load requirements in a TMDL
- ❑ The TMDL may provide strategies, including monitoring, for stormwater