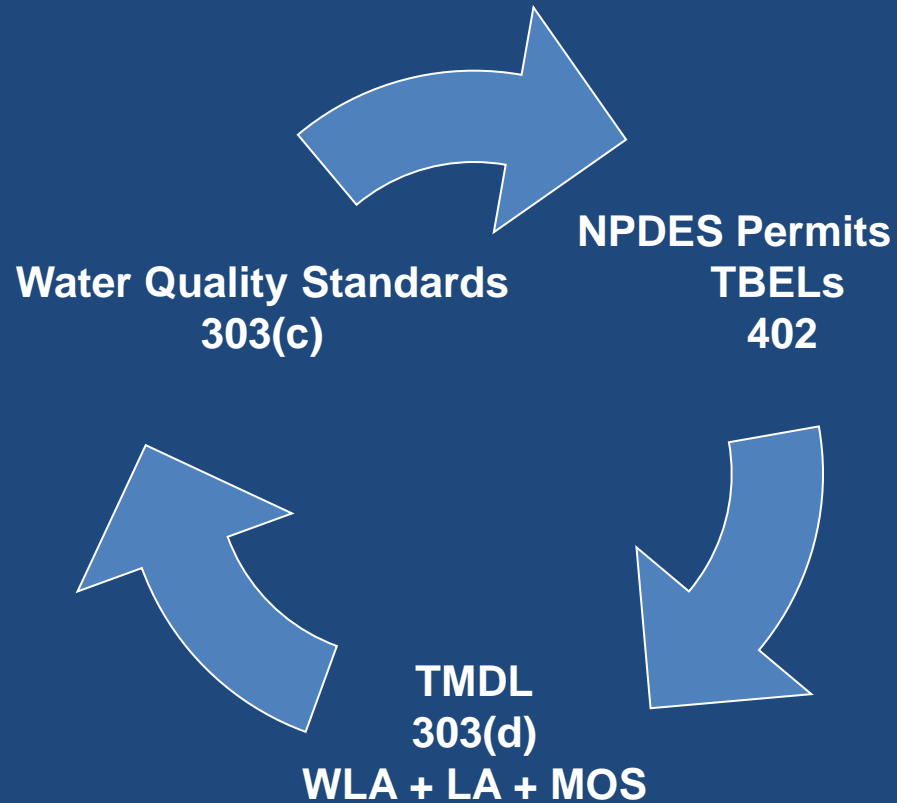


# Regulating Living Organisms under the TMDL Program

## Imposing the Impossible Mandate

Winston K. Borkowski  
Hopping Green & Sams

# CLEAN WATER ACT



# TMDL Defined

- 403.031(21) “Total maximum daily load” is defined as the sum of the individual wasteload allocations for point sources and the load allocations for nonpoint sources and natural background. Prior to determining individual wasteload allocations and load allocations, the maximum amount of a pollutant that a water body or water segment can assimilate from all sources without exceeding water quality standards must first be calculated.

# DEP Bacterial Criteria (62-302.530)

- *Enterococcus* – predominantly marine
  - TPTV 210 (MPN, MF) in 10% or More Samples
  - Monthly Geo Mean of 126 (MPN, MF)
- *Escherichia coli* – predominantly freshwater
  - TPTV 130 (MPN, MF) in 10% or More Samples
  - Monthly Geo Mean of 35 (MPN, MF)
- Fecal coliforms – retained for Class II

# DEP Eliminated Fecal Coliform Criterion

- Many listings and TMDLs based on now revoked Fecal Coliform criterion
- No criterion = No listing
- No criterion = No TMDL
- DEP Has No Legal Authority to Maintain Fecal Coliform listings and TMDLs until they assess waters for new criteria (E. coli; Enterococci)

# DEP Has Listed Waters for Fecal Coliforms After Criterion Revoked

- Rulemaking revoking fecal coliform criterion became final February 17, 2016.
- DEP Released Secretarial Order dated April 27, 2016 that included new listings for the revoked fecal coliform criterion.
  - WBID 1568, Howell Branch, 5 exceedances during assessment period (IWR Requires Study List).
  - WBID 1505, Clay Gully, 5 exceedances during assessment period (IWR Requires Study List)

# Verifying Waters Impaired for Bacterial Criteria (62-303.460)

- (3) Water segments shall be included on the Verified List if:
  - (a) The number of samples that exceed the applicable bacteriological water quality criteria expressed as a TPTV meets the requirements in subsection 62-303.420(6), F.A.C. Data must meet the data requirements of subsections and paragraphs 62-303.320(2), (3), (4)(e)-(4)(g), (8), and (9), F.A.C. Samples collected on different days will be assessed as individual samples and samples collected on the same day shall be averaged; or
  - (b) There are one or more exceedances of a bacteriological water quality criterion expressed as a monthly geometric mean during the verified period. Data must meet the requirements of subsections and paragraphs 62-303.320(2), (3), (4)(e)-(4)(g), (8), and (9), F.A.C. Samples collected on different days will be assessed as individual samples and samples collected on the same day shall be averaged. To assess the monthly data for a sampling location, there shall be at least ten samples collected within that month, with at least one sample from each full week of the month.

# Natural or Anthropogenic?

(62-303.460(2))

- (2) If the water segment was listed on the Planning or Study List due to samples that do not meet water quality criteria for bacteriological quality, the Department shall, to the extent practical, evaluate the source of bacteriological contamination and shall verify that the impairment is due to chronic sources of human-induced bacteriological pollutants before verifying the water segment is impaired.



# Natural or Anthropogenic?

(62-303.460(2))

- The Department shall take into account the proximity of municipal stormwater outfalls, septic tanks, domestic wastewater facilities, and other anthropogenic discharges when evaluating potential sources of bacteriological pollutants. **For water segments that contain municipal stormwater outfalls, the impairment documented for the segment shall be presumed to be due, at least in part, to chronic discharges of bacteriological pollutants.**

# Natural or Anthropogenic?

(62-303.460(2))

- The Department shall then re-evaluate the data using the methodology in subsection 62-303.320(1), F.A.C., excluding any values that have been demonstrated to be elevated solely due to non-anthropogenic sources. If information is provided to the Department indicating that the exceedances may be due to natural sources but there is uncertainty whether anthropogenic sources contributed to the exceedances, the water segment shall be placed on the Study List pursuant to paragraph 62-303.390(2)(g), F.A.C.

# Verified If 10% Anthropogenic

- 62-303.390 (8) For waters that fall under paragraph 62-303.390(2)(g), F.A.C., above, a bacterial source tracking study shall be conducted to evaluate whether anthropogenic sources are causing exceedances of the bacteriological criteria. The water shall be removed from the Study List if the Department confirms the exceedances are due to non-anthropogenic sources or shall be verified as impaired if at least ten percent of the exceedances are demonstrated to be due to anthropogenic sources.

# Bacteria Are Living Not Loads

- Underlying Criteria Not Protective of Designated Uses or Public Health
- Bacteria are living organisms for which a load or assimilative capacity cannot be calculated
- Thresholds for listing waters as impaired for bacterial criteria very low (study list goes to EPA as 303(d) list)

# Bacteria Are Living Not Loads

- Once listed as impaired for bacterial criterion, MS4 operators presumed guilty but can never demonstrate innocence.
- DEP's 10% rule appears to assist regulated community but really gives DEP ability to verify on hint of anthropogenic sources.

# Bacteria Are Living Not Loads

- DEP has worked with a regulated party and determined exceedances of now revoked fecal coliform criterion was due to natural conditions (bird)—to date, DEP's decision has not been approved by EPA.
- EPA has never approved a decision to delist or not to list a water body based on natural conditions or naturally occurring bacterial exceedances.

# Takeaway Message

- Bacteria are not well suited to treated as pollutants under the water quality standards or TMDL program.
- Listing of waters as impaired for bacterial criteria most often results in extensive expense trying to prove source of fecal indicator bacteria exceedances.
- Wild goose chase will likely lead MS4 operator to.....um.....wild geese!



FSA June 2016