WESSLER ENGINEERING

More than a Project™

Water Quality Characterization

May 9, 2022

Mary Atkins, PE, CPESC// Vice President

What are your local pollution concerns?

- Spills?
- Nutrients in the water?
- Endangered species habitat?
- CSOs?
- Industrial activities?
- Septic systems?
- I don’t know?

What is a Water Quality Characterization Report?

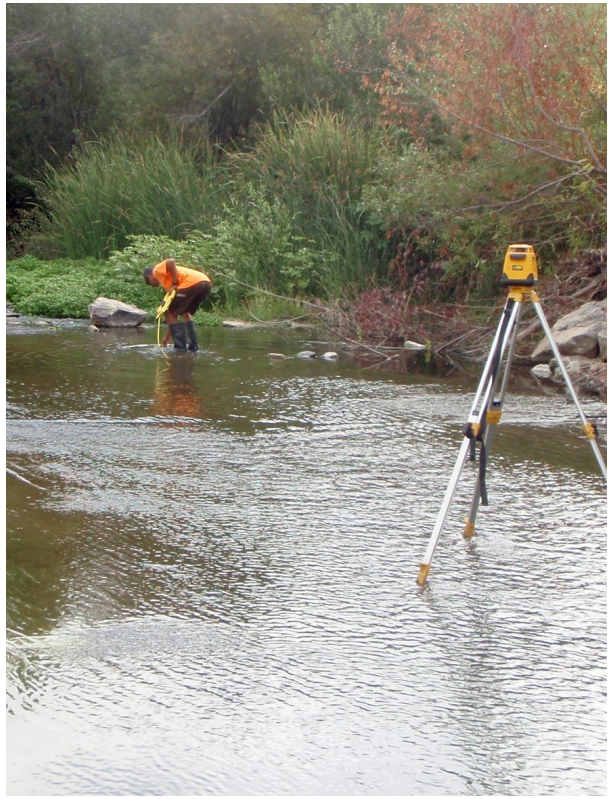
- WQCR (acronym)
- Identify watershed and receiving waters
- At a minimum include those identified in the NOI
- Characterize water quality
- Use this report
  - To guide the SWQMP
  - Develop BMPs to improve water quality
  - Address all 6 MCMs.

Monitoring

IS NOT REQUIRED

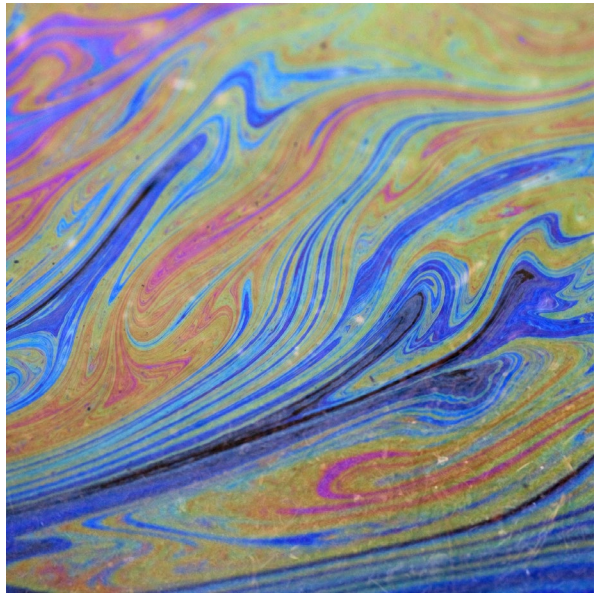
- But an MS4 may choose to do monitoring

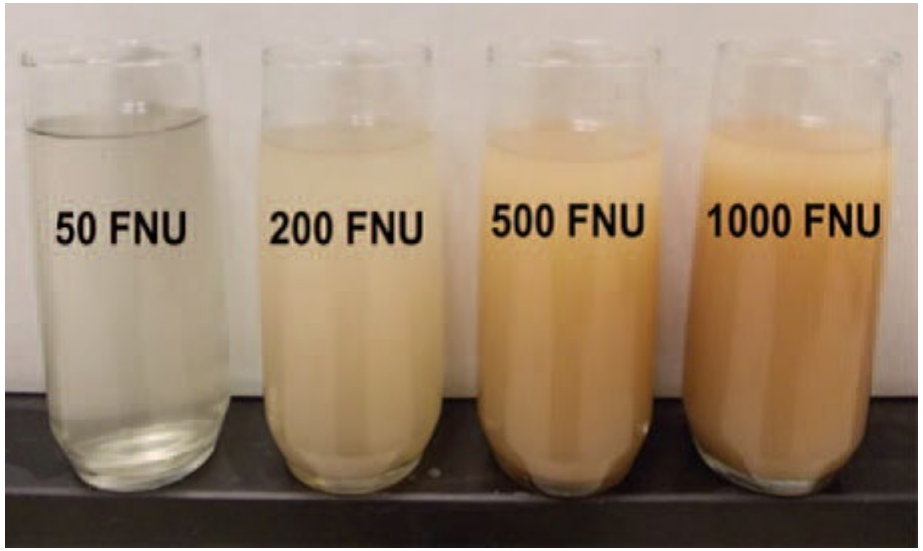
1. At outfall locations
2. Near outfalls
3. Upper end of MS4 jurisdiction
4. Lower end of jurisdiction
5. In stream



Visual/Monitoring

- Visual (sheens, discoloration, clarity, odor, foams, stressed vegetation)





Sampling/Monitoring

- Ammonia
- Bacteria, E. coli
- Conductivity
- Metals
- Nitrate
- Dissolved Oxygen
- PH
- Phosphorus

- Parameters you can easily test at water or wastewater lab?
- Sent out to a lab for testing

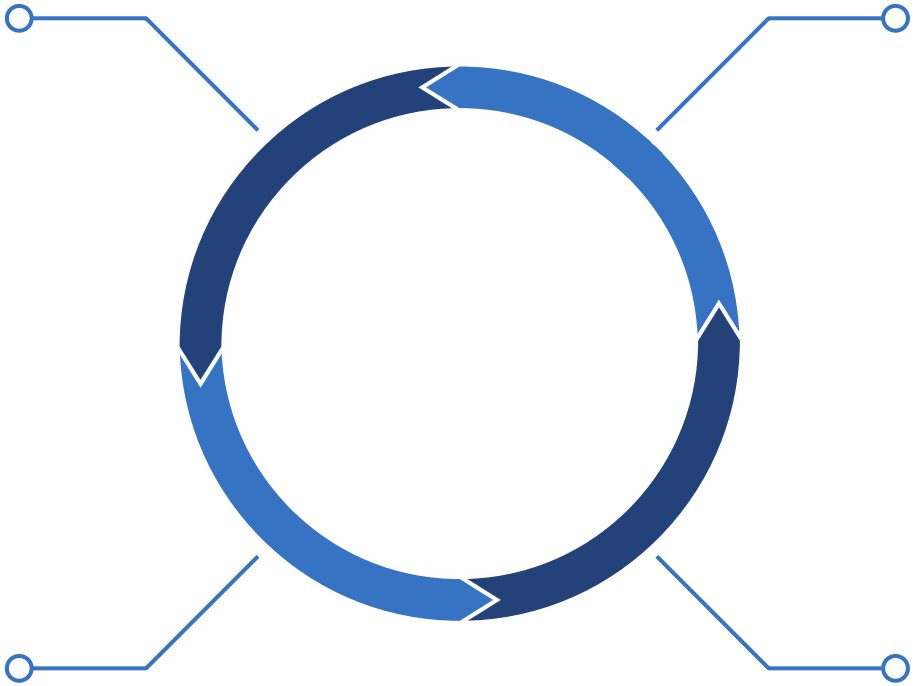
Land Use Assessment

Residential

- Fertilizers
- Septic systems
- Spills
- Pet waste
- Pesticides

Commercial/Industrial

- Parking lots
- Spills
- Oils/greases
- Fertilizers
- Pesticides
- Dumpsters



Agricultural

- Sediment
- Pesticides
- Fertilizers

Municipal

- Pet waste
- Vehicle maintenance
- Pesticides
- Fertilizers
- Dumpsters

Structural Stormwater BMP Inventory

- **Publicly Owned**
- Ponds
- Water quality swales
- Swirl BMPs
- Rain gardens
- Pervious pavements
- Flood control

- **Inventory**
- Identification number
- Latitude/longitude
- Structural condition

303 D List TMDLs

- Use information collected from NOI
- Expand on it
- Assess impairments
- What practices could be done by the MS4 to address impairments
- Incorporate into the SWQMP

Known Sensitive Areas

- Public swimming areas
- Drinking water intakes
- Endangered species habitats
- Outstanding water list
- National Resource Waters list
- Other local known sensitive areas

- Does anyone have an example from their MS4 area?

Available Monitoring Data

- CSO Stream Reach Characterization Report
- ECHO database
- IDEM virtual file cabinet
- Brownfields
- Spill data/documentation
- RCRA sites
- Rule 6 dischargers
- Local Health Department data
- Local watershed group data
- Stream monitoring data

Summarize information in a report

- Prepare WQCR
- Develop conclusions
- Summarize data
- Assess how it can be applied to the development of BMPs

- Timing:
  - Due 180 days from NOI submittal for new MS4s
  - Due with annual report (April 1st) for existing MS4s

Questions?

Mary Atkins, PE, CPESC

Vice President

Phone: 317-788-4551

E-mail: MaryA@wesslerengineering.com

WESSLER ENGINEERING

www.wesslerengineering.com