

# NPDES Updates

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# Presentation Outline

- NPDES Rule updates
- Nutrients
- TMDLs
- WQS triennial review
- Variances
- Permitting tips

# NPDES Rule Updates

- OAC Chapter 3745-33
- Applications not considered complete unless all required quantitative data are collected in accordance with sufficiently sensitive methods.
- Treatment Additives.  
<http://www.epa.ohio.gov/dsw/permits/individuals>
- Two new minor modifications.
- Group 5 parameters when using discretion.
- Acute toxicity limits.

# Questions?

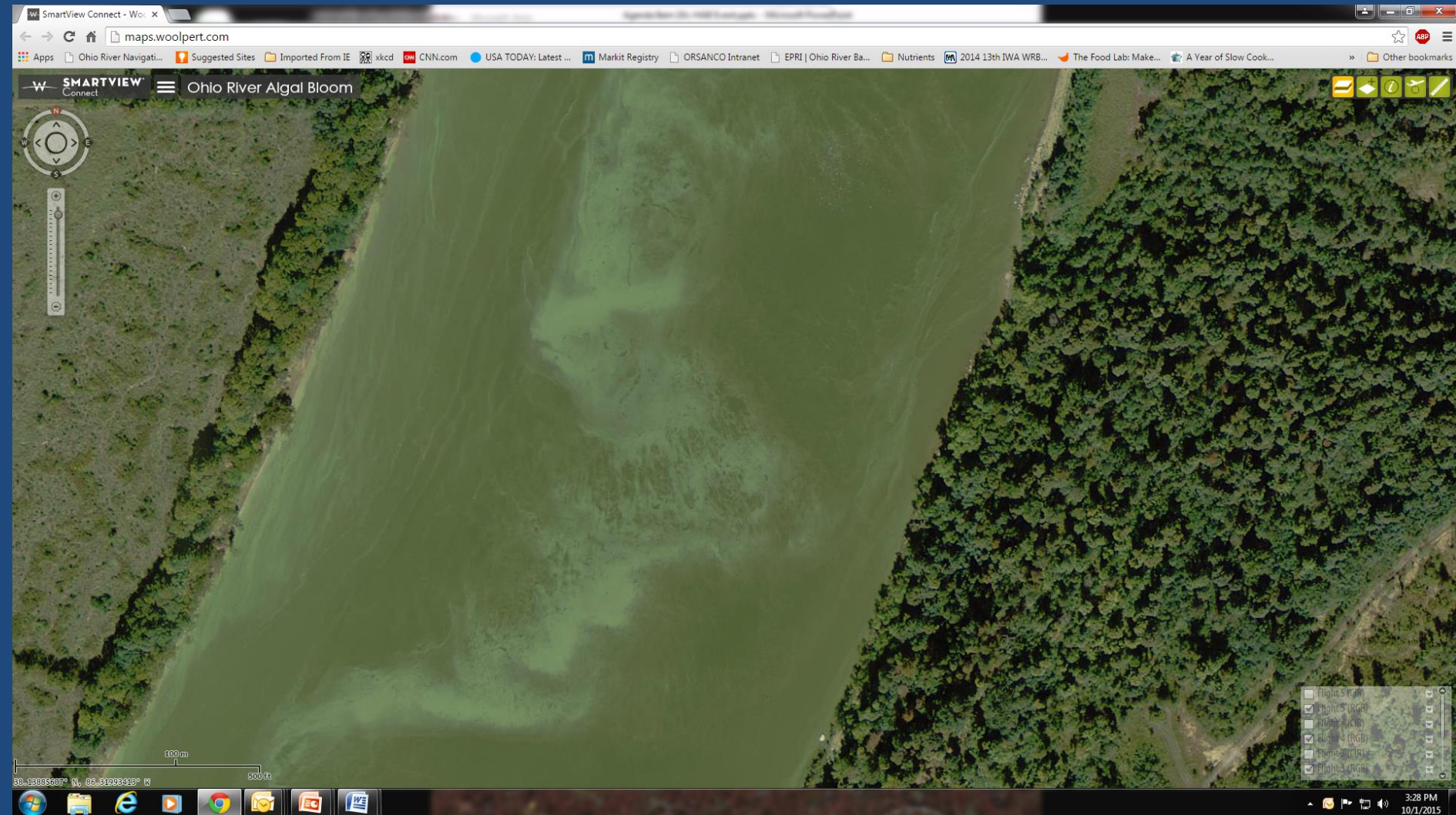


*Little Darby Creek at its confluence with Big Darby Creek*

# Nutrients



# Nutrients



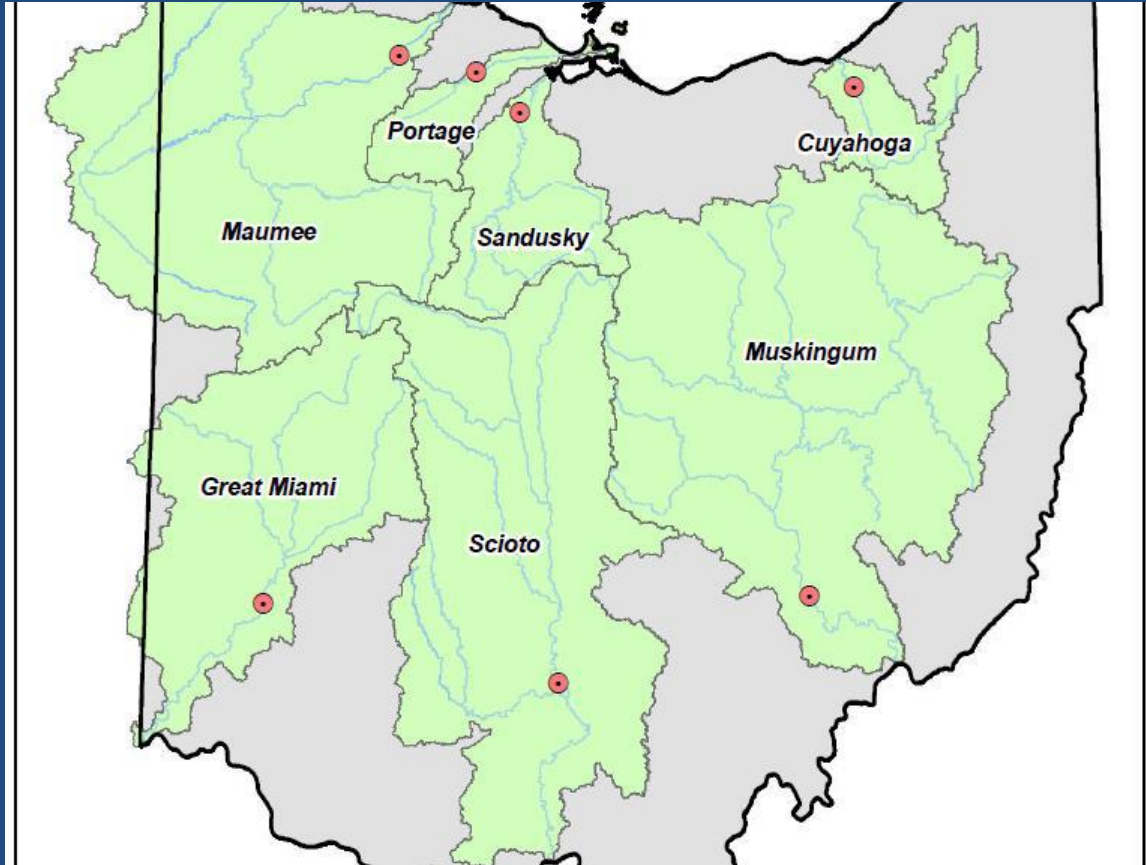
# Ohio Nutrient Mass Balance Study

- SFY 2016-2017 Operating budget requires director to “study, examine, and calculate nutrient loading from point and nonpoint sources...to determine the most environmentally beneficial and cost effective mechanisms to reduce nutrient loadings to Lake Erie and the Ohio River.”
- Director is required to report and update the results with release of “Integrated Water Quality Report” every two years beginning spring 2016.

# Ohio Nutrient Mass Balance Study

- 2018 Loading study published and available on OEPA website.
- Includes loadings for seven of the major watersheds in the state.
- Looked at both total P and total N.
- Scioto and Maumee highest in total P load; 2200 metric tons each
- Maumee highest in total N load; 41,100 metric tons





# Ohio Nutrient Mass Balance Study

**Table 7 — Total phosphorus and total nitrogen contributions from household sewage treatment systems (HSTS), NPDES permitted sources (NPDES) and nonpoint sources (NPS) relative to the total load at the watershed outlet (expressed as percent). Values reported as the average of water years 2013-2017.**

Watershed	Total P (percent of total)			Total N (percent of total)		
	HSTS	NPDES	NPS	HSTS	NPDES	NPS
Maumee	4	8	88	1	10	89
Portage	4	9	87	2	9	89
Sandusky	3	4	93	2	4	94
Frontal Lake Erie	13	11	76	5	18	77
Vermilion	4	2	94	2	4	94
Cuyahoga	11	44	45	6	83	11
Great Miami	6	32	62	3	16	81
Scioto	4	34	62	3	16	81
Muskingum	10	39	51	8	17	75

# Questions?



*Tributary to Alum Creek, Delaware County  
(photo courtesy of Friends of Alum Creek and Tributaries (FACT))*

# TMDL Updates



*Hocking River near Route 33 crossing, Fairfield County*

# Reason Behind New TMDL Process

March 2015 – *Fairfield Cty. Bd. of Commrs. v. Nally*, 143 Ohio St.3d 93, 2015-Ohio-991

- TMDL established by Ohio EPA is a rule subject to requirements of ORC Chapter 119.
- Ohio EPA must follow rulemaking procedure in ORC Chapter 119. before submitting TMDL to U.S. EPA for approval and before implementing in an NPDES permit



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<https://commons.wikimedia.org/w/index.php?curid=221770>

# LEGISLATION

# Legislation – House Bill 49

- House Bill 49 (State Budget Bill) signed by Governor Kasich 6/30/2017
- Includes new statutory requirements for TMDLs in Ohio Revised Code
  - Section 6111.561 through 6111.564

# Highlights

- Reinstates previously approved TMDLs
- Reaffirms TMDLs not actions of Director, challenge TMDL based effluent limits through NPDES permit process
- Formalizes stakeholder involvement
- Adds items of consideration in implementation and wasteload/load allocation
- Requires rulemaking for stakeholder notification and determination of significant public interest



# Existing TMDLs

Approved by U.S. EPA before March 24, 2015

- Valid and remain in full force and effect as approved
- 56 TMDL projects approved by U.S. EPA from 2000 through 2014
  - Majority of TMDLs for:
    - bacteria
    - total phosphorus
    - Sediment
- Process established for modification (follow same steps as official draft TMDL)

# New TMDLs

## Approved by U.S. EPA after March 24, 2015

- Stakeholder involvement opportunities throughout process
  - Study plan
  - Biological and water quality report
  - Loading analysis plan (modeling approach, WQ targets)
  - Preliminary modeling results (load allocations, wasteload allocations, margin of safety, future growth, permit limits, implementation plan)
- Notify – dischargers, SWCDs & other stakeholders

# TMDLs Already in the Works

- Provide at least two opportunities for stakeholder input
- Over 40 projects in various stages of development
  - From ready to send to U.S. EPA to just beginning

# Official Draft TMDL

- Public notice required
  - Notify individual NPDES dischargers, significant industrial users listed in permit holders' annual report, other stakeholders that have provided input in previous steps
  - 60 day comment period minimum
  - Public hearing if significant public interest
  - Written response to comments

# Final TMDLs

- Final established TMDLs submitted to U.S. EPA for approval
  - Challenged through appeal of:
    - NPDES permit containing TMDL-based limits
    - Pretreatment limits derived from TMDL-based limits
  - In case of POTW appeal, ERAC shall join all significant industrial users listed in annual report known to discharge significant amount of pollutant as parties

# NPDES Permits

- POTW draft & final NPDES permits containing TMDL-based limits (which might result in new/revised pretreatment limits)
  - Notify POTW & all significant industrial users listed in annual pretreatment report known to discharge significant amount of pollutant to be limited by TMDL
  - Notice to include:
    - Statement that TMDL-based limits may result in more stringent direct or indirect limits
    - Statement that appeal of NPDES may be filed by significant industrial user to ERAC

# Schedules of Compliance

- When establishing NPDES schedule of compliance to meet TMDL WLA, shall consider likelihood of appeal and length of time before appeal is concluded.

# Rulemaking Initiated

- As required by the statute, Ohio EPA will adopt rules for significant public interest and stakeholder notification.
- To be included in update of current TMDL rule (OAC 3745-2-12, 5 year rule review)
- Early Stakeholder Outreach notice to stakeholders sent August 10, 2017
- Comment deadline September 12, 2017

[http://epa.ohio.gov/Portals/35/rules/ESO\\_TMDL\\_3745-2-12\\_aug17.pdf](http://epa.ohio.gov/Portals/35/rules/ESO_TMDL_3745-2-12_aug17.pdf)



# Questions?

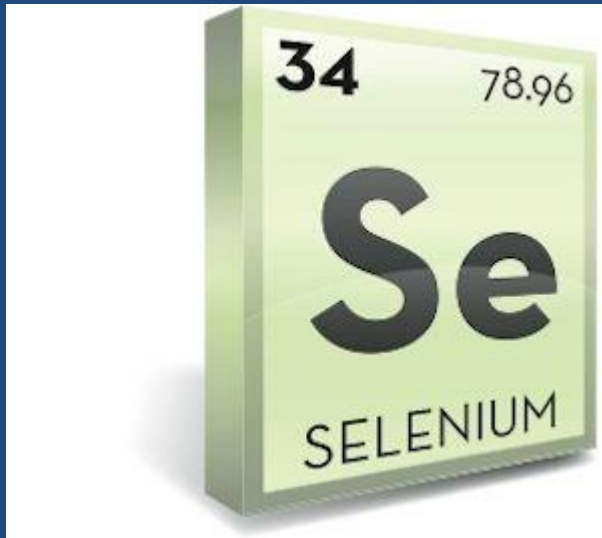


# WQS Triennial Review



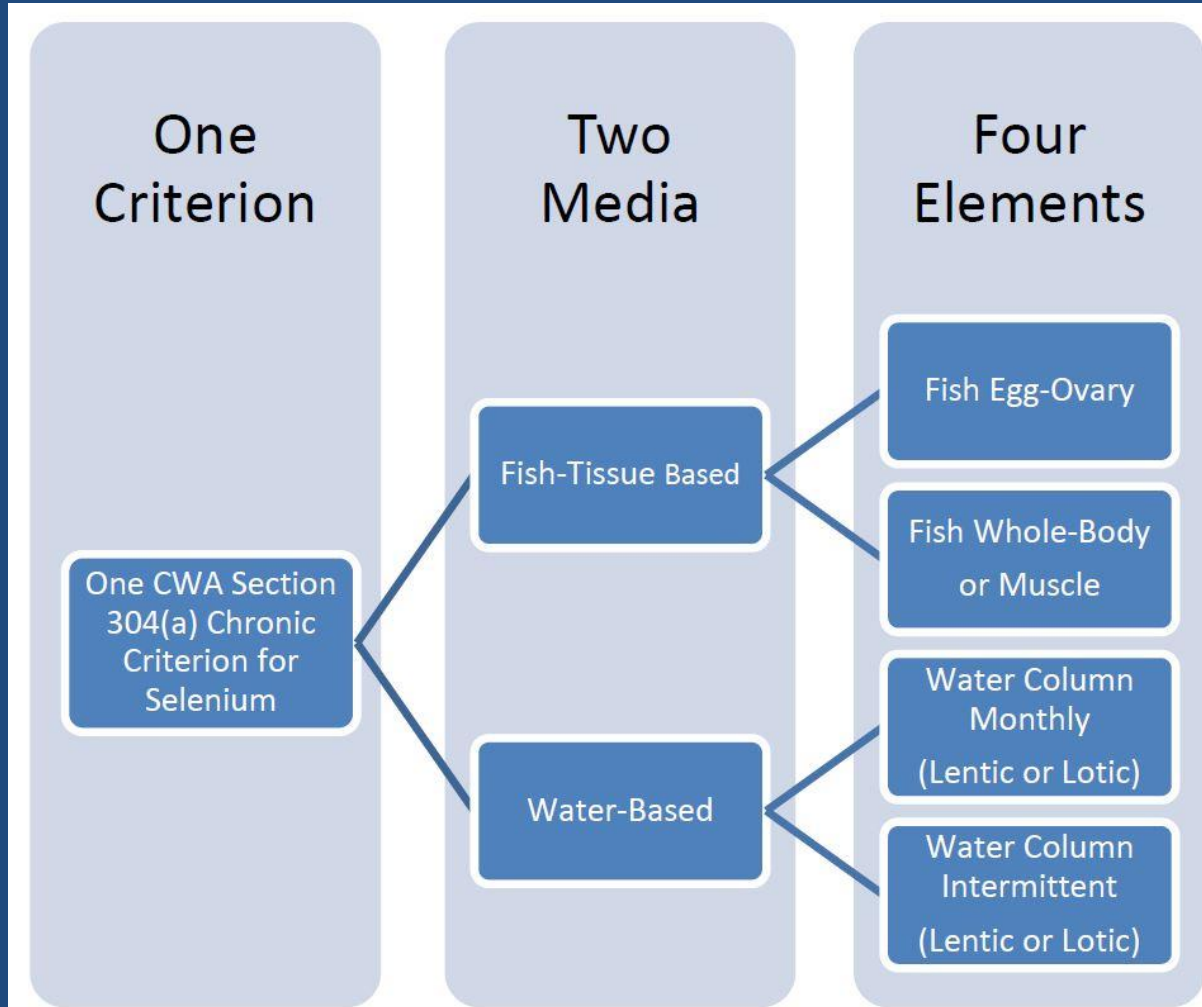
*Auglaize River upstream of Cloverdale*

# Triennial Review - Selenium



- EPA published final chronic aquatic life criterion July 13, 2016.
- Bioaccumulates
- Can cause reproductive impairment, adversely impact juvenile growth and cause mortality.

# Triennial Review - Selenium



# Triennial Review - Selenium

## Water Column Criteria ( $\mu\text{g/L}$ )

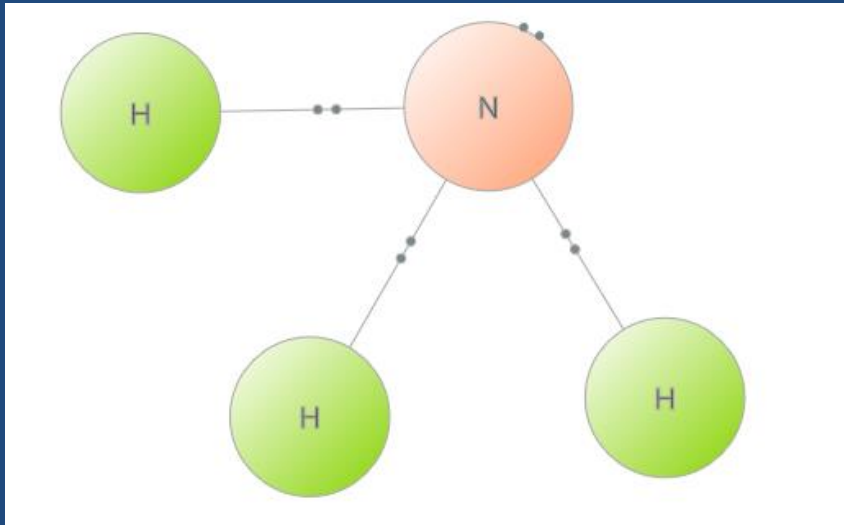
	Old	New
Streams	5	3.1
Lakes	5	1.5

## Fish Tissue Criteria (mg/kg)

- Egg/ovary: 15.1
- Whole body: 8.5
- Muscle: 11.3
- Egg/ovary overrides other criteria.

# Triennial Review - Ammonia

- What is it?
- Where does it come from?
- How does it impact aquatic life?



# Triennial Review - Ammonia



- EPA published revised aquatic life criteria for ammonia on August 22, 2013.
- New toxicity data reflecting freshwater mussel and snail sensitivity.

# New Federal Ammonia WQS

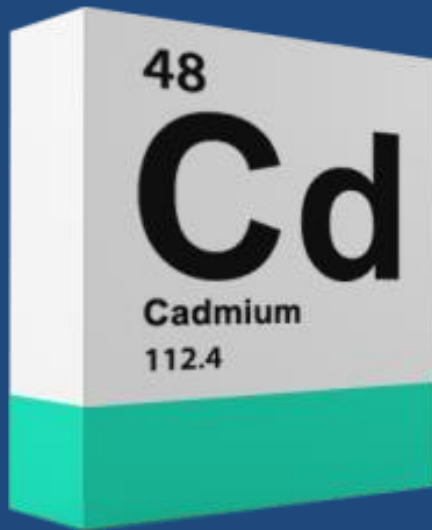
- What's this mean to you?
  - Should Ohio adopt these criteria, WWTPs that have a water quality based ammonia limit may see their limit decrease, possibly in a significant way.
  - WWTPs with BADCT limits for ammonia may see these limits reduced as well.



# New Federal Ammonia WQS

- OWDA funded project for GLEC study of ammonia removal at the Johnstown, Pataskala, Canal Winchester and Southwest Licking Sewer District.
- Instream evaluation of effluent ammonia and total N.
- All four plants showed ability to meet proposed new criteria.

# Triennial Review - Cadmium



- EPA published revised aquatic life criteria for cadmium in 2016.
- New aquatic toxicity tests.
- Hardness based.

# Triennial Review

- Copper
- Fluoride
- Strontium
- Barium
- Peracetic Acid

# WQBEL Variances

- New federal rules
- EPA encouraging use of variances
- Individual variances must be adopted
- Individual variances need reviewed every 5 years
- Mercury GV

# Questions?



*Blanchard River at Riverbend Recreation Area, Hancock County  
(photo courtesy of Tim Powell, 2006)*

# Permitting tips

- Early meetings?
- Look at the data!

# PEQ Multipliers

n	F	n	F	n	F	n	F
1	6.2	6	2.1	11	1.7	28-34	1.2
2	3.8	7	2.0	12-13	1.6	34-43	1.1
3	3.0	8	1.9	14-16	1.5	44-56	1.0
4	2.6	9	1.8	17-22	1.4	>56	0.9
5	2.3	10	1.7	23-27	1.3		

# PEQ Example - Barium

- Two data points 158 ug/l, 130 ug/l
- $PEQ_{max} = 158 \times 3.8 = 600 \text{ ug/l}$
- $PEQ_{avg} = 600 \text{ ug/l} \times 0.73 = 438 \text{ ug/l}$
  
- $WLA_{max} = 4000 \text{ ug/l}$
- $WLA_{avg} = 420 \text{ ug/l}$



# PEQ Example - Barium

- Effluent data – 12 samples, 158 ug/l max
- $PEQ_{max} = 158 \times 1.6 = 253 \text{ ug/l}$
- $PEQ_{avg} = 253 \times 0.73 = 185 \text{ ug/l}$
  
- $WLA_{avg} = 420 \text{ ug/l}$
- $185/420 = 44\%$ , No limits or monitoring

# Questions?

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