

# WQS 2017-2018 Rulemaking

## Summary: City of Idabel Copper WER for Mud Creek

### WHAT

- ❖ The City of Idabel conducted a Water Effects Ratio (WER) study to develop site-specific copper criteria for the City of Idabel POTW discharge to Mud Creek. The final report was reviewed and approved by OWRB staff on September 1, 2017.

### WHY & HOW

#### Site Specific Criteria and Water Effects Ratios

- ❖ Oklahoma's Water Quality Standards include copper criteria to protect aquatic life from copper toxicity.
- ❖ Copper toxicity is dependent on the relationship between bioavailability and ambient water chemistry, particularly hardness; as hardness decreases copper toxicity increases. Oklahoma's copper criteria are hardness based in order to account for ambient water hardness effects on copper toxicity.
- ❖ A WER is one of the site-specific criteria development options in the OWQS (OAC 785:45, Appendix E) and works to modify the statewide criteria based on site-specific hardness and water chemistry.
- ❖ A WER accounts for the difference between the toxicity of a metal in site water and the toxicity of a metal in lab water.

#### City of Idabel Water Effects Ratio Study

- ❖ City of Idabel planned and conducted the WER study using OWRB's, "Guidance for Developing Site Specific Criteria for Metals" (2003) and EPA's "Streamlined Water-Effect Ratio Procedure for Discharges of Copper" (2001).
- ❖ Workplan was approved by OWRB staff in 2015, study conducted in 2016, and final report approved by OWRB staff on September 1, 2017.

#### Proposed Criteria

- ❖ The proposed site-specific criteria will be inserted into OAC 785:45, Appendix E(F)(3)(D).
- ❖ Modified criteria will only be effective for CWA programs upon EPA approval.

Parameter	Current Criteria (@ 32 mg/L hardness)*		WER Adjusted Criteria	
	Acute (µg/L)	Chronic (µg/L)	Acute (µg/L)	Chronic (µg/L)
Copper	6.56	4.83	54.28	39.97

\*Calculated using the statewide hardness dependent criteria equations in OAC 785:45, Appendix G