Rule 2: Coffee Creek

2023 Triennial Review





What is Rule 2?

The Federal Clean Water Act (1972) requires each state to establish Water Quality Standards (WQS)

WQS include designated uses and the criteria to protect those uses for Arkansas surface waters

WQS define the goals for waterbodies by designating uses for waterbodies



Standards are reviewed every 3 years

What are Water Quality Standards?

Three Sections

- Designated Uses Rule 2.302
- Criteria Chapters 4 and 5
- Antidegradation Policy Chapter 2



Designated Uses



Primary Contact Recreation



Aquatic Life



Domestic Water Supply



Industrial Water Supply



Secondary Contact Recreation

Water Quality Criteria

Based on their designated uses, water quality criteria are established for each waterbody.

These criteria serve as the regulatory basis for water quality-based treatment controls under Section 303(e) of the Clean Water Act.



Water Quality Criteria

WQS include numerical and narrative criteria that protect Arkansas's waters.

Numeric

- Bacteria 410 colony forming units
- Temperature 32 C (89.6 F)
- Dissolved Oxygen 5 mg/L

Narrative

 Color – True color shall not be increased in any waters to the extent that it will interfere with present or projected future uses of these waters.



Water Quality Criteria Development

Ecoregion Based Criteria

- In Arkansas, water quality criteria were developed using data from least-disturbed streams within each of the six ecoregions.
- These data were developed during an intensive, statewide study of the physical, chemical, and biological characteristics of least-disturbed streams (1983-1986).



Water Quality Criteria Development

Ecoregions	Temp (°C)	D.O. (mg/L) Critical-Primary	рН
Ozark Highlands	29	5.0-6.0	6.0-9.0
Boston Mountains	31	6.0	6.0-9.0
Arkansas River Valley	31	3.0-5.0	6.0-9.0
Ouachita Mountains	30	6.0	6.0-9.0
Gulf Coastal Plain Typical Springwater-influenced	30 30	3.0-5.0 5.0	6.0-9.0 6.0-9.0
Mississippi Alluvial Plain Least Altered Channel Altered	30 32	3.0-5.0 3.0-5.0	6.0-9.0 6.0-9.0

TRIENNIAL REVIEW PROCESS

Task

Stakeholder Workgroup Governor's Office Petition the APC&E Commission Public Notice **Public Hearing** 45-day Comment Period **Responsive Summary** Adoption by APC&E Commission Legislative Review Submit to EPA

Estimated Timeline

March – May 2022 Fall 2022 Winter 2022 Winter 2022 – Spring 2023 Winter 2022 – Spring 2023 Winter 2022 – Spring 2023 Spring – Summer 2023 Summer 2023 Fall 2023 Fall 2023

Upper Coffee Creek – 18-square-mile watershed

> Coffee Creek Below Mossy Lake – 34-square-mile watershed

> > Soures: Sad, Dighuloloke, GeoSys, Sadhatur Geographica, ChESIAldrus DS, USDA, USGS, AeroGRID, 1911, and the GIS User Community

In 1980, PC&E determined uses associated with a Class B stream:

- had not previously been attained in Coffee Creek
- had not been attained in the interim
- could not be attained in the future by any technology currently available

1984 – Coffee Creek-Mossy Lake UAA

April 26, 1988 – Letter from EPA to PC&E approving UAA for Coffee Creek and Mossy Lake

March 14, 2002 – Congressman John Cooksey requested that the EPA assess the impact of the Georgia-Pacific discharge on the Ouachita River

December 2007 – Parson's UAA and Water Quality Assessment of Coffee Creek, Mossy Lake and the Ouachita River

March 6, 2009 – EPA letter to ADEQ regarding concerns related to lack of use designations for Coffee Creek and Mossy Lake

December 19, 2013 – Tulane University's Request for Objection to ADEQ's inadequate 2013 Triennial Review – specifically regarding ADEQ's failure to provide designated uses for Coffee Creek or Mossy Lake

November 2013 – Report "Data Collection and Factual Analysis Use Attainability Analysis of Coffee Creek and Mossy Lake" is submitted by Georgia- Pacific to ADEQ

Current Standards

No fishable/swimmable or domestic water supply uses

Agricultural Water Supply

Industrial Water Supply

Exempt from Rule 2.406 and Chapter 5

•2.406 – Color

•Chapter 5 – Specific Standards



Aquatic Life Summary – Fish

Study	Month	Year	Site Descriptor	# of organisms	# of species
Parson	June	2005	upstream	301	15
Parson	February	2006	upstream	2	1
Parson	June	2006	upstream	23	5
Parson	August	2005	railroad trestle	1	1
Parson	February	2006	railroad trestle	8	3
Parson	June	2006	railroad trestle	4	2
Parson	June	2005	below Mossy Lake	35	6
Parson	February	2006	below Mossy Lake	33	8
Parson	June	2006	below Mossy Lake	21	3

Aquatic Life Summary – Fish

Study	Month	Year	Site Descriptor	# of organisms	# of species
AquAeTer	September	2011	1	26	3
AquAeTer	August	2012	1	42	8
AquAeTer	September	2011	2 (upstream)	dry	dry
AquAeTer	August	2012	2 (upstream)	dry	dry
AquAeTer	September	2011	4	drv	, drv
AquAeTer	August	2012	4	dry	drv
ΔαμΔεΤει	Sentember	2011	5 (railroad trestle)	not sampled	not sampled
	August	2011	E (railroad trostle)	not sampled	not sampled
AquAeter	August	2012		not sampled	not sampled
Aquaeter	September	2011	9 (below iviossy Lake)	4	3
AquAeTer	August	2012	9 (below Mossy Lake)	8	5

Aquatic Life Summary – Macroinvertebrates

Study	Month	Year	Site Descriptor	# of organisms	# of taxa
Parson	June	2005	upstream	200	13
Parson	February	2006	upstream	179	8
Parson	June	2006	upstream	10	6
Parson	August	2005	railroad trestle	139	6
Parson	February	2006	railroad trestle		6
Parson	June	2006	railroad trestle	223	
Parson	June	2005	below Mossy Lake	200	
Parson	February	2006	below Mossy Lake		43
Parson	June	2006	below Mossy Lake	147	3

Aquatic Life Summary – Macroinvertebrates

Study	Month	Year	Site Descriptor	# of organisms	# of taxa
AquAeTer	December	2011	1	194	7
AquAeTer	May	2012	1	200	19
AquAeTer	December	2011	2 (upstream)	187	13
AquAeTer	May	2012	2 (upstream)	126	13
AquAeTer	December	2011	4	198	7
AquAeTer	May	2012	4	282	10
AquAeTer	December	2011	5 (railroad trestle)	182	21
AquAeTer	May	2012	5 (railroad trestle)	51	9
AquAeTer	December	2011	9 (below Mossy Lake)	flooded	flooded
AquAeTer	May	2012	9 (below Mossy Lake)	559	16

Proposed uses

•Aquatic Life

• Primary Contact Recreation (May 1 – September 30)

Secondary Contact Recreation (year round)

Domestic Water Supply

Agricultural Water Supply

Industrial Water Supply

Proposed criteria

- •2.406 Color
- •2.502 Temperature
- •2.503 Turbidity
- •2.504 pH
- •2.505 Dissolved Oxygen
- •2.506 Radioactivity

- •2.507 Bacteria
- •2.508 Toxic Substances
- •2.509 Nutrients
- •2.510 Oil and Grease
- •2.511 Mineral Quality
- •2.512 Ammonia

Proposed criteria detailed

- •2.502 Temperature 30 C (86 F)
- •2.503 Turbidity 21 NTU Base
- 2.503 Turbidity 32 NTU Storm

•2.504 pH 6 – 9 su

•2.505 Dissolved Oxygen – 5 mg/L primary season (temperature at or below 22 C: mid-September through mid-May)

•2.505 Dissolved Oxygen – 3 mg/L critical season (temperature above 22 C: mid-May through mid-September)

Proposed criteria detailed

•2.507 Bacteria – 410 col/100 mL primary contact recreation (May 1 – September 30)

•2.507 Bacteria – 2050 col/100 mL secondary contact recreation (year round)

•2.511 Chloride – 250 mg/L

•2.511 Sulfate – 250 mg/L

•2.511 Total Dissolved Solids – 500 mg/L

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•2.511 Total Dissolved Solids – 500 mg/L

KEEP IN TOUCH



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