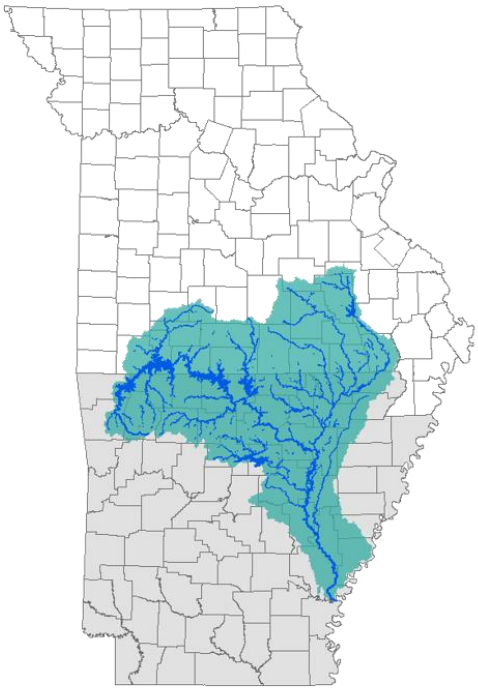
WHITE RIVER WATERKEEPER®

P.O. Box 744
Harrison, AR 72602
870.577.5071
jessie@whiteriverwaterkeeper.org



"Protecting the public health and natural resources of the White River watershed through advocacy, education, and research"

WATERKEEPER® ALLIANCE MEMBER

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22 January 2020

Arkansas Division of Environmental Quality and
Arkansas Pollution Control and Ecology Commission
5301 Northshore Drive
North Little Rock, AR 72118

RE: Comments on Proposed Changes to Regulations 5 and 6

White River Waterkeeper ("WRW") is a non-profit organization dedicated to protecting the public health and natural resources of the White River watershed through advocacy, education, and research. The Buffalo River is a tributary to the White River and is a significant focus of WRW's advocacy, education, and water quality monitoring efforts. Our members and supporters strongly support a prohibition on all medium and large animal feeding operations in the Buffalo River watershed.

WRW appreciates the opportunity to comment again on the proposed rulemaking changes to Regulations 5 and 6. The expanded public comment period allowed the chance to review the Big Creek Research and Extension Team Final Report as well as comments submitted during the first public comment period. These opportunities afforded the ability to expand on our previous comments regarding both Regulations.

Beaver Water District (BWD), in their 23 September 2019 comments, noted several substantive changes to Reg. 6 for which the Division of Environmental Quality (DEQ) failed to provide detailed explanations. WRW would like to reiterate BWD's request that DEQ, in the future, convene stakeholder workgroup meetings before initiating rulemaking to Reg. 6. The copious number of changes that were nestled within the redline document were more than any interested stakeholder could thoroughly scrutinize within a 30 or even 90-day

window. WRW supports and incorporates by reference, all comments submitted on behalf of BWD.[1]

WRW's following comments are meant to provide additional clarification and supplement the comments WRW submitted 23 September 2019 related to the prohibition of select confined animal feeding operations (AFOs) in the Buffalo River watershed.

I. Rulemaking documents filed by DEQ are misleading and do not provide the public with adequate information to understand differences in the AFO prohibitions under Reg. 5 and Reg. 6.

A. The petition to initiate rulemaking to amend Reg. 6 does not meet the requirements of Reg. 8.808(a)(1). The petition states DEQ intends "*to make permanent the moratorium of confined animal operations of a certain size…*" However, this explanation falsely characterizes the scope of the proposed changes. The only variable recognized in DEQ's description is that of size. The description fails to acknowledge that the prohibition only applies to **swine AFOs of a certain size that also meet the regulatory definition of a concentrated animal feeding operation (CAFO).**

To reiterate, the moratorium defined in the proposed Reg. 6.602(b) applies to concentrated animal feeding operations (CAFOs), not the more broadly defined confined animal operations (AFOs). Although all CAFOs are AFOs, not all AFOs are CAFOs. AFOs are categorized based solely on the number of animal units. An AFO can be defined as a CAFO if:

i. It meets the size threshold of a Large AFO;
ii. It meets the size threshold of a Medium AFO **and** either:
    a. Has a manmade ditch or pipe that carries manure or wastewater to surface water; **or** the animals come into contact with surface water that passes through the area where they're confined.
    b. The AFO is **found to be** a significant contributor of pollutants, and the permitting authority uses its discretion to designate the facility as a CAFO. (*Note: "found to be" does not translate to "presumed" to be.*)
iii. It meets the size threshold of a Small AFO, and the permitting authority chooses to designate it as a CAFO on a case-by-case basis because it is found to be a significant contributor of pollutants.

B. The public notice, both original and of the reopening of the public comment period, fails to meet the requirement of Reg. 8.803. See above for a detailed

[1] BWD link

explanation of the mischaracterization of the terms and substance of the proposed regulation changes.

As explained in WRW's September 2019 comments, DEQ's failure to provide a **detailed** explanation of proposed changes has misled the public to believe that a facility the size of C&H Hog Farm cannot be constructed in the Buffalo River watershed under the proposed rulemaking changes. This is false. Attachments 1-4 include news articles discussing the proposed rulemaking changes - mischaracterizing the extent of the ban. DEQ's mischaracterization is directly responsible for the public's misunderstanding.

C. DEQ provided misleading information on the Economic Impact/ Environmental Benefit Analysis. In response to question #9, DEQ stated, "*This proposed rule prohibits the citing of confined animal operations of a certain size in the Buffalo National River Watershed while still allowing small confined animal operation to operate within the watershed. Small confined animal operations pose a lesser threat to the Buffalo National River Watershed.*" Again, this explanation more broadly characterizes the prohibition and does not adequately reflect the extent of the ban as detailed in the proposed changes.

WRW recommends that "CAFO" be deleted from the proposed Rule 6.602(b), and replaced with "confined animal operations" to meet the intent of the prohibition as spelled out in all associated rulemaking documents.

II. Sound Science Should Inform Policy

Although WRW supports the prohibition, WRW is disappointed in DEQ's failure to reference the adequate scientific basis for this prohibition. To be fair, a reliable and relevant water quality monitoring study design was not employed by the Big Creek Research and Extension Team (BCRET). And to be fair to BCRET – they would have needed substantially more resources in order to design a more robust study.

WRW agrees with comments submitted on behalf of Arkansas Farm Bureau that C&H Hog Farm was, and is, the most heavily scrutinized and monitored farm in the state. The fact that there are no conclusive results to definitively discern the level of water quality impacts from the farm is all the more reason a permanent medium and large AFO ban should be codified. As stated in the BCRET final report, "the complexity of karst prevents easy understanding of flow regimes, challenging effective protection and management."

The dye-trace studies of Kosic (2019)[2] and Kosic et al. (2015)[3] confirmed the complexity of subsurface flow within karst areas of the Buffalo River watershed. Interbasin transfer of groundwater flows highlighted failed assumptions of BCRET's surface water quality study design. BCRET's upstream and downstream monitoring stations on Big Creek were intended to serve as control and impact sites, respectively. However, dye-trace studies confirmed this underlying assumption was violated due to the unexpected direction of subsurface flow. If after nearly six years and close to $1 million spent on environmental monitoring, there are still this many study design complications impacting data interpretation, is there any chance of ever generating definitive results to evaluate the extent of C&H's impact on water quality? No.

Further complicating matters is the tangled and multifarious nature of nutrient cycling in the environment (**Figure 1**). For years, EPA has been pushing states to develop numeric water quality criteria based on assessment endpoints (e.g., food web alterations, water clarity, algal growth) to protect management objectives or designated uses (e.g., aquatic life, drinking water, recreation) from harmful effects of nutrient enrichment. To put that simply, in-stream nitrogen and phosphorus concentrations are not useful assessment endpoints due to chemical and physical interactions - including assimilation through the food web.

There is ample empirical evidence confirming the land application of manure from C&H has resulted in a buildup of soil test phosphorus at levels known to increase runoff potential to surface waters. Also, there is ample empirical evidence supporting the notion that C&H's permitted land application of manure will result in legacy phosphorus leaching into surface and groundwater for many years to come.

Recent USGS studies provide further support that there are concerning environmental effects related to animal operations impacting the health of Big Creek.[4] [5] [6]

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[2] Kosič, K. 2019. Evaluation of policy and technical factors for the protection of karst aquifers. Doctoral Thesis. University of Nova Gorica, Slovenia. 302 pages.

[3] Kosič, K., C.L. Bitting, J.V. Brahana, and C.J. Bitting. 2015. Proposals for integrating karst aquifer evaluation methodologies into national environmental legislations. Sustain. Water Resour. Manag. 1:363–374. doi: 10.1007/s40899-015-0032-5

[4] Attachment 5

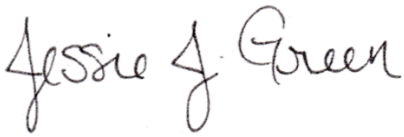
[5] **S.25. Bacterial Metabolic Activity and Counts Near Big Creek, a Tributary of the Buffalo National River, Arkansas.** Nina M. Hoffpauir, Caroline Matkin, Adairre Castille, Brooke A. Baudoin, Rassa Dale, Darren Johnson, Jill A. Jenkins, U.S. Geological Survey, Wetland and Aquatic Research Center, Lafayette, Louisiana. https://southcentralbranchasm.com/wp-content/uploads/2019/10/Final-2019-ASM-SCB-Program-Booklet-1.pdf

[6] **P.7. The Influence of Time and Xenobiotics on Bacteria Typically Found in Confined Animal Feeding Operations.** Brooke A. Baudoin, Caroline Matkin, Nina M. Hoffpauir, Darren Johnson, Rassa Dale, John P. Hawke, Jill A. Jenkins, U. S. Geological Survey, Wetland and Aquatic Research Center, Lafayette. LA. https://southcentralbranchasm.com/wp-content/uploads/2019/10/Final-2019-ASM-SCB-Program-Booklet-1.pdf

This research shows significantly reduced metabolic activity in Big Creek, yet, high bacterial counts. Bacteria rendered metabolically inactive signifies the influence of CAFO pharmaceutical compounds causing antimicrobial effects. This research has focused on compounds that are known to be used in industrial agriculture **and** have been detected in EPA's emerging contaminant studies conducted in the Buffalo River watershed.

Unfortunately, environmental research and investigations in the natural environment are never straightforward or without a plethora of confounding factors. DEQ must rely on a weight of evidence approach, which WRW believes is heavily weighted in favor of a permanent prohibition of medium and large AFOs in the Buffalo River watershed due to the sensitive karst terrain.

Sincerely,



Jessie J. Green
Executive Director & Waterkeeper

Attachments:

1. Walkenhorst, Emily. "Payment made, state gains hog farm land; Buffalo River's protection still seen as priority." *Arkansas Democrat Gazette.* 7 Jan 2020. https://www.arkansasonline.com/news/2020/jan/07/payment-made-state-gains-hog-farm-land-/#
2. Walkenhorst, Emily. "Hog farm proposal garners support." *Arkansas Democrat Gazette.* 14 Oct 2019. https://www.arkansasonline.com/news/2019/oct/14/hog-farm-proposal-garners-support-20191/
3. Walkenhorst, Emily. "90 days added for hog-farm ban comments." *Arkansas Democrat Gazette.* 26 Oct 2019. https://www.arkansasonline.com/news/2019/oct/26/90-days-added-for-hog-ban-comments-2019/
4. "Arkansas commission begins process of hog farm ban on Buffalo National River." KY3. 27 Jul 2019. https://www.ky3.com/content/news/Arkansas-commission-begins-process-of-hog-farm-ban-on-river-513299461.html
5. Jenkins, Jill et al. "Bacterial counts and metabolic activity from water samples along the Buffalo National River." *Buffalo National River Science Symposium.* 23 Apr 2019.

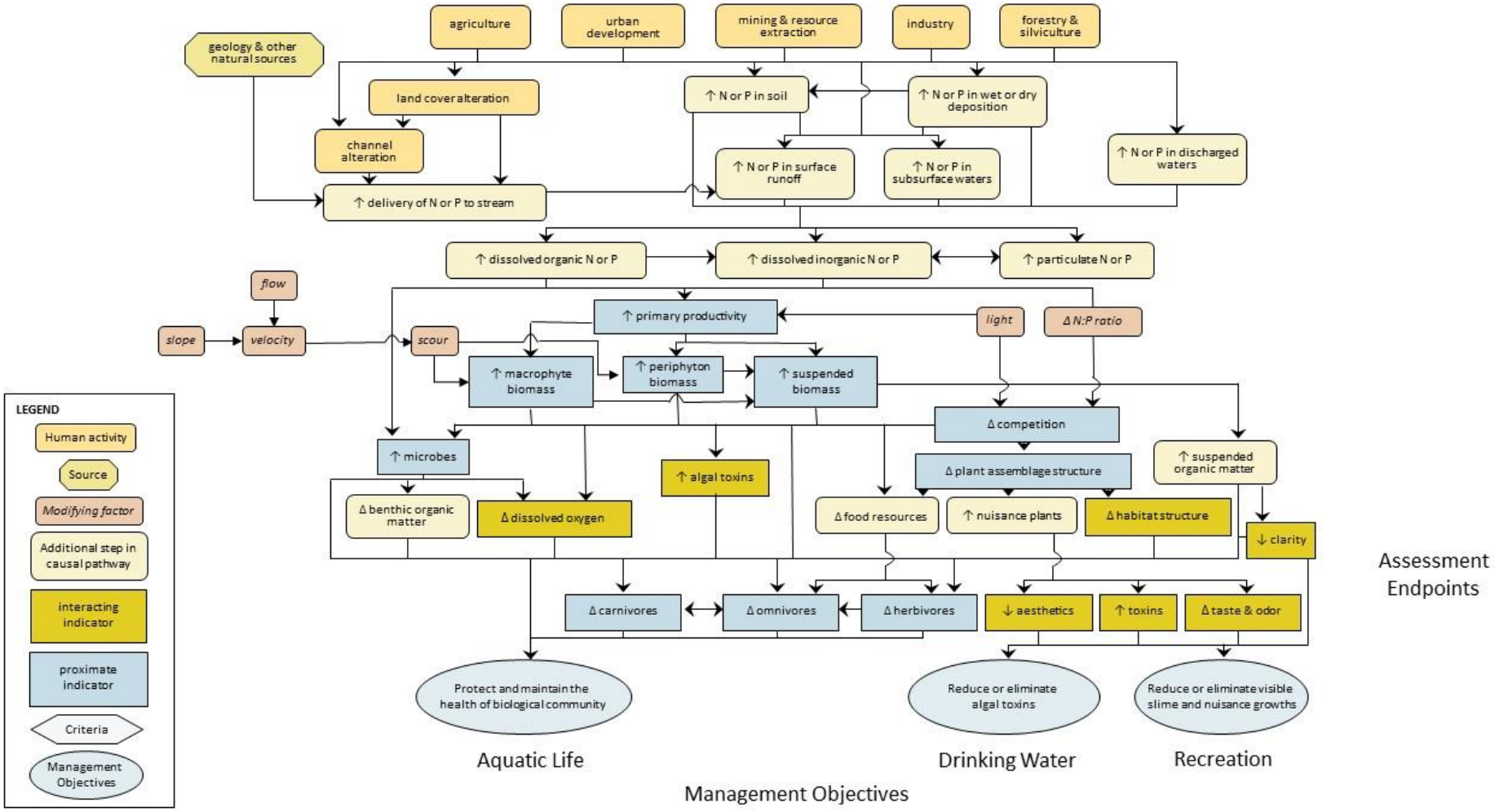


Figure 1. Conceptual diagram of nutrient pathways and assessment endpoints relevant to evaluating impacts to water quality.