

To: Tate Wentz

From: Arkansas Ozark Waterkeeper and Buffalo River Watershed Alliance

Date: March 28, 2022

Re: Comments on Draft 2022 Arkansas Nutrient Reduction Strategy

Dear Mr. Wentz:

Thank you for the opportunity to comment on the 2022 draft Arkansas Nutrient Reduction Strategy (ANRS) outlining future efforts to reduce nutrients entering waterways from Arkansas that continue to enlarge the hypoxic zone in the Gulf of Mexico. We have many questions about the ANRS sprinkled throughout the document and would appreciate a full response to each question.

While we applaud any efforts to address the amount and types of nutrients ending up in waterways and adding to the toxic load exacerbating a dead zone in the Gulf of Mexico, it appears that there is little or no enforcement mechanism to encourage stakeholder compliance or participation.

Certainly, it is a good starting point to monitor waterways and gather data, yet without having state regulated numerical standards in place that quantify and limit acceptable levels of Phosphorus (P) and Nitrogen (N) that flow into our streams through run off or leaching into groundwater, such efforts are akin to trying to regulate traffic speeds by placing signs asking motorists to slow down. If there is no one to pull speeders over, no set speed and no fine to pay, how likely is it anything will change?

The same amount of effort and funding expended to set up your program might be better used working to get state agencies to develop science-based programs that define acceptable amounts of nutrients that can be applied, taking the geology, predominant soil type and topography of the particular area into consideration.

In NW Arkansas, decades of over application of animal waste has severely impacted rivers, creeks and lakes. It took a lawsuit filed by a neighboring state to force change. By establishing a Nutrient Surplus Area (NSA), the result is the requirement of a nutrient management plan (NMP) identifying the nutrient types and limit, soil testing to ensure nutrient build up is not occurring, restriction of nutrient or manure application in the area, and certification of waste applicators.

Too often, state regulations don't kick in until issues arise, rather than determining the best ways to avoid damaging the environment in the first place. As your study notes, removing excess P is an expensive proposition and one paid by citizens, not necessarily the polluters.

As you pointed out, water testing is also expensive and requires training. We believe watershed groups would welcome support from the state to help with their water testing protocols. Kings River Watershed Partnership has undertaken water testing for many years and Buffalo River Watershed Alliance has an ongoing testing program on Big Creek in the Buffalo National River (BNR) watershed. The rising cost of lab work, the expense of transporting samples to the nearest certified lab, and the need for more accurate testing instruments has limited their testing in the past few years. In addition, the shortage of river gauging stations limits discharge data and makes interpretation of nutrient data less than optimal. Again, it begs the question of why private citizen groups are having to pay for the gathering of water quality data using their own funds?

On page 18, the draft ANRS document summarizes the data requirements for a trend analysis of various watersheds in Arkansas. Who established the criteria for the trend assessment within the ANRS? Is this EPA or a state agency or some other entity? Will EPA or another entity review the ANRS? The data required to detect change in nutrient loading must be sufficiently robust due to the high variability in nutrient quantities in natural systems. What is the p-value of your trend study? With minimal data it will be difficult to draw conclusions that are sufficiently robust.

The statistical tool, the median, is not an effective measure of P load, much less small improvements or changes. As an example, the P load on Big Creek below the C&H hog operation was twice the P load above the farm and yet the median was the same above and below the farm. The median could not tell the difference between upstream and downstream for the manure application of over 14 million gallons of high P waste.

We were surprised to see the BNR area designated as lacking sufficient data to determine risk. Surely this has been one of the most tested and monitored waterways in the state! During the deposition process surrounding the C&H NMP, it was discovered that the C&H Arkansas Phosphorous Index was skewed from the outset due to the unsubstantiated use of an 80% storage loss factor for P, whereas in Arkansas the norm for P storage loss calculations is 0 (zero). This erroneous 80% factor allowed for much higher field applications of P than would otherwise have been permitted. It seems clear that corporate interests must be carefully watched as this is unlikely to be the only instance of fudging such numbers. It should have been caught immediately by experts at NCRS responsible for approving NMPs. (See deposition excerpts from Monica Hancock. She prepared the C&H Reg 5 NMP. Nathan Pesta prepared the original Reg 6 NMP to which Hancock refers).

As one of the most recent streams to suffer from excessive algae growth (90 miles out of 135-mile stream covered in algae in 2018) caused by over application of swine manure from the C&H hog operation, we advocate for the BNR to be designated as a Tier 1 watershed. The BNR is a very important economic engine in North Central Arkansas as well as a historic and environmental national treasure. Given its prominence and recent extensive algal blooms, we feel it would be a serious oversight to not include the BNR as a Tier 1 watershed.

Please identify specifically the frequency of samples, spatial and temporal sampling density, required laboratory protocols and certification, potential funding opportunities, and all other parameters needed in order for the BNR to be considered for nutrient observation and analysis for Tier 1 designation. It should also be observed that the apparent reluctance to conduct and

evaluate water testing data during or after rain events is the equivalent of testing a toilet bowl after it was flushed. Storm flows account for the majority of nutrients entering waterways via runoff or groundwater leaching.

While you mention geology as a factor in preserving water quality, the presence of karst limestone covering much of the Ozark plateau has proven to be an extreme risk factor for land to water and groundwater transmission, including leaching through thin soils, fissures and micro sinkholes. Establishing more NSA (page 27) where the presence of karst is well established would help meet your stated goal of creating a nutrient reduction framework. In NW Arkansas the soil testing and application requirements have proven somewhat effective in stabilizing the region's water quality, although much more work is needed. More attention should be given to recording the locations where waste transported out of the NSAs is ultimately distributed. For obvious reasons, it is likely being applied to the nearest locations outside of the NSA boundary, much of which is karst. Record keeping requirements should identify the locations and application rates of all waste transported out of the NSA. If NMPs were required state-wide and not just in the NSAs with appropriate agency review, this problem would be reduced if not eliminated.

Protecting Arkansas' streams and watersheds and agricultural interests are not mutually exclusive. Isn't the goal of the report to reduce-overapplication of nutrients to reduce the hypoxic zone in the Gulf of Mexico? Clearly agricultural practices must change to accomplish this goal. However laudatory BMPs might be for restraining P at field edge, without reduction of application to agronomic needs, in the long run legacy P is the result. It will already take decades to reduce existing legacy P run off into our streams especially given climate change that results in large storm events creating stream bank erosion. Damage to riparian zones is also a growing issue, especially where trees are cleared or thinned to give new homeowners a view of the waterway. Loss of the riparian zone and trees that stabilize the stream bank cause increasing sedimentation in our streams that significantly changes the biota and ecology wiping out endangered mussels and other aquatic organisms. Regulated practices and goals to reduce the loss of native trees, plants contributing to the riparian zone should be included in the ANRS strategic framework.

In NW Arkansas there is rising alarm about the US. Forest Service (USFS) plans to 'mitigate' a 40,000-acre area of mixed hardwood forest deep in the Boston Mountains in an area where the Kings River, the Mulberry, the White River and the BNR all have their headwaters. The area is known as Robert's Gap. The USFS plans to cut, thin and salvage over 11,000 acres of hardwood and pine forest, construct over 70 miles of roads, burn over 11,000 acres, and apply herbicides on 3,000 acres.

In 2012, a similar so-called mitigation of an area called Bearcat Hollow close to Richland Creek near the BNR called for the selling off of valuable timber to local lumber interests, followed by the dozing of remaining trees and basically scraping and scarring the area to bare ground. We have aerial photos of the damage done at Bearcat Hollow, including a massive subsidence that occurred following the clear-cut and dozing that was carried out. If similar plans are carried out at Robert's Gap, there is the potential for great harm to waterways that flow through our region and ultimately into the Mississippi. Your list of issues includes forestry operations that lead to

ground disturbance and erosion. What role or say does our state Forestry Service have when it comes to the practices of the USFS?

We need to preserve and enhance stream-side buffers to the greatest extent possible. We need every tree and stand of river cane or willow to soften the impacts of growth and years of nutrient overapplication resulting in legacy P. We also need increased monitoring of nutrients, and numeric nutrient standards and enforcement.

We want to reiterate that we are grateful for your efforts and acknowledge the challenges you face.

Sincerely,

Teresa A. Turk
Arkansas Ozark Waterkeeper, Treasurer
Buffalo River Watershed Alliance, Science Advisor

Cc: Katie Mann