

Jan 22, 2019,

I appreciate the opportunity to comment. I live in the Buffalo National River watershed. I love my home and spend many of my hours volunteering to improve the quality of life for the people of the county. The permitting of a large hog cafo in our community has driven deep stakes into our lives, there are many here that live in their ancestors grief and this has brought the grief back into the open.

Buying C&H Hog Farms had to be done. I wasn't for rewards to 3 families that have cost numerous other families financial difficulties, health issues and loss of property, but it is the way of the times, it was the best for the people.

Many residents realize the value of education and progressive movements and are involved in community service related projects, their children graduate, attend colleges, work outside Arkansas and return for retirement. It's a complicated place where there are also poor, uneducated and uninformed and many that have never left the community they were born in. Relations tend to believe relations with no knowledge of difference, opinions become facts and those are believed as truths. Science is sometimes looked upon as non critical. It is not understood and there is a riff of its necessity...."my grandfather did it this way, it is good enough for me". Fortunately we know that in some cases there is a better way. One example of a better way to protect water quality is fencing animals out of streams, those who need financial assistance can apply for farm assistance grants and recoup the cost of fencing and receive yearly checks from FSA to off set the cost and or inconviences. Otherwise the animals will stand in the stream causing erosion, bacterial imbalances and higher nutrient loads to the waters causing illness to those individuals that still drink from the springs surrounding the countryside.

It is easier to understand why science isn't considered sound by certain citizens when those that are at the top of the professional professorship ignore studies and instead bend toward special interests by omitting or altering the study to show an erroneous result. When this happens it can be confusing to those who have little access to the actual work, financial burden and the expertise it takes to receive a peer reviewed accredited study.

It was requested by a PC&E commissioner that the public comment period for the moratorium be reopened and extended until everyone had a chance to read the recently published Big Creek Research study (BCRET).

It may be that after the study was complete that it was determined that in the best interest of science a hydrogeologist and his peer reviewed studies be included in this report, but during the BCRET study Dr Brahana & Dr. Kosic were denied access to the C&H Hog Farm facility. Had Dr Brahana been allowed access to C&H Hog Farm the level of research (independently funded by volunteers) could have provided more expedient and informative answers to the now impaired water quality of the Buffalo National River and Big Creek.

The work done by Dr Brahana was offered to C&H Hog Farm owners and was of the same quality as offered to land owners in the area, it was scientifically sound and an in-depth study by one of the highest most respected and loved professors of science. You have only to google his name to begin reading the honor this man has provided in his research and the

education of the hundreds of students now working scientifically in the world. Had there been collaboration with the U of A BCRET team and the Buffalo River Karst Hydrology Team it could have reduced local discontent and prevented harassment and misunderstandings relating to the scientific information gathered over the last 7 years. The dye studies sited in this BCRET report would cost approximately \$50,000 and was funded by the Brahana team and its supporters. No one received compensation except for a few college students that were paid minimally for their time. It was a volunteer effort and provided a sound scientific study that is extremely useful now and in the years to come, as utilized in this report by BCRET.

From the BCRET study I read,

The plan of research meets the level of funding available. We deferred to Dr. Van Brahana on the use of dye-tracer tests to investigate the presence of possible rapid by-pass flow pathways common in karst dominated areas. Dr. Brahana is an expert on dye-tracer studies and deferring to him avoided duplicative efforts and saved limited resources, which were used to pay for water sample analysis. A broad pool of expertise from the partner organizations will be brought together for work plan implementation and periodic review.

I worked closely with emeritus Dr. John Van Brahana and Dr. Katarina Kosic over the last 7 years. We have produced several accredited peer reviewed scientific studies. In 2013 Dr. Brahana approached Teresa Marks, ADEQ Director, with a willingness to help the state understand the wrongful placement of a large hog CAFO on karst so close to the Buffalo River watershed. His letters were ignored and his expertise was declined by the University of Arkansas' Agricultural professor, Dr Andrew Sharpely in the development of the study contracted with Governor Mike Beebe. His permit to inject dye in an open well had to be taken before the PC&E Commissioners to be approved 6 months after its application, this process had taken only days for approval in the 20 previous years of experience with dye tracings in Arkansas and never had he had to go before the commissioners to get a permit.

With the large amount of landowner participation we were able to get a broad view of the relationship of surface and ground water flow in the Big Creek watershed. It also provided many hours of travel time and observations. Below are a few that have been noted pertaining to the BCRET study.

1. Broken equipment that was inoperable for over a year at upstream monitoring site
2. Field 12 monitoring equipment was at upper end, opposite expected flow for slurry run off and adjacent to a field that never received slurry. At the Lower end of Field 12 there was a visual erosion ditch from field runoff that went directly into Big Creek. Limestone rock was dumped into this ditch after placement of the monitoring equipment at upper end
3. Monitoring sites were chosen prior to dye tracings and none were outside the reach of the dye trace
4. Field 5A was never a permitted field of C&H Hog Farm, this field flooded not only from Big Creek but from heavy rains

5. I spoke with landowner, Charles Campbell, and gained access to his many fields that line Big Creek. He had never been asked to be a part of the BCRET study though it was visually apparent his fields had sink holes, loosing streams and 2 bordered Big Creek. The Newton County Platt map showed him to own Fields 8 9, 10, 13 & 14 at the time of the BCRET study.

6. There is an active limestone quarry in one of the original approved fields owned by Jason Henson, Field 1, the spring sampled is down-gradient of this quarry where the rock crusher and dump trucks were continually moving in and out.

7. The rain gauge used by USGS is under overhanging branches and was installed this way

8. Equipment was placed on private property without landowners permission; it is stated the county judge gave permission

9. Dye was never injected at the C&H facility.

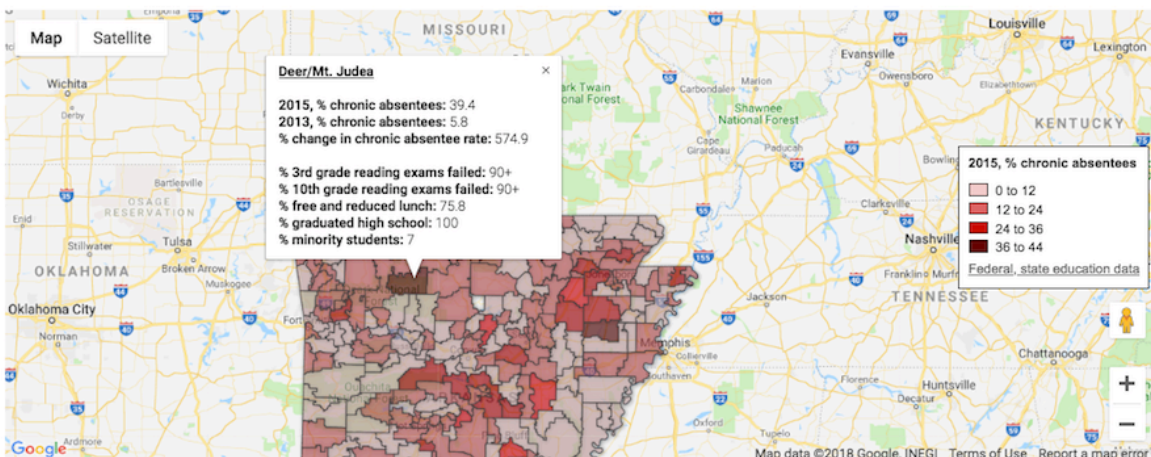
10. I'm not sure what you call adjacent but field 12 is not adjacent to the placement of the eocine dye as noted in the study. It is at least 2000' from Sharpely's monitoring site in Field 12 and not adjacent to Big Creek as Field 12 is. The ejection site is as stated elevated to all dye packet sites

Health issues were never taken into consideration even though students at the Mt Judea school were only 1/2 mile air to the east with predominantly easterly flowing winds. Below is a publication by the Arkansas Health Department on Chronic absences at Arkansas Schools, check out what happened at the Mt Judea school from 2013-2015. This is another good reason to not allow cafo's in the Buffalo River watershed. How many of these children drink from springs? Do you know? They are mostly from economically challenged families.

Chronic absences at Arkansas schools

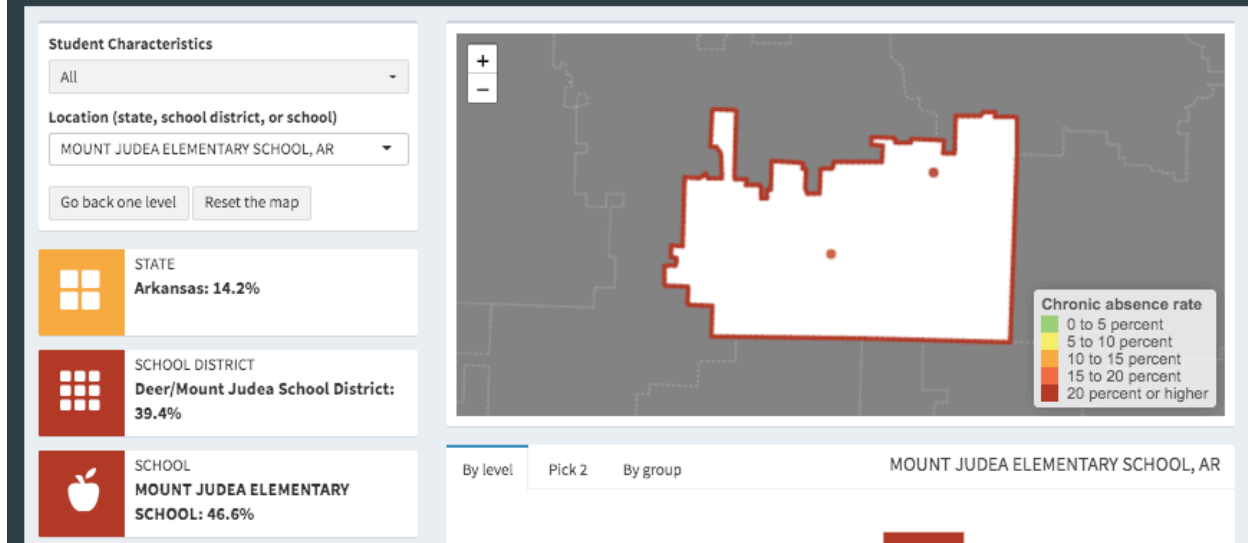
Chronic absenteeism — when a student misses at least 15 days in a school year — is tied to many educational outcomes, including graduation rates, reading scores and social-emotional development that helps children persevere. In 2015, 46 Arkansas school districts reported that at least 1 in 5 students were "chronically absent." Thirty schools had at least 40 percent chronically absent students that year. Overall, Arkansas' 14 percent chronically absent rate placed the state just below the national average of 16 percent. Click on each school district to see more information, including past absences rates and other education outcomes data.

Source: U.S. Department of Education, Arkansas Department of Education



Chronic Absence across the United States, 2015-16 School Year

Education



If CAFO's are allowed in communities is the government ready to take the responsibility of the health that deteriorates where these large air and water polluters exist?

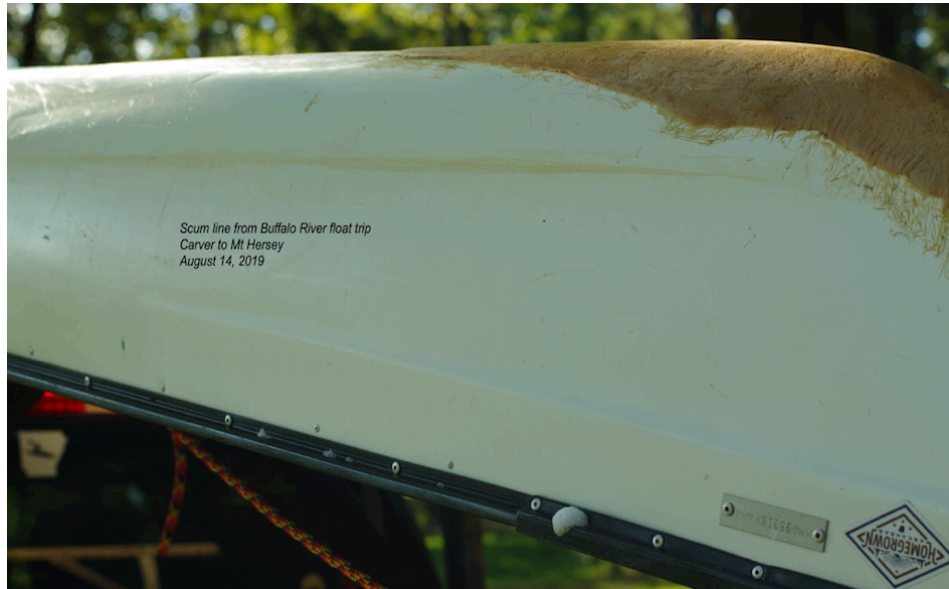
Is the state of Arkansas ready to address the fallout associated with CAFO's? It is documented that particles can travel within a 50 mile radius of a CAFO. Karst is definitely a fast transport of nutrients by rain and water flow, but air is also a transporter. Please



assure me that all decisions take into account the already documented health effects of living near a CAFO.

In 2013 Mt Judea had a 5.9% chronic absenteeism, by 2016 Mt Judea school shows 39.4% overall absenteeism. I think that is noteworthy. How many parents are losing work to take their children to the doctor? How many working dollars are lost to these families? Is the system prepared to take on the cost of CAFO's in the communities?

This picture of a canoe after floating below Carver tells the story....do you want to swim in this water?



I would also like to know the date of when the Moratorium was lifted? I am attaching the copies of this moratorium.

I am asking that you strengthen Rule 5 and Rule 6 to exclude medium and large CAFO's in the Buffalo River watershed.

Carol Bitting
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