

Tuesday, January 26, 2016,

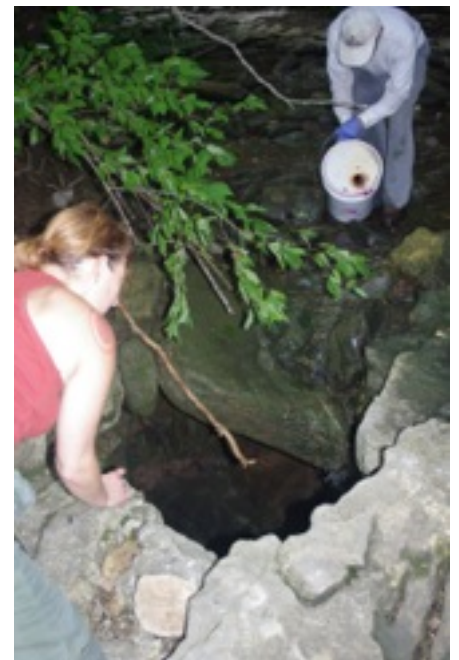
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C&H Hog Farm EA Review,

I am not going to re-reference all the data that is available in the draft EA or the previous comment letters. The original EA showed FSA & SBA failed to provide a proper EA, failing to follow the laws of our country and their own agency regulations. Therefore millions of dollars are being spent to deny historical and recent science.

This EA fails to take into account the county without C&H Hog Farms therefore due to the sensitivity of the environment, economy, health and public I find it most important to prepare an Environmental Impact Statement.

In my opinion the references listed in this EA are minimal to the scope of this project.



All cave photo are in the Big Creek watershed.

I began caving in the 1980's. My caving focus was in Arkansas' caves with caving experiences also in Tennessee, Alabama, Georgia, Missouri, Arizona, Virginia and Texas.

My husband is the cave specialist for the Buffalo National River and over the last 25 years we have surveyed, monitored, photographed and mapped many of the 360 plus caves in the national park along the Buffalo River. One such cave in Newton County is the longest cave in the state, now with 17 miles of passageways.

I am including some of the photos I have taken over time of caves that are located along Big Creek in Newton County. I have excluded the coordinates of the caves due to the sensitivity of their inhabitants and the vandalism that caves often experience in this area.

John Eddings is a gray bat maternity roost and is downstream of C&H Hog CAFO. It is 4 miles from the swine barns and spreading fields. This cave stream is also a positive dye trace result of Dr. Brahana's 2014 Dye Trace.

See "Why It Is Important to Study Water Flow in Karst in the Area of a Concentrated Animal Feeding Operation, Especially in the Buffalo National River Watershed" <http://buffaloriveralliance.org/Resources/Documents/Why%20It%20Is%20Important%20to%20Study%20Water%20Flow%20in%20Karst-handout121114.pdf> Also for more reference to the Dye study see Katarina Kosić' Proposals for integrating karst aquifer evaluation methodologies into national environmental legislations. The Case study of a concentrated animal feeding operation in Big Creek Basin and Buffalo National River Watershed, Arkansas, USA Katarina Kosić, Carol L. Bitting, John Van Brahana, Charles J. Bitting <http://link.springer.com/article/10.1007/s40899-015-0032-5/fulltext.html>

# Big Creek Area



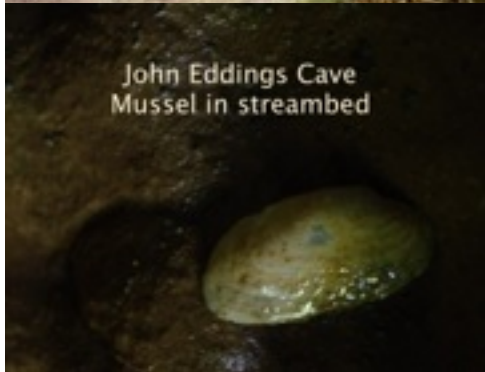
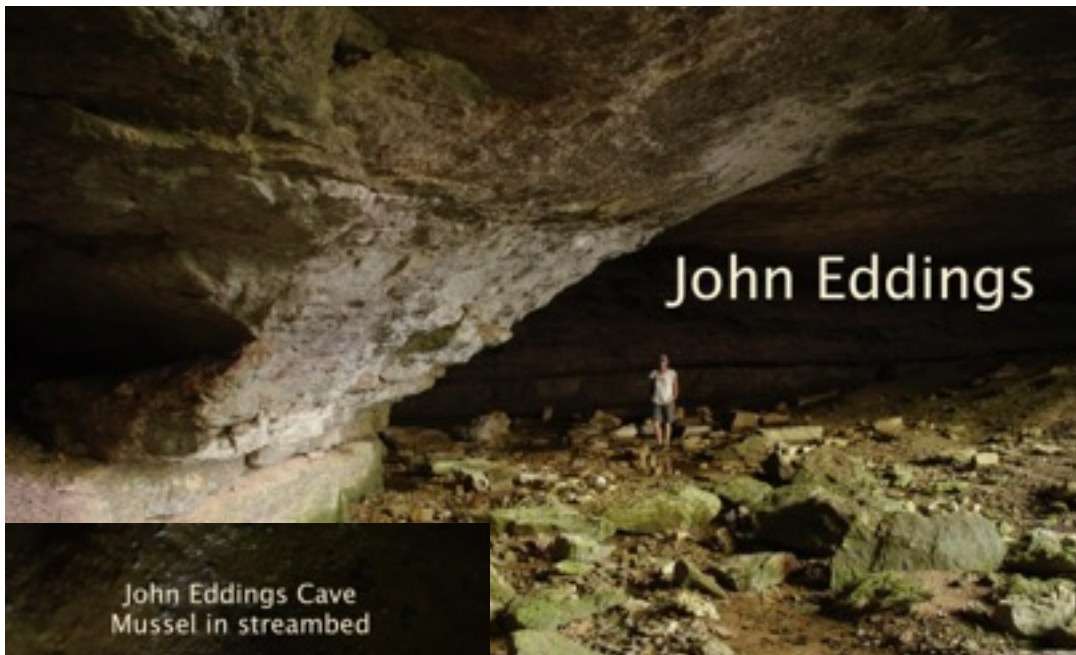
In 2015 the USGS put a monitoring station on the Left Fork of Big Creek, it is no longer operational due to funding. C&C Hog Farm used fields on the Left Fork of Big Creek to spread hog sewage during their operation and hundreds of thousands of gallons were spread upon these fields. (wish I could show you water quality visuals of left fork, but that's a story for later)

These photos are pretty, but inside where the water flows that is different. Hog waste, chicken litter, any untreated waste carries solids that turn into slime in caves. In one of my experiences a farmer asked us to investigate why his well was polluted with e-coli. We rappelled over the bluff found the cave entrance, entered & found his well pipe in a pool of water. We quickly exited the slimy, stinky mess. His water was contaminated and his cave was slimed with years of soil accumulated chicken litter.

Caves are common in this county. CAFO's are not. CAFO's are kept secret, neighbors don't want them. You have only to look at the signs posted outside the gates to know they aren't friendly to their neighbors, "C & H Hog FARMS, No TRESPASSING".

I find it interesting that the EA keeps mentioning the historical use of overuse of fertilizer. Fertilizer is expensive and farmers don't want to overuse because it will kill the grass and it reduces profits. This statement should be backed with facts or removed.





To say that C & H Hog Farm is not located near karst makes me wonder why preparers of the EA, SBA & FSA are ignoring the karst. Could it be that C&H has a general permit and under this permit there is no authority to discharge to the waters of the state? Below you will see photos where water appears to flow subsurface (groundwater) but in reality it is flowing thru the surface. On a given day thousands of gallons of manure are applied to spreading fields, it rains, surface waters flush the fields, the trucks return & thousands more gallons are applied. This is waste management due to hogs don't stop pooing, and regardless of the size of the lagoon, it has to be drained.

Newton County, Arkansas has more caves than any other county in the state. Many residents own their own caves & springs or have access to some type of karst feature on or near their property. This is not "rocket science" but common knowledge. School age children are familiar with streams, springs and caves in our area. Historically caves have been used for storage, shelters for humans and animals, burial sites, the production of salt peter during the civil war and moon shine during prohibition. Caves are major historic landmarks in Newton County, such as this cave near the mouth of Big Creek.

The USFWS's response was to say the least, lame. The caves on state and federal lands in Arkansas have been closed for years to recreational caving due to WNS (White Nose Syndrome), though there is no proof that caving humans are the cause. The stressors bats contend with will only increase and the decline in populations of these species will fall on those who ignore the science for their own or their agencies own special interest.

The accumulation of years of applying millions of gallons of sewage to a highly permeable surface in a karst terrain was not addressed in this EA and the USFWS ignored this also. Shame. WNS wasn't mentioned though it has been identified by the USFWS as present in Newton County. Bats are highly sensitive due to the attack by WNS on their immune systems. It is extremely important to take into account swine waste, (comparable with human waste) on the environment and what the future can expect. Bats are mammals like me, I can't drink water with e-coli counts of 15,000. (See EPA Risk Evaluation of a concentrated feeding operation) It may be easy to write off the bat, but bats are mammals & pollinators and it is important to our welfare to insure their health and safety.

# Big Creek Area



The EPA has a document “Risk Evaluation of Concentrated Animal Feeding Operations”. Every farmer should read this document so they will know what level and which nutrients can cause grazing animals poor health and possibly death with accumulation of swine waste on their fields. C&H hogs will continue to produce sewage year after year after year. A sensitive karst environment like the one C&H and its spreading fields are located in is restrictive to finding application fields that are within short travel from the factory. For C&H to add more spreading fields would require them to go out of the Big Creek drainage and into another tributary to the Buffalo River. This CAFO is already very poorly placed in a tributary to America’s first National River, surrounded by National Forest, Arkansas Game & Fish and recreational activities like fishing, hunting, canoeing, hiking, horse backing, climbing, etc. A tank truck loaded with swine waste on steep, windy roads with bikers & tourist in the area is another example of the risk to the public & water quality due to lack of containment during spillage or accidents.

I once followed a truck of loaded swine up Highway 7. As the truck inclined and leaned with the curves there was a steady stream of sewage poring from the back. The truck was slow due to the elevation and curves, I pulled over and sat looking out at the scenery and a car with Texas plates took the lead. When I arrived at a tourist stop, Booger Hollow, there was the car. Its grill, hood and windshield were covered in swine waste. The driver (suit & tie) had tried to use the wipers only to smear this sticky poo and was inside trying to get windex & paper towels from the employees so he could continue his trip on to Branson, Mo. Newton County truck accidents were not addressed in the EA, nor the expense of accidental spills, risk to motorcyclist or motorists. This area was designated tourism long before C&H. This was not addressed in the EA.

This sink hole, below a road, is typical of the area around Newton County. Aerial view on Google Earth would not show this, neither would a topo.

This sink hole would suck up a tanker load of sewage from a spill in a heart beat. It could resurface in a spring, creek or the Buffalo River or it could continue to flow downward toward the karst aquifer.

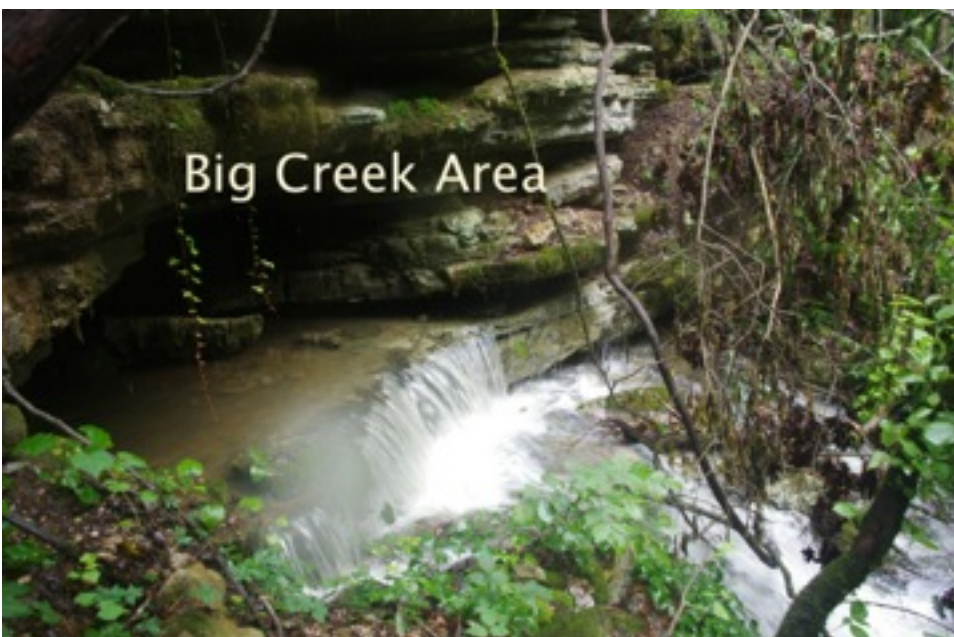
Many residents use their springs and creeks as water for their homes & animals. I am one of those. This should be covered in an EA, yet another reason for an EIS to be done on this permit.



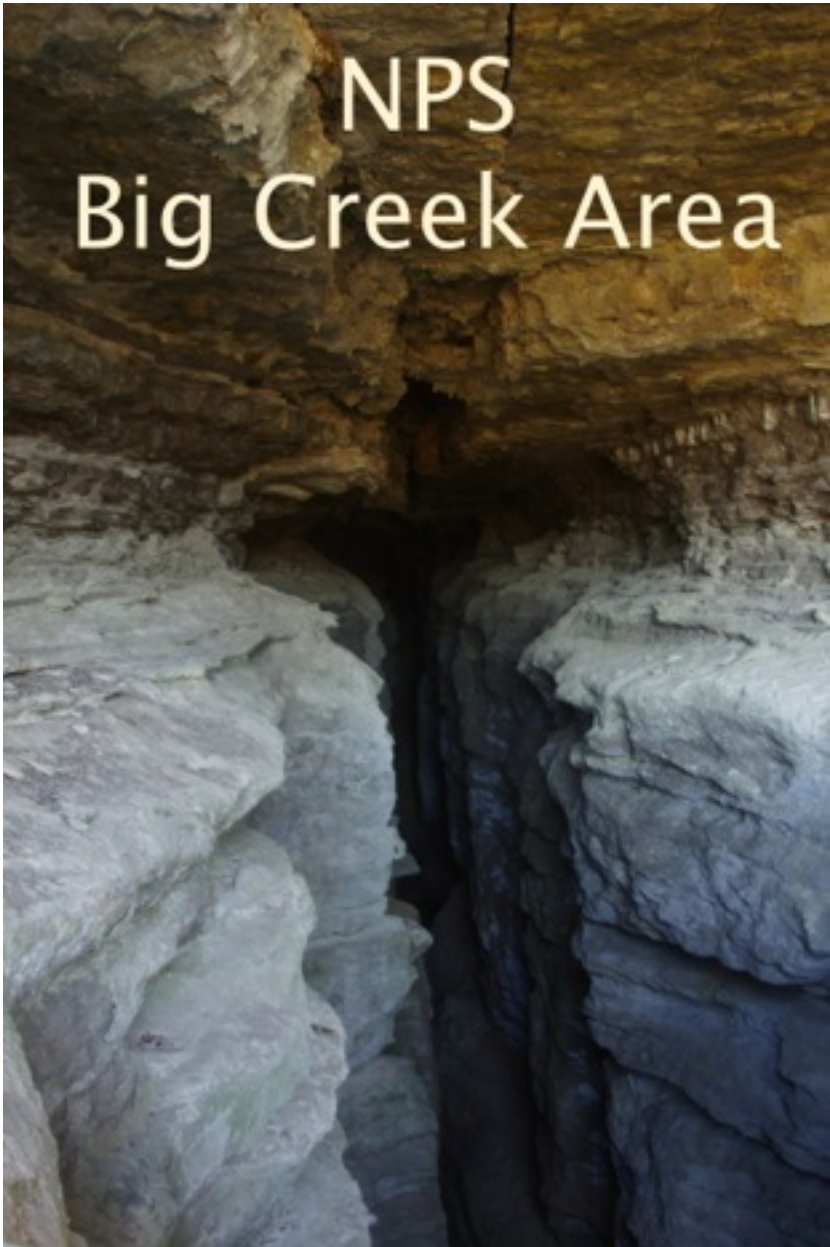


One only has to take a walk to see springs and caves such as this one to the left. This area near Big Creek has many caves, and is also positive hit in Dr. Brahana's dye trace.

Big Creek area has a variety of cave passageways, as depicted by the few photos in this report. You can almost see the names scratched into these walls by hundreds of explorers feeling it necessary to leave a trace of their life somewhere. We now practice the "Leave no trace" ethics and by doing so leave an environment that can be shared as we ourselves experienced it.



This cave, a positive dye hit in Dr. Brahana's Dye Study (2014), is within walking distance of Big Creek in the NPS boundary of the Buffalo National River. Rain in the Mt Judea area, 6 miles south, becomes surface water in this area and flows directly into the Buffalo River.



One of my biologist friends suggested Big Creek was one of the most sensitive areas left in the state. He stated that it hadn't really been explored to see what species were there. Big Creek is surrounded by National Forest, Arkansas Game & Fish, and the National Park Service. To the southeast of C&H Hog Factory is a popular rock climbing area known as "Sam's Throne". Sam's family is buried in an old civil war cemetery 4/10's of a mile from C&H.

Some people think their rights outweigh other people's rights, but when your neighbor's hogs stink up your land, your neighbor is trespassing. When your neighbor's trash is washed across your property when the creek rises, your neighbor is trespassing. When C&H Hog sewage is washed down from the trenches to the creek (BCRET), then on to the Buffalo River it is trespassing.

The report from the Department of Health spreadsheets show BCRET, the NPS and their compiled information. E-Coli results BCRET reports

10/13/2014, Trench 1	15,650.0
Trench 2	920.8,
BC6	20,140.0
BC5	19,350.0.
Site 4	15,530.0

Every one of these counts are within the drainage area of the C&H Hog CAFO spreading fields and facility. Trench 1 below the lagoon, Site 4 is the stream below the trench.



From Jan 2014-October 2014 C&H was spreading heavily in the fields up gradient of all the BCRET sampling sites. The rainfall and surface runoff of heavy rain in short periods would create higher e-coli levels in the streams and springs by surface runoff. I've been in the area and seen how quickly water flows across the fields, the creeks rise quickly then the water recedes ever so fast and the flush is over. The Buffalo River is the recipient of this flush, but it doesn't stop there, it continues on downstream and with it takes the potential to reduce aquatic life, and enjoyment for all.

Google Earth photo was accessed 2016/01/26 and shows C & H Hog Farms spread waste all the way to the fence line of a land owner who denied C&H access to spread swine waste in their field. There is another photo (Google Earth) of Field 17 that shows the actual spray truck near the fence line, so much for NMP's, adhering to it or strict enforcement. I have the first copy 2012 NMP, and it is amazing how many changes have been made thru out this document compared to the one on ADEQ's web site 2016. These changes aren't made by public review, someone at ADEQ approves and changes the language without notifications to the public. One such example are the fields. Now who determines if they are grazing or hay? They change all the time (personal observations with photos) and some are even grazed while the spray truck is in the field. The cows don't like this they stay to the fence line, I imagine the meat reflects the feed so I find sustainable farmers to purchase meat from. C&H won't ever be sustainable, 6500 hogs 23 acres...it's not rocket science.



The photo below showing water spouts was taken less than 50' from Field 15 fence line. The water was flowing in sheets, flowing into a pond and into a channel that went straight to Dry Creek. This feature of karst terrain shows the fast flow of surface water into ground water and or vice versa.

The FSA or the SBA did not take into consideration the accumulated impacts of millions of gallons of swine sewage spread in karst terrain. The EA deny's the karst terrain and therefore they have again ignored science and some of the most respected hydrogeologist & karst scientist in the world. They have ignored NPS data, USGS data and the Arkansas Geologic Survey and many many more studies so easily accessed on the world wide web.

The photo of the water spouts show how the water loaded with nutrients makes its way to the creek across another's property before it arrives at the creek with all the components it can carry with it.



Above you see the water as it runs across the surface in a field that is covered in grass. The soil barely exists, the water is forced out thru gravel and gushes in water spouts. This area is just below spray field 15. See how the water flows across the surface, yet is flowing from the subsurface at the same time, or so it appears subsurface. I guarantee putting dye on Field 15 would show dye line all the way to the creek....I call that surface discharge, especially when you see how many gallons this field receives. At the same time I have no doubt dye could travel downward and could surprise me at locations I might not be expecting. I have caved enough in my life to understand the main flow, and suspect the secondary.



The preparers of this draft EA did not take into account the evaporation of the swine sewage as a form of dispersing hog sewage. This is an important component to the NMP, nor did they take into account the fields 5-12 are in the Big Creek flood plain. Residents didn't build in the flood plain, they built above it, therefore more subject to the odors and pollutants carried by swine feces, as the EPA document below states. The Mt Judea area is rural the town is built northeast of the C & H spreading fields. The evaporation of the lower level fields rises and those living above are exposed thru out the day and night when the inversion traps the odors on the valley floor & in the town. The winds are predominantly from the SW and the spreading fields are SW of the town and school, the evaporation of the sewage, the elevation of the majority of the homes, the school, store, churches and other business' are NE of the spreading fields lack sufficient review.

When BCRET speaks of C&H and the water quality above the farm (as they call it), they are speaking to alert the reader that C&H is downstream and therefore the degraded water quality is due to other agricultural, unmonitored practices. This is misleading, BCRET is "Monitoring the Sustainability of C & H Hog Farms" and working with the owners to try to make C&H a sustainable factory in a highly sensitive karst environment. C & H's used spreading fields are all upstream (south) of the CAFO.

BCRET has not published one water quality sample that was outside the boundary of the dye trace by Dr. Brahana. Dr. Brahana's study shows the dye placed in a shallow hand dug well, (C&H spreading fields area) flowed to and exited in springs and creeks surrounding the C&H Hog Factory and its leased fields. This well receives its water supply and water level is directly related to surface water. Thereby, showing that C&H Hog sewage has potential to travel to the surface and ground waters of the Buffalo River by way of surface and ground water through subsurface solution tubes and or rain water.

The EA does not show a study outside the dye trace that can show other agricultural over use of fertilizer nor has it shown that the high e-coli counts, fecal coliform counts are not C&H's. Therefore an EIS is important. BCRET has received nearly a million dollars from the Arkansas tax payers to do these study's.

We do not know the extent of the travel of the sewage, but below is a photo of a spring that is in the vicinity of a positive dye tracer packet located near Cave Creek. Cave Creek is a major tributary to the Buffalo River and is east of C & H Hog factory. This tributary is so named for the number of caves in and around it. The springs located are larger than those I have found along Big Creek, but look at the water quality of a spring located between Cave Creek and C & H. Do the preparers, FSA, & SBA know the 5,000 gallons allowable by the NMP permit isn't the source of this degradation in water



Some say manure is God made. My studies read swine and humans are so similar swine parts are used in humans. Hogs can catch human virus, humans can catch hog virus and pass them back & forth creating mutations. Humans can carry the same pathogens therefore hog waste is sewage and without treatment is exposing all who breathe to the risks.

Previous generations knew this and therefore the Mt. Judea school has a septic tank for the usage of the public as do the store, restaurant, churches and so forth. What happened to the knowledge? Had generations prior to this one thought human sewage spread by tanker trucks for growing crops and breathing the odors for health was beneficial I don't believe there would be a septic tanks in homes and business' in the Mt. Judea area. Everyone would be using their own fertilizer and city's wouldn't have sewer treatment plants.

Take action to improve children's health! To learn more about the resources you need to establish, maintain or enhance a school environmental health program, visit: <http://www.epa.gov/schools/>.

One in seven children in the US lives with asthma every day. These numbers clearly demonstrate that air quality impacts children's health. Our goal is that by 2030, the steps EPA is taking will avoid up to 6,600 premature deaths, 150,000 asthma attacks in children, and 490,000 missed work or school days – providing up to \$93 billion in climate and public health benefits.

**Take action?** It appears these children and residents are considered a small price to pay for those special interests groups whom can "afford" to sacrifice these communities to pad their own pockets, creating monopolies on food and water supplies.

Risk Assessment Evaluation for Concentrated Animal Feeding Operations. <http://nepis.epa.gov> U.S. Environmental Protection Agency Office of Research and Development National Risk Management Research Laboratory Cincinnati, Ohio

CAFO manure contains potentially pathogenic microorganisms. The combination of large herds and closely confined housing makes it likely that at least some animals are asymptomatic carriers of pathogenic organisms. Once introduced, these pathogens may readily spread among the closely confined herd. Shed into the manure, these pathogens find favorable breeding grounds in the barns, manure storage and handling systems and are released into the watershed environment routinely during the land application of waste.

5.3.2.2 Ammonia due to direct loadings and to the decomposition of organic nitrogen (ammonification) is oxidized under aerobic conditions in the process of nitrification to form nitrite ( $\text{NO}_2^-$ ) and then nitrate ( $\text{NO}_3^-$ ). This process consumes oxygen and, thus, may seriously deplete the water body's oxygen levels. Ammonia nitrogen may be lost by volatilization of un-ionized ammonia ( $\text{NH}_3$ ) from soil or a water body's surface. Ammonium ( $\text{NH}_4^+$ ) is biologically available for plant uptake.

The lower 2 miles of Big Creek are within the boundaries of the National Park Service and Arkansas Game & Fish. The upper areas of Big Creek are in the National Forest.

The USGS operates a gaging station within these lower 2 miles of Big Creek. During the last two summers the dissolved oxygen at this station has gone below the "safe" levels specified in Arkansas Regulation 2 for Extraordinary Resource Waterways, such as the Buffalo River.

In Sept 2015 the Buffalo River asked ADEQ to declare Big Creek an impaired waterbody due to impaired dissolved oxygen levels in Big Creek. The impaired dissolved oxygen is for summer months 2014 and 2015. This data can be found on the internet under USGS <http://nwis.waterdata.usgs.gov>

The Buffalo River is a smallmouth bass habitat. Smallmouth bass need healthy waters to spawn and propagate in. Mussel's filter the water and live in shallows. They are not disposable and are indeed worth saving for any fisherman, hunter, hiker, etc. Mussels are very sensitive to ammonia. See EPA Risk Evaluations Confined Animal Feeding Operations

Below is a photo of what the possible side affects are to improperly managing our agricultural, public, private, business' etc.

ADEQ is in Little Rock. The department decided to close its Newton County office. Little Rock is a 3 hour drive, Fayetteville 2 hour drive. The Buffalo National River's waters are a result of how the state agency's manage the flow of private lands and business'. When the Buffalo is endangered it is up to the state agency's to correct the injustice's done by their oversights or policy's even if that means approaching private citizens. It is what we pay this agency for below is not what we want in our streams and is a violation of Regulation 2.



Just because someone wants to have a business next door on his property doesn't make that best for the community. The person can have their business they may just have to take it to an area where they don't trespass on the rights of others and they can move next door to it. Organizations thrive on donations and agency's lose their directions and goals. The laws and regulations are designed to protect the people of this country. Its important to have these agency's because they have the training to guide the public, their positions are paid by the taxpayers of this country. They also can be manipulated in the same way special interest groups manipulate politicians, non profit organizations, and the uneducated. This is a part of the history of this country and the public has been warned of these possibilities from the beginning. As adults we must consider our actions prior to our endeavors and educate ourselves to the consequences. We trusted our state, we trusted the agency's but those trust are now delusional. Those of us that appear to have the least to loose, the majority, are the ones that are speaking out. It's not "environmental groups" it's the public and we are the majority. We have been preserving and protecting the Buffalo National River for a long time now. We aren't going to quit, and we aren't going to reduce our values and ignore what is happening. This river belongs to all of us. It is a place to **re-create**. A place our forefathers valued and instilled that value in us. We Arkansan's are proud to be the stewards of this river. The loss of insight by these trusted agencies has cost us (taxpayers) valuable time, money and possibly irreparable damage.

There are goals that we often have to go back and remind ourselves about, such as ADEQ's goal:  
The Arkansas Department of Environmental Quality (ADEQ) is the state's main environmental protection agency, charged with protecting, enhancing, and restoring the environment for Arkansans.

C & H Hog Farms should never have been permitted in the Buffalo River Watershed. The EA was flawed and agency's employees were ignorant to the laws or ignored the misrepresentation of the data submitted. This was so stated in different words in Judge Marshall's order to SBA & FSA. By submitting a flawed EA these agency's followed the interest of 3 men and that has cost our county, our state and the nation unknown expenses.

Those who live in Buffalo River Country know they have responsibility's to their neighbors and the world. This is why they are here. The laws are written to protect us from the unforeseen and CAFO study's show them as high risk water polluters.

Sincerely,

Handwritten signature of Edward B. King.