

General comments and results of field assessment of seven crossing sites of the proposed methane gas pipeline by Tennessee Gas Pipeline Company, L.L.C. (TGP) for the Cumberland Project.

This information is relevant to the water permits being sought by TGP from the Tennessee Department of Environment and Conservation (TDEC) and references file number NRS22.192.

I am writing to share the results of my own field assessment and to make additional comments on this pipeline project. The stream assessments I conducted were aimed to collect information about several crossings of healthy, rural streams that serve the public and provide important aquatic habitats and resources for our wildlife. The field assessment includes streams in two Tennessee counties, Houston and Dickson, which are part of the western highland rim (WHR) ecosystem. The information presented here demonstrates that there are high-quality streams that will be destroyed by the pipeline project. This was verified by boots on the ground stream assessments conducted on 6, 7, and 8 of March 2023 and supported by the evidence collected. The additional comments demonstrate why TGP's reports cannot be taken at face value. For the reasons discussed below, TDEC must deny the application.

This first area introduced is Jordan Branch. Each creek name will be given with the waterbody ID in parentheses, followed by the coordinates of the proposed pipeline crossing in bold font. Then a brief introduction about the habitat location and surrounding areas will be described and any specific conditions will also be noted. There will be figures following the description, showing photographic evidence to support the claim. The last stream discussed, Leatherwood Creek, is located in Houston County, TN, while all others can be found in Dickson County, TN.

Jordan Branch (SDKA026) at 36.1705 -87.2128

This creek is a healthy, fast flowing perennial stream. It is located at the bottom of a steep ravine surrounded by a dense mature forest. It is in an exceedingly rural area with Peabody Rd. in Charlotte, TN to the north and Pack Annex Rd. in White Bluff, TN to the south. It has a limestone bedrock substrate and consists of shallow riffles and deeper pools. Riffle and pool (R/P) complexes are present at the point of proposed crossing (Figures 1. and 2.). This crossing point is very near the **upper tributary (UT) to Jordan Branch (SDKA027) at 36.1709 - 87.2131** however pictures of that proposed crossing area were not obtained. Due to its proximity to Jordan Branch and the local topography it is safe to consider the UT to Jordan Branch as a healthy stream with similar characteristics.



Figure 1. This image shows the proposed pipeline crossing of Jordan Branch facing downstream.

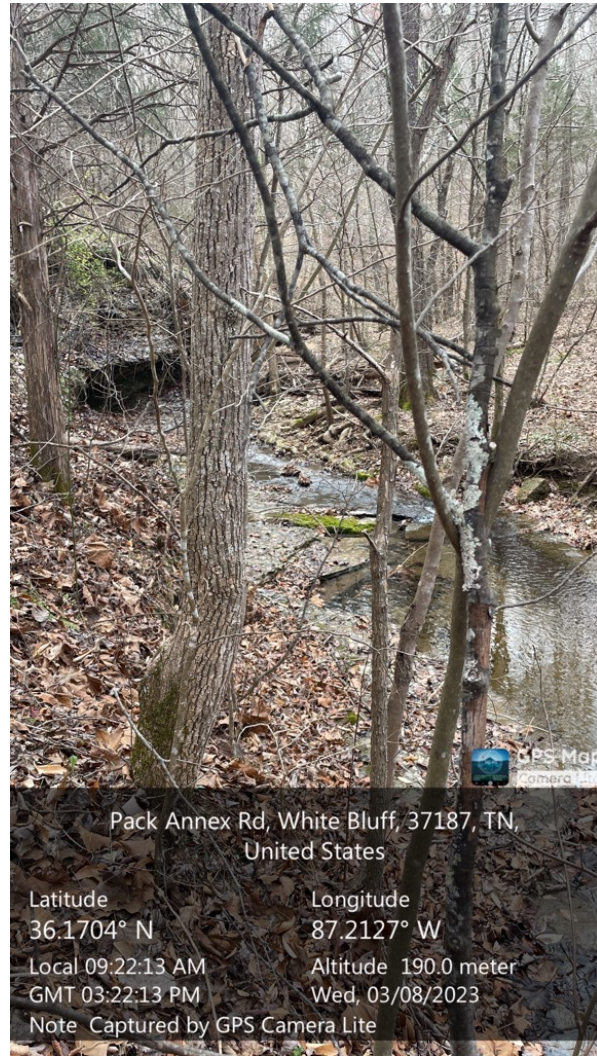


Figure 2. This image is facing upstream from the proposed crossing of Jordan Branch.

Gafford Branch (SDKA013) at 36.1979 -87.2624

This perennial stream is secluded and surrounded by moderate slopes of mature dense forest on each side. The area is extremely rural and therefore the creek is pristine, undisturbed, and healthy making it an important resource for local wildlife and a quality habitat for aquatic creatures. It has a limestone bedrock substrate and consists entirely of R/P complexes (Figures 3. And 4.).



Figure 3. This image shows the proposed pipeline crossing of Gafford Branch facing upstream.



Figure 4. This image is facing downstream of the proposed pipeline crossing at Gafford Branch.

Furnace Creek (SDKB009) at 36.2498 -87.3804

This is a perennial stream with agricultural fields on one side and a steep slope of dense mature forest on the other. I was not able to access the exact point of the proposed crossing due to the steep slope and privately owned property. The pictures (Figures 6. and 7.) below show that Furnace Creek is beautiful and healthy and made up of R/P complexes. The images were taken downstream from where the pipeline would be placed, meaning these quality aquatic habitats would be endangered of sedimentation and pollution from pipeline construction. The wetland (Fig. 5.), or creek bottom, is also being threatened with destruction by the proposed pipeline project. This area is important for wildlife and provides flood risk reduction benefits to the public. Flood plains slow runoff and store flood waters. The fertile soils of these temporary wetlands are also great for agriculture, which will no longer be allowed if the pipeline right of way (ROW) is to be maintained.



Figure 5. This image is looking toward the creek, across the agricultural field that would be crossed by the pipeline. This field is considered a wetland because it is a flood plain that is periodically inundated with water. The creek as well as the wetland would be impacted by pipeline construction.



Figure 6. This was taken from the bridge at 2050 Bell Hollow Rd., looking upstream of Furnace Creek toward the area that would be crossed by the pipeline. This stream is an important resource for several farmers and local wildlife.

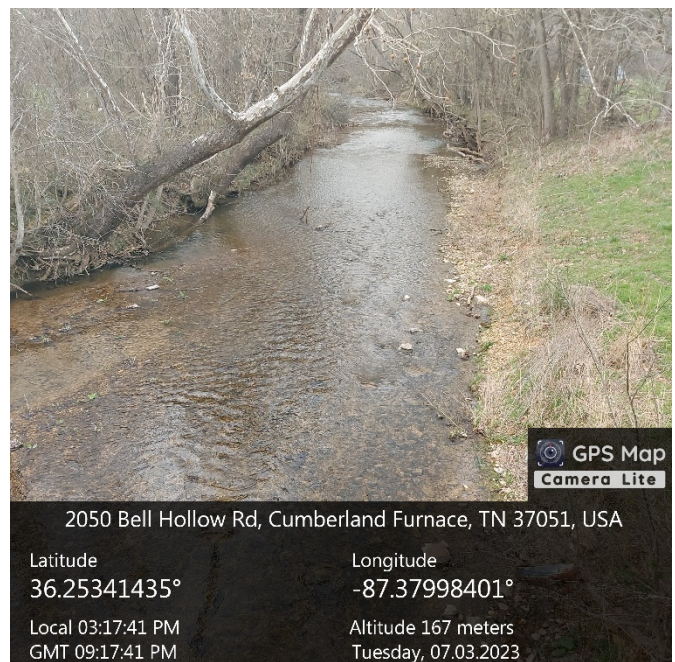


Figure 7. Looking downstream of Furnace Creek from the bridge on Bell Hollow Rd. This stream consists of important riffle and pool complexes that could be destroyed by sedimentation and pollution from pipeline construction.

Leatherwood Creek (SDKB026) at 36.2845 -87.4962

This stream has an herbaceous buffer by the road on one side and a steep rocky bank on the other. It is perennial and appears to be healthy with a steady flow that consists of riffle and pool complexes. This area did not receive cellular signal, so the images (Figures 8-12) have incorrect road names listed. The creek flows along Leatherwood Rd. in Cumberland Furnace, TN 37051. Pictures were taken from the edge of the creek on the roadside amid the riparian buffer.



Figure 8. This image of Leatherwood Creek was taken at the proposed pipeline site, pointing upstream. Taken from Leatherwood Rd. in Cumberland Furnace, TN 37051.



Figure 9. The proposed crossing area of Leatherwood Creek, from the road looking towards the steep slope.

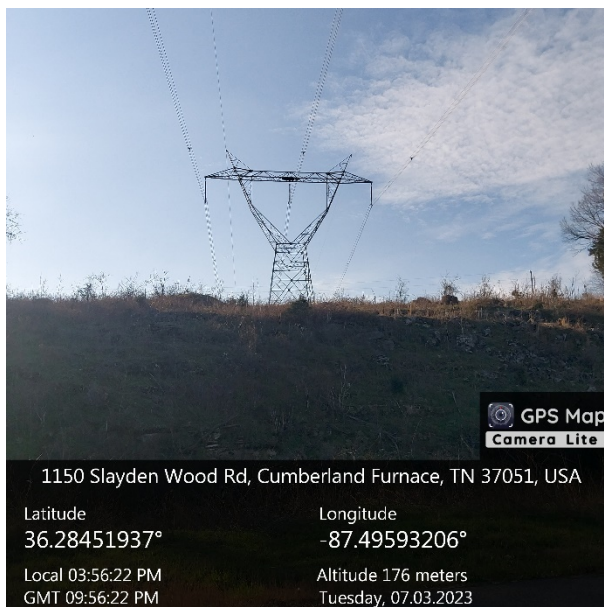


Figure 10. Looking up from the road and across the creek from the proposed crossing. How can a pipeline be buried within this sheer cliff?

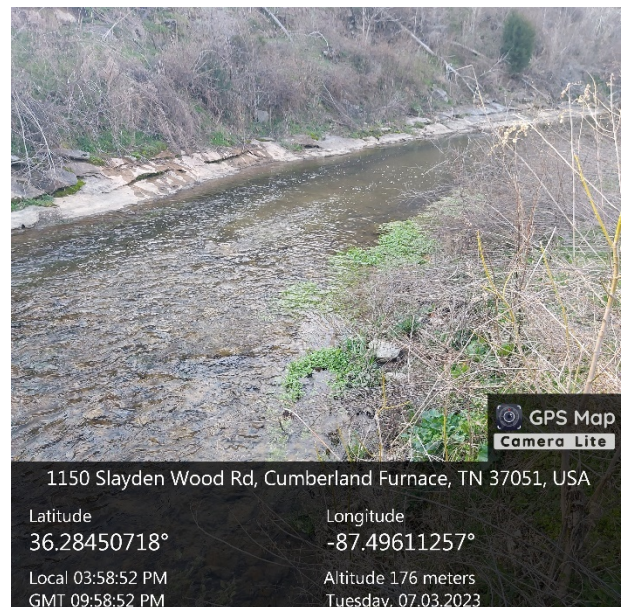


Figure 11. Looking downstream of the proposed crossing. This is a healthy stream with riffle and pool complexes.

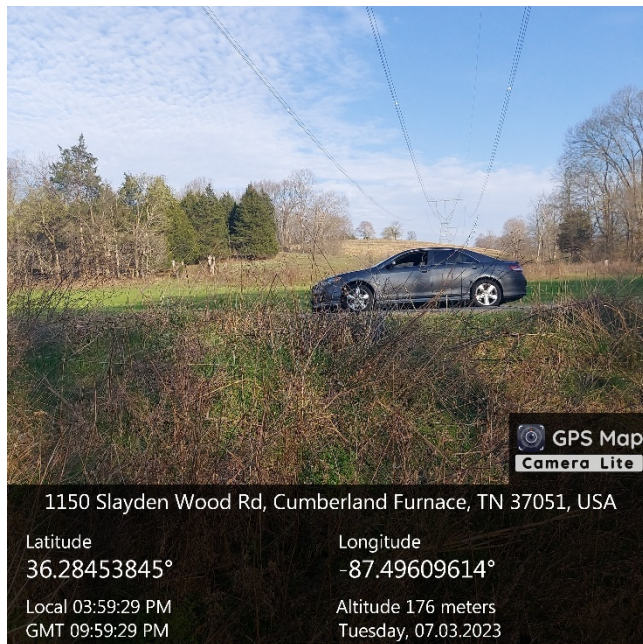


Figure 12. Taken amid the riparian buffer with Leatherwood Creek behind the camera. Showing the powerlines that the proposed pipeline would parallel.

Lickskillet Branch at three crossings

In Houston County, Lickskillet Branch is *especially* threatened since this is a stream where TGP is proposing three pipeline crossings in rather quick succession. Each of these crossings would disrupt important aquatic habitats, by destroying them at the crossing and also by introducing the compounded effects of sedimentation and pollution into the downstream areas. The three locations are positioned within a half-mile span of pipeline. During pipeline construction the number of crossings should always be minimized as each one will be damaging to the health of the stream. The pipeline should also try to align perpendicular to the stream to minimize the total length of the crossing. The negative impacts of multiple pipeline crossings and access road crossings cumulate and are unusually pronounced. Multiple crossings of the same stream should be avoided at all costs, especially those so close together.

Lickskillet Branch (SHNB033-1) at 36.3527 -87.6339 and (SHNB033-3) at 36.3664 -87.6559

These two locations can only be accessed by private property, as they are surrounded on both sides by agricultural land. Data was gathered near the pipeline route but not at the exact crossings. However, all the areas witnessed along Lickskillet Branch, about a half-mile length of creek consisted of the riffle and pool complexes and appeared healthy and clean. The figures below show some examples near the proposed pipeline crossings.



Figure 13. Picture of Lickskillet Branch taken from Kizer Ridge Rd. looking across the stream.



Figure 14. Taken from Kizer Ridge Rd. looking downstream Lickskillet Branch. This picture indicates riffle and pool complexes.



Figure 15. Looking downstream from an area of Lickskillet Branch with agricultural fields on either side of the riparian buffers.



Figure 16. Facing upstream Lickskillet Branch. This part of the creek had narrow riparian buffers surrounded by agricultural fields that are privately owned.

Lickskillet Branch (SHNB033-2) at 36.3549 -876388

This crossing was right off Kizer Ridge Rd in Erin, TN. There was a forested buffer on one side and a thin herbaceous buffer on the roadside. The area looked pristine except for a tire laying in the roadside buffer. (Fig. 19).

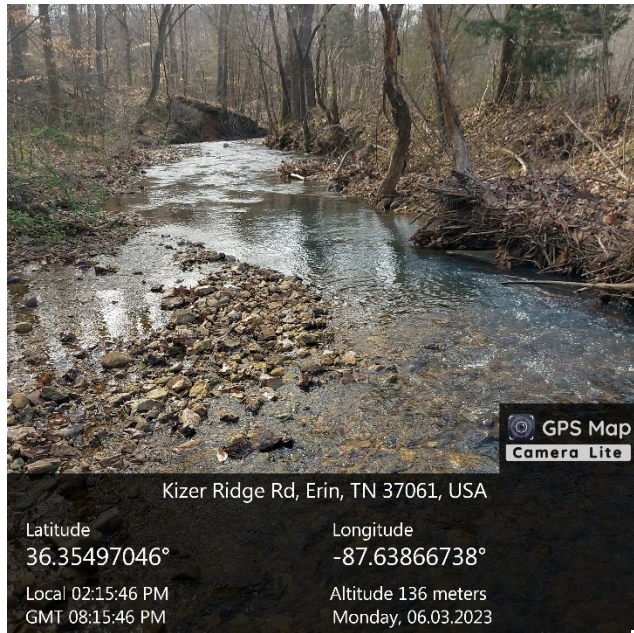


Figure 17. Looking downstream from one of the proposed pipeline crossings of Lickskillet Branch.

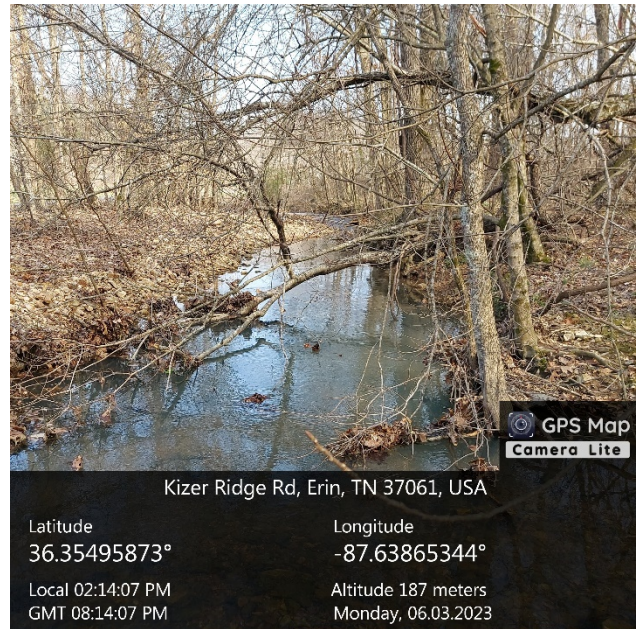


Figure 18. At one of the proposed pipeline crossings of Lickskillet Branch, looking upstream.



Figure 19. Standing at one of the crossing areas of Lickskillet Branch, looking back towards the road. The TVA powerline can be seen in the background.

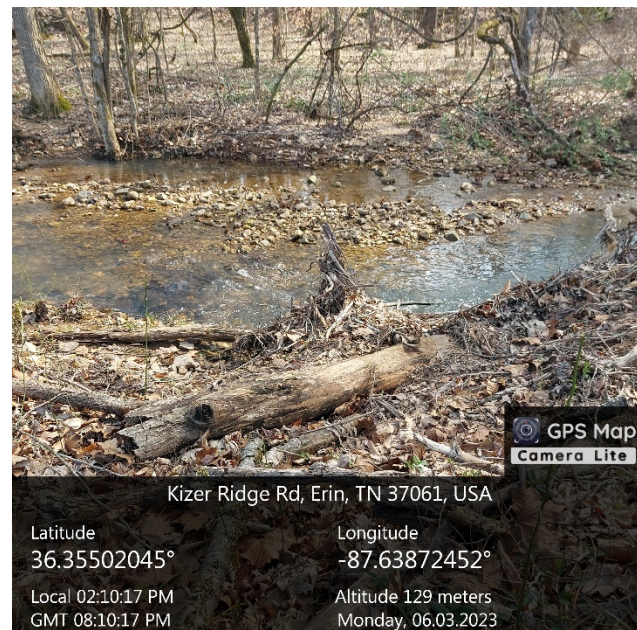


Figure 20. Taken from Kizer Ridge Rd. looking at one of the proposed crossing sites on Lickskillet Branch which is currently a clean and healthy stream.

It is my professional opinion as a biologist that the impact of pipeline construction would be more than “*de minimis*” especially for streams that are crossed more than once, such as Lickskillet with its three proposed crossings. TDEC does not have enough staff to look at each of the stream and wetland crossings. TDEC is using the information given by the applicant to make bold decisions that will affect the quality of our water and life in our community. TDEC actually copied and pasted entire paragraphs from the gas company’s application into the permit notice. That is neither analyzing nor regulating. Until TDEC has enough staff to visit these sites the permit should be denied.

There are several other issues I would like to raise, such as the gas company being in charge of determining the toxic limits. TGP is being allowed by TDEC to police themselves and although they are required to send picture evidence or report back to TDEC, there are not enough staff to monitor all the activities that would be taking place. This is a conflict of interest since the person determining how much pollution is too much pollution is on the gas company’s payroll.

In the resource report issued by the gas company, they stated they had reached out to all landowners near the pipeline route who had a well or spring to offer water testing, but I personally know half a dozen people who have not been contacted. No one has established a baseline for the quality of our drinking water. That is falling on us, as a community, to do their jobs for them. This is a prime example of why TDEC should not depend on what the gas company says they will do. Will TDEC buy the locals a lifetime supply of bottled water when TN Gas contaminates their only source of clean water?

Along those lines, TN Gas has not established a baseline for the characteristics and conditions of any of the streams they plan to cross. How can they be sure the streams return to pre-construction conditions when they do not even know what those conditions are? I am thinking specifically of things like biodiversity, pH, dissolved oxygen levels, sedimentation, turbidity, etc. Some of these streams have already been identified as being impaired by TDEC, yet it just takes the gas company’s word that the effects will be “no more than *de minimis*” which is an arbitrary claim with no supporting evidence.

Due to the karst geology of the western highland rim, the possibility of the gas company sinking a stream is extremely high, especially when they are planning on blasting their way, using dynamite, through the majority of the route. TDEC just agrees to let the TN Gas construction manager decide the best method to be used on site, instead of making them evaluate each crossing and consider other techniques beforehand. Will TDEC supply locals with clean water for their livestock when streams are compromised or no longer accessible?

TDEC was not transparent in its public notice, referring to creeks by codes. Lickskillet, which will be crossed three times, was given the long codename TN051302051735_0999 so that locals reading the notice had no idea that Lickskillet was even affected, let alone that it would be crossed three times in short succession. They also do not mention by name Gafford or Peabody. These creeks along with their multiple crossings are lumped together and referred to as “unnamed tributaries.” They all have names, and TDEC was not being transparent to the public.

TDEC asked for input yet used codenames for local streams. It is obvious the locals know these creeks better than TN Gas or TDEC.

Multiple crossings on a stream, or within a watershed, during pipeline construction could have cumulative effects on that system. The ability of the stream to recover could be compromised and the detrimental effects could become permanent. Streams and rivers have limited capacity to recover after being impacted at multiple locations. None of this was even mentioned in the permit. It seems like TN Gas and TDEC are trying to hide the fact that several streams will be crossed more than once by the pipeline and no consideration was given to how many of these crossings will be happening simultaneously. There are currently no regulations in place that limit the number of open cuts that can occur at the same time, yet it causes a confounding effect on the negative impacts to the stream and its watershed.

There is a new species of crayfish in Bartons Creek, or Big Bartons Creek as it is known by locals. We have already sequenced one of the genes and it showed that the species is new to science. We are in the process of sequencing a different gene to back up our initial research. We are also in the process of discovering its geographic range. Although it may not be endemic to just that stream, it definitely has a very limited range possibly existing in a couple nearby waterways. This has been verified by crayfish experts who discovered another new species only a couple years ago. TDEC should not allow for the destruction of a species we have not yet been able to name. The permit should be denied until further research can be completed.

TN Gas says this project will result in no more than *de minimis* degradation and no appreciable permanent loss of resource values, but how they determined this is not explained or supported by their application. They give no evidence nor cite any scientific studies, yet TDEC takes their word. Further compounding that unreliable claim, they have no previous information on the characteristics and conditions of the stream, so how would they know what is considered degradation or a permanent loss of resource values? TGP would need to know the specifics of each unique stream at the crossing site locations and also be able to quantify “*de minimis*” before making such bold claims.

The clear cutting of vegetation, in addition to the digging and blasting of pipeline construction, will definitely cause sedimentation in our streams and in turn, reduced amounts of DO in the water. These activities will lead to erosion, further increasing sedimentation, and the intrusion of invasive species. None of that sounds *de minimis* to me. It sounds like TGP is planning to destroy our local streams. We, as United States citizens have a right to clean water and our TN waterways should be protected by the regulating agencies that are charged with doing so.

Disrupting vegetation will in turn affect many of our non-aquatic native wildlife as well, including species that are endangered and/or protected by law. In the gas company’s resource report, they make the outlandish claim that they did not find any suitable habitat for the bald eagle in the project area. Yes, most of the pipeline route occurs in extremely rural areas known to be prime bald eagle habitat. There is a nest on the corner of Highway 48 and Old Highway 48, near the Bartons Creek proposed pipeline crossing in Cumberland Furnace, Tennessee. During a recent survey of Bartons Creek near that proposed crossing, I and other biologists heard a bald

eagle calling. Several locals have confirmed sightings in that area as well as other areas along the pipeline route. For example, the pictures below were taken by Dorothy Corlew on her Century Farm off of Promise Land Road in Charlotte, Tennessee. This is solid evidence of bald eagles along the route, further demonstrating that the gas company is not to be trusted. The trees you see in the photos below, where the bald eagle sits and hunts its next meal, will be clearcut for the gas company's pipeline if you do not deny the permits they seek.



Photo credit: Dorothy Corlew



Photo credit: Dorothy Corlew

With TGP having insufficient evidence to support their “*de minimis*” claim, and no way to even quantify what *de minimis* negative impacts means, it is important that TDEC deny their application. TGP has not presented complete information about the existing characteristics and conditions of the streams and therefore, cannot claim *de minimis* impacts or claim they will return them to precondition state. Other statements they have made to local community members and landowners were shown to be dishonest and demonstrate even further why the information provided in their application cannot be trusted. They cannot promise not to contaminate and pollute our streams or drinking water. TDEC should not ignore the fact that a new species of crayfish exists in Bartons Creek. That species may occur only in that location and nowhere else on earth. We should be given the proper time to study and describe it to the public and not let a gas company destroy it for their monetary gain. It is TDEC’s job to protect our beautiful local waterways and it can only do that by denying the gas company’s application at this time.

Thank you for considering my comment. If you have any questions or concerns, you can reach me by calling (931) 436-8210 or emailing angie.mummaw@appvoices.org.

A handwritten signature in black ink that reads "Angela Mummaw". The signature is written in a cursive style with a large, sweeping flourish at the end of the name.

Angela Mummaw

Middle TN Organizer for Appalachian Voices

Biology Instructor for Austin Peay State University