



**SIERRA
CLUB**

LONE STAR CHAPTER April 11, 2019

SB 1585: Authorizing Wastewater discharge permits from Oil and Gas Operations into State Waters

Too Soon, Too Many Questions, Needs Study

The Lone Star Chapter of the Sierra Club appreciates the discussion that is occurring around whether or not the State of Texas should seek to open up the potential for issuing wastewater discharge permits for oil and gas operations into our state surface waters, including produced water, effluent, and hydrostatic test water. However, we are very opposed to the idea of passing legislation in 2019 to require TCEQ to seek delegation authority within the next 18 months for discharges wastewater from oil and gas operations into our rivers, streams and reservoirs.

The reasons we think this is to soon include:

1. EPA is still completing its study on Effluent Guidelines Program and has still not completed its review of current rules that largely disallow discharge of oil and gas wastewaters into rivers, streams and reservoirs.
2. The state of Texas has yet to conduct an honest review and study of whether or not our current water quality standards, including both primary and secondary standards, are sufficient to allow for the discharge of highly saline wastewater that can also contain radionuclides and other toxic substances that have yet to be fully studied;
3. The State of Texas and TCEQ would need a more robust permitting and water quality standards program before asking for delegation authority.

Thus, we would ask that Senator Hughes not proceed with this bill, but consider a different committee sub that creates a task force and study on the issue of the use of oil and gas wastewater as discharge into state waters, or simply makes it an interim study as part of Senator Birdwell's committee.

Authorizing TCEQ to do what is contemplated in SB 1585 is too soon, too complicated and too unknown to pass into State law at this time. In particular, SB 1585 authorizes TCEQ to issue permits even though EPA is still considering

changes to such potential permits. Please find attached a PDF from a recent study by EPA public meeting that shows widespread disagreement about how to proceed forward on the issue. Again, we are still waiting for EPA to look at its current standards and come up with rule-making on any potential changes.

Current standards generally prohibit discharge of pollutants in wastewaters from both conventional and unconventional wells directly to surface waters (zero discharge), except in the case of stripper wells and coal bed methane.

Discharge to Publicly-owned Treatment Facilities are also prohibited under current standards.

While EPA can allow discharges from a Centralized Waste Treatment facility, a May 2018 CWT study found that the technology basis and effluent limitations may not adequately control these wastewaters, in part because of the concerns about fracked chemicals.

Thus, EPA is still looking closely at all of these issues before making changes.

What Oil and Gas Facilities can do right now in Texas and that with proper controls and oversight Sierra Club generally supports:

1. Reuse oil and gas wastewater within the oil field
2. Dispose of wastewater through injection wells
3. Discharge oil and gas wastewater to land
4. Evaporation and seepage ponds
5. Use for certain crops when properly treated

Pennsylvania and Arkansas: A cautionary tale

Proponents of the bill point to recent activities in Arkansas and Pennsylvania as evidence that oil and gas wastewater discharge permits can work but both cases should be read as a cautionary tale.

First, Pennsylvania began issuing wastewater discharge permits nearly a decade ago, including allowing oil and gas wastewater to flow into public wastewater treatment plants. Why? Pennsylvania lacks the proper soils and geology for many injection wells.

The result? The EPA stepped in in 2015 and passed new standards that prohibit public wastewater treatment plants from accepting oil and gas waste. In fact, following EPA intervention, Pennsylvania passed much more wide-ranging legislation establishing very specific effluent standards, including specific TDS standards, and for many years did not authorize discharges of produced

wastewater from fracked waste sites.

A recent study by Duke found that six years after the authorization of discharge permits to Pennsylvania streams and rivers, radionuclides were found at very unsafe levels from **Conventional discharges from oil and gas wastes**. There are just so many unknowns in even traditional oil and gas wastewater that allowing such discharges into state waters before further study is a bad idea.

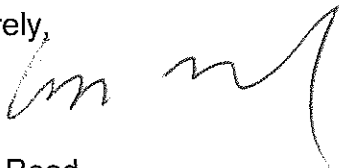
Pennsylvania has very different rain patterns making it "easier" to discharge wastewater into streams and rivers because there is significantly more dilution of saline waters.

Arkansas

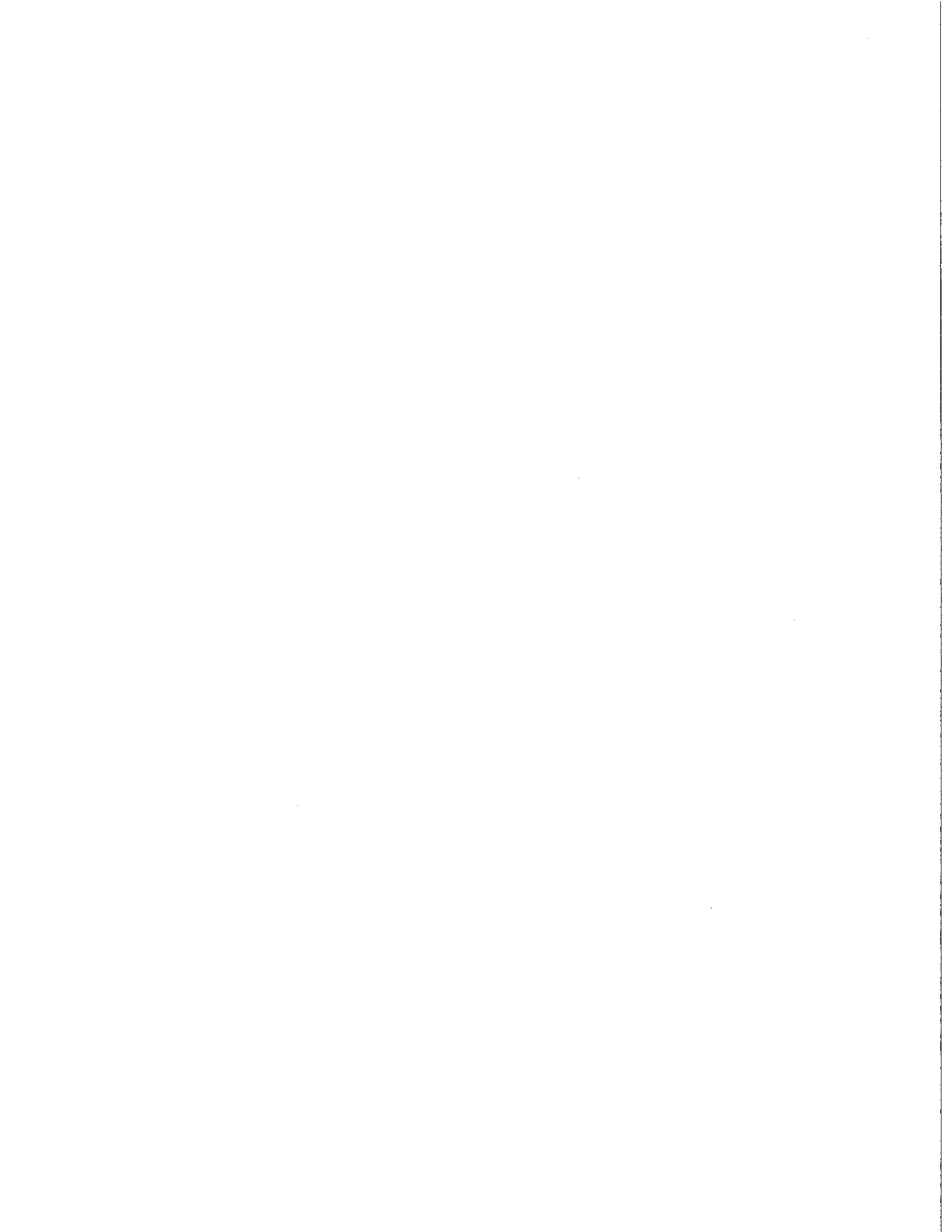
Arkansas is also a lesson in caution. Back in 2013, then Governor Andy Davis pushed the legislature to relax standards to allow wastewater discharge permits into state waters from oil and gas facilities. The result? The EPA stepped in disallowed the program and the Governor had to call a special session to repeal the program since the state was clearly unprepared to deal with these discharges. See article.

The Sierra Club has serious concerns that opening up this process too soon without first waiting for EPA, first examining our current water quality standards, and first studying all the implications would be a serious mistake and is opposed to passing this bill today. Previous experience with making major changes to our state law on environmental matters has taught us studying and getting input from multiple stakeholders is far superior than opening up a process before we know what we are getting ourselves into. From DDT to Dioxins to Round-up, history teaches us that allowing new uses before we know what we are getting ourselves into is problematic.

Sincerely,

A handwritten signature in black ink, appearing to read 'Cyrus Reed', written in a cursive style.

Cyrus Reed
Conservation Director
Lone Star Chapter, Sierra Club



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Radioactivity from Oil and Gas Wastewater Persists in Pennsylvania Stream Sediments

RADIOACTIVITY FROM OIL AND GAS WASTEWATER PERSISTS IN PENNSYLVANIA STREAM SEDIMENTS

January 19, 2018

Contact: Contact: Tim Lucas, 919/613-8084, tdlucas@duke.edu



Treated oil and gas wastewater flows into a western Pennsylvania stream. A new study find stream sediments at disposal sites such as this

one have radioactivity levels 650 times higher than at upstream sites. (Credit: Avner Vengosh, Duke Univ.)

Note: Avner Vengosh is available for additional comments at (919) 681-8050 or vengosh@duke.edu. Nancy Lauer is available at nancy.lauer@duke.edu.

DURHAM, N.C. – More than seven years after Pennsylvania officials requested that the disposal of radium-laden fracking wastewater into surface waters be restricted, a new Duke University study finds that high levels of radioactivity persist in stream sediments at three disposal sites.

The contamination is coming from the disposal of conventional, or non-fracked, oil and gas wastewater, which, under current state regulations, can still be treated and discharged to local streams.

“It’s not only fracking fluids that pose a risk; produced water from conventional, or non-fracked, oil and gas wells also contains high levels of radium, which is a radioactive element. Disposal of this wastewater causes an accumulation of radium on the stream sediments that decays over time and converts into other radioactive elements,” said Avner Vengosh, professor of geochemistry and water quality at Duke’s Nicholas School of the Environment.

The level of radiation found in stream sediments at the disposal sites was about 650 times higher than radiation in upstream sediments. In some cases, it even exceeded the radioactivity level that requires disposal only at federally designated radioactive waste disposal sites.

“Our analysis confirms that this accumulation of radioactivity is derived from the disposal of conventional oil and gas wastewater after 2011, when authorities limited the disposal of unconventional oil and gas wastewater,” said Nancy Lauer, a Nicholas School PhD student who led the study.

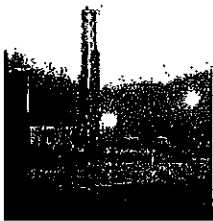
“The radionuclide ratios we measured in the sediments and the rates of decay and growth of radioactive elements in the impacted sediments allowed us to essentially age-date the contamination to after 2011,” she explained.

The researchers published their findings in a peer-reviewed policy paper Jan. 4 in *Environmental Science and Technology*.

To conduct the study, they collected stream sediments from three wastewater disposal sites in western Pennsylvania, as well as three upstream sites, and analyzed the radioactive elements in the sediments. Samples were collected annually from 2014 to 2017 at disposal sites on Blacklick Creek in Josephine, on the Allegheny River in Franklin, and on McKee Run in Creekside.

In 2011, in response to growing public concern about the possible environmental and human health effects of fracking wastewater, Pennsylvania's Department of Environmental Protection requested that the discharge of fracking fluids and other unconventional oil and gas wastewater into surface waters be prohibited from central water-treatment facilities that release high salinity effluents. However, the disposal of treated wastewater from conventional oil and gas operations was allowed to continue.

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"Despite the fact that conventional oil and gas wastewater is treated to reduce its radium content, we still found high levels of radioactive build-up in the stream sediments we sampled," Vengosh said. "Radium is attached to these sediments, and over time even a small amount of radium being discharged into a stream accumulates to generate high radioactivity in the stream sediments."

"While restricting the disposal of fracking fluids to the environment was important, it's not enough," he said. "Conventional oil and gas wastewaters also contain radioactivity, and their disposal to the environment must be stopped, too."

Nathaniel Warner, a former PhD student in Vengosh's lab at Duke who is now an assistant professor of civil and environmental engineering at Penn State University, coauthored the new study.

Funding came from the National Science Foundation (#EAR-1441497) and the Park Foundation.

CITATION: "Sources of Radium Accumulation in Stream Sediments Near Disposal Sites in Pennsylvania: Implications for Disposal of Conventional Oil and Gas Wastewater," Nancy Lauer, Nathaniel Warner, Avner Vengosh, *Environmental Science and Technology*, DATE Jan, 4, 2018, DOI: 10.1021/acs.est.7b04952

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Featuring: Avner Vengosh

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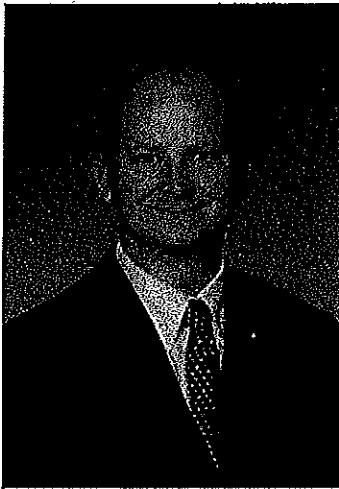
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EPA revokes waiver for Arkansas to approve water permits

Posted By Max Brantley and David Ramsey on Fri, Aug 30, 2013 at 11:55 AM



Legislation has consequences. And these were predicted by environmentalists during the legislative session.

You may remember when **Republican Rep. Andy Davis** of Little Rock, looking out for industries he works for, passed legislation to alter permit requirements for **discharging minerals into streams**. The bill effectively removed the presumption that any waterway was a potential source of drinking water and thus needed pollution protection. Environmentalists said the bill would make it easier to pollute waterways. Davis countered that standards were impractical.

Theresa Marks, director of the Department of Environmental Quality, opposed the bill.

The **federal Environmental Protection Agency** has now reacted, as many expected it would do. The agency's water protection division in Dallas has written the state to say the EPA is terminating its waiver of a right to review certain water discharge permits in the state because of Act 954, which took effect Aug. 16. The EPA wants all permit applications, draft permits, final permits, fact sheets and other material related to discharging facilities to be sent to the EPA for review. The agency said it looked forward to assuring that Arkansas complies with the Clean Water Act. If the state won't enforce it properly, the EPA will.

UPDATE: Davis said he hadn't heard about the letter until we called, and so had just had a chance to quickly read it.

"It looks like they're not responding so much to Act 954 itself as much as they are the order from the PC&E commission to declare a stay for this permit for Tyson Foods," he said.

We noted that they mention the law in the letter.

His response: "Well, because the law gives the commission the authority to stay the permit if the new permit is not in accordance with Act 954. That authority is not unusual. There's a lot of situations where the director or the commission can issue a stay for the permit. That's not unusual, which brings into question why EPA had an issue with it in this case."

Davis said that he believed the waiver termination — which presumably means more aggressive regulatory oversight from the EPA— was "somewhat temporary." The bill required ADEQ to go through a process to update relevant regulations, subject to review by the EPA, Davis said. "If ADEQ will go through the proper process to change the regulations, once they are approved by the EPA, they would no longer have any reason to do this."

Of course, whether EPA would actually approve the changes in regulations imagined by Act 954 is an open question...for a skeptical take see a letter from **Bill Kopsky of the Arkansas Public Policy Panel**, which fought the legislation. It notes, too, that the fight is just beginning and a lawsuit remains a possibility.

LETTER FROM BILL KOPSKY OF ARKANSAS PUBLIC POLICY PANEL

Today the EPA removed some of Arkansas' authority to enact and enforce the Clean Water Act — as we had predicted months ago. I am attaching the letters from the EPA [above] to the Arkansas Department of Environmental Quality as well as a brief explanation from Ross Noland, our attorney working on the issue. Today's action is a partial step and not the final resolution of the problems with the Arkansas Legislature's attempt to circumvent the federal Clean Water Act.

As most of you know, our state legislature attempted to weaken water quality standards and permitting requirements in violation of Federal Law in the last legislative session by enacting Act 954. Act 954 purports to remove the drinking water designated use from every water body in the state not currently used as a drinking water source. This would raise the acceptable level of pollutants in water bodies across the state without review.

Our partner coalition Arkansas Citizens First Congress, many of our environmental and conservation allies, and many others such as drinking water districts, etc opposed Act 954 when it was proposed as House Bill 1929 by Rep. Andy Davis (R, Little Rock). We opposed the bill because it guts water quality standards across the state — and we opposed HB1929 because it was in CLEAR violation of the Clean Water Act. We argued that this attempt to weaken

federal standards through a state law could provoke the EPA to remove Arkansas' permission to implement and enforce the Clean Water Act. At the same time we reached out to industry groups pushing this change to try to negotiate a solution to their concerns that would be more targeted, still protect the environment and comply with Federal Law. We were convinced that a solution could be found that would satisfy all parties and be faster than the certain legal challenge to HB1929 but our offer was refused and the Legislature, under intense industry pressure, enacted HB1929 into Act 954.

After Act 954 passed we contracted with Ross Noland of McMath, Woods Law Firm to research the legal basis that could be used to challenge Act 954 and to communicate with both EPA and the Arkansas Department of Environmental Quality about the fatal flaws in Act 954. Several other water related groups joined us in this effort. We requested that EPA review Act 954 and the subsequent actions by ADEQ to implement it, and evidently they took notice.

Today the EPA took the first step, removing the Arkansas Department of Environmental Quality's ability to issue many water quality permits without first obtaining EPA approval. EPA also denied a permit modification requested by Tyson Foods that would have allowed it to discharge more pollutants from its Waldron facility based on Act 954.

This is not the final word on the matter though, the Department of Environmental Quality and the Arkansas Pollution Control and Ecology Commission are still considering substantial changes that weaken our water quality protections in accordance with Act 954. Additionally, it is still undetermined how EPA will respond to the portions of Act 954 which we believe illegally weaken water quality standards and the drinking water designated use.

We are continuing to advocate against the changes prescribed by Act 954. It should be abandoned as fatally flawed. If not we believe EPA should further remove Arkansas' authority to permit and enforce water quality issues and we believe Arkansas will find itself trying to defend the indefensible in court. Arkansas can not and should not try to circumvent or weaken the Federal Clean Water Act.

Our thanks to our many partners who believe we should protect Arkansas' water resources.

