Moniteau County MCNA Neighbors Alliance

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Supporting community health and economic well-being through education and advocacy

June 26, 2023

Missouri Department of Natural Resources, Water Protection Program
ATTN: Engineering Section/Antidegradation Comments
P.O. Box 176
Jefferson City, MO 65102-0176

MO-0113204 Public Comment
Pomme de Terre River Antidegradation Review

The Moniteau County Neighbors Alliance is pleased DNR is holding a public hearing on this important situation in the Pomme de Terre River Watershed. We request that DNR continue its practice of having a hybrid meeting for this event as it has broad statewide interest. Having a hybrid meeting will make the in-person part of the meeting more manageable for DNR, and allow for greater statewide participation, a benefit in DNR meetings over the past three years.

Submitted by Susan Williams, MCNA president
660-888-3370

The Necessity of Degradating the Pomme de Terre Watershed

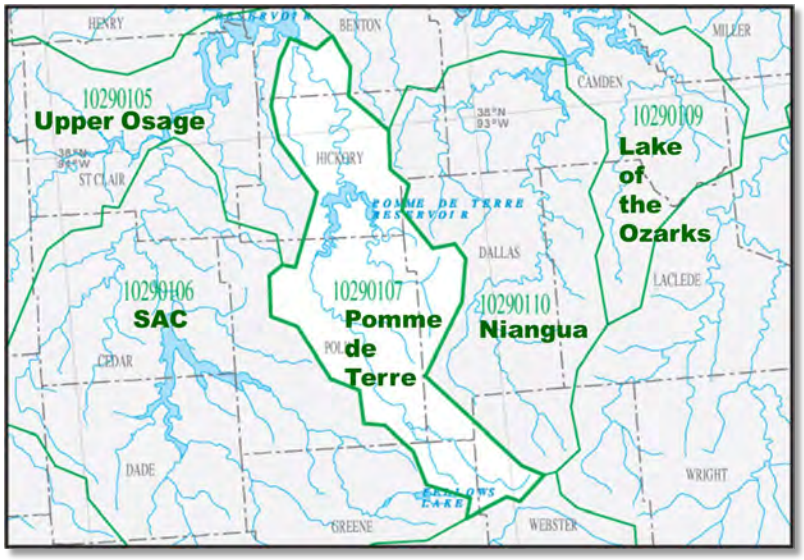
The Moniteau County Neighbors Alliance (MCNA) is a citizen educational and advocacy non-profit. We encourage citizens to learn and involve themselves in caring for their local watersheds, and provide information to help them do so. We provide public comments on watersheds throughout the state for TMDL Reports and for development of rules and regulations.

The MCNA Public Comment includes observations about the content included in the report, as well as specifics related to statements made. We have used map graphics from the Missouri Department of Conservation *1999 Pomme de Terre River Watershed Inventory and Assessment* [1] by Thomas P. Groshens, Michael A. Bayless, and Ronald J. Dent, Jr. Although these graphics are now 23 years old, they demonstrate what MCNA thinks should have been included in the Antideg Review.

This "Antideg Review" is the first of its type that MCNA has studied. We are saddened that the Pomme de Terre Watershed ***needs to be degraded*** according to the:

> ***The Water Quality and Antidegradation Review* (Antideg Review)** [2]
> for the protection of water quality and determination of effluent limits
> for discharge to Pomme de Terre River by Missouri Prime Beef Packers.

For the people in a Watershed to encounter a situation where they have to accept the degradation of their environment for business operations is an unfortunate state of affairs and is stressful for the community. It's hard to find a win-win situation. The Pomme de Terre River Watershed is a particularly difficult situation because the waters are already impaired. It's difficult to justify adding significant increases of polluted water into the system.

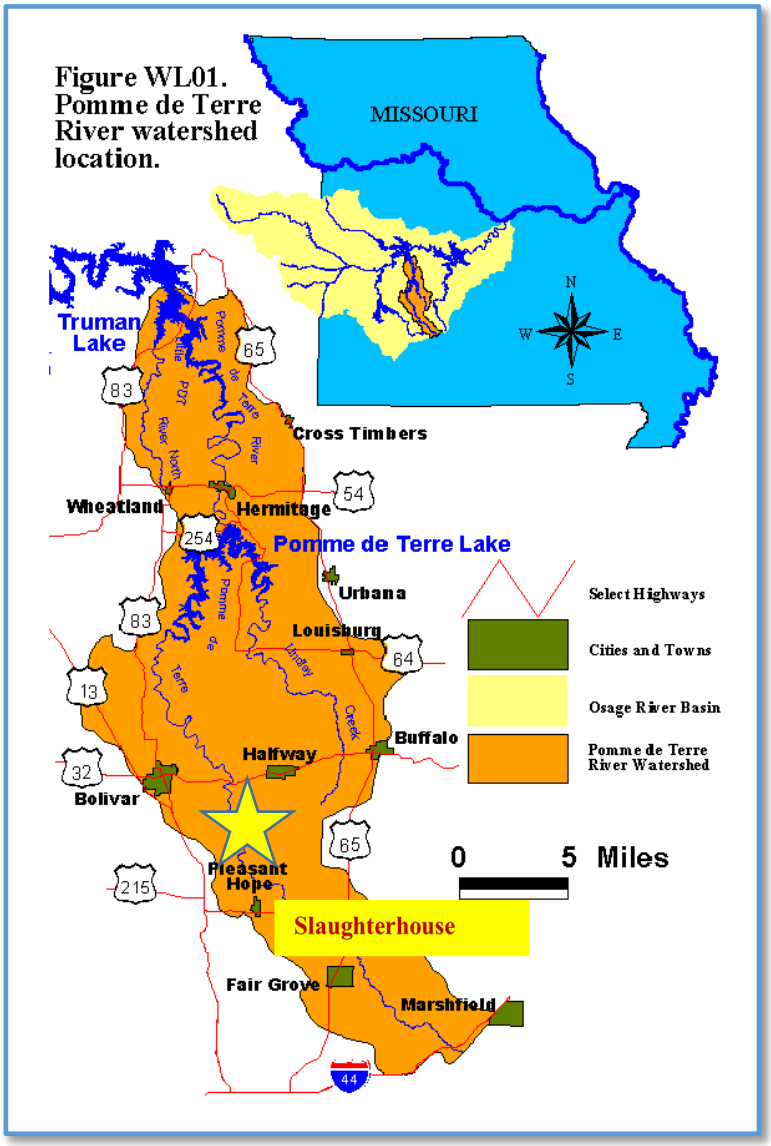


The Pomme de Terre River Watershed has a hydrologic code (HUC) identification number of HUC-8 # 10290107.

[1] MDC 1999 Pomme de Terre River Inventory and Assessment https://mdc.mo.gov/sites/default/files/mdcd7/watersheds/PommeDeTerreWatershed330.pdf
[2] Antideg Review https://dnr.mo.gov/document/water-quality-antidegradation-review-pomme-de-terre-river-may-2023-0

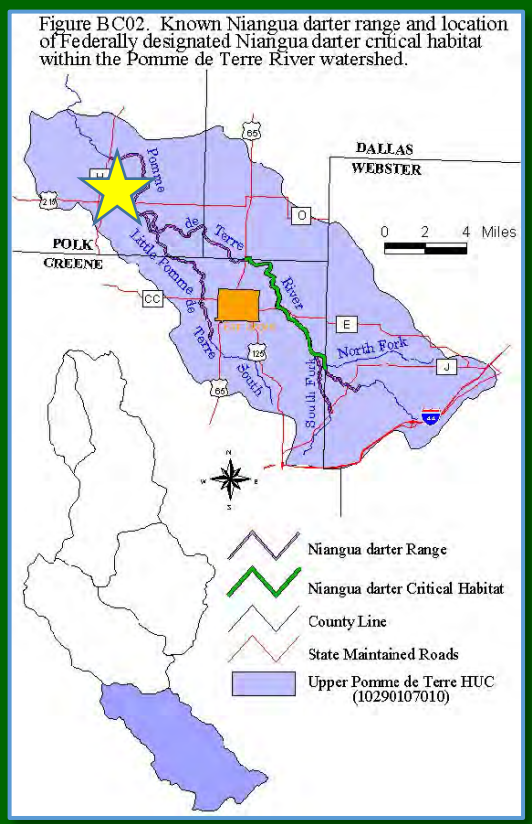
Pomme de Terre River Watershed

The Pomme de Terre River originates in southwest Missouri, near Marshfield in Webster County. It flows northward where it originally connected with the Osage River southwest of Warsaw. However, it is now impounded as Pomme de Terre Lake just upstream of Hermitage and further downstream becomes part of Harry S. Truman Lake. The watershed encompasses 840 square miles and includes parts of six counties: Benton, Dallas, Green, Hickory, Polk, and Webster. Major tributaries include Little Pomme de Terre River (north), Little Pomme de Terre River (south), and Lindley Creek.



1999 MDC Inventory and Assessment

The endangered Niangua Darter is originally from Missouri and lives nowhere else in the world. Today, eight populations survive, only in northern flowing tributaries in the Osage River basin—across just 13 of Missouri's 114 counties. The Pomme de Terre Watershed has critical Niangua Darter habitat and the Slaughterhouse (star below) is located within that habitat.



1999 MDC Inventory and Assessment

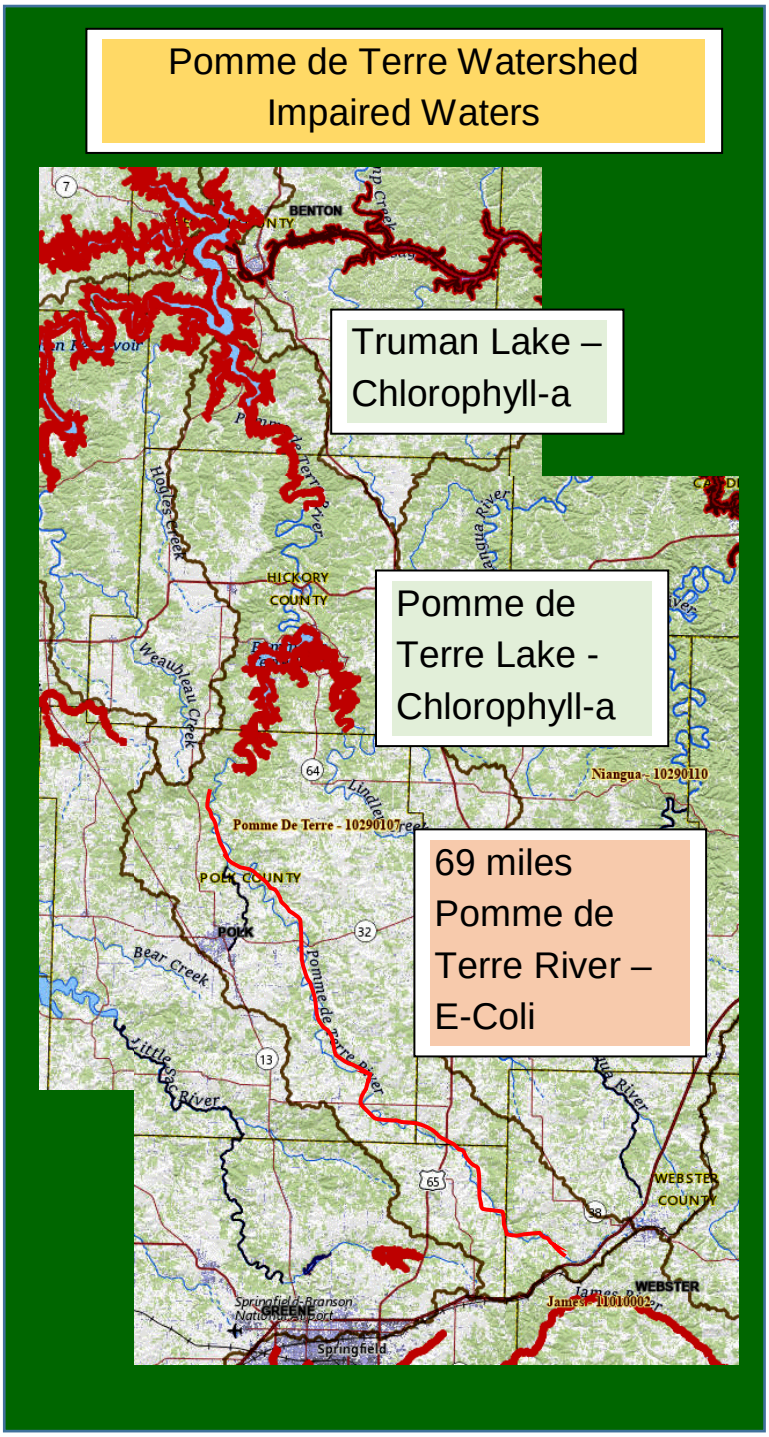
Pomme de Terre Water Quality

1) With water quality already impaired in the Pomme de Terre Watershed, isn't it likely adding another 350,000 gallons of effluent 5 days a week will worsen the situation even with treatment?

Impaired Waters

- Pomme de Terre River: 69 miles starting at the headwaters in Webster county and flowing north through Polk County are on the 2022 303 (d) list for E-Coli contamination from nonpoint source pollution.

- Pomme de Terre Lake and Truman Lake are impaired for chlorophyll-a.



2) MCNA thinks it would be prudent to develop a TMDL for the Pomme de Terre River before any additional discharge is allowed in the river.

What MO Prime Beef wants to discharge is significant. They admit that their discharge will negatively impact the water quality of the Pomme de Terre River and possibly water bodies downstream that are already impaired.

Antidegradation Review Information (p. 8 in 5.)

1) How can antidegradation be prevented if the water quality is unknown?

What does in the "absence of existing water quality" mean in "The applicant elected to assume that all pollutants of concern (POC) will significantly degrade the receiving stream in the *absence of existing water quality.*

2) Why might the applicant want to avoid the determination of "the assimilative capacity of the receiving water." The applicant has the option of assuming the discharge will be significant and proceed directly to the alternatives analysis, *thereby avoiding the "assimilative capacity of the receiving water."*

3). Why did the alternatives not include actual dollar figures for both non-degrading methods of regionalization or no discharge systems?

TABLE OF THE ALTERNATIVES EVALUATION (Attach additional page if necessary)

PARAMETERS	Alternatives #					
	1	2	3	4	5	6
BOD_5 – mg/L			2-10	<30	<30	
TSS – mg/L			2-10	<30	<30	
Ammonia (Summer) – mg/L			0-1	3-5	3-5	
Ammonia (Winter) – mg/L			1-5	3-5	3-5	
E. Coli – #/100 mL					<126	
Total Nitrogen – mg/L						
Total Phosphorus – mg/L				<1	<1	
Construction Cost – $			7,397,757	8,507,932	2,266,055	
Operating Cost – $			114,622	162,881	60,800	
Present Worth – $			8,826,197	10,537,786	3,023,757	
Ratio present worth to base case			2.92	3.48	1	

Affordability Summary:

Alternatives identified as most practicable and economically efficient are considered affordable if the applicant does not supply an affordability analysis. An affordability analysis per the Antidegradation Implementation Procedure Section II.B.2.c. "may be used to determine if the alternative is too expensive to reasonably implement."

Utilization of the existing land application storage basins for treatment of the effluent waste provided an affordable solution to construction of new treatment plants. The processing facility is a private entity and not subject to receiving funds from public areas. Alternative 5 was deemed the most efficient and most cost effective solution for treating discharges.

The Antidegradation Implementation Policy (AIP) specifies that if the proposed activity does result in significant degradation then a demonstration of necessity (i.e., *alternatives analysis*) is necessary. Part of that analysis is the evaluation of **non-degrading alternatives,** such as regionalization or no discharge systems. Although these alternatives were mentioned in the Antideg Review, they used unquantifiable terms like "unaffordable"?

These alternatives need inclusion in the Review, but with quantifiable numbers.

- Obviously, the current WWTPs would not be able to handle the increase in flow, but what EXACTLY would it cost to **regionalize?**

- The **no discharge land application alternative** is the difference between the facility needing **113** acres to land apply 350,000 gallons per day at 32 inches per acre per year, and they only have **109** acres. Why can't they rent/buy additional land, or limit the amount of cows they process slightly?

4) Why is there no ranking of alternatives that evaluates the effectiveness of protecting water quality with the treatments, not just initial cost and annual maintenance?

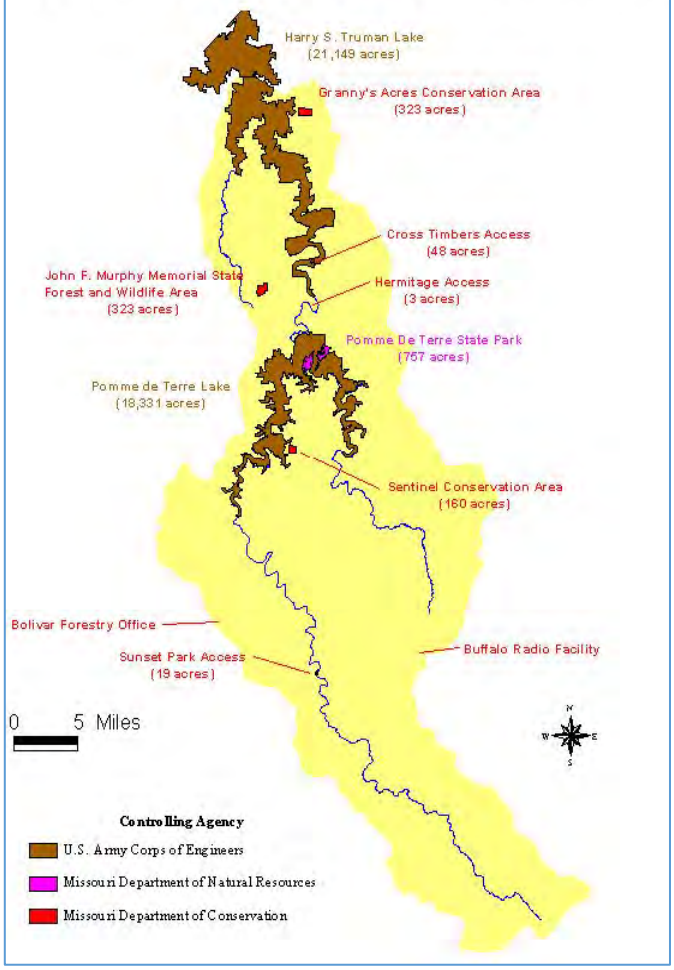
5) How can DNR use important statements about the slaughterhouse benefit to the community without meaningful numbers proving it?

The AIP also includes a requirement for determining the **Social and Economic Importance** (p. 13, C.) about the affected community, which in this case is the employees of Missouri Prime Beef Packers and the residents of Pleasant Hope and Polk County. MCNA considers the packing industry promotional nature of the paragraph to be inappropriate in this Antidegradation Review.

We understand DNR is supposed to consider the community economic interests in addition to protecting and conserving the water. However, in the Pomme de Terre Watershed there is a significant recreational industry that is dependent on clean water, abundant wildlife, and fresh air. To ignore the recreation/tourism industry in the county while promoting the industry whose permit change DNR is reviewing is inappropriate and a potential conflict of interest.

If DNR is going to include grandiose statements about how much the slaughterhouse helps the local economy, it should consider whether the workers at the plant take advantage of SNAP benefits and what their median income is compared to the local community and state. Statements without numbers to back them up are meaningless.

Figure LU04. Public lands in the Pomme de Terre River watershed.



1999 MDC Inventory and Assessment

Numerous public lands and lakes make the Pomme de Terre Watershed a recreation destination.

Antidegradation Review Preliminary Determination

(p. 19, 9.) (Words in black are from the report.)

1) Explain the ramifications of this sentence: The proposed new facility discharge location will result in significant degradation of Pomme de Terre River.

2) Why would DNR consider using a Demonstration Project for a Waste Water Treatment Plant that has no proven track record in the state?

Ileaf Technology is an innovative technology under **10 CSR 20-6.010(5) (E)** and **10 CSR 20-8.110(6)** *(see sidebar)* which will be a *demonstration project.*

The base case was determined by the owner and facility to be the iLeaf Technology, which utilizes a microbes for treatment to supposedly meet the necessary water quality based effluent limits to protect the downstream uses of Pomme de Terre River, Pomme de Terre Lake and its watershed.

3) Why should the community in the Pomme de Terre watershed become the guinea pigs for testing a new technology that could prove to be inadequate within the year it serves as a demonstration project?

If the facility has trouble meeting the effluent limits established in this Antidegradation Review or through the permitting process, another technology may be required to be installed or the facility will have to explore additional options. This would be too late for the community that has had to live with the consequences of an inadequate demonstration project.

10 CSR 20-6.010(5) (E) Demonstration Projects.

Demonstration and pilot projects are innovative processes for which minimum design criteria is not well established. Demonstration or pilot projects shall be approved by the department prior to implementation of the new technology process or equipment.

1. Pilot project installations are those whose discharge is returned to the existing treatment facility. They are installed for a period of one (1) year and are exempt from obtaining a construction permit after obtaining department approval of the project evaluation. Refer to paragraph (1)(B)8. of this rule.

A. The project evaluation requirements are identified in 10 CSR 20-8.110(6). Pilot project installations are temporary and coordinated to ensure water quality is protected.

2. A demonstration project installation is a full scale innovative technology process. All antidegradation, operating permit, and construction permitting requirements apply.

A. Full scale **demonstration projects** in Missouri are not exempt from antidegradation or permit requirements.
B. The treatment process must be based on reasonable and sound engineering principles. Include a project evaluation of a technical performance demonstration of treating pollutants of concern in Missouri or locations with a climate similar to Missouri. The expected project evaluation details are outlined in 10 CSR 20-8.110(6) including review of design criteria.
C. An operating permit modification depends on the nature of the treatment process and will be determined during project review of the facility evaluation or plan.

3. The technology remains a **demonstration process** until documentation verifies consistent performance as designed for treatment of pollutants of concern for twelve (12) consecutive months at three (3) sites in Missouri or locations with a climate similar to Missouri. Design subsequent installations of verified treatment processes based on established design criteria.

10 CSR 20-8.110(6) Outfalls.

(A) Protection and Maintenance. The outfall shall be so constructed and protected against the effects of flood water, ice, or other hazards as to reasonably ensure its structural stability and freedom from stoppage.

(B) Sampling Provisions. All sampling points shall be designed so that a representative and discrete twenty-four (24) hour automatic composite sample or grab sample of the effluent discharge can be obtained at a point after the final treatment process and before discharge to or mixing with the receiving waters.

It is particularly risky testing a novel treatment where the lakes are already impaired for chlorophyll-a and the Pomme de Terre River for E-Coli.

4) MCNA is unsure about the effluent limits in this review being adequately developed to be protective of beneficial uses and to attain the highest statutory and regulatory requirements.

For example, Pomme de Terre River has high mussel biodiversity (31 species according to Hutson & Barnhart, 2004). Nationally, more than 70% of mussel species are imperiled and 35% are presumed extinct. Currently, the Mussels are one of the most vulnerable and rapidly declining groups of animals in the US because of reduced water quality and habitat degradation. They are highly sensitive to ammonia and nitrates. Will the ammonia levels allowed be protective of mussels?

5) MCNA does not consider the review sufficient based on the numerous issues enumerated in this public comment such as examining regionalization of waste treatment facilities and acquiring additional land for a no discharge facility.

We oppose the use of the ILeaf technology and the direct discharge to the Pomme de Terre River.