

May 2, 2018

Via Email: [reg-comment@adeq.state.ar.us](mailto:reg-comment@adeq.state.ar.us)

Kelly Robinson  
Arkansas Department of Environmental Quality  
101E. Capitol, Suite 205  
Little Rock, AR 72201

Re: APCEC Docket No. 18-001-R, NANTRAG's Proposed APCEC Regulation No. 37

Dear Ms. Robinson:

The following comments are submitted on behalf of Beaver Water District (BWD). They are in addition to, and not in place of, the comments of BWD submitted by email on January 25, 2018, the comments of BWD made at the public hearing in Fayetteville on March 29, 2018, and the comments of BWD submitted by email on March 30, 2018.

### **1. Any Arkansas Nutrient Trading Regulation Must Fully Protect Drinking Water Sources**

BWD supports the goal of the Cities of Bentonville, Fayetteville, Rogers, and Springdale, which make up the Northwest Arkansas Nutrient Trading Research and Advisory Group (NANTRAG), to develop and successfully implement an Arkansas nutrient water quality trading program that will provide a cost-effective mechanism for compliance with nutrient limits in National Pollutant Discharge Elimination System (NPDES) permits. Any such program, however, must first and foremost be based on regulations that guarantee the protection of Arkansas reservoirs that serve as drinking water sources. It would be counter-productive to authorize nutrient water quality trading that reduces capital and operational costs for wastewater dischargers, but that impacts the public's drinking water supplies and causes treatment problems and increased costs for drinking water utilities.

BWD's earlier public comments regarding NANTRAG's proposed Arkansas Pollution Control and Ecology Commission (APCEC) Regulation No. 37 noted some of the potential impacts that nutrient inputs to reservoirs can produce: increases in algae, the formation of harmful algal blooms (HABs), the production of cyanotoxins, increases in the precursors of disinfection byproducts (DBPs), filter clogging at drinking water treatment plants, and taste and odor issues for drinking water. Beaver Lake, at the BWD intake, already has high concentrations of algae on some occasions. BWD experiences periodic taste and odor problems as the result of the algal metabolites 2-Methylisoborneol (MIB) and Geosmin. Filter clogging algae during the summer month result in shortened filter runs and increases in BWD's treatment and chemical costs. There also have been increases in DBP precursors in the water at our intake. In approximately 2012, BWD spent about five million dollars to construct additional facilities designed to aid in the reduction of the formation of DBPs, which are strictly regulated under the Safe Drinking Water Act.

## 2. The Limited Protections for Drinking Water Supply Reservoirs Must Be Retained

NANTRAG's Petition to Initiate Rulemaking outlines the steps that NANTRAG took to seek input from a variety of stakeholders, including BWD, regarding drafts of its proposed regulation. What is not apparent from the Petition, however, is that NANTRAG was unwilling to make many of the changes requested either in writing or verbally during meetings. This included language requested by BWD that was aimed at protecting drinking water sources. As a result, when NANTRAG submitted its draft regulation to the legislatively-established Nutrient Water Quality Trading Advisory Panel, BWD's representative on the Advisory Panel filed three proposed amendments. The three proposed amendments did not cover all the changes that BWD had sought in the draft regulation. Instead, BWD drafted proposed amendments that were purposely short and based on calculations as to what the Advisory Panel might pass that would give a measure of protection to drinking water reservoirs.

The Advisory Panel voted to approve two of BWD's three proposed amendments. The first BWD amendment that was approved added a sentence at the end of Section 2(A)(2) of NANTRAG's draft regulation. Section 2(A) lists the ten items that must be included in an application for Arkansas Department of Environmental Quality (ADEQ) approval of a Nutrient Credit Generating Project. With BWD's amendment [shown in italics], Section 2(A)(2) now reads that the application shall include: "A description of the watershed in which the credits are proposed for use as offsets. *If the watershed includes a reservoir that is the water supply source for an existing public water system as designated by the Arkansas Department of Health, the credit-generating project must be located in the watershed of the reservoir[.]*"

The second BWD amendment that was approved changed Section 2(A)(9). That section of NANTRAG's draft regulation stated that the application shall include: "An evaluation of the effects that use of the nutrient credits as an offset may have upon a reservoir that is a drinking water supply source for an existing community water system." With BWD's amendment, Section 2(A)(9) now reads that the application shall include: "Evidence that the use of the nutrients credits as an offset will not have a significant adverse impact upon a reservoir that is a drinking water supply source for an existing public water supply system as designated by the Arkansas Department of Health[.]"

It was only because these two changes to the draft regulation were approved that BWD's representative voted with the other members of the Advisory Panel to recommend that the APCEC initiate rulemaking on NANTRAG's proposed regulation. *To the extent that public comments are submitted in this rulemaking that seek to have the second sentence of Section 2(A)(2), shown in italics above, deleted or otherwise limited or negated, BWD would strongly object.* An NPDES permittee that discharges into a watershed that includes a reservoir that is the water supply source for an existing public water system *should not* be allowed to use credits that have been generated outside of the watershed of the reservoir as offsets against its permit limits for nutrients.

The protection afforded existing drinking water supply reservoirs by the second sentence of Section 2(A)(2) should be an absolute minimum requirement in a nutrient water quality trading regulation. BWD would have preferred that this requirement mandate that the credit-generating project be located upstream of any drinking water intakes on the reservoir. As a compromise position, however, BWD drafted the amendment to Section 2(A)(2) to allow the credit-generating project to be located anywhere in the watershed of the reservoir. For example, the City of Fayetteville's wastewater treatment plant discharges into the White River upstream of Beaver Lake and upstream of BWD's intakes. If the City wants to utilize credits to discharge nutrients in excess of the limits in its NPDES permit, then those credits must come from another NPDES-permitted discharger or a nutrient reduction project located somewhere in the Beaver Lake watershed. That way, the increase in nutrients from the City's discharge flowing into Beaver Lake will theoretically be offset, at least as far as the entire Lake is concerned, by the reduction of other nutrients that would have gone into the Lake.

In the example above, it would not make sense to allow the City of Fayetteville to discharge nutrients in excess of its permit limits in exchange for purchasing nutrient credits generated by projects located outside of the Beaver Lake watershed. That would mean that Beaver Lake experiences an increase in nutrient loadings that is not offset by any reduction of nutrient loadings to the Lake. Continuing the example, arguments that it is unduly restrictive to limit the City of Fayetteville's use of nutrient credits to those that are generated in the Beaver Lake watershed focus on the desire to create a market for credits generated anywhere in the state and overlook the potential threat posed by the use of those credits to allow increased nutrient loadings into Beaver Lake (and, by extension, into other drinking water supply reservoirs).

### **3. Protections for Water Quality and Drinking Water Supply Reservoirs Must Be Required Elements of the ADEQ Director's Decision**

Section 2(A)(2) list the things that must be included in an *application* for approval of a Nutrient Credit Generating Project, including:

- "evidence that use of the nutrient credits as an offset will not result in an unacceptable localized adverse effect on water quality;"
- "evidence that use of the nutrient credits will not result in a net increase in pollutant loading in the relevant watershed;"
- "evidence that the credit-generating project will result in a reduction of nutrient discharges below the existing baseline requirements;" and
- "evidence that the use of the nutrients credits as an offset will not have a significant adverse impact upon a reservoir that is a drinking water supply source for an existing public water supply system as designated by the Arkansas Department of Health[.]"

Setting aside for now the vagueness of terms such as "unacceptable" effect and "significant adverse" impact and also the lack of detail as to exactly what kind of evidence is required, these provisions appear to provide protections for water quality and drinking water supply reservoirs. A closer reading of the proposed regulation reveals, however, that while these items are to be included as part of the application, there is no requirement that the ADEQ Director make affirmative findings regarding localized adverse effects, net increases in pollutant loading,

reduction of nutrient discharges, or adverse impacts on existing drinking water supply reservoirs. There also are no absolute prohibitions in the proposed regulation against unacceptable localized adverse effects on water quality, net increases in pollutant loading, and significant adverse impacts on drinking water supply reservoirs.

Section 2(I) is the only provision that appears to require the Director to make a specific finding related to water quality and to not approve a proposed Nutrient Credit Generating Project "unless the project, activity, or discharge reduction involved in the project will reduce the nutrient load *below the applicable baseline requirements.*" [Emphasis added]. As stated in BWD's March 2018 public comments, requiring that the *project, activity, or discharge reduction* reduce the nutrient load below the *applicable baseline* is very different from requiring that the *use of the nutrient credits* reduce actual nutrient concentrations and loads in the receiving stream. This is because the definition of "baseline requirements" in Section 2(I) is not specifically tied to the current, in-stream nutrient levels or to numeric water quality criteria for nutrients or to water-quality-based effluent limitations, except for the rare cases in Arkansas where permit limits are based on a downstream state's numeric nutrient water quality criteria or a wasteload allocation for nutrients. *The definitions of "baseline requirements" in Section 2(I)(1) and (2) need to be revised to tie them to numeric water quality criteria for nutrients or to water-quality-based effluent limitations for nutrients, or at least to current, in-stream nutrient levels for unimpaired streams.*

*BWD also requests that Sections 2(F), 2(G), and 2(G) be revised and that a new section or sections be added, as needed, to require that the Director make specific, written findings regarding localized adverse effects, net increases in pollutant loading, reduction of nutrient discharges, compliance with the State's antidegradation policy, and adverse impacts on existing drinking water supply reservoirs. In addition, the regulation should be revised to require that the Director deny applications:*

- (1) when the use of the nutrient credits as an offset is likely to result in unacceptable localized adverse effects on water quality;*
- (2) when the use of nutrient credits is likely to result in a net increase in pollutant concentrations or loadings;*
- (3) when the use of nutrient credits will not reduce in-stream nutrient concentrations or loadings;*
- (4) when the use of nutrient credits would not comply with the State's antidegradation policy in APCEC Regulation No. 2; and*
- (5) when the watershed where the credits are to be used as offsets includes a reservoir that is the water supply source for an existing public water system as designated by the Arkansas Department of Health (ADH), but the credit-generating project is not located in the watershed of the reservoir.*

**4. A Minimalist and “Flexible” Regulation is Not a Prerequisite for a Successful Nutrient Water Quality Trading Regulation – Clear Implementation Procedures and Water-Quality Based Numeric Caps Are**

NANTRAG's proposal is based on the supposition that nutrient trading regulations in other jurisdictions are too complicated, and that is why there haven't been large numbers of trades. Complex regulations can diminish the efficacy of a nutrient trading program, but, so too can overly simplistic and vague regulations. NANTRAG's proposed regulation attempts to establish and implement an entirely new regulatory program with only six double-spaced pages of text. The proposed regulation contains little in the way of implementation procedures. For example, the focus of the regulation is on credit generation and there is very little in the regulation regarding how the credits are to be used as offsets by NPDES permit holders, other than as relates to compliance responsibility and enforcement discretion. *A section or sections that deal with how credits are to be used as offsets by NPDES permittees should be included.*

Another example is that there are no clear parameters that apply to decisions regarding “credit life,” generally the period from the date at which the credit becomes usable as an offset by a permittee to the date that the credit is no longer valid. The only mention of this issue in the proposed regulation is a single sentence at Section 2(E) and a sentence at Section 2(G)(2). Section 2(E) seems to establish a five-year, renewable credit term as a default. *The regulation should not assume, however, that because NPDES permits generally are on a five-year cycle, the default credit life for a particular nutrient credit should also be five years.* Section 2(E) also provides that credits “may be renewed or extended upon application *in accordance with procedures in this section.*” It is not clear to BWD that any such procedures exist in in Section 2 or elsewhere in the proposed regulation. Section 2(G)(2) provides only that the Director's decision approving a Nutrient Credit Generating Project shall specify the “time period in which the credits generated by the Nutrient Credit Generating Project may be used as an offset[.]” *A section or sections should be included in the proposed regulation that specify, among other things, what information and justifications are needed, and from whom, for the Director to determine when credits become valid and how long they are to remain valid. There also needs to be a clearly stated process for how credits may be renewed. See Attachment A hereto, National Network on Water Quality Trading, “Building a Water Quality Trading Program: Options and Considerations,” Version 1.0 (June 2015), pp. 95 – 100.*

Further, *the type of evidence that is required to be submitted under Sections 2(A)(5), 2(A)(6), 2(A)(7), and 2(A)(9) needs to be specified.* This could include, but should not be limited to, what and how much site-specific data must be collected, when and what types of modelling may be used, and how current the information must be. One only needs to have followed the discussions regarding ADEQ's Assessment Methodology for the preparation of the 2018 Integrated Water Quality Monitoring and Assessment Report required by Sections 303(d) and 305(b) of the Clean Water Act to know that the issue of what evidence is required by Section 2(A) of the proposed regulation cannot be left entirely to ad hoc decision-making.

These are but a few examples of the procedures that are lacking in the proposed regulation and that may hinder its usage for nutrient trading. BWD believes, however, that *the larger impediment to a successful nutrient trading program in Arkansas under the proposed regulation is that it is not premised on having NPDES permit limits for nutrients that are water-quality based. This also is the reason that the baselines utilized under the proposed regulation do not adequately protect water quality. (See item 3, page 4, above).* There are no numeric water quality criteria for phosphorus in APCEC Regulation No. 2, the Arkansas Surface Water Quality Standards. The Total Phosphorus (TP) numbers in Reg. 2.509 are not water quality criteria; they are NPDES permit limits derived from some sort of Best Professional Judgment/technology-related analysis. As a consequence, there are few Arkansas NPDES permits that contain TP limits that are water-quality-based and most, if not all, of those are triggered by the numeric phosphorus water quality criteria of downstream states. BWD would not be surprised if the majority of NPDES permits in Arkansas had no TP limits at all.

*In order to optimize the chances for success of a nutrient trading program in Arkansas, both in terms of creating a market for trades and of achieving a goal of improved water quality (or at least of no net increase in pollutant loading), ADEQ may first need to devote its time and resources to the development of numeric water quality criteria for nutrients. Once numeric nutrient water quality criteria are in place, they can be used to determine the allowable nutrient loading to the receiving streams and to set water-quality-based NPDES permit limits for nutrients, which will serve as market drivers. In the absence of numeric nutrient water quality criteria that can be used to establish clear caps, trading is much less likely to occur because there is insufficient demand for credits. Granted, in some instances, a clear cap alone is not enough to result in trades due to the availability of less-costly compliance alternatives, including more effective treatment technologies.*

Nutrient trading has worked in other states, although measures of success vary. The trading frameworks that have facilitated trades and achieved improvements in water quality have several commonalities: (1) watershed-specific trading areas; (2) clear caps; and (3) nonpoint source credit conversion ratios. For example, the North Carolina program limits trading to a watershed-specific trading area and designates the pollutant or pollutants that may be traded in that area. Members of compliance associations (*i.e.*, coalitions of NPDES permittees) trade amongst themselves to comply with a general "bubble permit" for all permittees in the watershed. This program has realized numerous nonpoint-source-generated trades, largely because the state has set a clear cap on nonpoint source activities that result in nutrient discharges. The state has been developing its nutrient trading program for nearly three decades and still relies on trading ratios of 1.5:1 to 3:1 to account for the uncertainty inherent in nonpoint-source-generated credits. *See* North Carolina Administrative Code Title 15A, Subchapter 2B. BWD does not necessarily endorse the specifics of the North Carolina program, but it is illustrative of how a nutrient trading program can work when there are sufficient market drivers and clear implementation procedures.

## 5. Details and Minimum Standards regarding Trading Ratios Are Needed

A trading ratio, in general, is a numeric value used to adjust available credits for a seller or the credit obligation of the buyer based on various forms of risk and uncertainty. Trading ratios are most commonly used to mitigate risk and uncertainty associated with the quantification of nonpoint source nutrient loads, but they may also be needed to address uncertainty related to trades between NPDES permittees. Trading ratios can be used to ensure that the environmental benefit of a credit-generating project is greater than or equal to the reduction in nutrient loads that would occur if the NPDES nutrient permit limits of the credit-user were met. *See Attachment A hereto, pp. 78 - 89.*

The only mention in the proposed regulation related to trading ratios is one sentence at Section 2(F)(1). This section provides that the Director shall consider, in deciding whether to approve an application for a Nutrient Credit Generating Project, “[t]he calculation used to derive the credit quantity and credit ratios resulting from the credit-generating project, including an explanation of methods used to address uncertainty factors[.]” There is nothing regarding trading ratios in the itemization of things required to be included in the application pursuant to Section 2(A). *A new subsection should be added to Section 2(A) to cover the information, evidence, and calculations related to trading ratios and credit quantity that must be included in the application. This information should include an assessment of factors such as estimation uncertainty, attenuation, the location of the credit-generating project relative to the location of the credit user, time lags, the pollutant equivalency of different forms of the nutrient (e.g., biologically available phosphorus and bound phosphorus), and the variability of nonpoint source Best Management Practices (BMPs). See Attachment A hereto, pp. 78 - 89. In addition, this new provision should include a minimum trading ratio of at least one and a half (1.5) credits for one (1) offset. A higher minimum trading ratio should be considered for inclusion in the regulation where the credits are proposed for use as offsets in a watershed that includes a reservoir that is the water supply source for an existing public water system as designated by the ADH.*

*Section 2(F) should be revised or a new section or sections should be added to require that the Director make specific, written findings regarding appropriate trading ratios and to require that the Director set trading ratios that include a margin of safety to ensure that the amount of nutrient reduction resulting from the trade has at least the same effect as the nutrient reduction that would be required without the trade. This new provision should also include that a minimum trading ratio of 1.5:1 (and higher for drinking water supply reservoirs) must be utilized in the Director's decision on trading ratios.*

## 6. Definitions Should Be Added and Consolidated in One Place in the Regulation

*The term that is most in need of definition in the proposed regulation is “watershed.” That may be difficult given the variety of contexts in which the term is used. Perhaps the term “trading area” could be defined and used in place of “watershed” in some instances. The use of the term watershed in Section 2(A)(2) may need to be defined separately along the lines of the area that drains into the drinking water reservoir above the dam that creates the reservoir.*

*Subjective terms such as “unacceptable localized adverse effects” and “significant adverse impact” should also be defined or, at least, clarified.* BWD acknowledges that the no-significant-adverse-impact language in Section 2(A)(9) came from BWD's amendment. The “significant” modifier was included, however, when NANTRAG made it clear that it was strongly opposed to requiring evidence in the application that the use of the nutrients credits as an offset would not have an adverse impact upon a reservoir that is a drinking water supply source for an existing public water supply system. At a minimum, any non-transient adverse impact is significant when it comes to public water supply sources. For Beaver Lake, predicted or actual exceedance of the Chlorophyll a and Secchi Transparency numeric water quality criteria at Reg. 2.509(B) would be one indicator of significant adverse impact, but that would not be a prerequisite for a finding of significant adverse impact.

**7. The Regulation Must Include the Full Spectrum of Public Participation Rights  
And Procedures Afforded by APCEC Regulation No. 8 and  
Required by the Delegation to ADEQ of the NPDES Program**

The proposed regulation includes references to APCEC Regulation No. 8 - Administrative Procedures in only two places: Section 2(C), referencing Reg. 8.205, and Section 2(H), referencing Reg. 8.603. Reg. 8.205 pertains to public notice of permit applications. Reg. 8.603 pertains to requests for hearings before the APCEC. Section 2(H) also contains language that is not cited to Regulation No. 8, but that relates to public notice of the Director's decision (presumably a draft decision), a minimum thirty-day public comment period, and a requirement that a written response to comments and the final decision are sent to the applicant and each person who submitted timely public comments.

The proposed regulation omits multiple public participation rights and procedures that should apply: (1) the right to request a public hearing on an application pursuant to Reg. 8.206; (2) the specific procedures that apply to public notice of draft decisions under Reg. 8.207, including the right to request a public hearing on the draft decision; (3) the specific procedures that apply to public comment on draft decisions under Reg. 8.208; (4) the specific procedures that apply to public hearings on applications or on draft decisions under Reg. 8.209, including the right to request an extension of the period for written comments; (5) the specific procedures that apply to final decisions under Reg. 8.211; and (6) the right to permissive intervention in an adjudicatory hearing pursuant to Reg. 8.604. *The proposed regulation must be revised to make it clear that all of these public participation rights and procedures apply.*

There is a danger, however, in citing to specific sections of Regulation No. 8 in a nutrient trading regulation. ADEQ has filed a Petition to Initiate Rulemaking to Amend Regulation No. 8 (*see* APCEC Docket No. 18-003-R). That rulemaking is likely to produce changes to the numbering of the sections in Regulation No. 8 as well as to the substance of the various administrative procedures. *Perhaps the best way to ensure that the full spectrum of public participation rights and procedures apply to the implementation of a nutrient trading regulation would be to specify:*



- *that the regulation is to be treated as a permitting regulation, with decisions to be treated as permitting decisions; and*
- *that of all the public participation rights and procedures afforded by Regulation No. 8, plus those rights and procedures mandated by the requirements of the U.S. Environmental Protection Agency's (EPA's) delegation of the NPDES program to ADEQ, apply.*

#### **8. Limitations on the Exercise of ADEQ's Compliance and Enforcement Authority Must Be Removed**

Section 3(C) of the proposed regulation provides that any inspections necessary to determine compliance with a nonpoint source nutrient credit-generating project will be performed by the Arkansas Natural Resources Commission (ANRC). The credits from nonpoint source nutrient credit-generating projects will be used to allow NPDES permittees to discharge nutrients in excess of their permit limits. The administration of the NPDES program in Arkansas, including the responsibility for monitoring compliance and enforcing against non-compliance, was delegated to ADEQ by the EPA. ADEQ's responsibility for enforcement and compliance monitoring cannot be given to ANRC. *Section 3(C) should be deleted from the regulation.*

Section 3(B) dictates the conditions under which ADEQ may "forgo formal enforcement or reduce formal enforcement sanctions with respect to permit violations that arise from the complete or partial failure to implement a Nutrient Credit Generating Project." NPDES permittees that make use of nutrient trading credits should not be entitled to special enforcement discretion that is not available to other NPDES permittees. *Section 3(B) should be deleted from the regulation.*

#### **9. Previously Installed Nonpoint Source Nutrient Reduction Projects Should Not Be Eligible to Generate Credits**

NANTRAG has publicly stated that previously installed nonpoint source nutrient reduction projects should be eligible for inclusion in an application for approval of a Nutrient Credit Generating Project. It is not clear to BWD where that is specified in the proposed regulation, but *to the extent that the regulation is deemed to allow nonpoint source pollution reduction projects that already have been implemented to be utilized as credits, BWD objects.* If NPDES permittees are allowed to discharge in excess of their permit limits, those discharges need to be offset by new nutrient pollution reductions. In the same vein, BWD also questions the advisability of allowing projects that are supported in whole or in part by government grants or other third-party financial funding to be eligible for approval as a Nutrient Credit Generating Project as provided by Section 2(J) of the proposed regulation.

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**10. There Must be Adequate Fees to Provide for ADEQ's  
Implementation of the Regulation**

The proposed regulation does not include provisions regarding fees to cover the costs to ADEQ to staff and implement an entirely new regulatory program. If a fee structure is not included in the proposed regulation, then APCEC Regulation No. 9: Fees should be amended to include the fees for a nutrient water quality trading program at the same time as the nutrient water quality trading regulation is finalized. The fees should include the costs for ADEQ to expand its water quality monitoring to ensure that water quality is protected following implementation of nutrient water quality trading.

Thank you for your consideration of Beaver Water District's comments.

Sincerely,



Colene Gaston  
Staff Attorney

Attachments:

Attachment A, National Network on Water Quality Trading, "Building a Water Quality Trading Program: Options and Considerations," Version 1.0 (June 2015)

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