



IN REPLY REFER TO:

United States Department of the Interior



FISH AND WILDLIFE SERVICE
110 South Amity Road, Suite 300
Conway, Arkansas 72032
Tel.: 501/513-4470 Fax: 501/513-4480

May 2, 2018

The Honorable Charles Moulton
Arkansas Pollution Control and Ecology Commission
101 E. Capitol Ave., Suite 205
Little Rock, Arkansas 72201

Dear Commissioner Moulton:

The U.S. Fish and Wildlife Service (Service) has reviewed the third-party proposal by the Northwest Arkansas Nutrient Trading Research and Advisory Group to initiate rulemaking on the adoption of proposed Regulation No. 37 (Arkansas Nutrient Water Quality Trading Regulation) submitted to the Arkansas Pollution Control and Ecology Commission (APC&EC) on January 26, 2018. The Service submits these comments in accordance with the Endangered Species Act of 1973 (ESA; 87 Stat. 884, as amended 16 U.S.C. §1531 et seq.) and the Federal Water Pollution Control Act (Clean Water Act; 62 Stat. 1155, as amended 33 U.S.C. §1251 et seq.).

The Service supports the APC&EC development of broad nutrient trading program guidance with the goal of water quality improvement in Arkansas streams. The nutrient trading program provides an additional mechanism for dischargers to meet water quality goals and comply with water quality based effluent limits in National Pollution Discharge Elimination System (NPDES) permits. The Service offers the following comments and recommendations to assist APC&EC in crafting a carefully considered regulation to benefit Arkansas' people, wildlife, fish, and habitats.

The issue of water quality improvement and alleviation of threats to water quality is essential to resources the Service is entrusted with protecting. Arkansas is home to 37 threatened or endangered species; 21 of these species are aquatic or aquatic-dependent. Forty (40) additional aquatic dependent at-risk species that occur in Arkansas are currently "under review" by the Service to determine whether listing under the ESA may be warranted. Early participation in the proposed nutrient trading program in Arkansas is expected to be concentrated in Northwest Arkansas due to the region's designation as a nutrient surplus area. Many of these federally listed and at-risk species occur in this region.

The Environmental Protection Agency (EPA) recommends nutrient trading programs as a method of nutrient reduction and water quality improvement and, by 2014, 11 states established programs to combat harmful effects of excess nutrients (total nitrogen and total phosphorus) in state waterbodies or offshore waters. These negative effects include algal blooms and hypoxia (a low oxygen environment that cannot support living aquatic organisms). The EPA Water Quality Trading Policy (2003) provides guidance to states, interstate agencies, and tribes to assist in

developing trading programs. The policy discusses Clean Water Act requirements relevant to water quality trading including seven basic considerations: requirements to obtain permits, antibacksliding provisions, development of water quality standards, anti-degradation policy, NPDES permit regulations, total maximum daily loads (TMDLs), and water quality management plans. The EPA Water Quality Trading Assessment handbook (2004) provides additional step-by-step early guidance for developing water quality trading in a watershed or state. The EPA Water Quality Trading Toolkit (2007) builds on these two documents and incorporates additional considerations and principles.

Service Recommendation 1: Review and revise the proposed Arkansas nutrient trading program regulation to incorporate basic considerations with available EPA tools. Approved and recommended EPA guidance provides a strong framework for the Arkansas nutrient trading program transparency, defensibility, enforcement, and accountability.

The Service recognizes the benefits inherent in a flexible program; however, additional information regarding specifics of implementation (e.g., nutrient load reduction assessment by practice efficiency or on-site monitoring, length of time a credit is valid, trading ratios) will give potential credit generators and purchasers assurances and consistency with participation in the program. In *Arkansas Law Review*, Finch (2016) also recommends establishment of baselines, credit definitions, credit values for practices, credit terms, and other details specific to the implementation plan once Arkansas has established the roles and responsibilities of various agencies. Inclusion of assessment metrics used in application review and approval would promote transparency and work to ensure credit consistency and equivalency.

Service Recommendation 2: Develop more comprehensive guidelines or watershed implementation plans that include specific implementation strategies as a complement to the proposed regulation. These implementation strategies should include flexible methodologies for assessment and monitoring to ensure water quality improvement.

The Service concerns regarding the management of uncertainty in the nutrient trading program including credit generation and monitoring methodology, timing of trades, and trading ratios. The lack of guidance in these area may create the appearance of subjectivity in assessment and monitoring of sites, number of credits produced, cost and profit differences, or other issues that may deter participants or have potential for litigation. Other Service recommendations relate to avoidance or minimization of potential localized effects of altered water quality, baseline determination for non-point source sites, and compliance with other regulatory, statutory, and agency regulations.

Uncertainty in nutrient trading programs is associated with nutrient load estimation, measurement methods, credit generation practice effectiveness (including meteorological factors) and verification, failed credit generation, and trading ratios. Accounting for uncertainty is not specifically addressed in the proposed regulation, but the application for project approval involves consideration of uncertainty by the applicant. Proposed regulation sections 2(A)(6) and 2(A)(7) requires the applicant provide evidence the credit-generating project will “result in a reduction of nutrient discharges below the existing baseline” and a “description of the methods

by which the implementation and performance of the credit-generating activity will be verified and documented”, respectively. Standardization of methods to address uncertainty would give participants in the program assurances and guidance. In a review of 19 nutrient trading programs, the two most common challenges cited were identification of trade participants and uncertainties related to calculating the number of credits generated by non-point source activities (Morgan and Wolverton 2005). Discrepancies between proposed projects in credit generation methodology and monitoring introduces intrinsic uncertainties and increases the difficulty in comparison of projects to determine the success of the trading program.

Service Recommendation 3: List specific, standardized methods to address uncertainty in determining how a credit-generating project will reduce nutrient loads and how monitoring of the project will be accomplished.

Section (2)(A)(4) requires the applicant to provide “evidence the use of nutrient credits as an offset will not result in an unacceptable localized adverse effect on water quality”. Applicants may not have the capacity to assess this narrative criteria in a standardized manner. The narrative criteria may prove difficult for the Arkansas Natural Resource Commission to enforce. Although Arkansas has not yet developed statewide nutrient criteria, APC&EC approved methodologies for assessment of site-specific criteria based on existing conditions would promote consistency and equivalency among sites. The additional complexity in interpreting the narrative criteria may outweigh the benefit of flexibility it provides.

Service Recommendation 4: Use numeric criteria to determine the nutrient load for credit-generating projects (baseline and post-implementation monitoring).

Trade ratios are used to ensure the amount of nutrient load reduction resulting from the trade has the same effect as the reduction required without the trade and to account for all or part of the uncertainty between point source and non-point source trades. An established trading ratio includes components of location, distance between the credit purchaser and generator, uncertainty of non-point source reductions, and environmental equivalency (different forms of the same pollutant discharged from trading partners, such as biologically available phosphorus and bound phosphorous). All existing programs employ trading ratios ranging from 2:1 to 10:1, with 2:1 as the most common ratio for nutrients (i.e., one point source credit is offset by the purchase of two credits generated by a non-point source). Quantification of non-point source project nutrient reduction is often more challenging than point source. Monitoring methods to quantify reductions include site-specific direct monitoring (edge-of-field), although pre-determined best management practice efficacies can also be effective. Modeling of nutrient reduction achieved by various practices has been utilized by some state trading programs. Additional methods are provided in the EPA Water Quality Trading Toolkit to assist in accounting for some trading uncertainty.

Service Recommendation 5: Incorporate a minimum trading ratio of 2:1 between point source credit purchasers and non-point source credit generators.

Another source of uncertainty within the nutrient trading program concerns timing of trades and length of time a credit-generating project may generate credits. Credits generated and used

within the same time period in order to comply with permit limits may be easier to document and may prevent localized exceedances of water quality standards. The potential lag time between initial implementation of nutrient reduction practices and improvement of water quality downstream, along with environmental capacity to assimilate the nutrient load, should be understood when evaluating the credit-generating project.

Service Recommendation 6: Incorporate a time period when credits may be generated and used, potentially based on practices or monitoring.

To achieve overall water quality improvement and minimize potential for localized negative effects, the credit generation project should be upstream of the credit purchaser. This will decrease the potential for a waterbody segment with locally high loading of nutrients between the point source nutrient discharge and non-point source reduction to affect sensitive species located in the affected stream reach. Other options include limiting the direction of trades, imposing limits on the number of credits purchased by a single point source, or imposing discharger-specific limits for nutrients expected to cause localized concerns.

Service Recommendation 7: To maintain water quality, protect designated uses, and minimize effects to living resources or habitat, nutrient credit-generating projects should be located in the same watershed or subwatershed in which the credits are proposed for use as offsets (purchaser site).

Service Recommendation 8: Credit-generating projects should be encouraged or incentivized to locate upstream of point source discharges whenever possible.

In the proposed regulation, the TMDL in a watershed is the baseline for point source sites and the regulatory requirements applicable to the location of the project is the baseline for non-point source sites (section 2(H)(2)).

Service Recommendation 9: For credit-generating projects with no existing regulatory requirements (nutrient management plan, stormwater pollution prevention plan), water gauge data from a nearby downstream site over a specified time period should be used to determine the baseline and, potentially, monitoring of nutrient reduction. If no downstream gauge is available, end-of-field monitoring should be used to ensure compliance.

Project applications should include demonstration of compliance with all applicable state and federal laws and regulations (e.g., Corps of Engineers 404 permit, ADEQ stormwater pollution prevention plan). In addition, section 2(I) allows a non-point source project or activity or a point source pollution reduction supported by state or federal funding to be eligible for the nutrient credit generating plan. The Service cautions that some State or Federal agencies may have regulations that prohibit this; incorporation of the phrase “as allowed by the granting agency” may alleviate this potential incompatibility.

Service Recommendation 10: Clarify sections 2(A) and 2(I) to ensure proposed project compliance with state and federal regulations.

The Service appreciates the opportunity to comment on the proposed nutrient trading regulation and look forward to working with APC&EC and other stakeholders to develop the regulatory framework necessary for successful implementation of the program.

If you have any questions or additional comments, please contact Melissa Lombardi at (501) 513-4488 or Melissa_lombardi@fws.gov.

Sincerely,



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Melvin Tobin
Field Supervisor

cc:

Arkansas Natural Heritage Commission, Little Rock, Arkansas
Arkansas Natural Resources Commission, Little Rock, Arkansas
Arkansas Game and Fish Commission, Little Rock, Arkansas
Arkansas Department of Environmental Quality, Little Rock, Arkansas
Environmental Protection Agency, Dallas, Texas

Citations

Environmental Protection Agency. 2003. Water Quality Trading Policy. Washington, DC.

Environmental Protection Agency. 2004. Water Quality Trading Assessment Handbook: Can Water Quality Trading Advance Your Watershed's Goals?. EPA 841-B-04-001. Washington, DC.

Environmental Protection Agency. 2007. Water Quality Trading Toolkit for Permit Writers. EPA 833-R-07-004. Washington, DC.

Finch, N.R. 2016. Nutrient Water Quality Trading: A Market-Based Solution to Water Pollution in the Natural State. Arkansas Law Review 69:839.

Morgan, C. and A. Wolverton. 2005. Water Quality Trading in the United States. National Center for Environmental Economics. Working Paper #05-07. U.S. Environmental Protection Agency. Washington, DC.

