Statement of the American Farm Bureau Federation

TO THE HOUSE COMMITTEE ON TRANSPORTATION AND INFRASTRUCTURE
SUBCOMMITTEE ON WATER RESOURCES AND ENVIRONMENT

REGARDING: NUTRIENT TRADING AND WATER QUALITY

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Chairman Gibbs, Ranking Member Bishop, Members of the subcommittee, thank you for the invitation to appear today to testify on "Nutrient Trading and Water Quality." I am Carl Shaffer. I have the privilege of serving on of the Board of the American Farm Bureau Federation and as President of the Pennsylvania Farm Bureau. Farm Bureau represents farms of all sizes, spanning virtually all commodities grown and sold in our great nation. I own and operate a farm in Columbia County, Pennsylvania, where I raise corn, soybeans and wheat. All the land I farm is in the Chesapeake Bay watershed, and most of the land is within sight of the Susquehanna River. I am pleased to offer this testimony on behalf of the American Farm Bureau Federation and its more than 6 million members. I would like to make five points in my testimony today:

- First, while Farm Bureau supports the concept of water quality trading with voluntary participation, managing nutrients is inherently complicated and any water quality trading system must take that into account;
- Second, trading and offset programs are creatures of state law and they are tools that states may authorize and use to improve water quality;
- Third, trading, if properly designed and implemented, can help make attaining nutrient water quality standards more affordable, and attainable;
- Fourth, effective trading programs will not occur if EPA or states create a credibility crisis by imposing too many barriers to the orderly operation of a market; and
- Fifth, the underlying assumption that it is easy and inexpensive for farmers and nonpoint sources to reduce nutrient loading is a myth.

Concept of Water Quality Trading

Farm Bureau policy supports the *concept* of water quality trading; implicit in that is the notion that participation by farmers is voluntary and that the system reflects the realities of agriculture. Farm Bureau has a long history of supporting market-based approaches to improving the environment. We have also encouraged states to include trading in their toolbox to help implement state water quality programs because trading and offsets can reduce costs associated with achieving environmental improvements.

Even with that history of support, however, farmers and ranchers remain skeptical of trading programs in general and those associated with water quality specifically, and for good reason. Farmers grow things and understand that nutrient enrichment is a predictable outcome of all human activities – not just farming and ranching activities. Farmers understand that agricultural activities – like those in virtually every other part of life, such as shopping malls, golf courses, residential areas to name just a few – can affect the amount of nutrients that reach our waters. The fact is, each and every one of us plays a role in water quality; we all contribute to nutrient loading, either directly or indirectly, through the food we consume, the products we purchase, and the way we live our lives.

Unfortunately, EPA's environmental strategies too often focus more on affixing blame for problems or regulating some activity or person, rather than finding solutions that recognize and seek balance. EPA's toolbox is both limited and dominated by an approach that focuses heavily on pollution prevention and reduction based on the concept of polluter pays. For conventional pollutants, this approach has resulted in costly controls and restrictive permits on point sources. At the same time, there is an ongoing misperception that agriculture chronically over-applies

nutrients. Nutrients, however, are not conventional pollutants – they are a combination of *pollutants* from point sources and pollution from nonpoint sources. The fact is, nutrients are critical for optimal productivity in agriculture even though farmers and ranchers are striving for the best possible ecosystem function. Managing nutrients is extremely complicated because there is not one practice, technology or approach that can optimize nutrient utilization throughout the environment. Therefore, we need policy options that are balanced. We must develop solutions that optimize outcomes. We all want: 1) safe, affordable and abundant food, fiber and fuel; 2) vibrant and growing communities with jobs and expanding economic activity; and 3) fishable and swimmable waters.

The challenges presented by trading and offset programs are the complex interplay of economic scenarios that could play out over time when such programs are taken to their logical conclusions. For example, if regulatory offsets are required for any new development or for expanding economic activity, one would expect a regulatory offsets process to trade low-value economic activity for high-value activity. In real life, however, such a program would not be likely to require an old home to be torn down before a new home could be constructed. Likewise, the construction and operation of a new manufacturing facility and the jobs inherent to that economic activity would not likely come at the expense of other high-value economic activity. But trading programs will allow "tradeoffs" and the result will undoubtedly be a shift in development activities out of lower value areas, likely rural areas and farmland, into high value urban areas. The downside of such an offsets program can be represented by simple math. For example, within an urban area, land suitable for building a factory could be valued at $100,000 or more per acre, while land in the same geographic area suitable to produce corn or soybeans could be valued at $10,000 per acre. In a market-based system, it would appear to be only rational to extinguish the environmental externalities generated by the farmland to offset the externalities associated with the higher value economic activity of manufacturing. While this may be an extreme example, the reality is that the nation has never used water quality as a mechanism to cap or, in some cases like the Chesapeake Bay, reduce economic activity. The long-run reality for farmers and ranchers would be that, over time, rural areas will have fewer and fewer means to sustain themselves.

Trading and Offsets are Creatures of State Statutes

The Clean Water Act leaves the task of controlling water pollution largely to the states; it expressly recognizes, preserves and protects "the primary responsibilities and rights of States to prevent, reduce, and eliminate pollution [and] to plan the development and use … of land and water resources." Authorized federal involvement in state actions is carefully limited. Under no circumstances does the act authorize EPA to assume state responsibility to develop a planning process or a Total Maximum Daily Load (TMDL) implementation plan. It is within these contexts that trading programs are often contemplated. As such, states may implement trading and offsets programs established under state laws. In addition, states retain the flexibility to choose both if and how to use trading in the implementation of state water quality programs.

Nutrient Standards May Not be Affordable or Attainable Without Trading

Optimizing nitrogen and phosphorus utilizations through trading may hold potential, but there are significant scientific, market and regulatory challenges. First, from a scientific standpoint, there is no direct relationship between agricultural nutrient management practices and nutrient loss. If the relationship were direct, trading would be straightforward, transparent and enable orderly operations of markets.

Second, under the Clean Water Act, states establish and EPA approves water quality standards and criteria. States are currently feeling pressure from EPA to adopt default numeric nutrient standards and criteria based on the level of nutrients found in pristine waters. Such an approach holds the prospect of establishing standards that force states to adopt costly control measures that, in the end, are not realistically attainable. If EPA is successful, cities, agriculture and other sources of nutrients will incur significant regulatory costs without any guarantee that water quality improvements will match the required level of investment. Restrictive state standards that are not based on reference waters can be unachievable and require costly control and management measures.

EPA and States Are Imposing Barriers for Markets and Trading

Achieving the environmental and economic goals of point source - nonpoint source (PS-NPS) water quality trading depends on having understandable rules that clearly define what is being traded and the parameters of the exchange. Trading rules and procedures establish who can trade, what is traded (credit definition), duration of a credit, baseline requirements (for calculating credits), accepted procedures for calculating credits, how the trade occurs, trading ratios, verification, liability rules, and enforcement procedures.

In theory, trading assumes market participants have full information about the cost and effectiveness of their nutrient reduction options and can instantly and, at little-to-no-cost, obtain information on credit market prices and quantities. However, in the real world people are faced with limited time, resources, skills and acquaintance with markets. Complex rules and inadequate institutional design can result in poor buyer or seller participation, coordination failures and lack of desired outcomes. (Shortle, 2013).

In fact, ex-post assessments of PS-NPS water quality trading programs already in existence have generally been negative about their performance. Most have seen little or no trading activity, with the expected role for nonpoint sources unrealized. A number of reasons have been presented including a lack of trading partners (due to limited regional scale or underlying economics), inadequate regulatory incentives, uncertainty about trading rules and practice performance, excessively high PS-NPS trading ratios (increasing the cost of nonpoint credits), legal and regulatory obstacles (including liability concerns), high transaction costs, and participant unfamiliarity and inexperience.

Pennsylvania's experience with water quality trading illustrates a number of the challenges I have mentioned. For example, the rules underlying Pennsylvania's nutrient credit trading program, created in large part in response to an EPA mandate to reduce pollution in the

Chesapeake Bay watershed, are the product of a multi-year stakeholder negotiation process that was codified in regulation in 2010. However, shortly thereafter, EPA announced that it would undertake a review of the offset and trading program in each Chesapeake Bay jurisdiction. EPA's assessment included questions about whether or not Pennsylvania's agricultural trading baseline met the requirements of TMDL—in spite of the fact that trades had already taken place under the program rules in place at the time. Further, the assessment included EPA's expectations that Pennsylvania would demonstrate that the existing baseline was sufficient to meet the TMDL, or otherwise make "necessary adjustments" to the baseline acceptable to EPA.

In response to EPA's review, Pennsylvania has since proposed a number of possible changes to its trading program that have raised serious questions among existing and potential credit generators and users about what the rules governing the market for credits will look like going forward. Specifically, many are concerned about what happens to non-point source credit generators, primarily farmers, who have generated and sold credits under Pennsylvania's existing program, and who may have long-term commitments to provide credits for years into the future. The uncertainty is not conducive to sustaining a successful, transparent, long-term water quality trading program.

The Myths – It's Neither Easy Nor Inexpensive

It is often assumed that agriculture can supply credits less expensively than other nonpoint and point sources. Whether or not this is true depends heavily on the trading rules and procedures described previously. Baseline requirements represent one trading rule that has an important impact on agriculture's ability to be the low-price supplier of credits.

Baseline requirements establish the level of stewardship farmers and ranchers perform on a parcel of land before they are eligible to participate in the trading program and actually produce credits for sale. Any abatement necessary to meet the baseline cannot be sold as credits, but is instead credited to meeting the load allocation for agriculture. When baselines are more stringent than current practices, a farmer would only be willing to create and sell credits if the expected credit price were high enough to cover the cost of meeting the baseline *plus* the cost of any measures taken to produce additional abatement. This increases the cost of supplying credits, and reduces the amount of credits purchased by point sources.

Current research suggests that concerns about baseline requirements are well founded. Stephenson et al. (2010) found that when the baseline is more stringent than current practices, agricultural credit costs for nitrogen can surpass costs per pound (for marginal abatement) for point sources because the baseline has claimed the lowest-cost pollutant reductions. Ghosh et al. (2011) found that Pennsylvania's baseline requirements significantly increased the cost of entering a trading program, making it unlikely that nonpoint sources that could reduce nutrient losses for the lowest unit costs would enter the market. Wisconsin has expressed concern that EPA's approach to defining baselines could obstruct agricultural sources' participation in trading programs and possibly impede water quality improvements (Kramer, 2003). The impact of baseline requirements is a crucial matter and fundamental to the successful operation of any trading program, though its impact is not unique. Any trading rule or requirement that is

incorrectly developed can have similar effects: fewer nonpoint source credits purchased by point sources, and total abatement costs for regulated sources higher than they could have been.

As a regulatory agency, EPA appears to have difficulty appreciating the realities of how markets function. The agency is not necessarily tasked with creating private markets and most people would probably agree that the agency has difficulty appreciating the realities of how real markets function. As a result, environmental markets are suffering from a significant creditability crisis. This ultimately results in skeptical farmers and ranchers who then take a cautious approach to nutrient trading.

Regarding the cost of reducing nutrient loads, if it were easy and inexpensive for farmers and ranchers to reduce nutrient loadings, they would have already figured out a way to capture the benefit associated with incremental nutrients lost to the environment. Farmers today use some of the most advanced technology in the world to optimize their productivity. From precision application using 4R nutrient stewardship to GPS technology, farmers and ranchers are committed to improving their production efficiencies, a fact that allows them in turn to reduce their environmental footprint. 4R nutrient stewardship is an effective concept that allows a farmer to use the right fertilizer source, at the right rate, at the right time and with the right placement to optimize nutrient utilization, while precision agriculture is a farming system that uses technology to allow closer, more site-specific management of the factors affecting crop production.

For example, in precision agriculture, utilizing GPS and yield monitors, farmers can measure their output more precisely by matching yield data with the location in the field. Special computer-driven equipment can change the rate at which fertilizers, seeds, plant health products and other inputs are used, based on the needs of the soil and crop in a particular portion of a field.

Farmers have embraced precision agriculture and the 4R philosophy because it is an innovative and science-based approach that enhances environmental protection, expands production, increases farmer profitability and improves sustainability.

Conclusion

Your constituents want affordable and abundant food, fiber and fuel, and the members of Farm Bureau want the chance to provide them. Farmers are concerned about the environment. As technology evolves so do farmers. We take advantage of technology, new practices and programs in order to not only provide safe, affordable and abundant food, fiber and fuel, but also to protect our land, water and air resources.

As I hope my remarks illustrate, trading *in concept* has the potential to be another useful tool in a farmer's toolbox. As a *concept* trading can make achieving nutrient water quality standards more affordable and attainable. However, *in practice*, trading is not always so simple as regulatory and cost barriers can hinder the implementation of successful trading.

Again, thank you for the opportunity to provide testimony to the committee today.