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Testimony to the Senate Environmental Resources & Energy Committee  
Senate Bill 1493  
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Chairman White and members of the Senate Environmental Resources & Energy Committee, thank you for inviting me to testify today on nutrient trading and water quality trading issues.

I am Alexandra Chiaruttini, an environmental attorney at Stock and Leader in York, Pennsylvania.

I am testifying today from probably the broadest perspective of any speaker because I am an environmental attorney who represents:

- Builders and developers;
- Individual and large scale farming operations;
- Environmental groups;
- Nutrient and carbon credit generators and sellers; and
- Municipalities.

In addition:

- I was an assistant regional counsel at DEP for five years working primarily in the water programs;
- I have gone through the DEP's credit certification process; and
- I have drafted and negotiated nutrient credit contracts and transactions between private parties in the Commonwealth representing a variety of credit generators in the Commonwealth.

Water quality credit trading is the singular market-based vehicle that allows us to accommodate growth of new or larger pollutant sources (i.e. infrastructure, business, industry, population, and development) in impaired watersheds where a pollution cap is in place. The USEPA and PaDEP are creating pollution caps in the form of TMDLs ("Total Maximum Daily Loads") pursuant to the Clean Water Act. A nutrient pollution cap forms the basis of the Commonwealth's Chesapeake Bay Strategy.

Water quality credit trading is a growth vehicle that focuses needed money toward the sources of the pollution. Market forces help drive credit generators to determine where to get the most pollution reductions for the least cost.

Science, technology, and all available data strongly suggest that the least costly/most effective BMPs (best management practices) will be constructed on farms and development sites in the Chesapeake Bay watershed.

## **Background**

The water quality credit trading program was intended by DEP to:

- 1) Provide a cost-effective alternative to expensive technology at the lower limits of tN and tP;
- 2) Get voluntary improvements in the agricultural sector through the generation of nutrient credits by increased BMP implementation; and
- 3) Establish some means of allowing for growth since the Bay Strategy and any TMDL that may be created work off of a capped pollutant load system.

We all can agree that these are positive environmental and economically beneficial goals. And, it was to be accomplished all in the context of a free and open competitive market.

In consideration of proposed Senate Bill 1493, I ask that you consider my comments today so that you can determine what action(s) to take to address the salient issues raised by the proponents of the Bill.

- 1) How a nutrient credit is generated in Pennsylvania.
- 2) Why nutrient credit trading is not happening more often.
- 3) What we are trying to fix.
- 4) What risks the Commonwealth may face in creating a Trading Board and a Technical Subcommittee.

## **Process to “Certify” and Generate Nutrient Credits**

In the current Pennsylvania system, if you seek to generate or create credits, a party must first design technology and/or identify a project in a specific location. After a project is identified in concept, it must be designed, in most cases by engineers, environmental consultants, nutrient planners, or other experts.

For each BMP, or proposed project, it is the project proponent’s responsibility to create the ‘formula’ that will accurately calculate the pounds of tN and/or tP reduction per year from the project. This formula must consider all factors that must be included in a calculation and comparison of the ‘before’ and ‘after’ conditions. There is no ‘credit calculator’ yet created that can do this for any project, so landowners and others must enlist the services of consulting professionals.

The credit generation/project valuation process does not represent new science, but it involves a great number of factors and scientifically-based judgments and theories, many of which are not tested, or are educated estimates. After the formula for a particular practice, or BMP, is created, it must be run for the specific project proposed.

Once a project proponent has what it believes to be the correct number of credits generated from the project, it must create an application, or proposal, for submission to DEP. DEP will review the proposal and ultimately determine how many annual tN and/or tP credits the project will generate (i.e., the “certified” credits).

I have provided a copy of one credit generating proposal that has been certified by DEP as Exhibit A to my testimony document. This proposal is for the hauling of poultry litter outside of the watershed to lands that are nutrient deficient. As you can see, this proposal includes actual poultry waste N and P content as determined by a certified testing lab. The proposal also sets forth, in detail, the process by which the credits generated shall be calculated, verified, and documented.

To date:

- ♦ A handful of conservation districts have assisted farmers in generating a relatively small number of credits through improved farming practices like “no till”;
- ♦ One technology company has one project certified but the project has not been constructed because the credits have not been sold;
- ♦ One municipality has a handful of credits on the market because the municipal treatment plants’ influent from an industrial discharger is highly nutrient deficient and represents the majority of the facility’s influent;
- ♦ One credit aggregator has approximately 500,000 credits certified and another 500,000 in the pipeline. These credits are all being generated by hauling poultry manure out of the watershed to lands that need the nutrients.

Because the credit formula creation, project design, credit calculation, and credit certification application takes place well prior to actual construction of the specified project, generators of credits have to fund these costly and time-consuming aspects of the process themselves. Additionally, it can take up to a year to get a project through the DEP certification process once a proposal is submitted.

With little to no demand in the market right now, it is not surprising that we have few sellers participating and few BMPs certified.

## Why is Trading not Working?

- 1) **The NPDES point source dischargers and municipals are outraged due to the inequities and costs.** The high costs associated with N and P treatment do not justify the small percentage of improvement in the watershed realized. All but one Phase I facility in the watershed chose to install technology.
- 2) **Pending litigation in Commonwealth Court and before the Environmental Hearing Board.** Some municipals are waiting to see the results of pending litigation to see if their permit limits will be revised.
- 3) **DEP science is being questioned.** The allocations throughout the watershed are not fully understood or clear.
- 4) **The challenges of bringing farms/municipals/industry together are significant.** 45 other states have trading programs and the Commonwealth has executed the most point/non-point trades.
- 5) **“Baseline” and “threshold” standards eliminate many good opportunities and discourage broad-based farm participation.** The vast majority of farms are not eligible to generate one credit unless and until they meet the “Baseline” and “Threshold” standards of compliance. This requires additional investment of private capital to meet the standards.
- 6) **The DEP credit certification process is long and uncertain, thus supply is being stifled.**
- 7) **There is no clear, objective certification process.**
- 8) **DEP is not requiring compliance with Bay load reduction requirements until at least 2010.** Few dischargers have really needed credits to date except for a handful of developers who have planned package treatment plants.
- 9) **There is no demand.** The builder/development market, is at an all-time low; municipals do not have to reduce loads until 2010 or beyond; and, a number of municipals are waiting to see the results of pending litigation.

## What are We Trying to Fix?

To date, we have moved about 65% of the way toward a comprehensive water quality trading program. The process is in no way simple for many of the reasons listed above. However, what we do not have is any sense of definitive rules of operation.

For example, further clarification would be beneficial related to:

- 1) What projects are eligible to generate credits;
- 2) The creation of the technical formulas to calculate credits for particular BMPs;
- 3) A time limit on the DEP certification process; and
- 4) Clarification as to whether credits are transferable to homeowners' associations or other third party vehicles so that builders/developers can terminate their credit obligations at some reasonable point in the future, in the same way that they currently transfer other structural/regulatory obligations.

Many of these issues have been raised by Coalition members and the DEP workgroups a number of times in the past. It is clearly the technical and regulatory requirement issues that are currently wanting.

If we remedy the situation through legislation that creates additional administration, like the proposed Trading Board, we risk eliminating the benefits of a competitive market that helps drive efficiency, innovation, and cost competition.

On the other hand, if we remedy the situation by working with a cooperative DEP to design the technical details that hold every participant responsible, we may create a transparent, viable, and effective trading system where:

- ♦ DEP and stakeholders will create appropriate technical standards.
- ♦ DEP and technical experts will create the standards for the generation of credits for particular BMPs/projects.
- ♦ DEP will be responsive and consistent to generators, buyers, and sellers.
- ♦ DEP will follow a delineated and efficient certification procedure.
- ♦ Generators, aggregators, and sellers will verify the generation of the sold credits each year.
- ♦ Buyers will document the purchase and retain verification of the credits each year.

All of these components should remain open for review so that all parties can be held accountable.

## The Risks of Creating a Trading Board.

It is undeniable that nutrient credit trading is a risky business from every angle of a transaction. The risks associated with credit transactions in the current Pennsylvania system are numerous and include:

- 1) Selecting reliable farmers/developers/contractors/partners;
- 2) Increased DEP and third party scrutiny of farming or development practices;
- 3) Accommodation for difficult years;
- 4) Shifting farm needs/operations/development plans;
- 5) Need/demand for long term credit contracts;
- 6) Possible BMP failure;
- 7) Valuation of BMPs for long term contracts;
- 8) Valuation of BMPs in the future as science develops; and
- 9) Evolving regulatory requirements for generators, sellers, and purchasers.

Any long term commodity transaction presents inherent risks and involves hedging the futures market on both sides of the transaction. However, individual contract terms can address and limit these risks.<sup>1</sup>

Obviously, a credit Trading Board through which credits are bought and sold, sets prices, and holds reserve credits seeks to place the Commonwealth in the midst of the trading scheme as a bank of sorts, presumably to create defined rules, an efficient process, and clarity where there currently is not enough of it.

If the Commonwealth chooses to place itself into this system to create a safer system for those trading, then at least some of the risk will be held by the Commonwealth. Consider:

- 1) What will the Commonwealth insure the credits with?
- 2) How will the Commonwealth 'set' a credit price?
- 3) Will the Board offer a one-time fee<sup>2</sup>?

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<sup>1</sup> In fact, some issues are more appropriate to address through specific contractual arrangements, such as:

- 1) Who is responsible for generating the credits if the BMP fails or falls short of expectations?
- 2) Who will pay the costs to field verify the credits each year?
- 3) Who will pay the DEP retirement ratio costs?
- 4) How will the parties allocate risk of future cost escalation?
- 5) How will the parties allocate risk for material alterations in the applicable regulations and/or policy?

<sup>2</sup> "Perpetual" credits: Certain interest groups advocate for the availability of 'perpetual' water quality credits. However, the economics of a static price commodity in the context of an open market, even if the Bank exists are just not feasible. We have to recognize that water quality credits are being used to satisfy NPDES permit conditions, in lieu of or in conjunction with technology. No one-time fee can possibly be expected to guarantee the generation of water quality credits perpetually.

- 4) What transactional/contractual risks will the Bank accept?
- 5) What compliance responsibility will the Commonwealth have for credits sold but not created or not verifiable?
- 6) Is the Commonwealth prepared to take on the responsibility, costs, and personnel required for administration of a Bank?

If your constituents say they want a Board that buys and sells credits, sets prices, and holds reserve credits – understand what that also means. It means sharing some level of risk with permittees and other buyers and it means taking on some level of responsibility to insure that what the Bank sells is a ‘good’ credit.

Thoughtful consideration should also be given to whether a Commonwealth Board, which, as proposed serves as a bank, with set prices and likely some level of subsidy, will depress a (concurrent) private market.

To the extent that the legislature determines that a Trading Board and a Technical Subcommittee are appropriate and warranted, I strongly recommend that parties who have an interest in the generation, aggregation, brokering, or sale of credits be ineligible to serve on the Board and Technical Subcommittee. This will eliminate bias and decisions driven by personal economic benefit.

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The proposed Bank will not have the ability to promise a credit perpetually for a one time fee; the market is too new, the science is too young, and the ways in which the credits are generated and calculated will change over time and the costs of those practices will change over time, just as treatment technology changes over time.

I admit, although it is a rather appealing concept, but, the bank may collapse quickly either because the price of the perpetual credit is too high or because it is too low.

## Conclusion

Trading can work, and we can generate sufficient credits in the basin to satisfy the need.

Trading can be an effective tool to accomplish measurable water quality improvement.

We need trading to work to serve as a release valve for stringent water quality requirements.

It is possible to create an effective trading program with input from all stakeholders, but we just have not finished the job.

I am perhaps a bit more optimistic than some members of the Coalition, and perhaps I believe a little more in the motivation and innovation created by a private market. If DEP were to re-engage in the process to address the mainly technical issues I have mentioned in my testimony and those raised by others, we may not need legislative intervention. While solving some problems, a legislative fix may create a new set of concerns and may create a new set of liabilities for the Commonwealth. New leadership at DEP may provide the opportunity to renew the conversation.

Thank you again for allowing me to testify, and I will be happy to answer any questions that you might have.

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