

Virginia Nutrient Credit Trust and Exchange: An Exploratory Proposal¹

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The Nutrient Credit Trust and Exchange (VNCTE) would be a joint nutrient investment venture designed and operated to provide certified nutrient credits sufficient to offset permanent and temporary increases in nutrient loads. As described below, the VNCTE can be designed to ensure that numerous small increases in nutrient loadings are accounted for and offset in aggregate. The VNCTE could also function as means to achieve additional nutrient reductions for the state. For example, the VNCTE could be used to secure reductions above those called for under the state WIP plans in order to provide “reasonable assurances” under the Bay TMDL requirements.

The Concept in Brief

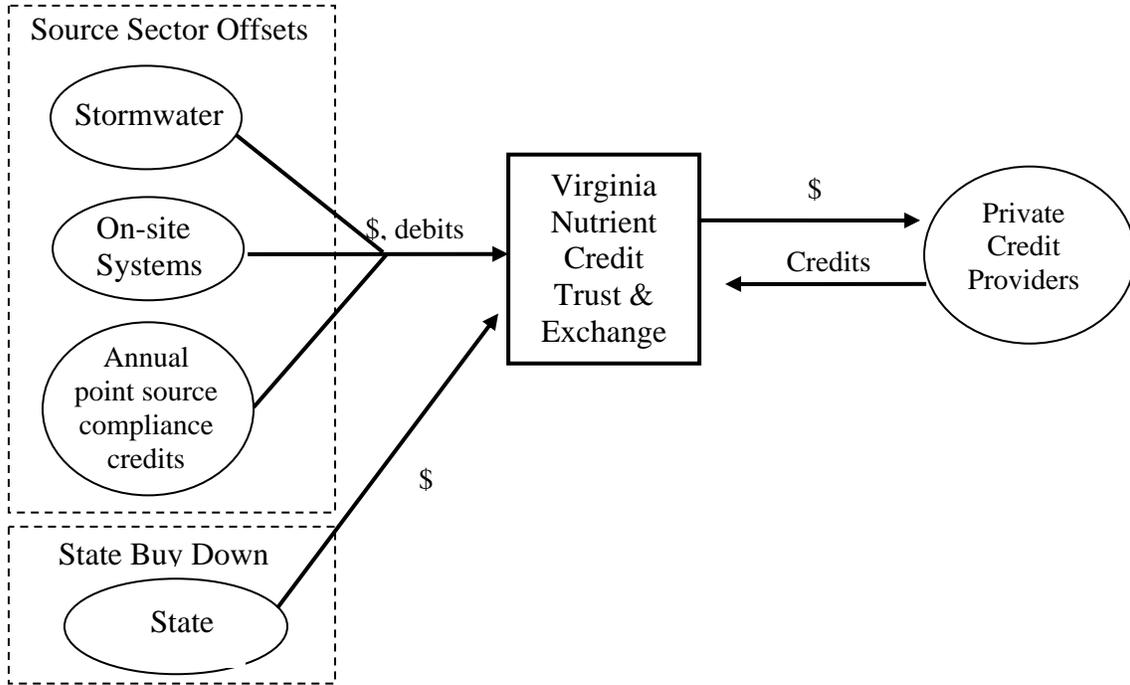
Role and Function of the VNCTE: The general concept of the VNCTE is shown in Figure 1. The VNCTE could perform two separate, but complementary, functions. First, VNCTE could serve as a systematic and accountable means to offset numerous small nutrient discharges. The state has developed a program to maintain enforceable caps on large dischargers. The state has, or may, develop regulatory requirements for smaller sources to control nutrient discharges. Stormwater and onsite waste systems for individual properties or developments may only discharge a few pounds of nutrients annually, but the aggregate sum total of new discharges could be significant. Many of these increases may be considered permanent (e.g. creation of impervious surfaces). In addition, the point source trading program allows occasional nonpoint source credit purchases (annual “truing up”) when existing sources have exhausted point source compliance options (this option has not been needed to date, and may be needed in the future on an irregular basis). The common feature of these potential demand sources for nutrients offsets are that they tend to be small and/or irregular excess discharges. The VNCTE would receive payment from regulated parties for these numerous incremental increases in nutrient discharges and assume responsibilities for securing the necessary offsets (see Figure 1).

Second, VNCTE could also be responsible for a Chesapeake Bay nutrient credit “buy down” (nutrient credit insurance) program. The VNCTE would secure a surplus of nutrient credits. Identical to any nutrient credit, these surplus credits would represent nutrient reductions above and beyond regulatory requirements and source sector reduction targets. The surplus credits could provide a mechanism for the state to use to provide reasonable assurances to offset growth under the Chesapeake Bay TMDL. The state could finance this function through an initial investment in a trust account or through annual contributions through a dedicated funding mechanism.

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The two functions, offsets and buy-down, are complementary functions but could be undertaken separately and independently by the VNCTE.

Figure 1: Virginia Nutrient Credit Trust and Exchange



Operation of the VNCTE: The VNCTE would be a separate legal entity responsible for securing nutrient credits for use as nutrient offsets or a state nutrient buy down policy. The VNCTE would be a state sanctioned organization, but would not be housed within a regulatory agency. State regulatory agencies (DEQ, DCR) would serve as an oversight and enforcement function to the VNCTE.

In the offset role, the VNCTE would accept small nutrient “debits” (increases in nutrient loads above regulatory baselines) in exchange for payment. The fee charged by the VNCTE would be sufficient to cover the life cycle costs for the total nutrient reductions (credits) needed. In the cases of multiple year or permanent load increases, the VNCTE would require a one time payment of sufficient size to offset a permanent load.² The payment deposited into a trust account would finance a permanent stream of nutrient reduction services. The payment would act as an annuity that would generate annual returns (interest payments) sufficient to cover a stream of long term annual nutrient reduction costs.³ The nutrient trust fund would provide a continual and growing financial

² Credits and debits would be denominated as a common commodity, for example delivered pounds of nutrients.

³ For instance, if nutrient reduction costs are \$50/lb, a one time payment of \$1,667 would be required to produce annual returns sufficient to cover this cost in perpetuity (assuming a 3% interest rate).

capacity to reduce nutrient loads in the future (consistent with the growing debit obligation). Through the operation of the trust fund, the VNCTE could offset permanent load increases by paying for multiple consecutive offsets rather than limiting offset options to permanent on-the-ground projects (e.g land conversion).

The VNCTE would use trust revenue to purchase credits from private sector credit providers (right-hand side of Figure 1). The VNCTE would develop a competitive bid process (reverse auctions) with eligible private sector credit suppliers. Credit providers would contract with VNCTE to provide nutrient reduction services for a specific time period. VNCTE could contract with a diverse range of credit suppliers, utilizing a variety of nutrient reduction and removal technologies and processes (including, but not necessarily limited to, agricultural runoff reduction practices, land conversion, stormwater retrofits, and nutrient assimilation projects). In soliciting private sector credits, the VNCTE would evaluate credit purchases based on both credit price (low cost bids) and water quality assurances (assurances that claimed reductions actually occur).⁴ In essence the VNCTE operates as a buyer of private sector credits on behalf of the numerous small buyers and/or a state buy-down program.

The VNCTE would be legally required at any point in time to hold credits greater than or equal to the number of debits held.⁵ The VNCTE would require an initial (one-time) upfront capitalization of the nutrient trust fund in order to purchase nutrient credits in advance of impacts. The initial purchase would also provide reliable estimates of nutrient credit prices (costs) that would be needed to establish prices for future VNCTE clients. If operated in conjunction with a buy-down program, the VNCTE might also be financed by state contributions that would be used to maintain a surplus of credits. The surplus credits could then be used to provide state-level “reasonable assurances” that water quality goals will be achieved.

The VNCTE facilitates a credit offset exchange process, but the VNCTE is not an in lieu fee program, for multiple reasons. First, the VNCTE would not itself provide the nutrient reduction services, but would rather buy credits from private sector providers. Second, credits would be required in advance of impacts. Finally, some in lieu fee programs provide the primary enforcement for their offset projects. In the VNCTE alternative, primary enforcement of credit suppliers would be provided by a separate agency (thus avoiding possible conflicts of interest).

Advantages of the VNCTE

Incentivizing the Private Sector Investment (demand) - Environmental markets are often characterized by limited and uncertain demand. As a consequence, private investment in the provision of environmental services may lag behind need. Furthermore, credit suppliers may need to charge high credit prices to cover high demand-side risk. Through

⁴ The Colorado salinity program evaluates and ranks salinity reduction proposals on a both a cost and quality basis.

⁵ Connecticut’s general permit for their point source program operates in a similar fashion

the consolidation of nutrient debits, the VNCTE would be in a position to assess the need for credits across major watersheds. The consolidation of demand coupled with clear credit forecasts can provide certainty and liquidity to the market, stimulating private sector investment.

Controlling Transaction/Administration Costs - Small entities need low cost and easy ways to meet regulatory and offset requirements. Landowners or small developers searching for individual credit providers can produce high search and transacting costs. Infrequent buyers could also benefit from a simplified offset purchase process. A single source provider of offsetting credits can achieve economies of scale in the exchange process.

Fostering Innovation - The VNCTE concept would provide the private sector with the opportunity and incentive to seek, develop, and produce nutrient credits using innovative approaches and technologies. The VNCTE aims to purchase certified nutrient reduction services (not specific BMPs). Credit providers may discover low cost ways to provide reductions using a wider array of approaches than is currently being utilized. Requirements that permanent load increases must be offset by permanent on the ground projects would be avoided, greatly expanding opportunities for private sector creativity. The continuing funding mechanism allows for refinement and innovation to be achieved over time (avoiding technological “lock-ins”)

Creating Competition to Lower Costs - A large credit buyer utilizing market-like competitive bidding processes would generate a broad-based competition of ideas among credit suppliers. Competitive bidding ensures that credits (reduction) are achieved at least cost. The single source buyer of credits can also lower credit prices through the provision of clear demand signals. In a decentralized nutrient credit market, suppliers may face thin and uncertain demand. Given limited investment incentives, some areas may have limited credit supply and buyers may face situations with few offset choices. Through the bid process, the VNCTE can send clear demand signals to credit suppliers and create a competitive environment that provide assurances that nutrient credit services are provided at least cost.

Reliable Information on Nutrient Reduction Costs: A large credit buyer that utilizes a market-like competitive bidding process will produce credit prices that reflect the full cost of nutrient reduction projects. To date, information on nutrient control costs is poor due to the absence of price discovery/revealing process.

Reliable Information on Nutrient Reductions: The VNCTE would also provide a systematic tracking and recording verified nutrient reductions as well as an entity accountable for achieving nutrient reductions.