

## Virginia’s Trading and Offset Programs Review Observations

### I. Summary of Program Characteristics and Regulatory Status

For the common trading and offset program elements discussed in Appendix S of the Chesapeake Bay TMDL, Table 1 distinguishes between trading (T) and offset (O) provisions, categorizes the degree to which Virginia’s program addresses each element, and illustrates whether the program is designed to support Point to Point source transactions, Nonpoint to Point source transactions, Nonpoint to Nonpoint source transactions and/or Point source to Nonpoint source transactions.

Table 1. Virginia Trading and Offset Programs Summary Table

Element <sup>1</sup>	Types of Transactions							
	Point Source to Point Source		Nonpoint Source to Point Source		Nonpoint Source to Nonpoint Source		Point Source to Nonpoint Source	
Trading (T) /Offset(O)	T	O	T	O	T	O	T	O
1. Authority	●	●	●	●	○	○	○	○
2. Baselines (for a credit generator)	●	●	○	○	○	○	○	○
3. Minimum Controls	●	●	○	○	○	○	○	○
4. Eligibility	●	●	●	●	○	○	○	○
5. Credit Calculation and Verification	●	●	●	●	○	○	○	○
6. Safeguards	●	●	●	●	○	○	○	○
7. Certification and Enforceability	●	●	○	○	○	○	○	○
8. Accountability and Tracking	●	●	○	○	○	○	○	○
9. Nutrient Impaired Segments	●	●	○	○	○	○	○	○
10. Credit Banking	●	●	●	●	○	○	○	○
11. Growth	X	●	X	●	X	○	X	○

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- Necessary measures not in place
- Partial (e.g., Legislation drafted or steps have been taken to implement but not fully in place, some details still to be determined but framework is largely established)
- Jurisdiction has measures in place and in effect
- Jurisdiction is evaluating the issue but has taken no formal measures to implement anything specifically
- X Not Applicable

<sup>1</sup> Storm water loads, whether addressed by the MS4 program or DCR’s post development P loading requirements, are considered Nonpoint Sources in this table.

## II. Review Observations

On the basis of interviews and review of statutes, regulations, policies and program documents related to the jurisdictions' trading and offset programs, EPA has drafted the following observations. Tier 1 are classified as statutory or regulatory conformance that EPA finds must be addressed by the jurisdiction in order to maintain consistency with the policies, definitions and elements described in Section 10 and Appendix S of the TMDL. Tier 2 are classified as program recommendations that EPA finds should be addressed in order to strengthen the jurisdictions' trading and offset programs.

### A. Programs Recommendations Common to All Jurisdictions

1. Jurisdictions' definitions of trading ratios, offsets, credit, trading, etc. should be consistent with Federal definitions. Some jurisdictions use the terms "trading" and "offsetting" interchangeably. See Section IV. 1.
2. Suggest that Interstate and intrabasin trades and offsets be evaluated by the jurisdictions for potential inclusion in their trading and offset programs. See Section IV. 10.
3. Local governments' data and information should continue to be integrated into state tracking and accounting systems. See Section IV.8.
4. Storm water offsets programs are being evaluated and developed in many jurisdictions. These programs should be consistent with the Chesapeake Bay TMDL and EPA guidance. See Section IV.1.
5. Several jurisdictions are considering developing or expanding their current programs. The jurisdictions should continue to develop guidance and methodologies to address meeting baseline for point and nonpoint sectors including consideration of the use of non-traditional BMPs such as algal scrubbers, oyster aquaculture, etc. EPA suggests that this guidance and methodology include the retirement of credits and use of net improvement offsets. See Section IV. 2 and 5.
6. Jurisdictions expressed interest in finding a good way to use stormwater BMPs to offset nonpoint sources such as new septic and nonregulated agriculture. How are these being pursued by the jurisdictions? See Section IV.2 and 5.
7. Updating enforcement policies and procedures should continue and include, but not be limited to, items such as the ability of inspectors' access to off-site areas where credits or offsets are generated and compliance determination methodology. See Section IV.7.
8. Tracking and accounting systems for new loads and offsets should continue developing. These systems should be transparent and accessible to the public. See Section IV. 8.
9. New resources are needed to fully implement the developing trading and offset programs. See Section V.

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## B. Virginia Specific Observations

### Tier 1 – Statutory or Regulatory conformance

1. The grandfathering provisions in the Commonwealth's storm water regulations pose a significant challenge for managing new loads. How will these new loads be offset? See Section IV. 1 and 8.

2. Appendix S of the TMDL requires that pollutant loads from new discharges or increased discharges be offset in the event that the jurisdiction did not set aside allocations for new growth. Virginia's final Phase I WIP did not include an allocation for new growth because Virginia maintained that proposed regulations would ensure that there be no net increase and therefore no allocations for new growth were necessary for point sources. With the regulation's grandfathering provisions, how will the assurance of no net increase be achieved in accordance with the TMDL? Also, Virginia's final Phase I WIP did not include an allocation for new nonpoint source growth. How will Virginia accommodate new nonpoint source growth? See Section IV. 1.

3. Permit coverage offset loophole (facilities expanding from 10,000 to 40,000 gallons per day) may be addressed in future legislation. Under current legislation, Currently these facilities are not required to offset increased loads. See Section IV. 7 and 8.

## III. History and Overview of Virginia's Trading and Offset Programs

Virginia's current trading program was established in 2005 to facilitate compliance with the Chesapeake Bay Tributary Strategies and allows for point source to point source as well as certain nonpoint source to point source trades. Virginia, with active participation by EPA, is currently evaluating specific ways to expand the existing trading program in an effort to [add flexibility and cost effectiveness in its efforts to](#) comply with the Chesapeake Bay TMDL. Both the existing program and potential avenues for expansion are described in Virginia's Phase I WIP (VA DEQ 2010).

A summary of how the current program incorporates participation from different source sectors is given on page 11 of the Phase I WIP and is summarized below:

Currently, **Wastewater** facilities discharging to the Bay watershed are covered under a watershed general permit under which, each is assigned a wasteload allocation based on compliance with the Chesapeake bay TMDL's loading levels. Facilities have the option of installing nutrient removal technologies sufficient to comply with their WLA or they may purchase compliance credits from other facilities that have met their WLA.

New or expanding facilities may purchase wasteload allocations from other point sources or from certain nonpoint sources as they are required to completely offset any increase in nutrient loads.

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**Comment [BR(1)]:** In establishing the revised stormwater post development regulations, DCR utilized a Regulatory Advisory Panel (RAP) comprised of a wide array of Commonwealth stakeholders. The RAP spent many hours discussing all aspects of the revised regulations, including the grandfathering concept, prior to reaching consensus among members. In order to fully understand the grandfathering concept, certain points must be understood.

1. The revised post development water quality design criteria do not change the "number", they change the entire concept in how stormwater management is designed and implemented on the site. This is represents a serious and expensive problem for projects already in design or development.

2. Grandfathered projects are still required to implement post development stormwater management. However, rather than meet the revised requirements using the new paradigm based on runoff reduction applied site wide, they may utilize the existing post development design criteria based on average land condition or BMP design efficiency based on percent impervious cover.

3. The revised design criteria and the grandfathered design criteria are not comparable to each other as the method of calculation and the assumptions are different. However, both manage urban loads as a result of land use conversion. In Virginia, phosphorus is used as a surrogate to represent all urban loads in both design criteria.

4. Grandfathered projects must still meet required reductions in P as a result of

**Comment [BR(2)]:** The Commonwealth maintains that the revised stormwater design criteria are designed to account for growth in the nonpoint source urban sector. The stormwater criteria have been developed and designed by statute and regulation for implementation in coordination with the delegated construction stormwater permitting program. However, the

**Comment [BR(3)]:** Guidance issued by DCR clarifies that the developer has the option to use offsets with the exception from now until July 1, 2014 where there is an existing pro-rata program (only in four localities) so this recommendation is not necessary.

**Deleted:** Tier 2 – Program recommendation¶ Virginia law (VA Code 10.1-603.3.8:1 (SB 1099)) requires, with exception of a few situations where an in-lieu fee program already exists, that localities allow offsets to be used for compliance. Many localities are making the determination that use of offsets is optional and that determinations not allowing the use of offsets can be made at the local level. Localities can not override a state law. EPA...

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Offsets by **Storm Water** sources is limited to new development and to securing non-point source offsets when on-site practices cannot practicably achieve sufficient pollution reductions. Existing development and MS4 permittees as well as **On-Site/Septic Systems** are not currently authorized to participate in trading.

**Agriculture and Forest** sources may sell offsets only to new or expanding wastewater treatment facilities or new development if the agriculture lands or newly created forest area meet established “baselines” of management practices.

The following sections provide additional details regarding Virginia’s current trading and offsets program as well as plans for future enhancements.

#### **IV. Detailed Evaluation of Virginia’s Trading and Offset Programs Conformance with the 2010 Chesapeake Bay TMDL**

##### **1. Authority**

*Necessary measures in place for point source users and being evaluated for nonpoint source users. See Section II.B. 1 and 2 and Section II.A. 1 and 4.*

In Virginia, the authority for trading and offsets to account for new and expanded sources is provided for in Virginia Code and in two implementing regulations:

- §62.1-44.19:12 – Authorizing Legislation, findings, definitions, etc.,
- 9 VAC 25-720 - The Water Quality Management Planning Regulation and
- 9 VAC 25-820 - The General VPDES Watershed Permit Regulation for Total Nitrogen and Total Phosphorus Discharges and Nutrient Trading in the Chesapeake Bay Watershed in Virginia (General Watershed Permit)
- [§10.1-603.8:1](#). Stormwater nonpoint nutrient offsets.

In the authorizing legislation in 2005 (§62.1-44.19:12) the General Assembly determined that adoption and utilization of a watershed general permit and market-based point source nutrient credit trading program would assist in meeting Chesapeake Bay pollution reduction goals in the most cost-effective manner, accommodating continued growth and economic development, and providing a foundation for further market-based incentives to help achieve the nonpoint source reduction goals. They further amended the Code in 2009 to allow for a stormwater nonpoint nutrient offsets program to meet nutrient control requirements for new development. The Watershed General Permit (9VAC 25-820) called for in the legislation, establishes the underlying framework for the market based Point Source credit trading program under which 125 significant dischargers comply with Tributary Strategy-based load reductions. [The first watershed general permit was effective on January 1, 2006 and expires on December 31, 2011. The State Water Control Board has approved a new general permit that](#)

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[incorporates the waste load allocations of the Chesapeake Bay TMDL> will be effective on January 1, 2012 and expire on December 31, 2016.](#)

Finally, three new bills relevant to the trading and offset programs in Virginia were passed during the last session of the Virginia General Assembly. SB 1099 deals with nonpoint source nutrient offsets, SB 1100 creates a nutrient offsets sub fund of the WQIF, and SB 1102 addresses trade ratios for ~~trades involving manure-to-energy projects~~. Provisions in these three bills became effective July 1, 2011.

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Inspections of nonpoint source credit generating properties are authorized on the basis of the Watershed General Permit under which the trade is occurring.

Virginia's Phase I WIP recognized a role for an expanded Nutrient Credit Exchange Program in meeting the load reductions goals of the Chesapeake Bay TMDL. In February 2011, the [Virginia General Assembly](#) (in Senate Joint Resolution 334) directed the Secretary of Natural Resources to conduct a broad based study to evaluate the impacts of expanding the existing framework to allow trading and offsets of nutrients among [additional source sectors](#). ~~Additional legislative action and regulatory rulemaking will be required to implement any recommendations for expansion of the current program.~~ According to language in the resolution, the study is to conclude by November 30, 2011 with an executive summary and report submitted for publishing on the General Assembly's website by [January 11](#), the first day of the 2012 Regular Session.

**Deleted:** At this time, legal authority would be needed if offsets are to be used by nonpoint sources in Virginia to conduct trading and offset activities.

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### 1. Baseline (for credit generators)

***Necessary measures are in place for point source users but not for nonpoint source users. See Section II.B.2 and Section II.A.5 and 6.***

This section describes Virginia's policies and procedures governing generation of credits by point and nonpoint sources and baselines to be satisfied in order to generate credits.

Different policies apply to the generation of credits by point and nonpoint sources. For point sources, any significant facility that is registered under the General Permit and has performed better than its assigned WLA is eligible to generate and sell credits. Credits generated are driven by the ability of facilities to meet their WLAs. DEQ receives annual reports of the point source loads and publishes this by April 1. In April to May, trades are finalized and a final report is published July 1.

For nonpoint sources, Virginia's policies are defined in the document, "*Trading Nutrient Reductions from Nonpoint Source Best Management Practices in the Chesapeake Bay Watershed: Guidance for Agricultural Landowners and Your Potential Trading Partners*" (Ag Guidance) (DEQ 2008). In order for an agricultural nonpoint source to generate credits, the property must implement 5 baseline BMPs that are appropriate for that farming operation:

- Soil Conservation Plan
- Nutrient Management Plans
- Cover Crops
- Livestock Stream Exclusion w/ 35' buffer

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- 35' Riparian buffer

Once baseline is met, the following BMP enhancements (or land conversion) are available to generate credits:

- Soil Conservation Plan – Continuous No-Till
- Nutrient Management Plans – 15% N reduction on corn
- Cover Crops – Early planting date
- Livestock Stream Exclusion w/ 35' buffer – Increase size
- 35' Riparian buffer – Increase size
- Land Conversion

It is not necessary to implement baseline requirements on land being converted; however the baseline requirements do apply to any remaining portions of the parcel not being converted. Cost share funds can be used to achieve baseline but not to generate credits. Point source credit purchase must purchase two pounds of nutrient reductions from nonpoint sources to offset every one pound of nutrient (i.e., two pounds of nutrient reduction from agricultural land equals one pound of nutrient credit for a point source).

Currently, there are only methodologies specified for determining baselines for point sources (WLAs in the watershed general permit) and agriculture (Ag Guidance). Virginia expects to develop methodologies to address meeting baseline requirements for other sectors but has not determined which specifically or how.

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#### *Consistency with the TMDL*

Point source credit generating policies are consistent with the TMDL as they are specified in the Watershed General Permit and credits are based on the permit WLAs for facilities. The WLAs were determined based on various levels of nutrient removal by design flow on a watershed basis. For three basins, the Potomac, Rappahannock and Eastern Shore, the WLAs are consistent with the Tributary Strategies and the TMDL. The TMDL included new WLAs in the York and James River basins to address local water quality issues. The General permit includes implementation of the final WLAs consistent with the provisions of the TMDL.

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Nonpoint source credit generating policies were developed to be consistent with basin cap loads described for the Chesapeake Bay Tributary Strategies and to the extent that the Tributary Strategies are consistent with the TMDL, so are Virginia's nonpoint source trading policies. The Ag Guidance will most likely be updated after Phase II WIPs are completed to be brought into full compliance with the actual TMDL. Practices must be in place to be certified and they must be certified to be sold. Operators must provide an annual report on condition and maintenance to DEQ. DEQ has the authority to inspect practices as a condition of the permit. Trading is only authorized within the same river basin and there are different reduction factors related to position in relation to fall lines. Note that rules pertaining to stormwater credit generating sources specify a

**Deleted:** For the York and James, the WLAs in the General Permit are slightly different from the TMDL. However, with revision of the watershed model results, the Phase II WIP and under the next permit renewal cycle, Virginia expects to reconcile any differences between the permit WLAs and the TMDL. These are also not expected to be significant.

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local credit preference over those located further, [In all cases, offsets must occur with the same major river basin.](#)

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#### Documentation

Documentation related to baseline verification and calculations of amount of credits generated is required by Virginia and available. With respect to point sources, this documentation is related to implementation of the General Permit and is represented by various reports such as monthly DMRs, DEQ's annual report and the Nutrient Credit Exchange's Annual Compliance Report. In addition, all of this information is available on DEQ's website related to the Nutrient Trading Program. <http://www.deq.virginia.gov/vpdes/nutrienttrade.html>.

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Information documenting the details of a nonpoint source generated credit can be found in the proposal for a credit generating activity which is sent to DEQ by an aggregator. Proposals include details such as deed restrictions, financial assurances, and load calculations. Upon conditional approval, DEQ issues a certification, when practice(s) are in the ground, DEQ releases the credit(s) for sale.

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## 2. Minimum Controls Required for Credit Purchasers

***Necessary measures are in place for point source users but not in place for nonpoint source users. See Section II.B.2 .***

Dischargers purchasing credits must comply with requirements that are standard for NPDES permittees; otherwise, as long as the discharger is registered under the General Watershed permit, if they exceed their allocation then they can purchase credits to come into compliance.

There are currently no nonpoint sources using credits. If for example, Virginia develops a future program to allow use of credits for onsite systems, minimum requirements for buyers will need to be developed.

## 3. Eligibility

***Necessary measures are in place for point source users but not in place for nonpoint source users. See Section II.B.2.***

Entities eligible for buying or generating credits are determined by DEQ. For point sources, any facility covered by the Watershed General Permit is eligible to participate in the trading program. Only significant facilities with an allocation included in the Water Quality Management Planning Regulation (9 VAC 25-720-10 et seq.) are eligible to generate credits. Both significant and non-significant facilities are eligible to acquire credits.

Criteria used to determine when a point source or nonpoint source may generate credits, differ among source type. For point sources, actual discharge levels as evidenced by DMRs and the forecasting process detailed in the annual Exchange Compliance Plan are the basis for determining who will buy and who will have credits to sell. Significant facilities that outperform their WLAs for the year generate credits.

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### Aggregators

There is an official role for aggregators of nonpoint source reductions in Virginia’s program. For point sources, the Nutrient Credit Exchange serves as a credit clearinghouse for their member facilities as authorized by the 2005 legislation establishing the trading program. However, compliance credit trades are not required to be handled by The Exchange. Bilateral trades of compliance credits between two dischargers are allowed. To date, the Exchange has dealt entirely with trades of compliance credits. Trades of wasteload allocations to accommodate new and expanding facilities have been bilateral agreements outside of the Exchange.

Nonpoint source generators are required by code to work through a [third party](#). The credit aggregator submits a credit proposal to DEQ [on behalf of the landowner](#) to supply credits for a new or expanded facility. After DEQ verification of the proposed credits, they are then implemented, certified by DEQ and released for sale. As long as this process is followed, agricultural sources are eligible to generate credits.

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### Offset ratios

New or expanding point sources must acquire sufficient wasteload allocation to offset any increase in nutrient load. Wasteload allocations acquired from other points sources are traded at a 1:1 ratio. Wasteload allocations generated by nonpoint source reductions are traded at a 2:1 ratio. The 2:1 nonpoint to point ratio is an uncertainty factor; it does not create a reserve or safety pool of credits.

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### Land Conversion

DEQ guidance on the generation of tradable nonpoint source offsets from agricultural BMPs establishes a baseline date of July 1, 2005 for land conversion projects. This is the effective date of the trading legislation. This same baseline date is [in the watershed general permit for storm water BMPs generating tradable offsets](#). This issue is also under consideration in the study of the nutrient trading program currently underway. No other practices are tied to the baseline date.

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### Offset and Credit Categories

Compliance credits are obtained or sold by point source facilities in order to maintain compliance with their WLA in the Watershed General Permit. Offsets are purchased by new or expanded sources in order to completely offset any new loading for which they are responsible. Temporally, compliance credits are traded on an annual basis with a truing up period for point sources that occurs in the 4-6 months following closeout of the trading year. New and expanding facilities are required to provide a minimum of 5-years of offsets at the time they register under the watershed general permit, however permanent offsets are preferred. Offsets must be within the same river basin. Offsets approved by DCR to meet post construction TP loading requirements are by 8-digit HUC with preference for locally generated credits and they are permanent.

## 4. Credit Calculation and Verification

***Necessary measures are in place for point source users but not in place for nonpoint source users. See Section II.B.2. and Section II.A.5 and 6.***



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Methodologies for quantifying point source compliance credits are specifically laid out in the Watershed General Permit. Nonpoint source offsets are calculated based on the BMPs and efficiencies in the Chesapeake Bay Watershed Model version 4.3, taking into account location with respect to fall lines (i.e., credit for a given practice above the fall line will be calculated with different factors than for one below the fall line, based on Watershed Model delivery ratios). As the model is updated, Virginia will update methods for calculating nonpoint source offsets as well.

Point source compliance credits are available if a facility has outperformed its WLA; verification is based on the availability of DMR data and actual loads discharged. Nonpoint source offsets are required to be certified annually. They are re-certified and verified (after initial certification), on the basis of information submitted to DEQ by the aggregator.

There are no requirements for contractual agreements between individual credit generators, aggregators and purchasers. For point sources, all compliance liabilities remain with the permittee. However, contracts between buyers and sellers are used for internal practices within the Nutrient Credit Exchange and address things like practical and operational requirements and include firm buy/sell commitments between the facilities. For nonpoint sources, DEQ is required to certify each offset. Once offsets are certified and released for sale, DEQ has no involvement in any agreements between buyers and sellers.

#### *Schedule of Certification and Reporting*

Point source compliance credits are certified and published by DEQ by April 1<sup>st</sup> of each year. Certification of nonpoint source offsets is done upon initiation of the BMP and offsets are recertified each year on the basis of information provided in annual maintenance reports. If certification rules change, existing certifications are grandfathered.

#### *Recordkeeping*

For point sources, a significant amount of information related to the trading program is compiled and recorded on an annual basis. DEQ certifies point source credits by April 1<sup>st</sup> of each year based on DMR reports and an annual report submitted by each discharger. Registrants under the general permit are also required to submit a compliance plan update by February 1<sup>st</sup> of each year, either individually or through the Exchange. The DEQ maintains a webpage with links to annual reports, the most recent Exchange Network Compliance Plan, and lists of registered facilities by basin (<http://www.deq.virginia.gov/vpdes/nutrienttrade.html>). To date Virginia is not utilizing a credit registry for tracking the certification and sale of offsets; however this is under consideration.

Records pertaining to nonpoint source certifications are housed within DEQ. Again, no credit registry is utilized to track creation, certification or sale of nonpoint source offsets but this is under consideration by Virginia.

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### **Practice Validation and Verification**

Point source practices are validated through the Exchange’s annual Compliance Report and DEQ’s annual report. DEQ has the authority to inspect facilities and practices as a condition of the General Permits. Nonpoint source practices are verified annually and protocols vary by sector.

In terms of performing inspections for verification and validation, DEQ and DCR currently perform these tasks and may contract with 3<sup>rd</sup> parties in the future.

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Validated credits are technically compliant with Tributary Strategy loading allocations. Calculation methodologies and efficiencies will be subject to revision based on updates to the Chesapeake Bay Watershed model. Virginia expects the shift from Tributary Strategy to TMDL will be minor and involve primarily administrative changes to code language for example.

Virginia requires an annual report demonstrating practices are in place and appropriate maintenance is conducted. All policies applicable to credit generators can be found in the Ag Guidance, in the state code and the Watershed General Permit, all of which have been previously described.

Virginia does not account for changes in pollutant form. All trades are in terms of delivered TN and TP.

Credit generators are subject to the requirements of the watershed general permit.

To account for the distance between the generating and acquiring sources that could affect water quality, Virginia applies the same delivery factors used in the Bay Watershed Model and approved by the Bay Program. Calculated credits are based on delivered loads. Uncertainties in nonpoint source reductions are addressed by the 2:1 trading ratio for point-to-nonpoint trades. BMP efficiencies are established by the Bay watershed model.

Virginia allows practices implemented through public cost-share programs to be used to meet baselines; however cost-share funds cannot be used to fund credit generating practices.

Potential degradation in the effectiveness of a practice is accounted for through the annual certification and reporting process. If, during the review process, DEQ finds a practice is degraded to the point it no longer can produce the required load reduction, it will not be certified.

Documentation of Virginia DEQ’s nonpoint source trading program is housed in DEQ and DCR; it is not available online. Documentation of point source compliance credit trades are available on DEQ’s website.

### **5. Safeguards**

***Necessary measures are in place for point source users but not for nonpoint source users. See Section II.B.2.***

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Virginia's policies ensuring that offsets and traded loads are adequately accounted for have been previously described. They include the following:

- All trades are expressed in terms of delivered loads.
- For the Point Source exchange, total loads are tracked and summed via spreadsheet formatted so that all loads are viewable in one source
- The Credit Exchange relies on DEQ for flagging possible discrepancies with DMRs; however the Exchange Consultant also performs QA/QC of facilities' submitted numbers throughout the year.
- DEQ maintains tracking spreadsheets

Note that no registry has been developed to account for Virginia's offset and trading programs. DEQ acknowledges the need for a registry. Tracking of compliance credits will be documented in the yearly trades reports to be published by DEQ. The first trades report will be published by July 1, 2012 for the 2011 compliance year.

The use of offsets and trades is restricted where such use would cause or contribute to exceedances of WQS, TMDLs, WLAs or LAs in affected receiving waters, locally or elsewhere. For Nonpoint sources generating credits, the baseline requirement ensures that local water quality is maintained. Trades are restricted to in-basin exchanges and there is the narrative restriction in the code that local water quality is always to be protected. In the Lower James River basin, DEQ has implemented a one-way trading restriction. Downstream facilities may buy from upstream facilities but upstream facilities cannot purchase credits from downstream facilities in this basin. Also, the point sources in the Eastern Shore Basin can acquire compliance credits from point sources in the Rappahannock and Potomac Basins but not the other way around.

Nutrient trades may be undertaken by registered permittees regardless of compliance status with unrelated permit requirements.

Virginia protects affected communities from disproportionate harm arising from offsets and trades through statutory requirement that local water quality must always be protected. Finally, Virginia requires that credits are generated and used in the same time period by requiring that all trading be based on the calendar year. Parties comply with this policy through the annual certification and reporting process.

## **6. Certification and Enforceability**

***Necessary measures are partially in place for point source users but not in place for nonpoint source users. See Section II.B.2 and 3 and Section II.A. 7 and 8.***

The 2005 Statute and the General Watershed Permit grant DEQ the responsibility and centralized authority for certifying credits. For Point Sources, Virginia publishes as part of the General Watershed Permit, a Permit Registration List by basin (<http://www.deq.virginia.gov/vpdes/nutrienttrade.html>). The Registration List includes all eligible trading participants and lists enforceable WLAs for each.

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New or increased pollutant loadings from point sources that have not been given WLAs under the TMDL must be fully offset. In practice, a new or expanding facility provides DEQ information regarding proposed discharge size and technologies to be applied. Based on this information DEQ informs the facility how many offsets will be needed to operate. There is a current loophole in the new and expanded facilities policy, wherein an existing facility that is discharging greater than 1,000 GPD but is expanding to less than 40,000 GPD would not be covered by the total offset requirement. Virginia [committed to addressing this issue in its Phase I WIP.](#)

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Under Virginia’s credit trading program, liability for compliance always remains with the point source permittee.

Point source compliance credits are traded without any permit action in accordance with the terms of the watershed general permit. Trades of wasteload allocations to accommodate new and expanding facilities are public noticed prior to being included on the watershed general permit registration list.

Virginia’s legal authority to enforce offset and trading transactions (e.g., between credit generators and purchasers) is granted by state code (§ 62.1-44.19:12 through 62.1-44.19:19)

As mentioned previously, the trading ratio for offsetting new and expanded sources using wasteload allocations generated by nonpoint source BMPs is 2:1. This is an uncertainty factor only. Virginia has no reserve or insurance pool of credits to use in the case that an offset fails to occur. The trading ratio for point source-to-point source wasteload allocation trades is 1:1.

Virginia expects that civilly enforceable agreements will be made between offset generators and users; however, DEQ has no involvement in this aspect of the trading program.

For ensuring compliance with the CWA, Virginia relies on the information provided in its point source annual report and the Credit Exchange’s Annual Compliance reports for point sources and the credit proposals for nonpoint sources. Standard permit requirements apply in relation to monitoring permit compliance. The Nutrient Credit Exchange also utilizes a 5 month reconciliation period, during which records are sent to DEQ for approval before invoices are prepared and sent to credit purchasers. DEQ maintains auditing, inspection and penalty/enforcement authority.

Operating procedures are under development to accommodate a potentially expanded suite of activities. With respect to the state’s standard operating procedures for making compliance determinations and compliance inspections and methods, there are clear procedures in place. [DEQ has established guidance for assessing violations of annual nutrient load limits. Compliance and enforcement procedures are established in existing agency guidance manuals.](#)

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Timely and appropriate enforcement activities¶  
Penalties¶  
Compliance status, including significant noncompliance designation if applicable

## 7. Accountability and Tracking

*Necessary measures are partially in place for point source users but not in place for nonpoint source users. See Section II.B.2 and 3 and Section II.A.3 and 8.*

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Total allowed mass loads are established by EPA through the TMDL. Mass loads are allocated between sources through Virginia's Watershed Implementation Plan. Actual mass loads by watershed and source are summarized in annual reports provided to EPA.

Virginia does not currently use a credit registry to track offsets and trades but is considering the establishment of a registry. Compliance credit trades are documented in an annual trades report which DEQ is required by law to publish by July 1<sup>st</sup> of each year. The first trade report will be published by July 1, 2012 for the 2011 compliance year. No nonpoint source-to-point source trades have occurred.

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Point source offsets and trades are accounted for through a variety of reporting requirements. The Nutrient Credit Exchange submits 5 types of reporting paperwork at various intervals, which DEQ uses to track and account for trades:

- Annual Compliance Plan (forward looking 8 –year plan)
- Monthly DMRs
- Annual Report (due February 1)
- One Page Confirmation Sheet for Traders
- Annual Reconciliation Report

DEQ publishes an annual trading report available to the public on DEQ's nutrient trading website: <http://www.deq.virginia.gov/vpdes/nutrienttrade.html>.

Baselines used to generate offsets or credits for point sources are the WLAs given in the Watershed General Permit in the Basin Registration Lists. Required baselines used to generate offsets or credits for nonpoint sources are described in the Ag Guidance.

Point source compliance credits are quantified and verified through the reporting process mentioned previously and available on DEQ's website. Nonpoint source offsets are also subject to annual verification and reporting requirements. Information related to nonpoint source offsets is housed at DEQ; however a formal database system has not yet been developed.

DEQ's reporting system is such that no offset or credit may be sold to more than one purchaser at a time. Other information included in the verification and annual reporting process includes NPDES permit numbers, outfall locations of permitted facilities and latitude/longitude of practices.

Credits are on a delivered load basis and are calculated using Chesapeake Bay Watershed Model (4.3) efficiencies. As such, credits reported inherently account for attenuation. DEQ authenticates ownership of nonpoint source credits through its annual accounting process and by inspection of all sites where credits are to be generated.

DEQ's tracking and accounting system does not include documentation of agreements between parties to the offset or trade transaction. The Credit Exchange's Annual Compliance Plan update addresses whether sufficient compliance credits will be available for the point sources. The

Deleted: For point sources, it does address whether sufficient offsets or credits will be acquired over the period of the new or increased loading through the

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Compliance Plan is an eight-year forecast of projected trading activities. It includes firm trades for five years with an additional three-year forecast. The plan is updated yearly using a rolling five year period. The time period selected was designed to allow time to adjust planned trades in the event that sellers leave the market or some other unforeseen circumstances dictate changes.

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The availability of sufficient offsets for new or expanding facilities is addressed through a nutrient offset plan. New or expanding facilities registering under the watershed general permit must provide offsets covering a minimum of five years at the time they register.

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Results of monitoring and verification of each offset or credit are provided in DEQ's initial certification paperwork and in annual verification paperwork thereafter.

### 8. Nutrient Impaired Segments

***Necessary measures are partially in place for point source users but not in place for nonpoint source users. See Section II.B.2.***

Statutory provisions in 62.1-44.19:14b and 10.1-603.8:1 (C) prohibit violating local water quality. These provisions ensure that offsets and trades occurring in nutrient impaired waters do not result in exceedances of WQS.

Deleted: Virginia should develop a procedure to monitor this.

### 9. Credit Banking

***Necessary measures are in place for point source users but not in place for nonpoint source users. See Section II.B.2 and Section II.A.2.***

Nonpoint source offset generators are required by code to use the services of an aggregator. As well, the Nutrient Credit Exchange is a third party, authorized by statute to facilitate trades between point sources. Documents related to these entities have been described previously. DEQ is currently considering options for an offset registry for nonpoint sources. Issues under evaluation include whether public and/or private entities may serve as a registry, geographic scope, and relationships of registries to county in-lieu of fee programs, etc.

Virginia's program has not taken any specific measures to reduce transaction costs or calculate and estimate necessary costs and reasonable expenses incurred by entities that acquire and sell credits. The Virginia Nutrient Credit Exchange Association has priced compliance credits very low to encourage nutrient trading and hopes to move to more of a market based price in the future. By acting as a compliance credit clearinghouse for its member facilities, the Exchange is minimizing transaction costs.

### 10. Growth

***Necessary measures are in place for point source growth but not not nonpoint source growth. See Section II.B.2***

All new and expanded point source facilities must obtain offsets for 100 percent of the entire new load amount as described in §62.1-44.19:15 and in the Watershed General Permit (9VAC 25-820).

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## V. Additional Information and Programmatic Needs

Virginia's existing trading program has been instrumental in meeting the point source load reductions required by the Tributary Strategies by the end of 2010. Moving forward, the TMDL includes additional point source reductions in the York and James basins which [will be implemented with the option of the use of trades under the existing program.](#) The generation of offsets to accommodate future loads is also a critical part of Virginia's nutrient trading program and the Commonwealth's Watershed Implementation Plan. Although the point-to-nonpoint source trading provisions of the program have provided limited opportunity for point source growth in VA, it is proving to be a viable source of offsets for new sources of storm water. Virginia is currently studying the expansion of the trading program to provide for offsets for new onsite systems as well as to find a more economical means of meeting urban storm water reduction goals.

Deleted: are planned to be met under the nutrient trading program. T

There is the potential for broader participation in the trading market by MS4s and municipalities implementing the MS4 permits as well as onsite systems.

From Virginia's perspective, federal assistance needed to support development and implementation of its trading and offset program includes funding and adequate time to fully develop the program.

The Virginia framework does not include net improvement offsets or aggregated programmatic credits. The latter may be considered to address onsite septic.

The framework does allow for multiple year contracts within the point source Credit Exchange. Those procedures have been described.

Programmatic offsets are not applicable.

## VI. Virginia References

EPA 2010. *Chesapeake Bay Total Maximum Daily Load for Nitrogen, Phosphorus and Sediment*. December 2010.

EPA 2011. Guide for Chesapeake Bay Jurisdictions for the Development of Phase II Watershed Implementation Plans. March 30, 2011.

VA DEQ 2010. Virginia Phase I Watershed Implementation Plan.  
<http://www.dcr.virginia.gov/vabaytmdl/baytmdl1arch.shtml>

VA DEQ 2008. Trading Nutrient Reductions from Nonpoint Source Best Management Practices in the Chesapeake Bay Watershed: Guidance for Agricultural Landowners and Your Potential Trading Partners. <http://www.deq.virginia.gov/vpdes/nutrienttrade.html>

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Virginia Senate Joint Resolution 334. 2011.  
<http://leg1.state.va.us/cgi-bin/legp504.exe?ses=111&typ=bil&val=sj334>

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Additional references to be added.

