

Delaware’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 Delaware’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. Delaware Trading and Offset Programs Summary Table

Element	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
Authority	×	●	×	●	×	●	×	●
Baselines (for a credit generator)	×	●	×	●	×	●	×	●
Minimum Controls	×	●	×	●	×	●	×	●
Eligibility	×	●	×	●	×	●	×	●
Credit Calculation and Verification	×	●	×	●	×	●	×	●
Safeguards	×	●	×	●	×	●	×	●
Certification and Enforceability	×	●	×	●	×	●	×	●
Accountability and Tracking	×	●	×	●	●	●	●	●
Nutrient Impaired Segments	×	●	×	●	×	●	×	●
Credit Banking	×	●	×	●	×	●	×	●
Growth	×	●	×	●	×	●	×	●

- 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
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II. Summary of 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 findings. Tier 1 are classified as statutory or regulatory conformance that EPA expects to 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 Chesapeake Bay 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. Program 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. Interstate and intrabasin trades and offsets should 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. Stormwater offsets programs are being evaluated and developed in many jurisdictions. These programs should be consistent with the Chesapeake Bay TMDL and EPA regulations, policy, and 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 source sectors including consideration of the use of non-traditional Best Management Practices (BMPs) such as algal scrubbers, oyster aquaculture, etc. EPA suggests that the jurisdictions consider incorporating the retirement of credits and use of net improvement offsets in this guidance and methodology. 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. The jurisdictions should continue to explore the potential use of that type of offset. See Section IV.2 and 5.

7. Updating enforcement policies and procedures should continue and include, but not be limited to, items such as inspectors' access to off-site areas where credits or offsets are generated and compliance determination methodology. See Section IV.7.

8. Jurisdictions should continue to develop tracking and accounting systems for new or increased loads and offsets for those loads. These systems should be transparent and accessible to the public. See Section IV. 8.

9. Jurisdictions should ensure that adequate resources are available to fully implement the developing trading and offset programs. See Section V.

B. Delaware Specific Observations

Tier 1 – Statutory or Regulatory conformance

1. Appendix S of the Chesapeake Bay TMDL expects pollutant loads from new or increased discharges to be offset in the event that the jurisdiction did not set aside allocations for new growth. Delaware's final Phase I WIP did not include an allocation for new growth. How will Delaware accommodate new growth for both point and nonpoint sources? See Section IV. 1.

Tier 2 – Program recommendations

1. Delaware has concerns with the development of onsite septic system regulations and is working to require offsets for septics. Delaware is revising onsite wastewater disposal regulations and intends to require an offset for net new loadings. EPA suggests that Delaware use Appendix S of the Chesapeake Bay TMDL as a guide for developing its offset program for septics. See Section IV.1.

2. Delaware indicated in its final Phase I WIP that it intends to develop a stormwater offset program. Delaware has been developing new statewide sediment and stormwater regulations that are expected to take effect in 2012. Analysis performed by the Center for Watershed Protection indicates that, under most development scenarios, compliance with the Delaware stormwater regulations also will achieve the pollutant load reductions called for in the Chesapeake Bay TMDL. Where it does not, and further reduction cannot be achieved on that

specific parcel, Delaware has developed an in-lieu fee. EPA expects that Delaware will continue to keep EPA apprised of its progress on this effort. See Section IV.1.

III. History and Overview of Delaware's Trading and Offset Programs

Delaware does not currently have an offset and/or trading program; however, growth will continue to occur in Delaware, which EPA expects Delaware to offset. Delaware is in the process of developing an offset program and included a plan and timeline for doing so in its draft Phase II WIP. Delaware has no current plan for a trading program. There are so few point sources in Delaware that any future offset or trading program will likely be nonpoint source to nonpoint source rather than a point source to nonpoint source program. Delaware will focus its offset program on the watershed-scale (within section 303(d) listed segments). Delaware is considering allowing offsets to be used outside the subwatershed but within the basin.

Delaware's Department of Natural Resources and Environmental Control (DNREC) is currently in the process of modifying a tool to track offsets in the Chesapeake Bay watershed and throughout the rest of the state. The tool is based on DNREC's existing Nutrient Loading Assessment Protocol (Nutrient Protocol). Delaware originally developed the Nutrient Protocol to determine the impacts of development on a parcel by parcel basis by calculating the nutrient loads for pre-and post-development land use and incorporated the benefits of BMPs. Delaware's modified Nutrient Protocol will be more user-friendly and more compatible with the suite of Chesapeake Bay TMDL models. Delaware will achieve compatibility by adding sediment to the Nutrient Protocol (it originally only calculated nutrient loads) and applying the loading rates, land uses, subwatersheds, BMPs, and BMP efficiencies included in the suite of Bay models. New regulations will be necessary in Delaware to require the use of the Nutrient and Sediment Loading Assessment Protocol to determine offsets statewide and to give DNREC the authority to implement and enforce these offsets.

In the absence of an offset and/or trading program, the following sections are based on DNREC's speculation regarding potential plans for future offset and trading programs in the state.

IV. Detailed Evaluation of Delaware's Trading and Offset Programs Conformance with the 2010 Chesapeake Bay TMDL

1. Authority

Jurisdiction is evaluating need for an offset program. Jurisdiction will not be developing a trading program. See Section II B.1. and Section A.1 and 4.

Delaware has a totally revised path forward which is outlined in its draft Phase II WIP. Delaware believes that it has the statutory authority to develop a statewide nutrient offset regulation and program.

The program Delaware is contemplating includes a credit registry and the potential for exchanging credits but will not be a full-blown trading program that includes the aggregation of BMPs into tradable credits, like Pennsylvania's program.

2. Baseline (for credit generators)

Jurisdiction is evaluating need for an offset program. Jurisdiction will not be developing a trading program. See Section II B.1 and 2 and Section A. 5 and 6.

Delaware is about to circulate a Start Action Notice to develop a statewide nutrient offset program. In addition, the new Sediment and Stormwater Regulations that Delaware is expected to adopt in 2012 will be consistent with the common elements set out in Appendix S of the Chesapeake Bay TMDL in most scenarios, even though the regulations will focus on water quantity, not quality. If the load reductions necessary to meet relevant TMDL allocations cannot be achieved on a particular parcel, DNREC will require payment of an in-lieu fee or an offset.

Delaware has yet to determine baseline nutrient and sediment loads. Delaware likely will set the baseline for point sources at that source's Chesapeake Bay TMDL wasteload allocation (WLA), and to set the baseline for nonpoint sources at a level that is consistent with the assumptions and requirements of relevant Bay TMDL load allocations (LAs). Another option that Delaware is considering for determining whether a nonpoint source baseline is being met is whether it has installed a required number of BMPs on a property. In Delaware's Nutrient Protocol, the baseline can be based on the land use of a particular year and supported by either aerial photography or Google satellite imagery. World Resources Institute's (WRI's) NutrientNet and DNREC's

Nutrient Protocol are tools that can be used to determine whether a site is above or below baseline nutrient and sediment loading – NutrientNet can be used by land owners and the Nutrient Protocol can be used by land purchasers.

3. Minimum Controls Required for Credit Purchasers

Jurisdiction is evaluating need for an offset program. Jurisdiction will not be developing a trading program. See Section II.B.1.

There will likely not be any credit-using point sources in Delaware that need to meet on-site relevant minimum technology-based standards or secondary treatment standards. Point source facilities are already at secondary treatment standards in Delaware. Nonpoint sources using credits will need to be consistent with stormwater, onsite, and CAFO regulations as well as local ordinances (e.g., county buffer requirements).

4. Eligibility

Jurisdiction is evaluating need for offset program. Jurisdiction will not be developing a trading program. See Section II.B.1.

Delaware has not yet developed credit generator and purchaser eligibility. Offsets and credits in Delaware will likely occur at the small watershed scale.

5. Credit Calculation and Verification

Jurisdiction is evaluating need for offset program. Jurisdiction will not be developing a trading program. See Section II.B.1. and Section II. A.5 and 6.

The process for quantification and tracking of credits and offsets in Delaware is still to be developed. The tools that Delaware is likely to use for this purpose are NutrientNet and the Nutrient Protocol.

6. Safeguards

Jurisdiction is evaluating need for offset program. Jurisdiction will not be developing a trading program. See Section II.B.1.

Delaware has not yet developed any information regarding safeguards for credits and offsets as part of its potential offset program.

7. Certification and Enforceability

Jurisdiction is evaluating need for offset program. Jurisdiction will not be developing a trading program. See Section II B.1 and Section A.7 and 8.

Delaware has not yet developed any information regarding certification and enforceability for credits and offsets as part of its potential offset program.

8. Accountability and Tracking

Measures are partially in place for point and nonpoint sources. See Section II. B.1 and Section II A.3 and 8.

Potential tools that Delaware may use for accountability and tracking include NutrientNet and the Nutrient Protocol. DNREC currently uses the Nutrient Protocol to track land use change. DNREC also currently uses water quality and flow data to calculate loads on the watershed and state scale to compare to applicable TMDLs. There is no credit registry in Delaware, but this is another potential tracking tool to be used in the future. DNREC also plans on using NEIEN and Scenario Builder to help with tracking.

9. Nutrient Impaired Segments

Jurisdiction is evaluating need for offset program. Jurisdiction will not be developing a trading program. See Section II B.1.

DNREC would like to see offsets occur at a small scale (e.g., section 303(d) segment scale), ideally within in the subwatershed where development is occurring.

10. Credit Banking

Jurisdiction is evaluating need for offset program. Jurisdiction will not be developing a trading program. See Section II.B.1. and Section II A. 2.

Delaware has not yet developed options for managing a potential nutrient credit market.

11 . Growth

Jurisdiction is evaluating need for offset program. Jurisdiction will not be developing a trading program. See Section II. B.1.

The program Delaware is contemplating includes a credit registry and the potential for exchanging credits but will not be a full-blown trading program that includes the aggregation of BMPs into tradable credits, like Pennsylvania's program.

V. Additional Information and Programmatic Needs

As stated earlier, Delaware does not currently have an offset and/or trading program. DNREC does plan on developing an offset program for stormwater and septic. Delaware's draft Phase II WIP contains additional information regarding Delaware's plan for stormwater and septic offsets.

VI. Delaware References

1. [Delaware Chesapeake Watershed Implementation Plan Phase II ...](http://www.dnrec.delaware.gov/swc/wa/Pages/DE-WIP-Phase-II-Info.aspx)
www.dnrec.delaware.gov/swc/wa/Pages/DE-WIP-Phase-II-Info.aspx

Appendix F: Scope of Work: Modifying **Delaware's Nutrient Budget Protocol** for Use as an Offset Tracking Tool in the Chesapeake Bay Watershed ·

APPENDIX A – Delaware

1. EPA expects Delaware to develop a plan of action to address all unresolved, jurisdiction-specific Tier 1 and Tier 2 recommendations from EPA’s final offsets and trading program assessment by the end of 2012. These recommendations are as follows:

Tier 1

Appendix S of the Chesapeake Bay TMDL expects pollutant loads from new or increased discharges to be offset in the event that the jurisdiction did not set aside allocations for new growth. Delaware’s final Phase I WIP did not include an allocation for new growth.

If offset programs are not put in place to manage new sector growth, EPA expects a quantitative demonstration from those jurisdictions as to why those sectors either are not growing or do not contribute new or increased pollutant loads even though they are growing. This numeric demonstration should be based on recent historical trends and be consistent with the suite of Bay models and their underlying assumptions EPA acknowledges the effort that Delaware is making to address septic and development offsets.

Tier 2

1. DE has indicated in its Phase I WIP that it intends to develop a stormwater offset program. DNREC has been developing new statewide sediment and stormwater regulations that will take effect in 2012. Analysis performed by the Center for Watershed Protection indicates that under most development scenarios, compliance with the state stormwater regs also achieves TMDL compliance. Where it does not, and further reduction cannot be achieved on that specific parcel, an in-lieu fee has been developed.

DE Response: (from draft phase II WIP): Delaware will accommodate new loads through new stormwater regulations, a stormwater in-lieu fee program, and an offset program for residual nutrient loads (including from onsite wastewater disposal) on another site within the same basin. Delaware’s offset program will not be implemented until 2013.

EPA Response: EPA appreciates Delaware’s commitment to follow through on this program.

2. DE does have concerns with the development of onsite septic system regulations. They are working to require offsets for septics. DE is revising onsite wastewater disposal regulations and intends to require an offset for net new loadings.

DE Response: Delaware will develop an offsets program for septic systems.

EPA Response: EPA appreciates Delaware’s commitment to follow through on this program. EPA suggests that Delaware uses Appendix S of the Chesapeake Bay TMDL as a guide for developing its offset program for septics.

2. EPA expects Delaware to address all unresolved recommendations common to all jurisdictions from EPA's final offsets and trading program assessment by the end of 2013.

These recommendations are as follows:

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.

EPA encourages the Chesapeake Bay watershed jurisdictions to provide clear and comprehensive definitions for the terms and concepts incorporated in their nutrient credit offset and trading programs. EPA notes that common terminology may be necessary or appropriate should methods or policies be developed for interstate offsets or trading. EPA expects that DE will continue to work with and support the WQGIT Trading and Offset Workgroup as trading and offset programs continue to advance in the watershed.

2. Interstate and intrabasin trades and offsets should be evaluated by the jurisdictions for potential inclusion in their trading and offset programs. See Section IV. 10.

In Section 10 of the Chesapeake Bay TMDL, EPA identified interstate trading as a potential stage in the expansion of the trading concept. EPA will continue to work with the Chesapeake Bay jurisdictions to support efficient and appropriate means of expanding nutrient credit trading to meet the goals of the TMDL. EPA expects that DE will continue to work with and support the WQGIT Trading and Offset Workgroup as trading and offset programs continue to advance in the watershed.

3. Local governments' data and information should continue to be integrated into state tracking and accounting systems. See Section IV.8.

Conversion of land uses as the result of development and the redevelopment of land are two examples of important types of information that should be tracked and integrated into the state tracking and accounting systems. EPA expects that DE will continue to work with and support the WQGIT Trading and Offset Workgroup as trading and offset programs continue to advance in the watershed.

4. Stormwater offsets programs are being evaluated and developed in many jurisdictions. These programs should be consistent with the Chesapeake Bay TMDL and EPA regulations, policy, and guidance. See Section IV.1.

EPA looks forward to working with VA in reviewing the baseline loading reduction expectations for existing sources to achieve TMDL targets as identified in their draft Phase II WIP. EPA expects that DE will continue to work with and support the WQGIT Trading and Offset Workgroup as trading and offset programs continue to advance in the watershed.

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 source sectors including consideration of the use of non-traditional Best Management Practices (BMPs) such as algal scrubbers, oyster aquaculture, etc. EPA suggests that the jurisdictions consider incorporating the retirement of credits and use of net improvement offsets in this guidance and methodology. See Section IV. 2 and 5.

EPA expects that any expansion and or development of trading and offset programs, including guidance and methodologies, will be consistent with the Chesapeake Bay TMDL, the Clean Water Act, and relevant regulations, policy, and guidance. The use of non-traditional technologies for meeting baseline for point and nonpoint source sectors needs to be

consistent with the Bay model and its assumptions. The Chesapeake Bay Program does have an established process for the validation of non-traditional BMPs and inclusion of those BMPs in the Chesapeake Bay Watershed Model. EPA expects that DE will continue to work with and support the WQGIT Trading and Offset Workgroup as trading and offset programs continue to advance in the watershed.

6. Jurisdictions expressed interest in finding a good way to use stormwater BMPs to offset nonpoint sources such as new septic systems and nonregulated agriculture. The jurisdictions should continue to explore the potential use of that type of offset. See Section IV.2 and 5.

EPA expects VA to develop and implement a credible offset program that addresses new and increased loads, including loads from septic systems and other on-site systems. EPA expects that DE will continue to work with and support the WQGIT Trading and Offset Workgroup as trading and offset programs continue to advance in the watershed.

7. Updating enforcement policies and procedures should continue and include, but not be limited to, items such as inspectors' access to off-site areas where credits or offsets are generated and compliance determination methodology. See Section IV.7.

EPA expects that the jurisdiction develops and implements a Trading and/or Offset Compliance Monitoring Strategy and the policies/guidance necessary to implement the strategy. The strategy should provide for regular on site verification by the jurisdiction of generator requirements and conditions to ensure that credits generated are credible.

8. Jurisdictions should continue to develop tracking and accounting systems for new or increased loads and offsets for those loads. These systems should be transparent and accessible to the public. See Section IV. 8.

EPA expects the jurisdictions to develop and implement a tracking and accounting system for new or increased loads and offsets of those loads to ensure that progress is maintained in achieving Bay goals. Tracking of offsets is expected regardless of whether the jurisdiction has a well-developed offset and /or trading program or is conducting offsets or trades on a case-by-case basis while it determines whether to develop a formal program.

9. Jurisdictions should ensure that adequate resources are available to fully implement the developing trading and offset programs. See Section V.

EPA expects the jurisdictions to provide additional resources, as needed, to fully implement their developing trading and offset programs. EPA expects the jurisdictions to provide adequate resources regardless of whether the jurisdiction has a well-developed offset and/or trading program or is conducting offsets or trades on a case-by-case basis while it determines whether to develop a formal program.

