Metropolitan Washington Council of Governments

Water Quality Trading Primer
Chesapeake Bay and Water Resources Committee
March 18, 2016

BACKGROUND ON WATER QUALITY TRADING

- Water Quality Trading (nutrient trading) is a credit exchange program: Certified credits are generated by creating additional nitrogen, phosphorus, or sediment load reductions, and these credits are then sold, in an established public market, to a buyer who presumably can purchase the credits at less cost than they can install their own practices, or to provide options that help them meet their load reduction goals and deadlines.

- Trading is a market-driven tool that provides flexibility by reducing nutrients where it is most cost-effective to do so, while still protecting water quality. An appealing aspect of these trading market forces is that they have the potential to drive innovation and reduce costs.

- Trades can occur within the same sector (e.g., between a wastewater plant with currently unused capacity and a wastewater plant that would benefit from purchasing credits), or between different sectors (i.e., stormwater and agriculture, or stormwater and wastewater).

- Water quality trading has been occurring nationally since the 1980s[1] but the most robust trading programs are in the Chesapeake Bay watershed, spurred by the need for more cost-effective measures of meeting the Chesapeake Bay Total Maximum Daily Load (TMDL).

- In 2003, EPA issued a Water Quality Trading Policy providing national guidelines and detailing the purpose and potential benefits of trading, and the essential components of a sustainable trading program.

WATER QUALITY TRADING IN THE CHESAPEAKE BAY WATERSHED

- COG staff have been involved in the Chesapeake Bay Program's trading discussions from their inception and continue to be involved in monitoring CBP trading activities.

- In 2001, the CBP and its Bay partners established a policy framework for trading with the publication of "Chesapeake Bay Program Nutrient Trading Fundamental Principles and Guidelines."[1] The guidelines stated that[2]:
  - o Trades must not impair water quality or violate water quality standards or criteria, or adversely impact living resources and habitat;
  - o Trades must be in substantial compliance with all local, state, and federal environmental laws, regulations and programs.

- The Bay states that have established water quality trading programs include Virginia, Pennsylvania, and West Virginia. Maryland is in the process of establishing a water quality trading program this year.

---

[1] http://www.cbf.org/document.doc?id=141

[2] http://www.chesapeakebay.net/content/publications/cbp_12268.pdf

- Wastewater Treatment Plants operating under their load caps may be able to generate credits that they can trade with other plants or the stormwater sector. For instance, the major wastewater treatment plants in the COG region have made great strides in meeting their Bay TMDL loading reductions, and all are poised to complete their plant upgrades to achieve "state-of-the-art" or "enhances nutrient removal" enhanced nitrogen removal, by 2018, well in advance of the 2025 deadline.[3] COG's plants are already meeting their stringent phosphorus loading requirements, and in several cases have even been able to operate at current flows and achieve nitrogen levels of 3-4 mg/l. The completion of their plant upgrades will ensure that these major wastewater plants can continue to maintain their TMDL load caps for the foreseeable future, even as the region's population grows and wastewater flow increases over time.

- Stormwater BMP implementation, however is proving to be more costly and time-intensive than originally envisioned. This is the sector where trading could have the most benefits.

COG REGION WATER QUALITY TRADING

Virginia — *existing program*
- Virginia's robust nutrient trading program was established in 2005, and is administered by the Department of Environmental Quality (DEQ).
- The credits and trades have included wastewater and stormwater.
- The transportation sector's recent interest in purchasing phosphorus offsets is increasing demand for those credits.
- *Emerging* — In response to recently passed legislation, sediment credits will be added to Virginia's suite of credits that MS4 programs can acquire to meet the Chesapeake Bay TMDL requirements, effective July 2016.

District of Columbia — *existing program*
- The District Department of Energy and the Environment (DOEE) has had a Stormwater Retention Credit (SRC) Trading program in place since 2013.
- DOEE's SRC program incentivizes voluntary installation of green infrastructure in non-regulated areas for credit which can be purchased by redevelopment projects that are required to meet stormwater retention requirements.

Maryland — *new proposed program*
- The Maryland Department of the Environment has made establishing a water quality trading program in Maryland a high priority for the year.
- In January 2016, Maryland issued a draft *Trading and Offset Policy and Guidance Manual*,
- Maryland has established a nutrient trading workgroup to develop a trading program this year. Several CBPC members participate in this workgroup.
- Legislation in the Maryland General Assembly (HB 325) is proposing the use of Bay Restoration Fund dollars to purchase nutrient credits.

---

[3] COG's Table of Regional Wastewater Treatment Plants' ENR/SOA Status

COG Region Major Wastewater Plants Capacity (>2 MGD)	STATE	CAPACITY (MGD)	ENR/SOA Implementation Status - Schedule for 100% Completion *(as of 3/10/2016)*
Blue Plains	DC	370	2018
Bowie	MD	3.3	2011
Ballenger Creek	MD	6	2014
Parkway	MD	7.5	2013
Fort Detrick	MD	2	2011
Frederick	MD	8	2017
Mattawoman	MD	20	2007
Seneca Creek	MD	26	2017
Piscataway	MD	30	2012
Western Branch	MD	30	2017
Dale City #1	VA	4.6	2013
Dale City #8	VA	4.6	2013
Leesburg	VA	7.5	BNR - no ENR implementation
Broad Run	VA	11	2008
H.L. Mooney	VA	24	2013
Arlington	VA	40	2011
Alexandria	VA	54	2015
UOSA	VA	54	2014
Noman Cole	VA	67	2013
TOTAL		**769.5**	*(4 still underway/pending)*

ENR/SOA Implementation Status for Major WWTPs in COG Region

Major WWTPs (>2 MGD)
Schedule for Implementation to Meet
Chesapeake Bay Program Goals
(as of 3/10/2016)

■ ENR/SOA Implementation Status