Guidance for Water Quality Trading in Georgia

GEORGIA
DEPARTMENT OF NATURAL RESOURCES
ENVIRONMENTAL PROTECTION DIVISION

Watershed Protection Branch

Environmental Protection Division

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Disclaimer:
This document provides guidance for water quality trading in Georgia and does not substitute for existing federal or state requirements or laws. Implementation of water quality trading will be governed by existing requirements of the Clean Water Act (CWA), Environmental Protection Agency (U.S. EPA) implementing regulations, and state laws and rules. The recommendations in this guidance are not binding; Georgia Environmental Protection Division (EPD) and U.S. EPA may consider other approaches consistent with the CWA, U.S. EPA regulations, and state laws and rules. Decisions regarding water quality trades will be made on a case-by-case basis guided by the CWA and applicable state and federal regulations and laws. All trading plans will be permitted through the National Pollutant Discharge Elimination System (NPDES) permit process including proper notice and comment periods. Decision-making during the permitting process will consider comments and information presented at that time by interested persons regarding the appropriateness of applying these recommendations to a particular situation. EPD may revise this guidance in the future.

1. Introduction

Restoring and preventing water quality degradation is a difficult ecological, economic, and regulatory challenge that requires states and communities to rely on a diverse set of tools and strategies. Water quality trading is one tool that can be used to protect, maintain, and restore Georgia's waterways. Water quality trading enables facilities to buy and sell pollutant reduction credits for reductions beyond water quality-based effluent limitations (WQBELs) and gives nonpoint sources the opportunity to be compensated for reductions beyond those already required by law or regulation. These credits can be purchased by another entity to achieve less costly pollutant reduction than if the entity acted alone. Trading ultimately provides an equal or greater water quality benefit to the receiving water, as measured by pollutant load reductions. This document provides a framework for the implementation of Georgia's water quality trading program.

2. Guiding principles for water quality trading

Water quality trades must be consistent with the federal Water Pollution Control Act (commonly known as the Clean Water Act or CWA), the Georgia Water Quality Control Act, the Georgia Rules for Water Quality Control, and other relevant state and federal water quality regulations and implemented in a manner that:

1. Does not cause or contribute to violations of instream water quality standards;
2. Is consistent with antidegradation policies;
3. Provides accountability to confirm that agreed upon water quality benefits are delivered;
4. Results in long term protection or improvement in water quality;
5. Increases the pace and scale of restoration and attainment of water quality standards;
6. Assists in implementing Total Maximum Daily Loads (TMDLs) and attainment of water quality standards; and
7. Results in improved economic efficiencies in achieving water quality goals.

In addition, trading must be consistent with the following guiding principles:

1. Be grounded in sound science;
2. Effectively accomplish regulatory and environmental goals;
3. Improve regulatory and economic outcomes;
4. Contain mechanisms for transparency and accountability that allow the Georgia Environmental Protection Division (EPD) and interested stakeholders to confirm that required water quality improvements are delivered; and
5. Not create localized adverse impacts to water quality.

3. Authority

The Environmental Protection Agency (U.S. EPA) has stated that the CWA provides authority for a variety of programs and activities to control pollution, including trading programs. The CWA and federal regulations provide authority to incorporate provisions for trading into National Pollutant Discharge Elimination System (NPDES) permits, TMDLs, and other EPD plans. This guidance is designed to ensure water quality trading in Georgia is consistent with the statutes, rules, and regulations that authorize implementation of the CWA in the state.

4. Trading framework

Trading is implemented through a NPDES permit. Water quality trading may be used by Georgia NPDES permit holders to comply with water quality-based effluent limitations (WQBELs). All trades will involve at least one point source credit purchaser. EPD is not contemplating trading exclusively between two or more nonpoint sources. The NPDES permits provide permit limits and

identify, as necessary, compliance schedules, antidegradation provisions, anti-backsliding provisions, and related federal provisions. The NPDES permits will incorporate a trading plan as a permit condition that contains details on implementing trades (see Appendix B for more information about trading plans).

4.1 Trade types

EPD may authorize trading under the following scenarios:

1. Point-Point: Trades between two or more permitted point sources where at least one permittee agrees to reduce the discharged pollutants beyond baseline levels. The permitted point sources can be owned by the same entity or by different entities.
    a. *Trades between point sources owned by the same entity.* If the permitted point sources are owned by the same entity, the permitted point sources will have permits reflecting the specific trades and containing all necessary conditions. In this scenario only, the entity will not be required to develop a trading plan; however, the guidelines outlined in this document will still apply. The entity will use the permitting process to provide relevant information, such as the trading area, to EPD for review and approval. Information about the proposed trade will be made available to the public through the public process associated with permit issuance.
    b. *Generating credits.* A point source can generate credits by reducing their discharge, either through a reduction in pollutant concentration or through a reduction in volume discharged or both. Credits are generated for specific pollutants and can only be generated by a real reduction in pollutant loading from the baseline (see section 5.4.1 for more information about trading baselines). Credits cannot be stockpiled; they must be used in the year they are generated.
    c. *Buying credits.* A point source can purchase credits generated by another point source located within the same trading area for the same time period, provided the purchasing point source's discharge does not cause adverse localized impacts, such as harmful algal blooms or mussel toxicity. Credits cannot be stockpiled; they must be used in the year they are generated.
    d. *Responsibility.* Each point source is responsible for ensuring its discharge, adjusted by traded credits, meets its individual effluent limit. A pollutant trade does not relieve the responsibility of an NPDES permittee to comply with the terms of its permit.
2. Point-Nonpoint: Trades between at least one permitted point source and one or more nonpoint sources that are reducing or plan to reduce prior to initiating trading their nonpoint pollutant loads beyond baseline levels;
    a. *Planning*. Many nonpoint source credits will be generated through the installation or implementation of new Best Management Practices (BMPs). Because these BMPs have not yet been installed or implemented, measuring realized load reductions will not be possible. In these scenarios, EPD requires the use of the STEP-L model to estimate the number of credits that will be generated. These estimates will be used in the development of a trading plan. Please note that STEP-L model results are only for planning purposes. Credits are only generated after the BMP is installed and load reductions occur. After BMP installation, the credits generated will be measured with monitoring.
    b. *Generating credits.* A nonpoint source creates a tradeable credit by implementing a trading project and measuring and documenting the resulting pollutant reduction consistent with a trading plan. As with point-point trades, credits must be consistent with NPDES requirements to be applied towards compliance with the point source's

effluent limit. The credit amount is equal to the load reduction beyond baseline (see section 5.4.1 for more information about trading baselines). Several monitoring approaches may be used to quantify load reductions, including upstream/downstream monitoring, pre- and post-installation monitoring, BMP monitoring, or edge of project area monitoring. Credit-generating projects cannot include actions required by another NPDES permit (including compliance schedules), law, regulation, ordinance, or TMDL. Credits cannot be stockpiled; they must be used in the year they are generated.

Nonpoint source credit generators should note: EPD supports the use of cost sharing to help reduce nonpoint source pollution. To prevent double counting, however, the proportion of a credit-eligible trading project that is funded by public funds for the purposes of reducing loading of the traded pollutant cannot be used to generate credits. Proportional accounting for multi-purpose trading projects is allowable. Eligibility of credits funded by public funds and proportional accounting will be determined on a case-by-case basis, subject to EPD review.

c. *Buying credits.* A NPDES permittee may maintain or increase its actual pollutant discharge for a given time-period by purchasing credits generated by a nonpoint source located within the trading area. Credits cannot be stockpiled; they must be used in the year they are generated.

d. *Responsibility.* When nonpoint source reductions are used to offset point source discharges, the point source retains full responsibility for the quantity and delivery of the credits purchased from the nonpoint source. The point source must ensure not only that the trade transaction is completed, but also that the nonpoint source credit generator has fulfilled their obligation and generated the expected credits. A pollutant trade does not relieve the responsibility of an NPDES permittee to comply with the terms of its permit.

3. Offset projects: similar to a point-nonpoint trade, however, in an offset project the permitted point source implements the nonpoint source project. All relevant requirements for point-nonpoint trades apply here as well, including geographic factors, maintenance, and reporting. Because an offset project is conducted by the permittee, requirements specific to documenting expectations between two or more trading partners would not apply and would not be required for offset projects. The point source is expected to perform monitoring to the same level specified for nonpoint source credit generators to document credit generation.
4. Other types of trades approved by EPD on a case-by-case basis.

4.2 Trading requirements

All trades will conform to the following requirements:

1. Localized impacts must be avoided. If a discharge causes localized impacts that exceed narrative or numeric water quality criteria, a discharger may be deemed in noncompliance with the CWA and the Georgia Water Quality Control Act.
2. Any activity conducted to generate credits for trading must be consistent with Georgia's antidegradation policy. Under Georgia's antidegradation policy, trades cannot lower the existing quality of a water body.
3. Trades cannot authorize backsliding unless one of the exceptions in CWA §402(o) and 40 CFR §122.44(l) applies. Anti-backsliding generally prohibits the renewal, reissuance, or modification of an existing NPDES permit that contains effluent limitations, permit conditions, or standards that are less stringent than those established in the previous permit.

Trading to meet water quality standards with a less stringent effluent limitation is not backsliding, provided the permittee is responsible for the same level of pollutant reduction.

4. A credit cannot be traded before it is generated through a pollutant reduction.
5. Once a credit is traded, the same pollutant-specific load reduction cannot be traded again, even if for another purpose. If a credit-generating activity results in load reductions for multiple pollutants, the credit-generator can generate credits for each of those pollutants relative to the load reduction. However, credits that have been sold for streambank or wetland mitigation cannot also be sold for water quality trading purposes.
6. The same pollutant-specific load reduction cannot be sold to offset the impacts of two different credit buyers. This restriction is not intended to prohibit the use of a regional BMP or "water quality" bank to generate credits.
7. Mechanisms used to verify project implementation and performance may include site inspections, project review and certification, monitoring, trade information tracking (registry), and recordkeeping and reporting.
8. Verification of trading project performance must be conducted by a qualified professional. For point source reductions, DMR data review and routine inspections of point sources conducted by EPD as part of regular compliance efforts may be sufficient to meet this verification requirement. Additional verification may be required by EPD based on results of periodic trading plan reviews and other compliance activities.
9. If EPD or the permittee determines a trading project is not producing the expected reduction, the credit for that time-period may be nullified or reduced, and the permittee's effective discharge adjusted accordingly.
10. Water quality trading may not be used to meet federal secondary treatment requirements or Technology Based Effluent Limits (TBELs) as defined in the CWA unless expressly authorized by the underlying effluent guidelines. Trading may be used for WQBELs, where appropriate.

EPD will review proposed trading plans to ensure that water quality standards are being met and that the credit-purchaser buys enough credits to cover their necessary load reductions. Point sources may purchase additional credits or participate in an "insurance pool" or similar bank to ensure sufficient credits have been purchased to meet the necessary load reductions, above and beyond any regulatory requirements.

Point sources may use trading to meet effluent limits in both the short-term and long-term. While trading is often contemplated as a long-term tool for achieving efficient water quality benefits, under certain circumstances, point sources may wish to engage in trading on a temporary or short-term basis. EPD will evaluate the proposed duration of trading during the evaluation of the trading plan.

5. Conditions for eligible trades

5.1 Who can participate in trading?

Trading participants may include municipal or industrial NPDES permittees, farms, mitigation banks, conservation organizations, or others EPD determines to be qualified to participate in trades. A separate "water quality" bank could be developed to generate credits for multiple buyers or serve as an "insurance pool" that serves a regional entity or group of point source permittees.

5.2 Which water quality parameters can be traded?

Water quality parameters eligible for credit trading include nitrogen, phosphorus, and oxygen demanding substances. Other parameters may be approved by EPD on a case-by-case basis, such as

sediment; however, pollutants with the potential to threaten public health directly, such as toxins, metals, or bacteria, will not be considered for trading.

5.3 Where can trading occur?

Over allocation of available assimilative capacity can lead to water quality degradation. Therefore, discharges to the following water bodies are eligible for credit generation and trading. The categories identified correspond to the water bodies' water quality listing assessment in Georgia's *Water Quality in Georgia* report, available on EPD's website at epd.georgia.gov.

1. Water bodies in attainment of their water quality standards (Category 1), both those that are not covered by a TMDL and those that are covered by a TMDL;
2. Impaired waters pending a TMDL (Categories 5 and 5R);
3. Impaired waters with a TMDL (Category 4a); and
4. Water bodies where a TMDL alternative, an EPD-approved Water Quality Management Plan, or an EPD-approved Watershed Protection Plan are incorporated in a point source NPDES permit.

Please note that discharges to Tier 3 outstanding natural resource waters or Tier 2 high quality waters with scenic river and/or wild river designated uses are not eligible for water quality trading.

5.3.1 Defining a trading area

Trading areas establish the geographic boundaries within which trades can occur and specify a defined point where water quality goals must be met. The permittee must delineate a trading area in such a manner that fully addresses the risk of localized or downstream water quality impairments or negative impacts. The proposed trading area will be submitted to EPD for review and approval in the trading plan. Because the trading area significantly affects all aspects of the trading plan, EPD strongly recommends parties interested in trading schedule an initial trading meeting with EPD for preliminary review and approval of the proposed trading area (see section 9.1 and Appendix B for more information).

Trading areas must be:

1. Clearly delineated in the trading plan, including a description and map of the trading area.
2. Consistent with the water quality objectives of any applicable TMDL, TMDL alternative, or other EPD-approved plans.
3. Delineated such that pollution reduction in one part of a watershed can be linked to water quality improvement at a point of concern. Generally, inter-basin trading is inappropriate, but EPD may approve such a trade in specific, scientifically defensible situations.
4. Delineated such that the point of discharge is upstream of the point of concern.
    a. Trading areas may extend downstream of the NPDES discharge or most downstream location of nonpoint source loading, provided that the point of discharge or area of nonpoint source loading is upstream of the point of concern (option A).
    b. Trading areas may be established upstream of the point source discharge location if needed to prevent the potential for localized impacts developing above the point of concern (option B) or,
    c. Within small watersheds, the trading area may be established at a different place downstream to protect a sensitive waterbody, such as a lake or estuary (option C).

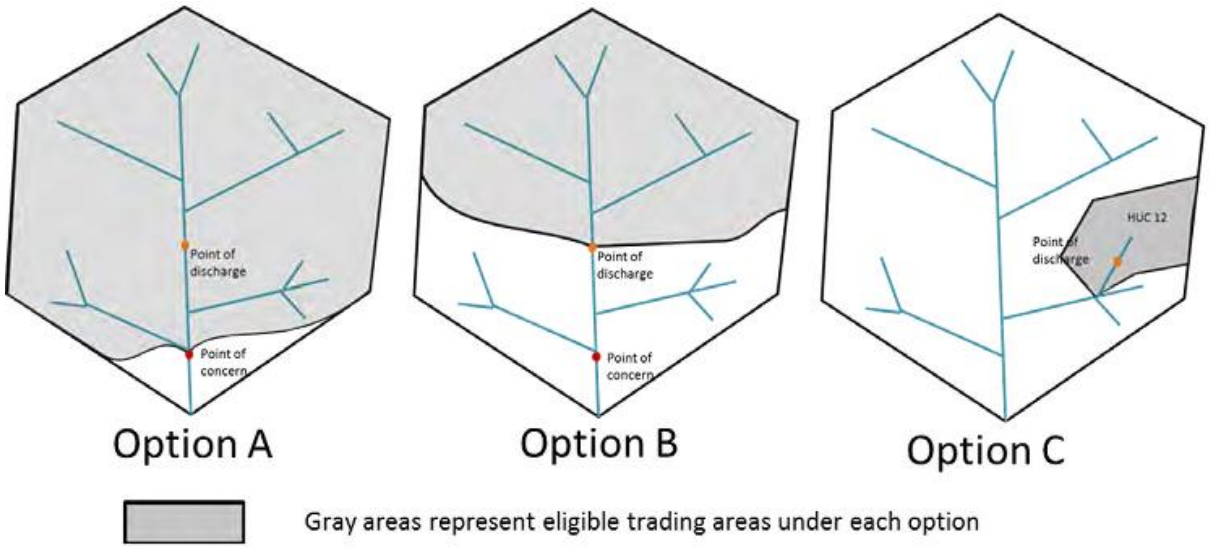

Figure 1. Taken from *Building a Water Quality Trading Program: Options and Considerations*, Willamette Partnership, World Resources Institute, and the National Network on Water Quality Trading, 2015.

5.4 How is a trade implemented?

Point and nonpoint sources can implement trading projects to generate credits. Projects in place at the time the baseline was established (for example, at the time the data was collected for TMDL development) cannot generate credits. Only projects implemented after a trading baseline is established are eligible to generate credits. Specific information about trading baselines and trading projects is provided in this section.

5.4.1 Trading baselines

A trading baseline is a snapshot of the conditions within the trading area coupled with legal requirements at the time of the waterbody's assessment and is typically based on when relevant water quality data was collected for a waterbody. For example, if a waterbody has a TMDL completed, the baseline would be established at the time that the data was collected for calculating the TMDL, or if water quality standards have been established for a waterbody, the baseline is the assumptions used to establish those water quality standards. Establishing a baseline is necessary to quantify the credits that can be generated through various trading projects. EPD will establish trading baselines for each proposed trading area using:

1. Any applicable pollution control requirements that need to be implemented to meet baseline requirements prior to generating credits. BMPs required to meet baseline requirements and BMPs used to generate additional water quality benefits and credits may be installed simultaneously. This would be allowable only if the BMPs that are implemented to meet the baseline requirements are sufficient to meet the baseline. For nonpoint sources in watersheds where reductions are required to meet a TMDL-derived load allocation (LA), a portion of the pollutant reduction may be available as credits for trading. EPD will determine the specific portion based on the required LA reductions in the TMDL. These portions will be specific to the nonpoint source; if the TMDL requires one reduction for urban runoff and another for agricultural runoff, a project addressing urban runoff would first have to meet the required reduction for urban runoff.
2. Federal, state, and local regulations that establish requirements for the project.

3. A selected baseline year that specifies when credit-generating activities begin. Typically, the baseline year will not be earlier than the year of NPDES permit issuance that authorized the trading plan.

In 2014, US EPA published a technical memorandum titled, "Components of Credit Calculation," to provide additional information about water quality trading in the context of the implementation of the Chesapeake Bay TMDL. In the technical memorandum, EPA identified two baseline options: a practice-based and a performance-based baseline. EPD has selected the performance-based baseline approach, which "specifies the amount of load to be reduced, regardless of which practices are implemented to achieve that reduction, before credits can be generated." Using watershed data and TMDLs, EPD will determine the amount of load to be reduced for each waterbody in which trading is proposed. The amount of reduction necessary prior to credit generation will be specified in the trading plan, and the reduction will be verified with monitoring as outlined in Section 6.1.

Baseline requirements will be developed for a specific watershed and applied to the individual sites intended for credit generation. EPD may choose to modify a trading baseline to comply with a TMDL, a TMDL alternative, an EPD-approved Water Quality Management Plan, or an EPD-approved Watershed Protection Plan incorporated in a NPDES permit. Only projects implemented after the baseline year is established are eligible for generating credits.

5.4.2 Trading projects

Not all project types may necessarily generate credits, and some project types might not be eligible for inclusion in a trading plan. The following are not eligible to generate credits:

1. Activities that generate a pollutant load greater than current conditions. Projects must generate pollutant reductions beyond current conditions and meet the baseline to be eligible for credit generation.
2. Activities already required by federal, state, or local regulation.
3. Activities required to make a site eligible for NRCS (Farm Bill) assistance, including actions taken to ensure compliance with wetlands and highly erodible land conditions.

EPD will consider various factors to evaluate the appropriateness of trading projects, such as whether the project reduces the pollutant load and improves water quality and whether an adequate method exists to document the reduction generated from the project. More information about trading project evaluations is provided in Section 8.0 and Appendix B.

6. Quantifying credits

6.1 Quantification of water quality benefits

6.1.1. Point-point trades

For point-point trades, quantification will be based on an approved wasteload allocation (WLA) providing the WQBEL in the NPDES permit, with any modifications based on actual pollutant reductions including a sufficient factor of safety, if necessary. Resulting credits will be measured on a monthly, quarterly, or annual basis and reported on Discharge Monitoring Reports (DMRs), as applicable. Monitoring will be required to document the pollutant reduction and to ensure that unacceptable local impacts, such as harmful algal blooms or mussel toxicity, do not occur. This monitoring may include instream monitoring.

6.1.2. Point-nonpoint trades

For point-nonpoint trades, in situations where BMPs have not yet been installed, estimates of load reductions for the proposed BMPs must be calculated using the STEP-L model, verified by qualified professionals, and approved by EPD. An appropriate safety factor with conservative assumptions must be applied to account for uncertainty in the estimated benefit. These estimates are for planning purposes only. After BMP installation, a qualified professional must verify the installation, and the point source must submit proof of verification to EPD as specified in the trading plan. Credits generated by this BMP will be quantified based on load reductions measured through instream or in-field monitoring. US EPA has published a series of guidance documents for monitoring and evaluating nonpoint source projects. EPD will make these resources available, as well as provide additional technical guidance on the development and implementation of a monitoring plan during the trading plan review process.

For point-nonpoint trades, in situations where the NPS BMP has already been installed and is generating eligible credits, quantification will be based on load reductions measured through instream or in-field monitoring. Additional site-specific monitoring to document the reduction and ensure that unacceptable local impacts, such as harmful algal blooms or mussel toxicity, do not occur will also be required.

Any instream, in-lake and in-field monitoring must be conducted using an approved monitoring plan. Results of this monitoring must be reported to EPD to verify anticipated load reductions. If data collected as part of the monitoring plan will be used for 305(b)/303(d) delisting purposes, a Sampling Quality Assurance Plan (SQAP) must be submitted to EPD for approval. EPD encourages trading partners to evaluate the feasibility of utilizing a SQAP when developing their monitoring plan. If monitoring does not demonstrate adequate pollutant reduction, additional credits may need to be purchased and a modification to the trading plan to increase trading ratios may be required.

6.2 Trading ratios

Risk and uncertainty will be managed with trading ratios. Trading ratios are numeric values used to adjust the available portion of credits for sellers or the credit obligation of a buyer based on geographic factors and various forms of risk and uncertainty. Trading ratios will be used to ensure that the environmental benefit of a trading project is equal to or greater than the benefit that would occur if the point source installed treatment technology on site. Trading ratios may be used to account for variables associated with a trading project, including but not limited to the following: risk of project failure, BMP effectiveness, measurement uncertainty, attenuation of a pollutant between the locations of the credit generator and buyer, temporal variability, and pollutant equivalency. Ratio components and underlying assumptions must be clearly documented in the trading plan.

For point-point trades, the combination of all trading factors must result in an overall trading ratio of at least 1:1. For point-nonpoint trades, the overall trading ratio must be at least 1.2:1. Depending on the level of uncertainty, larger ratios may be necessary. Permittees should appropriately manage the risk of noncompliance or resource degradation by setting appropriate trading ratios.

EPD will review trading ratios as part of the trading plan review and may adapt ratios to local conditions and data availability. As a result, trading ratios may differ for each trade.

6.2.1 Uncertainty ratio

Uncertainties in trading activities are predominantly associated with the challenges in accurately assessing and monitoring nonpoint source credit generating projects and their resulting pollutant load reductions. An uncertainty ratio will be applied to compensate for scientific uncertainty, including potential inaccuracies in estimation methods and variability in project performance. Uncertainty ratios may also be used to insure against credit losses from project damage arising from sudden and reasonably unforeseen events beyond the control of the responsible party for the project, such as severe weather.

Uncertainty ratios may be reduced for credits generated by trading projects placed on land in permanent conservation easement or publicly owned for conservation or educational purposes. This reduction in the uncertainty ratio may be appropriate due to the longer period of service that may be presumed due to the public ownership or conservation easement status.

6.2.2 Delivery ratio

A delivery ratio is calculated for a specific trading area to account for pollutant attenuation due to the fate and transport characteristics of the specific pollutant being traded. It depends on the unique characteristics of the watershed (e.g., hydrology, vegetation), distance, and travel time.

6.2.3 Equivalency ratio

An equivalency ratio is used to account for differences in impact from different forms of the same pollutant, such as such as biologically available phosphorous and bound phosphorous, or for cross-pollutant trading when pollutants contribute to similar impairments within a water body (e.g., TN and/or TP for BOD). It is assessed on a case-by-case basis.

6.2.4 Other ratios

Depending on the trading area, EPD may request the permittee consider other ratios, including those that incentivize restoration of priority areas, early action, and land conservation.

6.3 Applying ratios

Trading ratios will be applied separately to facilitate evaluation and possible adjustment as new scientific research becomes available. An uncertainty ratio will be applied at the time of credit estimation, prior to project certification and credit issuance. The delivery ratio and, if applicable, an equivalency ratio will be applied at the time of trade. Other ratios will be evaluated on a case-by-case basis.

7.0 Credit life and renewal

7.1 Credit life

A credit life is the period from the date a credit becomes usable until such time as the credit is no longer valid. A credit life will not exceed one year (365 days). A project may function for more than one year and generate new credits annually. The same entity may purchase credits from the same project year after year, but credits cannot be stockpiled.

Credit life will be determined in the credit certification process and referenced in the trading plan. EPD may consider setting the credit life as follows, provided it is consistent with applicable TMDLs, pollutant dynamics, and watershed dynamics:

- Covering one year, annual credit lives are based on ecological justifications and links between the timing of pollutant load reductions from eligible projects and point source discharge impacts over the year, or
- Covering a discrete season or month, with the seasonal credit life matched to critical periods in a TMDL or permit.

7.2 Project renewal and expiration

If projects continue to function and are properly maintained, EPD will consider the continued inclusion of the projects in the applicable trading plans through subsequent permit reissuances. The credits generated by the project may be adjusted over time due to changes in baseline requirements or trading ratios. Annual generation of credits is limited to the useful life of the activity used to generate the credit. If the projects are no longer able to generate credits, the projects will be considered to have expired and credits will no longer be available for use.

8.0 Trading project review, certification, and tracking

All new trading projects must undergo review and certification as described in the trading plan before credits are issued. Project review and certification must be conducted by qualified professionals, and project certification for a new trading project must include the following components:

1. Confirmation that all required project documentation has been provided;
2. Confirmation that a project review has been successfully completed; and
3. Signed attestation certifying the number of available credits that are estimated annually over the life of the trading project by the designated signatory of the NPDES permittee.

Most trading projects will result in immediate water quality improvements. Credits may be issued as soon as these projects are installed if the project has been overseen and designed by a qualified professional. If construction or modification of a facility, structure, or BMP is involved, a qualified professional must conduct a final inspection upon completion of construction prior to the release of credits. For projects that take time to mature (e.g., restored wetlands or riparian planting), credits can be released in phases or a ratio can be used to account for the time lag.

9.0 Incorporation of trading into NPDES permits

A permit operating under this guidance will contain enough detail to demonstrate compliance with the CWA and incorporate the following provisions:

1. *Permit Effluent Limits*. Permit effluent limits and potential trading obligations resulting from the WQBEL, TBELs, or other guidelines are typically expressed as a specific mass effluent limit per a specific time period and expressed in terms of concentration.
2. *Monitoring Requirements*. The monitoring section of a permit details the specific parameters to be monitored, monitoring frequency, the type of sample, the form of the report, and the timing for reporting to EPD. Trading-related monitoring may be required in addition to, but not instead of, the monitoring obligations under the CWA. Any additional trading-related monitoring will be included in the trading plan.
3. *Reporting Requirements*. The reporting section of a permit details the how the measured effluent discharge and credits will be reported on the Discharge Monitoring Reports (DMRs) and Operating Monitoring Reports (OMRs).
4. *Special Conditions*. Special conditions will apply. Special conditions of a permit supplement numeric and narrative effluent limitations and require the permittee to undertake activities that reduce the overall quantity of pollutants, reduce the potential for discharge, or collect

information that could be used to determine future permit requirements. The permits may contain conditions on the use of credits that include:

a. the extent that permit requirements may be satisfied with credits;
b. when, and from what source, credits may be purchased by the permittee; and
c. periodic monitoring to verify credit generation and water quality improvements.

5. *Trading plan*. With the exception of point-point trades between point sources owned by the same entity, each facility or permittee interested in participating in trading must first develop a trading plan that specifies the details of the trading area, trading projects, and trade implementation procedures to be followed by that facility or permittee. The trading plan must be consistent with this guidance and approved by EPD. The trading plan will be incorporated in the NPDES permit and will be subject to public notice and comment during the permit issuance or modification process. If negative downstream water quality impacts are identified, the trading plan will be updated accordingly. Guidance on trading plan development is included in Appendix B.

9.1 Initiating the trading process with EPD

Permittees interested in engaging in trading must explicitly indicate their interest to EPD by submitting a written Notice of Interest to the Wastewater Regulatory Program. The Notice of Interest may be submitted at any time. EPD will not initiate any trading-related analysis without the explicit request from the permittee. For permittees interested in trading, the Notice of Interest should include the following information for EPD to review:

1. Proposed trading area (map preferred),
2. List of TMDLs or watershed-based plans for waterbodies within the proposed trading area,
3. Pollutant(s) to be traded,
4. Potential projects,
5. Potential partners, and
6. Trading plan outline.

Upon review of the Notice of Interest and supporting information, the Wastewater Regulatory Program will schedule an initial meeting with the permittee, the Wastewater Regulatory Program, and the Watershed Planning and Monitoring Program.

Based on a preliminary review of the information provided, EPD will determine whether trading is feasible given the facility's operations and affected receiving waterbodies. If trading is feasible, the permittee will have the responsibility of identifying potential partners with which to engage in trading. Only once trading is determined to be feasible and potential partners are identified and engaged should the permittee develop a trading plan for EPD's review and approval.

9.2 Documentation of trading in permits

The Watershed Planning and Monitoring Program will issue WLA following standard procedures to meet water quality standards. The NPDES permits based on the WLA will include permit limits to meet water quality standards, monitoring requirements, reporting requirements, the trading plan, and special conditions to document the trade. Trading plans will be incorporated into the NPDES permit and subject to a 30-day public notice period. The number of credits generated or needed will be estimated and documented in the trading plan. The realized number of credits generated or purchased will be based on monitoring data and reported to EPD. Credits cannot be stockpiled; they must be used in the year they are generated. Documentation must clearly identify the year in which a credit was generated.

9.2.1 Point-point trades

If two or more point sources engage in trading, then the facility generating the credit will have a WLA for the traded pollutant larger than the amount to be discharged. This may be the result of the facility having higher levels of treatment than needed to meet the limit or flows lower than the permitted level. The difference between the WLA and the discharged amount would result in generated credits. The credit-generating facility's permit would require monitoring of the discharged flows, traded pollutant, and monthly reporting of the discharge data on their DMRs and/or OMRs.

The facility purchasing the credits would be given effluent limits in their NPDES permit necessary to meet water quality standards. These effluent limits would be lower than the level at which the facility could discharge, provided that the facility purchased sufficient credits to account for that difference between the discharged and the permitted pollutant loads. The credit purchasing facility's permit would require monitoring of the discharged flow, traded pollutant and monthly reporting of the discharge data, and purchased credits on the DMRs and/or OMRs.

9.2.1.1 Bubble permits

If the trade is made between facilities within the same trading area, a bubble permit or watershed permit may be issued. The bubble permit would provide a single overall permit limit for the pollutant being traded. However, the facilities under the bubble permit would also retain individual permits with effluent limits and permit conditions for the pollutant to avoid localized hot spots.

9.2.2 Point-nonpoint trades

If the trade is between nonpoint and point sources, the facility purchasing the credits would be given a WLA, permit limits, and permit requirements like the credit purchasing facility described in 9.2.1.

10.0 Compliance and enforcement

EPD will use standard compliance assistance and enforcement policies and procedures to address water quality violations related to trading. A failure to implement the applicable trading plan and meet the required effluent limits and credit purchases will constitute a permit violation. Compliance will be ascertained through the permittee's DMRs, OMRs, annual reports, and all other reports required by the permit, which must demonstrate that the permittee has secured an adequate credit balance to meet its established effluent limits. The demonstration may include monitoring reports, BMP installation verification documentation, and proof of credit purchase.

1. For point source projects, permittee compliance information must be reported on the DMR and in annual reports. EPD will review DMRs, OMRs, and annual reports as part of standard compliance evaluations of NPDES permittees.
2. For nonpoint source projects, the permittee will report compliance information on DMRs and in annual reports as instructed by the permit to ensure that it has secured an adequate credit balance to meet permit obligations. The NPDES permittee will ensure that each project that is actively generating credits is reviewed at least annually. The review will ensure that the project remains viable and that the project design and maintenance plan has been followed. Records of the review must be maintained by the NPDES permittee and submitted with their annual report.

The Watershed Compliance Program will review all trading-related compliance documents to verify that sufficient credits were purchased to meet the limits as specified in the permits. The review will be conducted on a monthly and quarterly (for seasonal limits) or annual (for final verification) basis.

This review will cover all information generated under the trading plan, including the monitoring plan specific to the trading plan. If the permittee has concerns about the performance of a point source or nonpoint source project prior to the monthly, quarterly, or annual review, the permittee should contact the Watershed Compliance Program and develop a plan to address the performance issue.

As part of routine site inspections, EPD may elect to inspect any component of trading projects listed in a permittee's trading plan. EPD must be granted access to all trading projects for both document review and site inspections. The site inspection may include water quality sampling.

NPDES permittees are responsible for ensuring that they purchase sufficient credits to meet effluent limits. A failure to purchase sufficient credits to meet effluent limits will constitute a permit violation. Any compliance matters or enforcement actions will be taken by EPD with the NPDES permittee consistent with EPD enforcement policies and guidance.

11.0 EPD internal coordination

Three programs within EPD are involved in various stages of the development, implementation, and tracking of trading plans. These programs are the Wastewater Regulatory Program (WRP), the Watershed Planning and Monitoring Program (WPMP), and the Watershed Compliance Program (WCP). The Nonpoint Source Program (NPSP) may provide some technical support during the review of trading plans involving point-nonpoint trades. Due to the NPSP limited role, they do not have a stand-alone section and are instead included in the WRP section.

1. Watershed Planning and Monitoring Program (WPMP)

The WPMP establishes water quality standards (WQS). WQS include specification of designated uses, water quality criteria to protect those designated uses, and an antidegradation policy. WQS require that all waters be free from toxic substances discharged from municipalities, industries, or other sources, that produce turbidity, color, odor, or other objectionable conditions in amounts, concentrations, or combinations that are harmful to humans. WQS also require that all waters be free from turbidity that results in a substantial visual contrast in a water body due to a man-made activity.

The WPMP performs the water quality modeling and analysis necessary to determine appropriate WLAs for wastewater point source discharges to protect the designated use of the receiving waterbody. The WLAs establish the WQBELs found in wastewater NPDES permits. Discharge limits protect instream water quality standards by ensuring that all waters be free from toxic substances discharged from municipalities, industries, or other sources, in amounts, concentrations, or combinations that are harmful to humans and/or aquatic life. A new WLA is required for all NPDES permittees interested in trading.

2. Wastewater Regulatory Program (WRP)

The Wastewater Regulatory Program reviews permit applications and supporting documents and makes recommendations to the EPD Director regarding the issuance of NPDES permits. Permits include effluent limits to ensure compliance with applicable water quality standards.

All NPDES permittees interested in trading must request a new WLA. The WLA provides the WQBELs to which a permittee must adhere, and these limits are reflected in the NPDES

permit. These WQBELs are determined using available monitoring data, flow data, and water quality modeling. They also consider the potential impacts of a discharge under low flow conditions on downstream users. The WLA will be a point of coordination between the WPMP and the WRP. Following the receipt of a Notice of Interest and WLA request, the WRP will schedule an initial meeting with the applicant, the WRP, and the WPMP. Depending on the specifics of the proposed trading plan, the NPSP may participate in the initial meeting to provide feedback and review the proposed nonpoint source BMPs.

All new or expanding domestic and non-domestic discharges require the submission of an antidegradation analysis. This analysis must contain a socioeconomic demonstration and alternatives analysis to justify the necessity of lowering local water quality to accommodate important economic or social development in the area in which the water is located. The report must consider technical feasibility and economic viability for any practicable alternatives considered that may result in degradation of water quality. If a new or expanding discharger is interested in trading, trading plans will be developed to be consistent with antidegradation requirements.

Trading plans will be incorporated into the NPDES permit and subject to a 30-day public notice period. This period allows for input from the public and any entity that may be affected by the proposed trading plan. A public hearing may be held if the EPD Director finds a significant degree of public interest in a draft permit.

3. Watershed Compliance Program (WCP)

After a permit containing a trading plan is issued, the Watershed Compliance Program will review DMRs, OMRs, annual reports, and all other reports required by the permit, to determine wither the permittee has secured an adequate credit balance to meet its established effluent limits. If the permittee has not secured an adequate credit balance to meet its established effluent limits, the WCP will initiate standard escalating enforcement procedures and compliance assistance to return the facility to compliance. The permittee may need to revisit their trading plan and make appropriate changes to ensure sufficient credits are purchased in the future. Review of the trading plan may occur with the WRP, the WCP, and/or the WPMP, depending on the specific situation.

12.0 Trading program evaluation

The goal of water quality trading is to improve water quality and restore Georgia's waterways. To ensure the goal is met, the trading program must undergo routine evaluation as trading plans are implemented and data become available to assess trading efficacy.

Approved trading plans will be reviewed whenever a related NPDES permit is renewed or modified or if there is a change in circumstances that affects elements of the trading plan. The credit buyer and/or seller will maintain records of credit generation and purchases consistent with the trading plan and permit requirements. These records must be available for review by EPD upon request. Review may result in modification of trading areas, adjustment of credits or trading ratios, or other elements of trading plans, consistent with this guidance. The trading plan may also be updated to respond to changing conditions or meet water quality objectives.

Appendix A – Definitions

Best Management Practices (BMPs): In-water or land-based conservation, enhancement, or restoration actions that reduce pollutant loading or create other water quality benefits. BMPs include, but are not limited to, structural and nonstructural controls and practices to manage pollutant loading from nonpoint source runoff, stormwater, or wastewater.

Certification: The formal approval process of the credits generated from a BMP. Certification occurs after project review and is the last step before credits can be used toward a compliance obligation.

Credit: A measured unit of trade that represents the water quality benefit at a location over a specified period, beyond the baseline and after application of trade ratios or other adjustments. Credits must be generated under a trading plan or be included in a permit in the case of point-point trades between point sources owned by the same entity.

Credit generating projects: Projects created for the purpose of generating credits by point or nonpoint sources. Projects cannot be used to meet an existing regulatory obligation.

Credit life: The period from the date a credit becomes usable to the date that the credit is no longer valid. Credit life is not to exceed one year. Projects that are maintained and continue to function per the requirements outlined in the trading plan may continue to generate new credits annually.

Nonpoint Source: Any source of pollution not meeting the definition of point source.

Permittee: For purposes of this guidance the permittee is a holder of a NPDES permit.

Point source: Any discernible, confined and discrete conveyance, including but not limited to any pipe, ditch, channel, tunnel, conduit, well, discrete fissure, container, rolling stock, concentrated animal feeding operation, or vessel or other floating craft, from which pollutants are or may be discharged. This term does not include agricultural stormwater discharges and return flows from irrigated agriculture.

Qualified Professional: An individual with sufficient technical training and experience to provide an accurate assessment of trading project implementation and function. Examples include professional engineers and professional geologists. For green infrastructure BMPs, a qualified professional can also be an individual who passes the National Green Infrastructure Certification Program. A qualified professional may be employed by agencies such as the Natural Resources Conservation Service (NRCS) of the U.S. Department of Agriculture (USDA), the Georgia Soil and Water Conservation Commission (GSWCC) or Soil and Water Conservation Districts, or University Cooperative Extension Service and must have sufficient technical training and experience.

Registry (for credits): A centralized ledger wherein credit information and accompanying documentation is stored to document credit issuance, transfer, and holdings. The registry is established and maintained by the credit buyer and submitted to EPD for review annually.

Trading Area: a geographic area within which credits can be generated, bought, and sold. Generally, trading areas are defined by watershed boundaries of the receiving waterbody but may be otherwise defined if supported by science and approved by EPD.

Trading Baseline: those actions or activities already in place that represent "current conditions" prior to the trading period established in the trading plan and/or those requirements legally mandated by law, ordinance, or regulation. These may include pollutant load reductions, site conditions and/or installation requirements that must be met prior to the generation of credits or trading. The baseline must be defined in the trading plan.

Trading plan: Facility- or permittee-level document that contains the details of credit generation and trading. The trading plan will include the specific details on the trading projects that will be used to implement a trade(s), including their design, implementation, maintenance, monitoring, review, and reporting components. The trading plan is incorporated as an enforceable component into a permit.

Trading Project: Site-specific implementation of a trading plan used to generate credits. May include treatment technologies and BMPs to control pollutant loads from wastewater, stormwater, or nonpoint source runoff.

Trading Ratio: The numeric value used to adjust the credits generated from a trading project, or to adjust the number of credits that a credit user needs to obtain. Trading ratios account for factors such as, but not limited to, in-stream attenuation or uptake of a pollutant between the locations of the generator and the user of credits, different forms or types of a pollutant, risk of BMP failure, and uncertainty in BMP performance or net environmental benefit.

Water Quality Benefit: The water quality improvement that can reasonably be attributable to trading projects installed in a trading area.

Water Quality Trading or Trade: The use of water quality credits generated at one location for compliance with water quality-based requirements at another location within a trading area.

Appendix B – How to develop a trading plan

1. Introduction

Water quality trading may be used by NPDES permittees to demonstrate compliance with WQBELs. The primary mechanism by which trades are authorized is through the development and implementation of a trading plan, which becomes an enforceable part of a NPDES permit. The trading plan must be approved by EPD. If the permitted point sources are owned by the same entity, the permitted point sources will have permits reflecting the specific trade(s) and containing all necessary conditions, and the entity will not be required to develop a trading plan.

Permittees interested in trading must notify EPD of their interest prior to developing a trading plan. EPD strongly encourages permittees interested in developing a trading plan to schedule an initial meeting with the Wastewater Regulatory Program and Watershed Planning and Monitoring Program.

The purpose of this appendix is to provide guidance for NPDES permittees about developing a trading plan. At a minimum, the trading plan must meet the following requirements:

1. *Enforceability*. For trading to occur, a trading plan must be included as an enforceable permit condition. The permittee is legally responsible for complying with all trading plan requirements. A trading plan must be proposed concurrently with the NPDES permit issuance, reissuance, or modification.
2. *Public participation.* The trading plan will be made available for public notice and comment during the NPDES permit public participation process. Any new proposed trades involving new projects or partners that are not covered by an approved trading plan will require permit modification, resulting in public notice and public comment.
3. *Trading plan revision*. An approved trading plan must be reviewed and revised whenever a related NPDES permit is renewed or modified or if there is a change in circumstances that affects elements of the trading plan. Revised trading plans must be submitted to EPD for review and approval. The trading plan may be re-public noticed if it includes material changes to locations or nature of trading projects, the designated use or listing status of the waterbody, trading ratios, or pollutants for which trading will occur. If approved, EPD will incorporate the revised plan into the NPDES permit. The plan may be revised or revoked at any time by the permittee subject to EPD approval.

2. Trading plan contents

The trading plan must include the following components and an explanation of their derivation. Please note that items 1-5 should be discussed in the initial meeting.

1. The types of trades in which the permittee will engage. The trading plan can include point-point, point-nonpoint, and offset projects in any combination provided that the contemplated pollutant reductions are achieved.
2. The trade participants, specifically which entities, such as domestic or industrial NPDES permittees, farms, mitigation banks, conservation organizations, or others, will participate in trades under the trading plan. A trading plan that only includes offset projects might not include trade participants.
3. The pollutant for which trading is being proposed, the number of credits needed to meet the pollutant reduction requirement, the units of credit (e.g., pounds per day), and any credit generation milestones, including a schedule for credit generation.

4. The waterbody the permittee proposes to discharge into and which of the following four categories that waterbody belongs to. The permittee may propose multiple waterbodies.
    a. Water bodies in attainment of their water quality standards (Category 1), both those that are not covered by a TMDL and those that are covered by a TMDL;
    b. Impaired waters pending a TMDL (Categories 5 and 5R);
    c. Impaired waters with a TMDL (Category 4a); and
    d. Waterbodies where a TMDL alternative, an EPD-approved Water Quality Management Plan, or an EPD-approved Watershed Protection Plan are incorporated in a NPDES permit.
5. Trading area, including justification and a description of how the selected trading area is protective of the relevant designated uses. Include a map of the trading area. The trading area must be developed to fully address the risk of localized or downstream water quality impairments or negative impacts.
6. Analysis of the potential for localized impacts including a comparison of effluent data to water quality standards and considerations of parameters that may impact biological responses such as pH, temperature, turbidity, dissolved oxygen, conductivity, ammonia or chlorophyll-a. The trading plan must describe the measures and monitoring that will be performed to ensure there are no localized impacts.
7. Trading baseline, including identification of any applicable requirements that apply within the trading area and must be implemented to achieve baseline requirements. The trading baseline must be established in consultation with EPD.
8. Trading ratios, including description of the basis and assumptions supporting each trading ratio. EPD will consider uncertainty, delivery, and equivalency ratios. Other ratios can be proposed on a case-by-case basis for EPD review and approval.
9. A description of all allowable trading projects, including quality and performance standards, and if necessary, additional criteria for project site design, maintenance, and stewardship.
10. Information on the life of credits to be generated by those activities, including when credits become valid, how long credits remain valid, and renewability of credits. Credit life may not exceed one year and would require renewal at least annually.
11. If the proposed trading plan includes BMPs that have not yet been installed or implemented, the trading plan must include a description of how the STEP-L model was used to estimate pollutant load reductions for the planned trading projects. The trading plan must include the assumptions and inputs used to estimate the pollutant load reductions and the methods used to account for the trading baseline. Please note that this estimate is for planning purposes only. Credits must be quantified through monitoring.
12. Description of how credits will be verified, including specific descriptions of effluent monitoring for point source trades and BMP, instream or in-lake monitoring for nonpoint source trading projects.
13. Monitoring Plan. The monitoring plan will include the locations to be sampled to verify the pollutant reduction, the parameters to be sampled, the methodology for sample collection, and analysis to be performed. The sampling must comply with requirements in 40 CFR 136.
14. Reporting requirements, including parameters to be monitored, monitoring frequency, type of sample required, physical form of the report, and any other trading-related monitoring that may be required. Monitoring results shall be included, at a minimum, in annual reports to be submitted by the permittee to EPD.
15. Mechanisms to mitigate risk of insufficient credit generation, including, but not limited to, alternative sources of credits and specific contract terms between trading partners.

16. Process for trading project review and certification, including the documentation that will be provided and the name and credentials of the qualified professional that will conduct the review and certification.
17. Procedures to ensure continued trading project function, including a schedule for the on-going review of trading project implementation and performance, and the qualified professional that will perform the review, review frequency and content, and the standards by which performance is judged (e.g., inspection or review checklist). Any operation and maintenance schedules and documentation must be provided to EPD.
18. Credit tracking procedures, including characteristics of the credit registry. To ensure transparency, credit tracking procedures must outline basic elements of public information, such as project location, project developer/reviewer contact information, and project design.
19. A description of how the permittee will use monitoring and other information to inform trading projects and under what circumstances (adaptive management).

3. Eligible credits

For projects that have not yet been installed or implement, the applicant may use the STEP-L model as a planning tool to estimate pollutant load reductions. Credits will be generated from the real pollutant load reductions and not from the estimates generated by the STEP-L model. These estimates will be verified by instream, in-lake, or in-field monitoring after project implementation. For all quantification methods, the trading plan must articulate potential sources of uncertainty and how those uncertainties will be managed and mitigated, including necessary adjustments or ratios that will be applied in credit calculation. Eligible credits must meet the following requirements:

1. Credits must be generated within the trading area of an approved trading plan.
2. Credits must be characterized by an amount of a pollutant per unit of time.
3. A credit cannot be used to meet a regulatory obligation by more than one entity at any given time, nor can the credit be used to meet more than one regulatory obligation by one entity: no double counting.
4. For waterbodies that require nonpoint source load reductions, trading projects installed and maintained by nonpoint sources will generate credits at a ratio, which will be calculated based on the LA reductions necessary to meet the TMDL. The rest may be available for trading: no double counting.
5. Credits must be generated by trading projects that undergo project review, be in place, and produce water quality benefits during the same time period defined for compliance in an NPDES permit.
6. Credits can only be used for compliance purposes as long as pollution controls or practices are maintained and annual project review confirms that they are functioning as expected.
7. Banking is not allowed. Credits cannot be used outside of their approved credit life. However, projects that are maintained and continue to function per the requirements outlined in the trading plan may generate new credits annually.
8. Credits are considered used after they are applied toward a permit obligation. Credits must be retired upon use, cancellation by EPD or the permittee, or at the end of the credit life, whichever comes first.
9. Credits cannot be generated by projects implemented prior to the trading baseline.
10. If performance standards or the conditions of the trading plan are not met, credits will be adjusted, suspended, or cancelled by the permittee or EPD. EPD will use standard compliance assistance and enforcement policies and procedures to address water quality violations related to trading.

4. Trading project review, certification, and tracking

All new trading projects must undergo review and verification before credits are certified. This initial review will verify that each project was installed correctly and that all expected BMPs are in place. This must include a site visit by the qualified professional. After credits are certified, all trading projects must undergo periodic review (at least annually) by a qualified professional to ensure that the projects are maintained and functional.

Nonpoint sources wishing to generate credits should follow the credit-generation procedures established in this guidance and ensure consistency with the applicable trading plan. The arrangement will be reviewed by qualified professionals. The permittee must maintain records of the confirmation and review process, which may be periodically reviewed by EPD. This documentation may include, as applicable:

1. As-Built (post-construction) project design and management plan,
2. Final project protection documentation (e.g., lease, easement, etc.), and
3. Documentation of project stewardship (e.g., stewardship plan) or documentation of project operation and maintenance (e.g., O&M log).

If a review of a point source or nonpoint source trading project identifies a failure to meet performance standards, the permittee must notify EPD within one week (7 days) of becoming aware of the failure. The permittee will have 60 days from the failure event to implement a plan for remedy, including performance benchmarks and the conditions under which credits will be suspended or cancelled.

5. Project registry

Credit sellers and buyers must maintain valid documentation of eligibility and accurate credit quantification. The permittee will maintain a registry tracking credit trades and status. Both active and inactive trades will be included in the registry.

The registry must include dates, trading participants, pollutant loads traded, the location of projects, and other items deemed necessary to inform trading. It is encouraged, but not required, to contain monetary information to facilitate market participation.

6. Compliance and enforcement

The permittee must submit an annual report to EPD's Watershed Compliance Program that describes trading plan implementation and pollutant load reductions. The annual report will be submitted electronically and readily available to the public. The annual report must provide information on trading plan elements. EPD will provide an annual report form, which will include:

1. Description of each trading project implemented;
2. The location of active trading projects (including a map), BMPs used, and confirmation of site eligibility to generate credits;
3. The quantification method and the quantity of credits generated from each trading project, including the trading ratios used;
4. Results of trading project monitoring;
5. Summary of trading plan implementation including the total quantity of credits generated and used in the current year and the total generated to date;
6. Adaptive management measures implemented under the trading plan, if applicable; and
7. The project registry.

Failure to submit a report by the date specified in the permit or failure to adequately address any of the elements consistent with the permit and the trading plan will constitute a violation of the NPDES permit and may result in enforcement action.

Appendix C: Template NPDES Permit Language

Example 1 – Point Source to Nonpoint Source

B. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

Discharge to Mill Creek - Outfall #001 (XX.XXXXXXº, -XX.XXXXXXº):

a. The discharge from the water pollution control plant shall be limited and monitored by the permittee as specified below:

Parameters	Discharge limitations in mg/L (kg/day) unless otherwise specified		Monitoring Requirements		
	Monthly Average	Weekly Average	Measurement Frequency	Sample Type	Sample Location
Flow (MGD)	15.0	18.75	Seven Days/Week	Continuous Recording	Effluent
Carbonaceous Five-Day Biochemical Oxygen Demand (1)	2.9 (165)	4.4 (206)	Five Days/Week	Composite	Influent & Effluent
Total Suspended Solids (1)	5 (284)	7.5 (355)	Five Days/Week	Composite	Influent & Effluent
Ammonia, as N (2)	0.5 (28.4)	0.75 (35.5)	Five Days/Week	Composite	Effluent
Total Phosphorus, as P (3) (4)			Five Days/Week	Composite	Effluent
Trading Plan Implemented (5)	0.5 (20)	0.75 (25)			
Trading Plan No Longer Implemented(6)	0.25 (10)	0.38(12.5)			
Fecal Coliform Bacteria (#/100 mL)	23	46	Three Days/Week	Grab	Effluent
Escherichia Coli (CFU/100mL)	126	252	Three Days/Week	Grab	Effluent

(1) Numeric limits only apply to the effluent.

(2) Ammonia, organic nitrogen, nitrate-nitrite, and total Kjeldahl nitrogen (TKN) must be analyzed or calculated from the same sample. Organic nitrogen, as N = TKN – ammonia, as N.

(3) Total phosphorus and orthophosphate must be analyzed from the same sample.

(4) The permittee must use the appropriate No Data Indicator (NODI) code on the Discharge Monitoring Report (DMR) to indicate which limit set is not applicable.

(5) The effluent limitations are in accordance with the total phosphorus credit as identified in the trading plan and are only applicable when the trading plan is in effect.

Refer to Part XXX TRADING PLAN REPORTING REQUIREMENTS

(6) These effluent limitations apply if the trading plan is no longer being implemented. The trading plan may be terminated at any time by the permittee, OR by EPD based on the results of instream monitoring or where approved conditions in the Plan are not being met or implemented by the permittee and/or its trading partner. This is the WQBEL determined in the WLA.

XX TRADING PLAN REPORTING REQUIREMENTS

By January 31st of each year, the permittee is to submit an annual report that summarizes the activities/BMPS implemented during the previous calendar year to meet the conditions in the approved trading plan.

The report must be submitted to EPD at the following address or electronically through the GEOS portal:

Watershed Compliance Program

2 Martin Luther King Jr Dr

Suite 1152 East

Atlanta, GA 30354

Example 2 – Point Source to Point Source

Facility A – Generating TP Credits:

B. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

Discharge to Mill Creek - Outfall #001 (XX.XXXXXXº, -XX.XXXXXXº):

a. The discharge from the water pollution control plant shall be limited and monitored by the permittee as specified below:

Parameters	Discharge limitations in mg/L (kg/day) unless otherwise specified		Monitoring Requirements		
	Monthly Average	Weekly Average	Measurement Frequency	Sample Type	Sample Location
Flow (MGD)	15.0	18.75	Seven Days/Week	Continuous Recording	Effluent
Carbonaceous Five-Day Biochemical Oxygen Demand (1)	2.9 (165)	4.4 (206)	Five Days/Week	Composite	Influent & Effluent
Total Suspended Solids (1)	5 (284)	7.5 (355)	Five Days/Week	Composite	Influent & Effluent
Ammonia, as N (2)	0.5 (28.4)	0.75 (35.5)	Five Days/Week	Composite	Effluent
Total Phosphorus, as P (3) (4)			Five Days/Week	Composite	Effluent
Trading Plan Implemented (5)	0.25 (10)	0.38(12.5)			
Trading Plan No Longer Implemented (6)	0.5 (20)	0.75(25)			
Fecal Coliform Bacteria (#/100 mL)	23	46	Three Days/Week	Grab	Effluent
Escherichia Coli (CFU/100mL)	126	252	Three Days/Week	Grab	Effluent

(1) Numeric limits only apply to the effluent.

(2) Ammonia, organic nitrogen, nitrate-nitrite, and total Kjeldahl nitrogen (TKN) must be analyzed or calculated from the same sample. Organic nitrogen, as N = TKN – ammonia, as N.

(3) Total phosphorus and orthophosphate must be analyzed from the same sample.

(4) The permittee must use the appropriate No Data Indicator (NODI) code on the Discharge Monitoring Report (DMR) to indicate which limit set is not applicable.

(5) The effluent limitations are in accordance with the trading plan between the permittee and Trading Partner Name - Facility B WPCP - NPDES Permit No. GAXXXXXX and are only applicable when the trading plan is being implemented.

(6) These effluent limitations apply if the trading plan is no longer in effect. The trading plan may be terminated at any time by the permittee OR by EPD if water quality modeling and/or instream monitoring indicates the need for more stringent limits. EPD may also terminate the trading plan if approved conditions in the plan are not being met or implemented by the permittee and/or its trading partner.

Facility B – Purchasing TP Credits:

B. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

Discharge to Mill Creek - Outfall #001 (XX.XXXXXXº, -XX.XXXXXXº):

b. The discharge from the water pollution control plant shall be limited and monitored by the permittee as specified below:

Parameters	Discharge limitations in mg/L (kg/day) unless otherwise specified		Monitoring Requirements			
	Monthly Average	Weekly Average	Measurement Frequency	Sample Type	Sample Location	
Flow (MGD)	15.0	18.75	Seven Days/Week		Continuous Recording	Effluent
Carbonaceous Five-Day Biochemical Oxygen Demand (1)	2.9 (165)	4.4 (206)	Five Days/Week		Composite	Influent & Effluent
Total Suspended Solids (1)	5 (284)	7.5 (355)	Five Days/Week		Composite	Influent & Effluent
Ammonia, as N (2)	0.5 (28.4)	0.75 (35.5)	Five Days/Week		Composite	Effluent
Total Phosphorus, as P (3) (4)			Five Days/Week		Composite	Effluent
Trading Plan Implemented (5)	0.5 (20)	0.75 (25)				
Trading Plan No Longer Implemented(6)	0.25 (10)	0.38(12.5)				
Fecal Coliform Bacteria (#/100 mL)	23	46	Three Days/Week		Grab	Effluent
Escherichia Coli (CFU/100mL)	126	252	Three Days/Week		Grab	Effluent

(1) Numeric limits only apply to the effluent.

(2) Ammonia, organic nitrogen, nitrate-nitrite, and total Kjeldahl nitrogen (TKN) must be analyzed or calculated from the same sample. Organic nitrogen, as N = TKN – ammonia, as N.

(3) Total phosphorus and orthophosphate must be analyzed from the same sample.

(4) The permittee must use the appropriate No Data Indicator (NODI) code on the Discharge Monitoring Report (DMR) to indicate which limit set is not applicable.

(5) The effluent limitations are in accordance with the trading plan between the permittee and Trading Partner Name - Facility A WPCP - NPDES Permit No. GAXXXXXX and are only applicable when the trading plan is in effect.

(6) These effluent limitations apply if the trading plan is no longer in effect. The trading plan may be terminated at any time by the permittee OR by EPD if water quality modeling and/or instream monitoring indicates the need for more stringent limits. EPD may also terminate the trading plan if approved conditions in the plan are not being met or implemented by the permittee and/or its trading partner.

(Effluent limitations continued on the next page)

PART I

A.1. Effluent Limitations and Monitoring Requirements

During the period specified on the first page of this permit, the permittee is authorized to discharge from outfall number 001.

Such discharges shall be limited and monitored by the permittee as specified below:

Effluent Characteristics (Units)	Discharge Limitations				Monitoring Requirements		
	Mass Based (lbs/day)		Concentration Based (mg/L)		Measurement Frequency	Sample Type	Sample Location
	Daily Avg.	Daily Max.	Daily Avg.	Daily Max.			
Flow (MGD)	Report	Report			Continuous		Final Effluent
BOD_5			30	45	1/Month	Grab	Final Effluent
Total Suspended Solids [1]		See footnote 1	30	45	1/Month	Calculated	Final Effluent
Total Phosphorus			1.0	1.5	1/Month	Grab	Final Effluent
Fecal Coliform (MPN/100 mL)			200	400	1/Month	Grab	Final Effluent

[1] The permittee must meet, through treatment or trading, a mass-based effluent limit for total suspended solids of XX lbs/day [baseline]. If this effluent limitation is met through trading, the permittee must purchase credits from authorized sellers in an amount sufficient to compensate for the discharge of total suspended solids in excess of the XX lbs/day [baseline], but at no time shall the maximum mass discharge of total suspended solids during the month exceed the minimum control level of XX lbs/day. Thus, the maximum discharge of total suspended solids to be offset through credit purchases is XX lbs/day (minimum control – baseline).

If XX lbs/day [credits needed calculated above] of credits are purchased in accordance with the trading plan approved on Date XX, XXXX, the permittee's daily maximum discharge of total suspended solids shall not exceed **XX lbs/day daily maximum [minimum control]**.

If credits are not purchased, the permittee's daily maximum discharge of total suspended solids shall not exceed **XX lbs/day daily maximum [baseline]**.

PART I

A.1. Effluent Limitations and Monitoring Requirements

During the period specified on the first page of this permit, the permittee is authorized to discharge from outfall number 001.

Such discharges shall be limited and monitored by the permittee as specified below:

Effluent Characteristics (Units)	Discharge Limitations				Monitoring Requirements		
	Mass Based (lbs/day)		Concentration Based (mg/L)		Measurement Frequency	Sample Type	Sample Location
	Daily Avg.	Daily Max.	Daily Avg.	Daily Max.			
Flow (MGD)	Report	Report			Continuous		Final Effluent
BOD_5			30	45	1/Month	Grab	Final Effluent
Total Suspended Solids[1]	See footnote 1	See footnote 1	30	45	1/Month	Grab	Final Effluent
Total Phosphorus			1.0	1.5	1/Month	Grab	Final Effluent
Fecal Coliform (MPN/100 mL)			200	400	1/Month	Grab	Final Effluent

[1] The permittee must meet a mass-based baseline effluent limitation for total suspended solids of XX lbs/day daily maximum. The permittee is authorized by the trading plan approved on Date XX, XXXX to further treat its discharge, remove additional loading of toal suspended solids, and generate and sell credits to an authorized credit buyer, Company Name (GAXXXXXXX). If the permittee sells such credits, the baseline daily maximum effluent limitation of XX lbs/day daily maximum no longer applies and the trading limit for total suspended solids shall apply instead. The trading limitation will be calculated as follows:

$TSS_{(trading\ limit)} = TSS_{(baseline\ limit)} - Quantity\ sold$; where:

$TSS_{(baseline\ limit)}$ is the mass-based effluent limit for total suspended solids of XX lbs/day; and Quantity sold is the quantity of total suspended solids traded in lbs/day.

Both dischargers shall monitor effluent total suspended solids a minimum of once per month at existing discharge monitoring locations established in each facility's NPDES permit. Each permittee shall determine the daily maximum mass loading based on actual monthly flow.

PART III

C. SPECIAL CONDITIONS

1. If EPD or the permittee determines a trading project is not producing the expected reduction, the credit for that time period may be nullified or reduced, and the permittee's effective discharge adjusted accordingly.

2. The permittee will report compliance information on DMRs and in annual reports as instructed by the permit to ensure that it has secured an adequate credit balance to meet permit obligations. The NPDES permittee shall ensure that a review of each project that is actively generating credits is conducted at least annually. The review shall ensure that the project remains viable, and that the project design and maintenance plan has been followed. Records of the review shall be maintained by the NPDES permittee.

3. EPD shall be granted access to inspect any trading project including both document review and site visits. The site visit may include water quality sampling.