



GEORGIA
DEPARTMENT OF NATURAL RESOURCES

ENVIRONMENTAL PROTECTION DIVISION

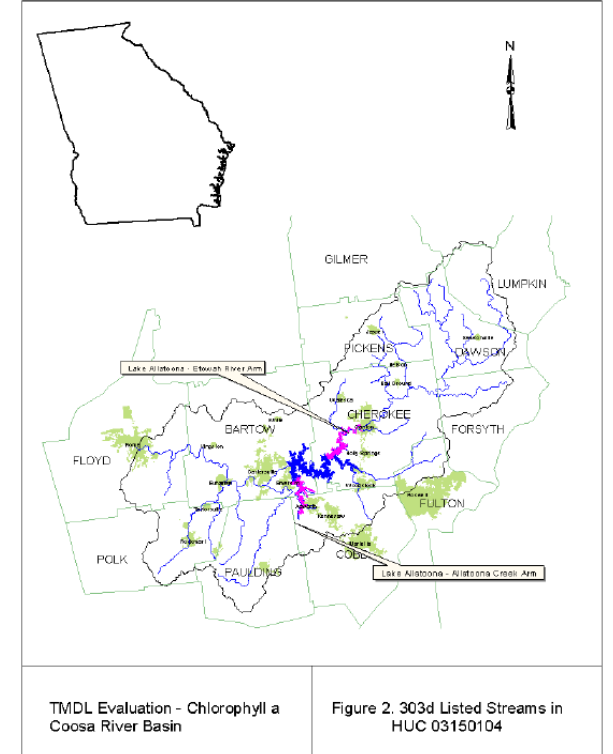
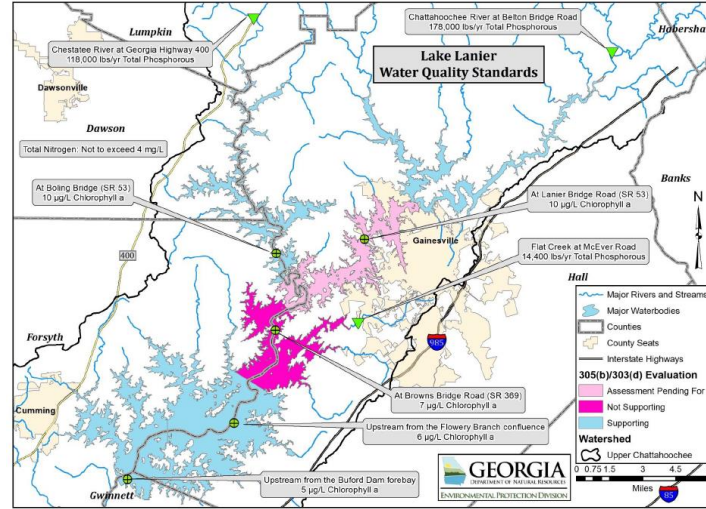
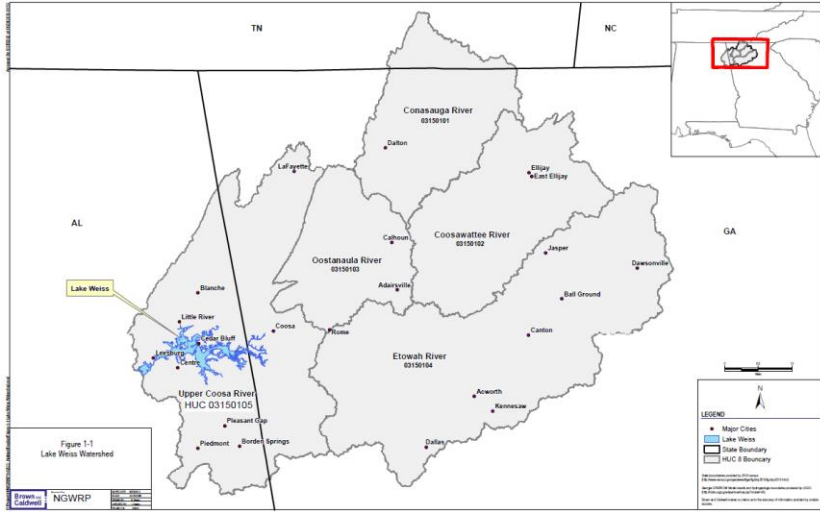
Water Quality Trading Draft Guidance

Meeting 2: Appendices B and C
August 19, 2021





WATER QUALITY TRADING



Savannah-Upper Ogeechee

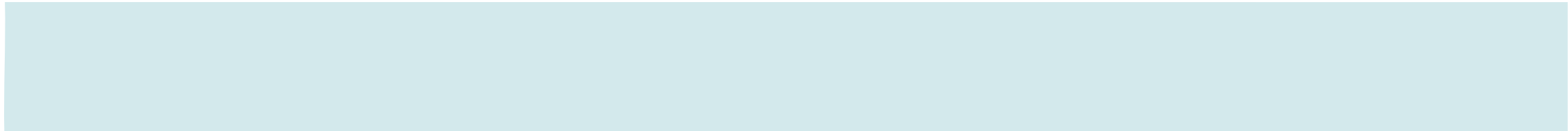
Regional Water Plan

Coosa-North Georgia

Regional Water Plan

Middle Ocmulgee

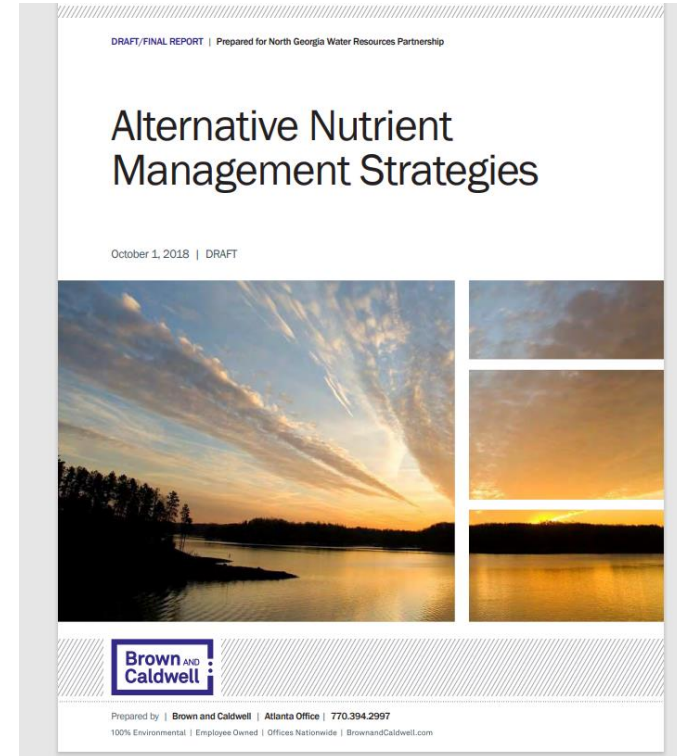
Regional Water Plan





WATER QUALITY TRADING BACKGROUND

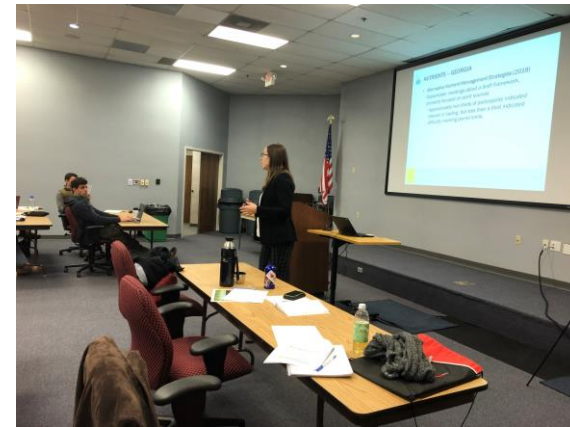
- 319(h) and state seed grant funded projects:
 - 2013 – Development of a Nutrient Trading Framework in the Coosa River Basin: A Feasibility Study of Nutrient Trading in Support of Lake Weiss TMDL
 - 2015 – Model Nutrient Monitoring and Implementation Plan for Soque River Watershed and Coosa-North Georgia Water Council
 - 2016 – Pilot Nutrient Trading Monitoring Project (City of Calhoun)
 - 2017 – Alternative Nutrient Permitting Strategy Development for the Coosa-North Georgia and the Savannah-Upper Ogeechee Water Planning Regions





SUMMARY OF THE 2019 TRADING STAKEHOLDER WORKSHOPS

- September 20, 2019, GAEPD published a Water Quality Trading Fact Sheet and announced a series of three stakeholder workshops to discuss the development of a nutrient trading framework.
- GA EPD held three stakeholder workshops: one in Dry Branch on October 16, one in Atlanta on October 23, and one in Calhoun on October 28.
- Workshop format:
 - First half: introductions, a preliminary survey to gauge baseline knowledge and perspective, and a short presentation about water quality trading.
 - Second half: small group discussion, large group discussion, and final comments and questions.





STAKEHOLDER WORKSHOP CONCLUSIONS

- Both credit producers and credit buyers expressed concerns and cautious optimism on the concept of trading.
- Key areas of concern included:
 - Preventing hot spots,
 - Verifying BMP benefits (monitoring versus modeling),
 - Ensuring equity in who bears the costs,
 - Engaging stakeholders throughout the framework development process, and
 - Building a workable system, one that is simple to use while still protecting water quality.
- Following these workshops, EPD pulled together an internal workgroup to develop a full draft guidance document building on the previous 319(h) and seed grant work, TMDLs, and stakeholder workshops.



STAKEHOLDER MEETINGS

- **Thursday, July 22, 2021, from 1 to 3 P.M.**

This meeting will serve as the initial kick-off meeting and will include a summary of trading-related projects and the 2019 stakeholder process. The meeting will also include a targeted discussion of sections 1-5 of the draft document, which hold much of the framework for water quality trading.

- **Thursday, August 19, 2021, from 1 to 3 P.M.**

This meeting will focus on the implementation specifics (trading plan development and permit language) related to the framework outlined in sections 1-5 of the draft document. These implementation specifics are housed in Appendices B and C.

- **Thursday, September 16, 2021, from 1 to 3 P.M.**

This meeting will focus on a discussion of sections 6-11, which are primarily concerned with credit generation, tracking, and compliance and enforcement.

- **Thursday, October 14, 2021, from 1 to 3 P.M.**

This meeting will serve as a wrap-up discussion summarizing the stakeholder process and feedback received by EPD, answering open questions, closing out any items that required additional information, and describing next steps.



SUMMARY OF PREVIOUS MEETING

- **Water quality trading background**
 - Water quality standards and TMDLs
 - Water quality trading nation-wide
 - Previous work in Georgia
- **Sections 1-5**
 - Trading Framework
 - Point-point; point-nonpoint; offsets
 - Requirements, such as no double counting, no local adverse impacts
 - WQBELs
 - Conditions for Eligible Trades
 - Who can trade, what can be traded, and where can it be traded
 - Baselines and projects



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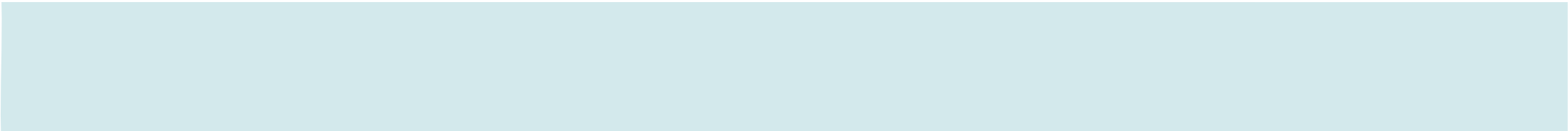
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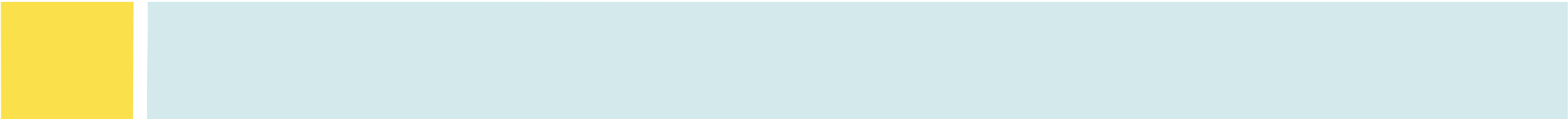
We are here.





APPENDIX B

How to develop a trading plan





PROCESS

The permittee determines that trading is an option they want to pursue. The permittee identifies potential trading partners, trading projects, and trading area.

The permittee contacts EPD to meet to discuss trading.

The permittee and EPD meet.

EPD determines the baseline and approves the proposed trading area. EPD provides this information to the permittee.

The permittee completes the Trading Plan and submits it as part of the permitting process.



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.



1. INTRODUCTION

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.





2. TRADING PLAN CONTENTS

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), with or without 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, a WQMP, or a WPP 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.



2. TRADING PLAN CONTENTS

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.



2. TRADING PLAN CONTENTS

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.**



2. TRADING PLAN CONTENTS

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.



2. TRADING PLAN CONTENTS

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 ongoing 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 implemented**, 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.



3. ELIGIBLE CREDITS

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**.



3. ELIGIBLE CREDITS

Eligible credits must meet the following requirements:

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.**



4. TRADING PROJECT REVIEW, CERTIFICATION, & 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.



4. TRADING PROJECT REVIEW, CERTIFICATION, & TRACKING

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.



6. COMPLIANCE AND ENFORCEMENT

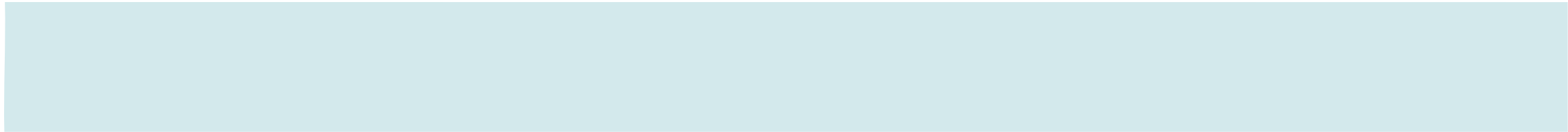
EPD will provide an annual report form, which will include:

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.



6. COMPLIANCE AND ENFORCEMENT

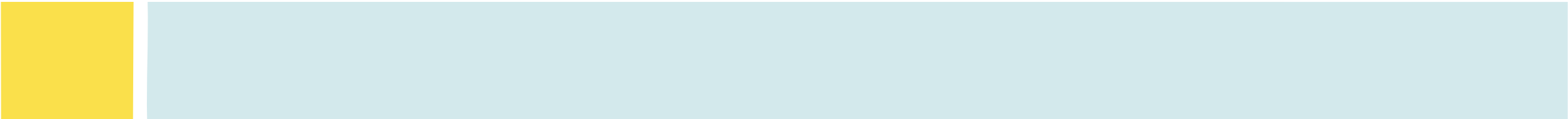
Failure to submit a report by the date specified in the permit or failure to adequately address any of the elements consistent with the permit and the trading plan will constitute a **violation of the NPDES permit** and may result in enforcement action.





APPENDIX C

Template NPDES Permit Language





CREDIT GENERATION PROCESS

EPD completes the draft permit, and posts it for public comment, including the Trading Plan.

EPD issues the permit, including Trading Plan.

For existing BMPs, the credits start getting generated annually for the life of the project once the permit is effective. Credits can be used immediately.

For new BMPs, credits cannot be generated until the trading project is complete and pollutant reductions have been measured.



POINT SOURCE BUYING FROM NONPOINT SOURCE

B. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

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

- 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.



POINT SOURCE BUYING FROM NONPOINT SOURCE

- (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



POINT SOURCE – CREDIT GENERATOR

B. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

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POINT SOURCE – CREDIT GENERATOR

- (5) The effluent limitations are in accordance with the trading plan between the permittee and Trading Partner Name - Facility B WPCP - NPDES Permit No. GAXXXXXXX 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.



POINT SOURCE – CREDIT BUYER

B. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

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Total Phosphorus, as P ^{(3) (4)}			Five Days/Week	Composite	Effluent
Trading Plan Implemented ⁽⁵⁾	0.5 (20)	0.75 (25)			
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POINT SOURCE – CREDIT BUYER

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(Effluent limitations continued on the next page)



QUESTIONS AND DISCUSSION





NEXT MEETINGS

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CONTACT INFORMATION

Questions or comments

Anna Truszczynski

Anna.Truszczynski@dnr.ga.gov

470-384-7440

Written comments may be **sent to EPDComments@dnr.ga.gov** or mailed to Environmental Protection Division, Watershed Protection Branch, Suite 1152 East Tower, 2 Martin Luther King, Jr., Dr., Atlanta, GA 30334.

If you choose to e-mail your comments, please include the words “**Water Quality Trading**” in the subject line to help ensure that your comments will be forwarded to the correct staff.