

JOINT REGIONAL AGREEMENT ON WATER QUALITY TRADING

Reviewers Guide for Discussion Draft Outline of Tier 2 Components

Following is a discussion draft outline of the key trading components intended to inform Tier 2 of the Joint Regional Agreement. The discussion draft provides definitions and context for the shared standard operating procedures for water quality trading that will be developed among the three states and US EPA Region 10.

The outline is organized into ten sections and each section contains a series of key program components. The program components are defined in the outline, and include several examples to help illustrate their role in water quality trading. Each component is likely to contain one or several subcomponents, which will organize the standard operating procedures and expand upon various elements of the component. The content for each component and subcomponent will be developed through the upcoming series of Interagency Workshops. A list of draft definitions for frequently used and/or difficult-to-define terms in this outline is also provided as an appendix.

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To help inform the agenda, materials, and discussion for the first Interagency Workshop, please review this discussion draft outline, and consider the following questions:

- Are all the components of a water quality trading framework represented?
- Are the listed components accurately defined? What content would you change or edit?
- Is the organization of the sections and components intuitive, or are there other ways of dividing content that would be more logical to you?

Written comments and/or tracked changes, as appropriate, are requested by **Friday, 3/22/2013**.

We'll be incorporating your comments into the agenda and briefing materials for the first Interagency Workshop, April 9-10. Please direct feedback, questions, and comments to:

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Outline of Tier 2 Components - Discussion Draft

Introduction – The introduction will provide context for Tier 2 and lay out the core guiding principles of water quality trading, as articulated in the *Discussion Draft on Guiding Principles of Water Quality Trading*. [Please also provide comments/feedback on this introductory document]

I. Eligibility for Water Quality Trading

1. **Eligible regulatory trading environments:** The regulatory programs under which trading may occur (e.g. trading in TMDL and pre-TMDL environments (with appropriate permits), in a CWA section 401 certification, in a stormwater environment, or as part of a CWA variance) and the conditions under which such trades are encouraged, discouraged, or not permitted.
2. **Eligible credit buyers:** The individuals and entities that are eligible to obtain credits and the conditions that must be met before they may do so. There are three types of trades described in USEPA's Trading Policy: point-point trades, point-nonpoint trades, and nonpoint-nonpoint trades. The focus of this process has been point sources obtaining credits from nonpoint and point sources to meet water quality-based effluent limits.
3. **Trading area:** The areas in which buyers and sellers can conduct trades with each other, typically upstream of the point of compliance, within the same watershed/TMDL area.
4. **Eligible pollutants for water quality trading:** Pollutants and their default units of trade. Units of trade can be tied to the TMDL and/or set as defaults – e.g. Total Nitrogen (lbs/year, season, or month), Total Phosphorous (lbs/year, season, or month), Oxygen Demanding Parameters (mg/L), Sediment and TSS (lbs/year, season, or month), Temperature (kilocalories/day), Toxics (generally ineligible).
5. **Eligible credit-generating actions:** The set of activities (e.g. BMPs) identified to improve water quality, counteract environmental damage from other projects, or otherwise create credits (e.g. riparian shade creation and flow augmentation for temperature; BMPs and conservation actions for nutrients, sediment and BOD).
6. **Other regulatory requirements for eligibility:** Additional conditions that must be met for a trade to occur based on existing regulatory requirements, including compliance with near-field impact requirements (to prevent hot spots), anti-backsliding (effluent limits, wasteload allocations and water quality standards cannot become less stringent than previously achieved), anti-degradation (de minimis discharges and net pollutant reduction in a watershed).

Comment [CS1]: I assume this is where it will be mentioned that credits cannot be used to meet technology-based limits, and that the buyer must be in good compliance with their NPDES permit.

Comment [CS2]: Compliance with a point source limit or with the TMDL's point of concern? Either, watersheds such as the Lower Boise River have been significantly altered with irrigation canals and drains so that even the assumption of upstream reductions being better is not necessarily valid.

Comment [CS3]: This section should be phrased to tee up a discussion of how a TMDL should express the WLA and LA to support trading. The unit of trade must be consistent with the TMDL, or at least with how the WLA is expressed, since that is what the permit writer will be using, if possible. How the Load Allocation is expressed is also important to determine what can be done to create a credit (e.g., % shade coverage isn't useful for trading but is how TMDL writers like to express temperature obligations because it's easy to implement and measure.

Comment [CS4]: This section is focused more on what are the conditions under which trading may occur, to ensure compliance with the CWA, not the eligibility of the source as in #2.

Comment [CS5]: Not sure what you mean to imply the discussion will be here on effluent limits, except that perhaps some upper boundary will need to be set in the permit to prevent hot spots, with that upper limit superceding any permit limit adjusted by credit purchases.

Deleted: account for

Deleted: risk and uncertainty,

II. Overall Trading Program Requirements

1. **Trading ratio:** Trading ratios are multipliers that may be applied to a regulated entity's compliance obligation as a way to ensure environmental equivalency of trades, including the following: watershed processes, and restorative processes that take time to complete. Risk and uncertainty may also be addressed with ratios or other means, such as credit reserve pools. Trading ratios may be set at default levels, and/or adjusted according to site-, and program-specific factors.

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2. Reserve pool: A portion of credits could be held in “reserve” to account for potential project failure and the risk of unanticipated natural events. This section will define how a pool might work, including when credits can be contributed, and who manages the reserve pool.
3. Regulatory baseline: The minimum level of conservation or pollution reductions that must be in place (as required by other laws and regulations) before additional practices or reductions may be eligible for trading.
4. Additionality: Only the portion of environmental benefit generated from project sites that is above regulatory baseline and the normal operating procedures of a project site can be translated into credits that can be sold to regulated entities.

Comment [CS6]: Indicate that this is an option that the regional framework could require or make an optional element – needs decision from the workgroup.

III. Pre-project Site Conditions Assessment

1. Pre-project site conditions assessment: The process by which project developers document project site practices and characteristics before practices are implemented in order to calculate the load of eligible pollutants being produced at the site.
2. Initial estimate of project site future conditions: Project developers may also estimate future project site conditions at this juncture for the purpose of determining project site feasibility.

Comment [CS7]: This is written from the temperature credit perspective. I am not sure it will work the same way with nutrients and BMPs that farmers implement. Therefore, we need another way to describe what type of assessment needs to be done before a BMP can be used to generate a credit. It could be related to a SCD or NRCS contract process instead.

IV. Project Implementation and Quality Assurance Standards

1. Site Screening/Validation: A mandatory or optional process through which project developers provide preliminary documentation of project eligibility and receive a confirmation or denial that the proposed project is eligible to generate credits. If a project proposal does not meet quality standards or protocols, the project developer could be notified and offered an opportunity to correct the project plan deficiencies.
2. Project implementation quality assurance: The types of quality standards (e.g. NRCS design criteria, DEQ’s recommendations for riparian planting) and reference conditions that projects must conform to.
3. Consistency with other laws: Requirements for compliance with all applicable federal, state, and local laws, and with appropriate permitting.
4. Project management plans: Components for a project site management plan accompanying each credit-generating project. Project site management plans set restoration goals and milestones for ensuring that those goals are achieved in the future.
5. Project site stewardship protection: Defines the required protections for the project site (e.g. legally enforceable over the life of the credit, and running with the land, such as leases, easements, performance bonds, insurance, etc.).

Comment [CS8]: Again, rephrase to include a nutrient – BMP implementation perspective. This would be specific maintenance requirements and performance standards that would need to be verified, documented and/or reported.

V. Credit Quantification at Individual Project Sites

1. As-built project site conditions assessment: The process through which project developers document project site practices and characteristics *after* practices are implemented. This is used to record project implementation and contributes to modeling future project site conditions.

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2. Future project site conditions modeling: The process for project developers to model pollutant load for the anticipated future conditions at the project site.
3. Regulatory baseline: Mechanism(s) for project developers to account for regulatory baseline in the calculation of available credits.
4. Calculate credits: Calculation of available credits based on pollutant loads associated with the pre-project condition, anticipated future condition, and the regulatory baseline. For example, credits generated from a project site = (As-Built Future Conditions Load – Pre-project Conditions Load) -/* (Regulatory Baseline).

Comment [CS9]: I'm not quite sure how this one works, especially for nutrient related BMPs.

Comment [CS10]: I think temperature credits will be calculated in a different manner than nutrient related BMPs, where irrigation and seasonal influences will be important to capture in the equation. Also direct monitoring for some practices could be an option. This write-up doesn't seem to cover that.

Comment [CS11]: Again, nutrient BMPs will have different types of credit life than temperature credits. We need to talk about the differences and what that means for the accounting system.

Comment [CS12]: This could be a theoretical discussion of whether or not actual property rights are being created – and I'm not sure EPA can provide enough certainty that these rights will be recognized, since they really are only valid if EPA continues to allow them to be used to meet NPDES limits.

Comment [CS13]: I assume what is intended is a discussion of what types of credits from other programs can be used in water quality trading - and I can't think of any that would qualify. Other programs need to decide for themselves what is double-counting.

VI. Credit Characteristics

1. Credit life: Defines when credits become valid (e.g. after third-party verification and upon public registration) and remain valid for use by a regulated entity (e.g. they remain verified and registered).
2. Accounting treatment of credits: Describes the nature of credits within accounting, lending and budgetary contexts. For example, in accounting, lending, and ratemaking contexts, credits could be designated as capital goods to qualify for particular loans.
3. Renewal of credits: After the project developer-credit generator contract expires, under what conditions can credits be renewed (e.g. so long as a new contract is in place that includes an appropriate management plan and adequate stewardship protections).
4. Other offset programs: Projects generating credits in a water quality trading program may generate credits for other incentive or offset programs in certain circumstances, but not in others. This component would describe interaction with carbon credit programs and incentive programs using public funds.

VII. Credit Verification and Certification

1. Project site verification: The process for verifying completed projects, including who will conduct verification (e.g. a certified, third party verifier) and the process for reviewing, inspecting, and auditing a project site to determine whether the project conforms to program quality standards and reference conditions.
2. Project site verifiers: Qualifications necessary for an individual to act as a verifier, including training and/or accreditation.
3. Project certification: The final approval process for a project intended to generate credits.

VIII. Credit Registration

1. Public disclosure: The credit documentation and information that should be made publicly available via a public registry, including any steps that may be taken to protect the privacy of individual project site owners.
2. Credit ledgers and serialization: The role of credit registries and serialization (e.g. registries can assign unique serial numbers to credits to ensure that credits are not double-counted or sold more than once).

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3. Private and confidential business information: Project site information that may be kept confidential if deemed sensitive (e.g. a landowner's home address), proprietary or a trade secret.

IX. Project Site Monitoring, Maintenance and Record Keeping Obligations

1. Contractual allocation of responsibility to maintain and monitor the project site: The requirements to maintain and monitor project sites and the contractual elements that should be required from third-parties performing the activities (e.g., term and frequency of monitoring visits, etc.)
2. Minimum project site monitoring and reporting requirements: The elements and roles for monitoring the site over the course of the project developer-credit generator contract, including on-site monitoring visits and annual monitoring reports (to re-verify credits or identify deficiencies to correct).
3. Record keeping: Responsibility of the regulated entity and other monitoring entities to record and retain project site monitoring information for appropriate statutory and contractual periods.

Comment [CS14]: Need to anticipate a broader discussion of site monitoring & reporting requirements since these may not be the contract parties for nutrient related BMPs generating credits. The farmer may be installing the BMP themselves and selling the credits to a third party broker.

X. Compliance and Enforcement

1. Applicable regulated entity permit conditions: The obligation of regulated entities to comply with all conditions, duties, and requirements for which they are responsible, including the liability for permit non-compliance resulting from an insufficient credit balance.
2. Requirements at discharge point: Regulated entities' obligation to monitor their point(s) of discharge at required intervals to ensure compliance with near-field regulations and other applicable laws and regulations.
3. Adaptive management: Trading programs may incorporate new information on protocols, credit quantification methodologies, and other quality standards as developed.
4. Effectiveness monitoring: Trading programs may design a monitoring program to determine the program's overall effectiveness at improving water quality.
5. Non-compliance with credit generation standards: Responsibility for site rehabilitation in situations where a project site is out of compliance with applicable standards due to site degradation or force majeure events, including the mechanisms for allocating the cost of project rehabilitation (e.g. allocated between parties via contract).
6. Notice and opportunity to remedy non-compliance: The process for addressing and remedying non-compliance with a project standard.
7. Failure to cure: Consequences for the project developer if noted non-compliances are not adequately addressed, such as the opportunity to remedy non-compliance within an appropriate time period, credits being recalculated (to reflect diminished credit generating capacity) or credits being suspended from a regulated entity's credit ledger.

Comment [CS15]: This section also needs to discuss how credits are used in a permit – how DMRs s how credits being used to meet a permit limit, and how regulators will review and verify the credits cited in a DMR. Also if credits are used (especially if they are only valid for a particular irrigation season), then need to describe how credits are shown in the accounting system to be no longer valid.

Comment [CS16]: This will need to be brought into the discussion on credit life (section VI), since credit calculations could change and affect the value of future credits.

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Definitions

- **Anti-Backsliding:** as defined in 33 U.S.C. §§ 1313(d)(4), 1342(o).
- **Anti-Degradation Policy:** as defined in 40 C.F.R. § 131.12.
- **Best Management Practices (BMPs):** conservation practices installed
- **Clean Water Act (CWA):** 33 U.S.C. § 1251 et seq.
- **Thermal Credit Contract Period:** the regulated entity-project developer contract runs.
- **Compliance Obligation:** the total credits, based on the exceedance as adjusted by a trading ratio, (and where applicable, reserve pool requirements), that a regulated entity must hold in its compliance ledger.
- **Credit generator:** a point or nonpoint source that generates credits through the installation of an eligible action or BMP on its property.
- **Critical Period:** a period during which hydrologic, temperature, environmental, flow, and other such conditions result in a waterbody experiencing critical conditions with respect to an identified impairment,
- **Current Project Site Conditions:** the physical characteristics of the project site that are used to calculate current loading at the project site.
- **Current Conditions Load:** the current input level of a pollutant (in default unit of trade) from the project site into the waterbody.
- **Discharge Point:** the point at which a point source adds/discharges a pollutant (as defined in 33 U.S.C. § 1362(6)) into a navigable water (as defined in 33 U.S.C. § 1362(7)) as defined in 33 U.S.C. § 1362(12).
- **Effluent Limitation:** as defined in 33 U.S.C. § 1362(11).
- **Future Project Site Conditions:** the characteristics of the project site that will be present after the implementation and the continued management of the project site.
- **(As-built) Future Conditions Load:** the expected future input level of a pollutant (in default unit of trade) at a project site that has been implemented.
- **Market Administrator:** the organization responsible for the operation and maintenance of an ecosystem credit accounting system or marketplace. Specific responsibilities may include: defining credit calculation methodologies, protocols and quality standards; project site verification; and credit registration.
- **Material Non-Compliance:** as identified by the responsible monitoring entity, non-compliance with quality standards and protocols that is serious enough to threaten the environmental integrity of the credits generated from the project site.
- **National Pollutant Discharge Elimination System (NPDES):** as defined in 33 U.S.C. § 1342.
- **Near-Field Regulations:** minimum regulations that a point source must meet at its discharge point in order to be eligible for water quality trading.
- **Nonpoint Source:** nonlocalized runoff, such as stormwater and nutrient runoff from agricultural or forest lands, see 40 C.F.R. § 35.1605-4, caused by rainfall or snowmelt moving over and through the ground and carrying human-made pollutants into waterways. 68 Fed. Reg. 60,653, 60,654 (Oct. 23, 2003).
- **Point of Maximum Impact:** the point where the greatest deviations from water quality standards occurs.
- **Point Source:** as defined in 33 U.S.C. § 1362(14).
- **Project Developer:** a third party (or a regulated entity) that develops or oversees the development of credits.
- **Project Site:** the location at which credit generating activities are undertaken/installed.
- **Protocols:** step-by-step manuals/ guidelines for achieving particular environmental outcomes. Protocols include the credit generating actions, sequencing, and documents necessary to generate credits.
- **Reference Conditions:** local conditions that inform quality standards at a particular project site, which are based on similar, ecologically healthy site(s) within the same watershed (HUC5), historical conditions, literature, local knowledge, and/or the best professional judgment.
- **Regulated Entities:** point sources with NDPEs permit obligations.
- **Regulator:** the state and federal agencies responsible for protecting environmental quality/permit issuance.
- **Regulatory Baseline:** the management obligations imposed by existing federal, state, and local laws and regulations.
- **Run with the Land:** a legally binding obligation that is connected to the land, and not the landowner(s).
- **Quality Standards:** the necessary specifications associated with a particular credit generating action that ensure that the estimated ecosystem service benefits at a project site are actually achieved through implementation.
- **Technology-Based Effluent Limitation (TBEL):** an effluent limitation meant to comply with the requirements of 33 U.S.C. §§ 1311(b)(1)(A)-(B). EPA promulgated industry-specific TBELs at 40 C.F.R. pts. 405 – 499.
- **Total Maximum Daily Load (TMDL):** as defined in 33 U.S.C. § 1313(d)(1)(C), and 40 C.F.R. §§ 130.2(g), (h), (i), as well as in relevant state regulations.
- **Toxics:** persistent bio-accumulative toxics (PBTs). PBTs are chemicals that are toxic, persist in the environment and bioaccumulate in food chains and, thus, pose risks to human health and ecosystems. PBTs include aldrin/dieldrin, benzo(a)pyrene, chlordane, DDT and its metabolites, hexachlorobenzene, alkyl-lead, mercury and its compounds, mirex, octachlorostyrene, PCBs, dioxins and furans, and toxaphene.
- **Water Quality based Effluent Limitation (WQBEL):** a more stringent effluent limitation, including "alternative effluent control strategies" such as BMPs and other non-numeric limitations, necessary to meet water quality standards