JOINT REGIONAL AGREEMENT ON WATER QUALITY TRADING

Initial Discussion Guide, March 13, 2013
Agreement Element: Eligibility for water quality trading:

Trading is not appropriate in every watershed, or in every situation. The sections below describe some of the eligibility criteria that may be applied to point sources seeking to engage in trading and projects seeking to generate credits. This includes:

A. Eligible regulatory trading environments

There are multiple regulatory environments in which trading has been considered or applied. This section lays out those scenarios in which the Joint Regional Agreement may wish to make a statement on whether and how trading is appropriate. This section also seeks to define some criteria in which trades may or may not work in any given regulatory environment. Most of USEPA's guidance on trading has focused on trading within a TMDL regulatory environment. Trades or other forms of offsets have occurred nationally under the following regulatory environments:

a) NPDES permits underneath a TMDL (e.g. Rogue River, Willamette River, and many other programs)
b) NPDES permits outside of a TMDL (e.g. Great Miami River in anticipation of a TMDL, Ohio River Basin in anticipation of nutrient criteria, Twin Falls as an offset, etc.)
c) NPDES permits under a variance from water quality standards (e.g. Montana's new trading policy is designed to allow for a 20-year variance from nutrient criteria if a point source uses trading)
d) Section 401 certifications (e.g. PacifiCorp under their Clackamas River relicensing and the Klamath Hydropower Settlement Agreement)
e) Stormwater--MS4 permits or state orders (e.g. North Carolina's no net discharge requirements for Falls Lake; Lake Tahoe Clarity Trading)

For many of these, we have not done extensive research on other examples and do not have a clear set of options and recommendations. Instead, we offer some questions and criteria to consider. We might also decide that some of these regulatory environments are too much to include in this first version of the Joint Regional Agreement.

I. Options and examples

a. NPDES permits underneath a TMDL

Water quality trading can occur where a TMDL involving an eligible pollutant has been published for the appropriate geographic area, and the regulatory agency is issuing NPDES permits to point sources in the geographic area based on the allocations created by the TMDL.

Questions to consider: What other criteria should be applied to determine whether trading is appropriate under a TMDL environment (e.g. wasteload and load allocations given to all sources; clear articulation of reasonable assurances for nonpoint sources; etc.)? What other basic conditions need to be met for trading to occur in a TMDL environment (e.g. documentation in permit evaluation report, trading is included in the permit)?

Potential state differences: It is not clear whether there are major state differences for trading under a TMDL.

b. NPDES permits outside of a TMDL

Trading outside of a TMDL can be more challenging. A number of states and NPDES permittees are interested in these kinds of trades. The pace of issuing new TMDLs is slowing. There will be growing demand for these kinds of trades, but there is less policy and other guidance on how to incorporate these trades into NPDES permits.

Questions to consider: What information is needed to allow trades outside of a TMDL? (e.g. TMDL-like modeling to assign loads to all sources, assurances that actions taken now will count later if a TMDL is approved, etc.)

Potential state differences: We anticipate several differences across states in how trades occur outside of a TMDL context. Several states outside of Region 10 are considering statewide nutrient criteria which could drive trading.

c. NPDES permits under a variance from water quality standards.

Typically, if a regulated facility demonstrates that it is unable to comply with water quality standards through the implementation of the highest level of technological control required, the entity may seek a variance, which becomes the new applicable standard for the facility, with approval subject to implementation of a plan to reduce the relevant pollutant within the watershed. Montana's new state trading policy explicitly allows for a 20-year variance from water quality standards if a permittee uses trading to offset its loads under potential statewide nutrient criteria.

Comment [CS1]: This is lifted straight from the draft of tier 2. I know that this section was considered likely to raise some eyebrows, does this go too far? If so, we can scale back. Bobby's original content was "It's not clear how trades under this scenario would work, but Montana's new state trading policy…"

Questions to consider: Under which situations are variances not appropriate, and where might they be a useful tool?

Potential state differences: We anticipate several differences in applying variances across states.

Comment [CS2]: Neil, are you aware of what these differences are so that we could provide some examples here.

d. Section 401 Certifications.

Offsets have often been part of 401 certifications, particularly tied to hydropower relicensing. Water quality trading can occur in conjunction with state certification of federal permits and licenses, consistent with section 401 of the Clean Water Act, 33 U.S.C. § 1341.

Questions to consider: Under which situations is trading appropriate, and where is it not? What are different about 401 certifications that make it difficult for standard water quality trading elements to apply?

Potential state differences: We don't know where the state differences on 401 certifications may lie.

e. Stormwater (MS4 and other orders)

North Carolina, Maryland, and Virginia are actively implementing stormwater offsets through statewide statutes, local rules, or as BMPs under MS4 permits. Traditional forms of trading are difficult under MS4 permits because of the Maximum Extent Practicable standard for technologies. No net increases in discharge are generally applied to new development.

Questions to consider: Under which situations is trading appropriate, and where is it not? What is different about Stormwater that make it difficult for standard water quality trading elements to apply?

Potential state differences: We don't know where the state differences on stormwater may lie.

II. Recommended default

Including trading into NPDES permits under a TMDL is supported by USEPA's 2003 trading policy. Trading under other regulatory environments may also be possible on a case by case basis given they meet some of the screening criteria defined by each state.

III. Reasons to deviate from the default

We are sure there are lots of reasons to deviate from the default; we just haven't gotten to the point where we can articulate those.

Comment [CS3]: Would love some feedback here

B. Eligible credit buyers

Trading is rarely the default option for an NPDES permittee to meet its permit obligations. Each permittee needs to meet certain conditions before they are eligible to purchase credits (e.g. meet technology-based effluent limit). 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 agreement is on point-nonpoint trades. The following describes conditions that may be included in the Joint Regional Agreement as eligibility requirements for point sources seeking to engage in trading.

I. Options and examples

Option A1: Meeting TBELs A point source can obtain credits generated from a nonpoint or point source that has already fulfilled its obligations imposed by other laws or regulations, after first complying with applicable technology-based effluent limits and permit conditions, to achieve water quality based effluent limits (WQBELs).
Option A2: Near-field impacts A point source cannot create pollution hotspots. No wastes may be discharged or activities conducted that cause or contribute to a violation of water quality standards except as allowed in regulatory mixing zones. Acute criteria must be met after the zone of initial dilution, and chronic criteria must be met after the end of the larger regulatory mixing zone.
Option A3: Anti-degradation Water quality trading programs must, at a minimum, maintain and protect existing uses in impaired waters. In high quality waters, states cannot further degrade water quality unless found necessary to accommodate important economic or social development in the area. In state-designated "outstanding natural resources waters," water quality must be maintained and protected without exception. In the 2003 Trading Policy, EPA recommends states adopt a provision in their anti-degradation policies stating that trading in high quality waters can occur without anti-deg review. EPA asserts that WQT will not result in "lower water quality" for high quality waters.
Others?

II. Recommended default

A point source can obtain credits generated from a nonpoint or point source that has already fulfilled its obligations imposed by other laws or regulations, after first complying with applicable technology-based effluent limits and permit conditions, to achieve water quality based effluent limits (WQBELs). All entities engaged in water quality trading must comply with applicable federal, state and local near-field regulations to ensure the integrity of state designated beneficial uses, and to ensure that no "hot spots" develop. Water quality trades and trading programs comply with anti-degradation laws if the new discharge is de minimis, and/or does not cause a net increase in pollutant loading. Except where allowed under the CWA, NPDES permits, TMDLs, and water quality standards cannot be renewed, reissued, modified, or revised as a result of water quality trading to include less stringent effluent limitations, wasteload allocations, or water quality standards than those previously achieved.

III. Reasons to deviate from the default

Questions to consider: Are there any eligibility criteria for buyers beyond meeting their TBELs? For example, trading is not appropriate where there are near-field impacts (e.g. discharge creates a thermal barrier to migration), or where there are other reasons beyond the tradable pollutant to install technology (e.g. to remove arsenic), etc.

C. Trading Area

Trading areas define the geographies in which buyers and sellers can conduct trades with each other. A pound of phosphorous removed in the Boise River Basin is not the same as a pound of phosphorous removed in the Yakima River. Economically, trading areas like to be big—increasing the number of potential buyers and sellers. Ecologically, nonpoint source reductions should be tied as closely as possible to where they can best address the water quality issues caused by the discharge they are meant to offset.

I. Options and examples

Option A *As a default, trades must occur upstream of the point of compliance/ maximum impact within the same watershed or area defined by any applicable TMDL or other water quality strategy.* **Who does it this way?** The Medford NPDES permit requires that all trades for temperature be upstream of the point of maximum impact (POMI) in the Upper Rogue. This allows for trades in Bear Creek whose confluence with the Rogue River is downstream of Medford's discharge and upstream of the POMI. The POMI is the point of compliance. In the Boise River program, trades needed to be upstream of Parma, the point of compliance.	**Option B** *As a default, trades must occur upstream of the point of discharge.* **Who does it this way?** In the Great Miami program, all trades must be upstream of a discharge. There is no TMDL in the Great Miami River yet, so the upstream of discharge requirement helped simplify the program.

II. Recommended default

Option A seems to link trading areas most closely to TMDL and other water quality goals, and also allows for some flexibility for point sources closer to headwater.

III. Reasons to deviate from the default

There may be instances where point source discharges create near field impacts within a smaller subwatershed than what is defined in the TMDL's point of compliance. In those instances, a trading area may be made smaller to address these localized impacts or to incentivize investment in high priority watershed improvements in a given reach or tributary.

There may also be times where trading areas might be made larger than what are defined in a TMDL to incentivize in vestment in high priority areas. Any priority areas should be documented within a TMDL, developed in coordination with stakeholders, and made consistent with other water quality and conservation strategies as appropriate.

D. Eligible pollutants for trading

Not all pollutants can be traded. Most trading programs around the country focus on phosphorous and nutrients, and temperature trades have also occurred in the Northwest. The section below defines eligible pollutants, units of trade, and other considerations.

I. Options and examples

a. Nitrogen and Phosphorous:

Option A: TN,TP lbs/Year	**Option B: TN,TP lbs/Season**	**Option C: Bioavailable P,N lbs**

b. Oxygen-demanding parameters

Option A: mg/L BOD	**Option B:?**

c. Sediment and total suspended solids (TSS)

Option A: lbs/Year	**Option B: lbs/Season**	**Option C: Turbidity?**

d. Thermal load

Option A: KCAls/day	**Option B: BTU**	**Option C: degrees C**

e. Toxics

Option A: no trades	**Option B: concentrations**

Questions to consider: Is setting default eligible pollutants, units, and seasonality useful? Most trading programs trade in Total nutrients/year. Many of the nutrient trading discussions in the West are looking closely at seasonal challenges with nutrients as a proxy for dissolved oxygen problems? Do we want to consider other units of trade more closely tied to dissolved oxygen?

II. Recommended default

Eligible pollutants for trading include nutrients, oxygen-demanding parameters, sediment, and temperature. For each of these pollutants, default units and seasonality will be defined in a TMDL or other water quality strategy. In general, units are lbs of TN, TP, and sediment per year; and KCAL/day. Whether a unit is expressed as an annual average or based on a critical period in the TMDL needs to be based on the ecological conditions and needs in the TMDL.

III. Reasons to deviate from the default

For nutrients, looking at TN and TP per year allows for more BMPs to match up with point source discharges. In many places, farm BMPs reduce nutrients during rainy times in the Spring and point source discharges create problems in the late summer or early fall. This seasonal mismatch can be overcome looking at annual averages. However, if problems in the water body are seasonal, springtime reductions may not help with a summertime problem. In addition, some point sources may favor seasonal limits, which might allow for higher discharges at times of higher flow.

E. Eligible credit-generating actions

Not all BMPs can generate credits. Some BMPs only generate marginal water quality improvements, others might reduce pollution but impact other ecological processes of concern, and some BMPs do not have the science available to be confident in the quantity of pollutant they reduce. Developing eligible BMPs and a process for including new eligible BMPs is important.

I. Options and examples

How does a BMP become eligible to generate credits?

Option A: *Credit-generating actions must be approved by a state agency or third party, be consistent with quality standards, have eligibility requirements, and have an approved quantification method.* **Who does it this way?** Willamette Partnership incorporates BMPs, for which there is state-approved quantification method, protocols for applying the quantification methods, quality standards and a verification protocol are in place.	**Option B:** *More requirements? Fewer?*

Which BMPs are eligible to trade?

The table below shows approved BMPs under programs in Oregon, Idaho, and Maryland.

Water Quality Attribute	BMP Type	BMPs	State			
			Willamette Partnership	Oregon	Idaho	Maryland
Temperature (kcal)	Structural	riparian forest restoration	X	X	--	--
		flow augmentation		X*	--	--
Nutrient (Nitrogen, Phosphorus, Sediment)	Structural	riparian forest buffer/restoration	X	X		X
		livestock exclusion fencing	X	X		X
		animal waste management system				X
		sediment basins			X	
		underground outlet			X	
		sprinkler irrigation			X	
		micro irrigation			X	
		surge irrigation			X	
		tailwater recovery			X	
		wetland restoration			X	X
	Management or Practice-based	cover cropping	X	X		X
		crop rotations	X	X	X	
		conservation tillage	X	X		
		filter strips	X**		X	
		straw in furrows			X	
		nutrient management	X**		X	

		polyacrylamide			X	
		riparian grass buffer/restoration	X**			X

* Accepted on a case-by-case basis where sufficient information and/or modeling exists

** Methodologies and protocols are available, quantification method not yet approved by state agency

Questions to consider: Is setting a default list of approved BMPs useful? What other practices and technologies do we want to consider or learn more about through this process?

II. Recommended default

Credit-generating actions must have eligibility requirements, quality standards for design and operations and have a state-approved quantification method.

III. Reasons to deviate from the default

Other BMPs may be eligible to generate credits based on review by the state agency. State agencies will use a standard review process for a new BMP that includes review of available quantification methods, development of minimum design standards, and expert review. There may be a lot of effective BMPs, but missing science or high variability in the quality of a BMP might preclude their eligibility to generate credits. Ideally, as many of the high priority BMPs are included in the table of eligible actions.