

## **Joint Regional Agreement - Convening Interview Introductory Materials**

Tier 1 of the Joint Regional Agreement (JRA) will describe existing federal water quality trading laws, regulations, and policies that provide the authority for EPA and delegated-state adoption of water quality trading programs. This section will also serve as the foundation for the standards and protocols that will be developed under Tier 2 of the JRA. To this end, we have compiled the attached strawman discussion draft for use as a starting point for our conversations in these convening interviews.

As you review this discussion draft please feel free to provide in-text comments, edits, or suggestions. Also, please consider the following interview questions:

- What would be most helpful in terms of clarifying/formalizing Clean Water Act authorities for different elements of water quality trading? What about existing authorities could be improved – where are there holes?
- How about clarification in state guidance/law—for DEQ, for other agencies?
- What do you think of the strawman discussion draft of the authorities section that we provided? Do you think it should include reference to state law? Is it currently too broad or too specific? Is the format and tone appropriate?

## **LEGAL BASIS FOR WATER QUALITY TRADING UNDER FEDERAL LAW**

In 1972, Congress amended the Clean Water Act (“CWA”) and declared a national goal “to restore and maintain the chemical, physical, and biological integrity of the Nation’s waters”, with the elimination of pollutant discharges to occur by 1985.<sup>1</sup> To attain these goals, the CWA addresses point source and nonpoint source pollution through effluent limitations, and requires states to establish water quality standards. Though significant recovery has occurred, nearly thirty years have passed since the 1985 “pollution elimination” deadline and a considerable percentage of the nation’s waterways remain impaired.<sup>2</sup>

In 2003, the United States Environmental Protection Agency (“EPA”) published a final Water Quality Trading Policy to enable point and nonpoint sources to participate in voluntary, market-based approaches to meeting water quality compliance obligations at a reduced cost.<sup>3</sup> The Trading Policy reinforces point and nonpoint source obligations to comply with CWA provisions, and provides a framework for approved pollutant credit trading consistent with the anti-backsliding policy, compliance and enforcement provisions, and public notice and comment, as required by law. Though the Trading Policy discusses several contexts in which trading may occur—to maintain high water quality, pre-total maximum daily load (“TMDL”) trading in impaired waters, TMDL trading, technology-based trading, pre-treatment trading, and intra-plant trading—to date, trading has most commonly been used by point sources with National Pollutant Discharge Elimination System (“NPDES”) permit obligations. Where TMDLs exist for impaired waters, trading has typically been incorporated into NPDES permits. Although this Agreement focuses primarily on the legality of water quality trading as incorporated into NPDES permits under TMDLs, trading may also occur in other regulatory contexts, including but not limited to, pre-TMDL trading, trading under NPDES permits where no TMDLs exist, and trading related to CWA section 401 certification.<sup>4</sup>

### **I. General CWA Framework**

The CWA pursues two tracks for maintaining and restoring the nation’s waterbodies: 1) controlling discharges through “effluent limitations,”<sup>5</sup> and 2) setting water quality standards to protect designated uses. The CWA makes the discharge of a pollutant into a waterbody illegal

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<sup>1</sup> 33 U.S.C. § 1251(a).

<sup>2</sup> EPA, Water Trading Policy, 68 Fed. Reg. 1608, 1609 (Jan. 13, 2003) (hereafter “Trading Policy”).

<sup>3</sup> Trading Policy, 68 Fed. Reg. at 1610

<sup>4</sup> The Parties acknowledge that currently, guidance with respect to TMDL trading is the most pressing need for water quality trading regimes. However, as markets develop and credit quantification methodologies improve, fleshing out trading in other contexts may become similarly pressing.

<sup>5</sup> Effluent limitations include “*any restriction* established by a State or the Administrator on quantities, rates, and concentrations of chemical, physical, biological, and other constituents which are discharged from point sources into navigable waters ....” 33 U.S.C. § 1362(11) (emphasis added). Effluent limitations therefore, need not be numeric. Moreover, they include schedules of compliance. *See id.* A schedule of compliance is a “schedule of remedial measures including an enforceable sequence of actions or operations leading to compliance with an effluent limitation ...” *Id.* § 1362(17).

unless done so in compliance with one of the section 302, 306, 307, 318, 402 or 404 programs.<sup>6</sup> The CWA directly regulates pollutant discharges from “point sources”<sup>7</sup> and “nonpoint sources.”<sup>8</sup> All point sources must apply some sort of effluent limitation.<sup>9</sup> Such effluent limitations can be technologically-based effluent limitations (“TBELs”),<sup>10</sup> or other more stringent limitations—including water quality based effluent limitations (“WQBELs”) and other “alternative effluent control strategies”<sup>11</sup>—where necessary to meet water quality standards.<sup>12</sup> Nonpoint sources are typically addressed by best management practices (“BMPs”),<sup>13</sup> which vary by state and level of enforcement.

The CWA also requires States to develop water quality standards that establish, and then protect, the desired conditions of each water body.<sup>14</sup> State water quality standards consist of “designated uses”<sup>15</sup> for a waterbody, and establish water quality criteria designed to protect those uses.<sup>16</sup> State water quality standards must also be sufficient to maintain existing beneficial uses (i.e. prevent degradation).<sup>17</sup> Attainment of water quality standards occurs on a watershed-wide basis.<sup>18</sup> In addition to establishing water quality goals for a waterbody, water quality standards also serve as the basis for establishing effluent limitations in NPDES permits.<sup>19</sup>

When a water body fails to meet water quality standards, despite controls on point sources and BMPs applicable to nonpoint sources, states develop TMDLs for impaired waters. TMDLs, as implemented through NPDES permits, can include water quality trading.

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<sup>6</sup> 33 U.S.C. § 1311(a).

<sup>7</sup> 33 U.S.C. § 1362(14) (A point source is “any discernible, confined and discrete conveyance... from which pollutants are or may be discharged” into a waterbody, including releases from pipes or ditches).

<sup>8</sup> Nonpoint sources are diffuse sources of water pollution, such as stormwater and nutrient runoff from agricultural or forest lands. *See* 40 C.F.R. § 35.1605-4.

<sup>9</sup> 33 U.S.C. § 1311(e).

<sup>10</sup> 33 U.S.C. §§ 1311(b)(1)(A)-(B).

<sup>11</sup> 33 U.S.C. § 1312(a). “Alternative effluent control strategies” is not defined in the statute or regulations. Such strategies could include BMPs, other non-numeric limitations, or water quality trading.

<sup>12</sup> 33 U.S.C. § 1311(b)(1)(A)-(B) (“In order to carry out the objective of this chapter[,] there shall be achieved— ... effluent limitations for point sources, other than publicly owned treatment works, (i) which shall require the application of the best practicable control technology currently available ... *or, ... any more stringent limitation, including those necessary to meet water quality standards...*”) (emphasis added).

<sup>13</sup> 40 C.F.R. § 130.2(m).

<sup>14</sup> *Id.* § 1313(a).

<sup>15</sup> Designated uses in a waterbody include, but are not limited to, public water supply, fish and wildlife protection and propagation, recreation, agriculture, industry, and navigation. *See* 33 U.S.C. § 1313(c)(2)(A); 40 C.F.R. § 131.10(a).

<sup>16</sup> *Id.* § 1313(c)(2)(A).

<sup>17</sup> *Id.* § 1313(d)(4)(B); 40 C.F.R. § 131.12.

<sup>18</sup> 40 C.F.R. § 131.2 (“A water quality standard defines the water quality goals of a water body, or portion thereof, by designating the use or uses to be made of the water and by setting criteria necessary to protect the uses.”); *see* 40 C.F.R. § 131.3(h) (defining water quality non-attainment in terms of “water quality limited segments”). Although water quality standards seek to attain designated uses in a waterbody as a whole, individual point sources cannot discharge pollutants at levels that could preclude attainment of a designated use from being obtained at that point, even if the use would be generally obtained throughout the watershed as a whole. For example, even if a river overall is deemed “fishable,” an individual point source could not discharge heat at levels that would create thermal lethality, thermal shock or a thermal barrier at the particular outfall point.

<sup>19</sup> 40 C.F.R. § 131.2.

## II. Trading under TMDLs

When TBELs do not bring a particular water body into attainment with applicable water quality standards, a state must identify and rank these unhealthy waters.<sup>20</sup> Unhealthy waters are known as “water quality limited segments,” and are listed on “303(d) lists” for each state.<sup>21</sup> For these 303(d) “impaired waters,” the states must establish the absolute amount of a particular pollutant—the total maximum daily load—that a waterbody can take on while still satisfying water quality standards.<sup>22</sup> EPA reviews and approves TMDLs developed by the states, or, alternatively, may also prepare a TMDL for a waterbody.<sup>23</sup>

While the CWA employs different approaches to control point and nonpoint sources to achieve water quality, when a water body is impaired, TMDLs tie together point and non-point source pollution issues to address the health of the whole waterbody.<sup>24</sup> Because the focus of a TMDL is on the health of the overall waterbody, TMDLs establish an aggregate pollutant “load”<sup>25</sup> amount for the impaired waterbody equal to “[t]he greatest amount of loading that a water can receive without violating water quality standards.”<sup>26</sup>

The loading capacity is then allocated between multiple point and nonpoint sources in the impaired waterbody or waterbody segment. If each source discharges less than its TMDL allocation, the water body should achieve its water quality standards. Point sources receive a wasteload allocation (“WLA”) that represents “[t]he portion of a receiving water’s loading capacity that is allocated to one of its existing or future point sources of pollution[.]”<sup>27</sup> Nonpoint sources, in turn, receive a load allocation (“LA”) that represents “[t]he portion of a receiving water’s loading capacity that is attributed either to one of its existing or future nonpoint sources of pollution or to natural background sources[.]”<sup>28</sup> The TMDL must also account for seasonal variations and include a “margin of safety which takes into account any lack of knowledge concerning the relationship between effluent limitations and water quality.”<sup>29</sup> Along with the statutorily-mandated margin of safety, the TMDL is “[t]he sum of the individual WLAs for point sources and LAs for nonpoint sources and natural background.”<sup>30</sup> The components of a TMDL are illustrated by this equation:

$$\text{TMDL} = \Sigma (\text{WLAs [Point]} + \text{LAs [Nonpoint]}) + \text{Margin of Safety} + \text{Background}$$

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<sup>20</sup> 33 U.S.C. § 1313(d)(1)(A), (C).

<sup>21</sup> 40 C.F.R. § 130.7(b).

<sup>22</sup> 33 U.S.C. § 1313(d)(1)(C).

<sup>23</sup> 33 U.S.C. § 1313(d)(2).

<sup>24</sup> See 33 U.S.C. § 1313.

<sup>25</sup> Load is “an amount of matter or thermal energy that is introduced into a receiving water.” 40 C.F.R. § 130.2(e) (emphasis added).

<sup>26</sup> 40 C.F.R. § 130.2(f).

<sup>27</sup> 40 C.F.R. § 130.2(h).

<sup>28</sup> 40 C.F.R. § 130.2(g).

<sup>29</sup> 33 U.S.C. § 1313(d)(1)(C); *see also* 1313(d)(1)(D).

<sup>30</sup> 40 C.F.R. § 130.2(i).

The left side of the equation is the total loading capacity of the waterbody for a particular pollutant as measured at the waterbody's point(s) of maximum impact. The allocations on the right side of the equation allow for tradeoffs in how to meet the left side of the equation. For example, so long as LAs to nonpoint sources are "practicable" and supported by BMPs, less load can be allocated to point sources, irrespective of the individual water quality effects of their discharge on the waterbody.<sup>31</sup> Thus, allocations are not made to achieve water quality standards at the location where a point source or a nonpoint source discharges pollutants to a waterbody, but are made to achieve water quality standards watershed-wide so as to keep pollutant loading under the TMDL limit. The parameters of this tradeoff are not dictated by the CWA, but are determined on a case-by-case basis. Because sources that receive a WLA face divergent costs in order to meet their responsibilities under a TMDL, trading under a TMDL allows point sources to meet their permit limits more cost-effectively through the exchange of pollution control credits and/or offsets.

Once a TMDL is approved, all future permits issued to point sources must be consistent with the TMDL's wasteload allocations for point sources.<sup>32</sup> The states—or EPA where a state has not been delegated authority to issue permits<sup>33</sup>—will issue a NPDES permit to all point sources within the geographic scope of the TMDL. NPDES permits limit the amount of pollutants that can be discharged by a point source into a waterbody.<sup>34</sup> To meet these limits, NPDES permits include controls that reflect the stricter of two different kinds of effluent limitations: those based on the technology available to treat a pollutant,<sup>35</sup> and those necessary to protect the designated uses of the receiving water body.<sup>36</sup> TBELs "represent the minimum level of control that must be imposed in a permit,"<sup>37</sup> and are "developed independently of the potential impact of a discharge on the receiving water."<sup>38</sup> If a point source's TBEL is insufficient to meet the water quality standards that apply in a waterbody, the permit may include more stringent WQBELs—including "alternative effluent control strategies" such as BMPs and other non-numeric limitations—to ensure that water quality standards are met.<sup>39</sup> Where WQBELs are included in NPDES permits, these limits must be "consistent" with WLAs for point sources.<sup>40</sup> While the law prescribes minimum requirements for developing WQBELs, it does not dictate how permittees meet them. This was intended to give the permitting authority the flexibility to

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<sup>31</sup> 40 C.F.R. § 130.2(i) states in pertinent part: "If Best Management Practices (BMPs) or other nonpoint source pollution controls make more stringent load allocations practicable, then wasteload allocations can be made less stringent. Thus, the TMDL process provides for nonpoint source control tradeoffs."

<sup>32</sup> 40 C.F.R. § 130.2.

<sup>33</sup> The CWA authorizes states to adopt programs issuing NPDES permits. 33 U.S.C. § 1342(b). Five states have not been delegated authority to issue federal Clean Water Act permits: Alaska, Idaho, Massachusetts, New Hampshire, and New Mexico. EPA, Clean Water Act Action Plan: Shaping EPA's Future Direction on Water Enforcement, <http://www.epa.gov/oecaerth/civil/cwa/cwaenplan.html>.

<sup>34</sup> 33 U.S.C. §§ 1311(a); 1342.

<sup>35</sup> See 33 U.S.C. §§ 1311(b)(1)(A)-(B).

<sup>36</sup> See 33 U.S.C. §§ 1311(b)(1)(C); 1312(a).

<sup>37</sup> 40 C.F.R. § 125.3(a)

<sup>38</sup> EPA, NPDES Permit Writers' Manual at 5-1 (2010).

<sup>39</sup> See 33 U.S.C. §§ 1311(b)(1)(C); 1312(a).

<sup>40</sup> 40 C.F.R. § 122.44(d)(1)(vii)(B).

determine the appropriate procedures for developing WQBELs. Thus, just as the CWA grants EPA the ability to authorize point source permittees to meet WLAs through TBELs that allow for trading credits or offsets generated from another point source,<sup>41</sup> the CWA also affords EPA the flexibility to derive WQBELs that allow for trading so long as the WQBEL is consistent with the WLA established under the TMDL.<sup>42</sup>

This is consistent with the fact the permit issuer—EPA or states with delegated authority—has broad statutory discretion to choose the proper effluent limitations (TBELs versus WQBELs) in a permit,<sup>43</sup> as well as the discretion to condition permits on any “requirements as [s/]he deems appropriate,”<sup>44</sup> including trading. Thus, trading is allowed under NPDES permits so long as trading will not result in a violation of water quality standards.<sup>45</sup>

As a result of this discretionary flexibility to set effluent limitations in NPDES permits, EPA details three paths to meet WQBELs in its Trading Policy, but leaves it up to the permittee to select the path. As EPA provided, “[o]ne option is to implement pollution prevention, reuse, or recycling measures adequate to meet the WQBEL at the point of discharge. The second option is to install treatment technology. The third option is trading[.]”<sup>46</sup> EPA does require that water quality trades used to meet a point source’s WQBEL “should be consistent with the assumptions and requirements upon which the TMDL is established,” and that trades cannot delay implementation of a TMDL nor cause the combined point and nonpoint source loading to exceed the TMDL. Therefore, under EPA’s Trading Policy, a nonpoint source can provide a compliance “credit” to a point source within the same watershed with a TMDL-imposed WLA (translated into an enforceable permit WQBEL) when it undertakes a project to reduce its load below its respective LA.<sup>47</sup>

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<sup>41</sup> One long-standing example of successful point-to-point source trades occurs under the watershed permit held by Clean Water Services, which operates four different municipal wastewater treatment facilities that discharge to Oregon’s Tualatin River under the same permit. Under the permit issued in 2005, Clean Water Services has traded oxygen-demanding parameters (CBOD and ammonia) between two of these facilities, which affords operators greater flexibility in plant operations to meet water quality objectives at lower cost. Clean Water Services, Briefing Paper: Water Quality Trading (Aug. 2011). Clean Water Services’ watershed permit is available at Oregon DEQ’s website: <http://www.deq.state.or.us/wq/wqpermit/cwspemitt.htm>.

<sup>42</sup> See 40 C.F.R. § 122.44(d)(1)(vii)(B).

<sup>43</sup> See 33 U.S.C. § 1342(a)(1) (permits can be issued if a discharge will meet all applicable technological requirements, *or* if based on “such conditions as the Administrator determines are necessary to carry out the provisions of [the CWA].”).

<sup>44</sup> *Id.* § 1342(a)(2).

<sup>45</sup> See *id.* at 1611 (“EPA does not support any use of credits or trading activity that would cause an impairment of existing or designated uses, adversely affect water quality at an intake for drinking water supply or that would exceed a cap established under a TMDL.”); 40 C.F.R. § 122.44(d)(1)(vii)(A); 40 C.F.R. § 122.4(d) (“No permit may be issued ... [w]hen the imposition of conditions cannot ensure compliance with the applicable water quality requirements of all affected States.”).

<sup>46</sup> EPA, Water Quality Trading Toolkit for Permit Writers, 20 (2009), [http://www.epa.gov/npdes/pubs/wqtradingtoolkit\\_fundamentals.pdf](http://www.epa.gov/npdes/pubs/wqtradingtoolkit_fundamentals.pdf).

<sup>47</sup> Trading Policy, 68 Fed. Reg. at 1610. Unless authorized by specific regulations, point sources cannot create tradable credits for other point sources. *Id.* at 1610-11 (“EPA does not support trading to comply with existing [TBELs] except as expressly authorized by federal regulations. Existing technology-based effluent guidelines for the iron and steel industry allow intraplant trading of conventional, nonconventional and toxic pollutants between outfalls under certain circumstances (40 C.F.R. § 420.03).”).

The ability to select water quality trading as a compliance alternative is, however, limited by several important safeguards. First, for all permit decisions, including those that authorize trades, EPA retains an oversight role.<sup>48</sup> Therefore, EPA has authority to review trading provisions included in these permits to determine whether a permit is outside the guidelines and requirements of the CWA. To the extent EPA foresees the need to restrict trades, it may do so. Second, the public has the right to notice and comment on TMDLs that authorize water quality trading,<sup>49</sup> and to permits that authorize trades to meet WQBELs.<sup>50</sup> Third, trading does not change TMDL allocations because these allocations are the basis of the trade and must remain the same for trading to work. Finally, under the “anti-backsliding” provisions of the CWA governing impaired waters that have yet to meet set water quality standards, NPDES permits may not be revised or reissued to point sources unless the effect of the changes ensure that water quality standards will be met in the waterbody.<sup>51</sup>

Water quality trading is thus legal on the face of the CWA. However, water quality trading must be legally applied as well. Thus, Tier 2 of this Agreement provides the necessary safeguards to determine trade eligibility, verification, tracking, and monitoring so as to comply with and attain water quality standards.

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<sup>48</sup> 33 U.S.C. § 1342(d); *see also* 68 Fed. Reg. at 1613.

<sup>49</sup> *See* 40 C.F.R. § 130.7(d)(2) (EPA must publish a notice seeking public comment on the TMDL); 40 C.F.R. § 130.7(c)(1)(ii) (calculations used to establish a TMDL must be subject to public review as defined in a state’s Continuing Planning Process).

<sup>50</sup> 40 C.F.R. § 124.10; Trading Policy, 68 Fed. Reg. at 1611.

<sup>51</sup> 33 U.S.C. § 1313(d)(4).