

# NORTHWEST ENVIRONMENTAL ADVOCATES



July 17, 2014

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*Via email only:*  
opalski.dan@epa.gov

**Re: Request to Review Oregon's Water Quality Credit Trading Program in Light of Continuing Weaknesses**

Dear Mr. Opalski:

Over a year ago Northwest Environmental Advocates (NWEA) wrote to EPA Region 10 about the need for federal oversight on Oregon's NPDES permits that allow water quality credit trading. *See* Letter from Nina Bell, NWEA, to Michael Lidgard, EPA Re: EPA Oversight of Trading in Oregon Permits Needed to Ensure Consistency with EPA Regulations Implementing the Clean Water Act (March 15, 2013). Today we write on the same subject because of our ongoing concerns. We would like to make clear at the outset that NWEA continues to support the use of trading to address some temperature discharges from point sources covered under NPDES permits. However, Oregon's trading program lacks the structural integrity, robust safeguards, and administrative independence that are essential to a program that protects Oregon water quality. The current disarray serves neither permittees in need of a consistent and reliable agency approach nor the public that requires assurance Oregon's program is consistent with EPA trading policy and federal permitting regulations.

Recent public experience with Oregon credit trading involved the City of Wilsonville's having sought a permit modification to use trading to meet its effluent limits. The Oregon Department of Environmental Quality's (DEQ) trading program failed Wilsonville both because DEQ was ill-equipped to write an adequate permit and supporting fact sheet and because so many of the underlying issues involved in trading remain unaddressed. Now we understand that the City of Ashland may be considering trading to address its thermal discharge. These expressions of interest in thermal credit trading should not come as a surprise, of course. Given the ubiquity of temperature impairments throughout the state, and the near-complete focus of Oregon's Total Maximum Daily Loads (TMDL) on temperature, there are far more wasteload allocations for temperature than for any other pollutant in the state. It seems, therefore, of some urgency that DEQ focus on having a trading program that meets the requirements of the Clean Water Act and can withstand public scrutiny. The Wilsonville experience demonstrated that DEQ has nothing of the kind.

This letter addresses four primary areas of concern. First, there is evidence that some trades are driven primarily by cost minimization and others by environmental protection priorities. This

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evidence that Oregon lacks a coherent trading policy indicates that the potential benefits of trading to beneficial uses, such as threatened and endangered salmon, are not being reaped. Second, the ambiguity of the trading requirements in Oregon's NPDES permits are in direct conflict with the intent and requirements of Section 402 of the Clean Water Act and its implementing regulations. Third, there are many uncertainties inherent in trading between point and nonpoint sources, the vast majority of which have not been adequately addressed in the Oregon trading program and which are key to ensuring the program's integrity and success in meeting its goals. Finally, we touch on just a few of the many overarching policy considerations that should be addressed in any trading program.

#### **I. THE OREGON TRADING APPROACH ENCOURAGES COST SAVING RATHER THAN ENVIRONMENTAL BENEFIT AS A DRIVER**

DEQ's trading policy states that trading should "benefit the beneficial use(s) being impacted." DEQ, Water Quality Trading in NPDES Permits Internal Management Directive (Dec. 2009, updated Aug. 2012) (hereinafter "IMD") at 21. We agree. We believe this should be the central tenet of trading. Unfortunately, DEQ guidance interprets this goal to mean only that trades may occur throughout the entirety of an area covered by a TMDL. Such an interpretation does not ensure any actual environmental benefit because it makes the false assumption that restoration of riparian vegetation has the same impact on uses regardless of where the restoration is performed in a basin or subbasin. *Id.* Even DEQ has acknowledged elsewhere that is not true. *See, e.g.*, DEQ, Water Quality Credit Trading in Oregon: A Case Study Report (July 27, 2007) (hereinafter "Case Study") at 17 (discussion of "high priority" areas.). In its guidance, DEQ also states that "[s]ince trades involving riparian shade are expected to result in improved habitat for aquatic and wildlife species, DEQ allows credit for such projects to be based on the amount of solar radiation they are projected to block rather than on the thermal benefit they produce at the TMDL point of maximum impact." IMD at A-4. We think putting thermal benefits aside is short-sighted, unnecessary, and inconsistent with the goals of the Clean Water Act and Oregon's water quality standards. But there is another problem. Put another way, DEQ is saying that it does not anticipate any thermal benefit at all from the trades but allows them *because* of their ancillary benefits. However this purported focus on achieving ancillary benefits is set in a regulatory context – a guidance document – that is focused entirely on the fictitious thermal benefit and says nothing substantive about ensuring meaningful ancillary benefits.

In its guidance, DEQ goes on to note that restoration priorities may be set within a TMDL, an NPDES permit, or a permit fact sheet, the last of which having no regulatory effect whatsoever. *Id.* at 22. But despite this observation and regardless of the fact that the geographic location of riparian restoration projects is, in fact, key to the purported environmental benefits of trading to beneficial uses, DEQ has not in fact used a TMDL, NPDES permit, or a permit fact sheet to discuss restoration priorities for trades.

One way to evaluate implementation of Oregon's trading program is to compare the trading by Clean Water Services in the Tualatin subbasin with that of the City of Medford in the Rogue basin, where the first appears to be guided by environmental benefits and the second by pure economic efficiency. With some information now available on these two approaches we think it

is worth evaluating their relative outcomes to date.<sup>1</sup>

**A. Costs Have Been the Primary Driver in the Rogue River Basin, Upending the Myth of Additionality in Trading**

The Medford trade is presumably based on the notion that a market for thermal credits can be constructed in Oregon.<sup>2</sup> While water quality credit trading based on a market similar to the market in greenhouse gas emissions offsets is not the only approach to trading, whether it is plausible makes a difference in how trading should be implemented. While water quality credit trading may have market characteristics in some locations, because geographic reach of water quality credit trades are constrained by the location of the discharge and the need for the credits to correspond in some fashion to that location, there is an insufficient number of buyers and an insufficient number of sellers (transactions) to create a liquid market. That trading is not likely to be market-based does not necessarily mean that it should be abandoned as a way for NPDES permittees to take responsibility for their thermal discharges. Indeed, we believe that DEQ should direct more resources towards making water quality trading more accessible, comprehensible, and enforceable. But it does mean that various assumptions that underlie trading with a market are not applicable to trading where there are no market-related effects. Specifically, if there are few NPDES permittee buyers in a given basin, there will be no beneficial market-related effects such as those that might be associated with competition. As a result, there will likely never be a critical mass of buyers and sellers and the use of water quality credit trading will not promote restoration activities outside the trading program.

Given that the likelihood of a market's developing in the Rogue River basin is remote due to lack of sufficient numbers of thermal credit buyers, it is essential that the principles of a trading program in the basin not be constructed on a false assumption that market-driven forces will result in environmental benefits. It is essential that the principles of a trading program in the Rogue basin remain focused on the environmental benefits that are strictly associated with the water quality credit trades themselves.

With this background, we look at the trading that has taken place to date for Medford. Under contract to Medford, The Freshwater Trust (TFT) has installed two phases of riparian restoration that DEQ has agreed may be completed in any location upstream in the basin of rivermile 62 on

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<sup>1</sup> For this letter we have only reviewed completed credits and not documentation of works in progress that are reported in Medford's monthly Project Reports.

<sup>2</sup> The presumption can be based on, for example, the issuance of a U.S. Department of Agriculture (USDA) Conservation Innovation Grants (CIG) grant of \$966,722 in 2011 to The Freshwater Trust (TFT) to "demonstrate, through *on-the-ground projects and transactions of verified and registered credits, a functional market system that uses proven tools and methodologies.*" See USDA, News Release No. 0373.11 (emphasis added) available at <http://www.usda.gov/wps/portal/usda/usdahome?contentid=2011/08/0373.xml>. Since the Medford trade is the only on-the-ground water pollution trading project to come of a nearly one million dollar grant of federal taxpayers money, it can be deduced that Medford was the demonstration of a functional market system. As a side note, given the significant cost of establishing this purported on-the-ground project, it is curious that TFT contracted with Medford for an additional program set-up cost of \$200,000. See TFT Medford Contract at E-3.

the Rogue River. Phase I of a project at rivermile 128 consists of 1.12 acres of 634 stream feet with an average buffer width of 76.95 feet (as determined from the reported acres restored and stream feet affected). Willamette Partnership, Monitoring Verification Report [Rogue RM 128] (April 23, 2014) at 2. Phase II at the same rivermile consists of 2.28 acres of 1003 stream feet with an average buffer width of 99.02 feet. *Id.* Together, phases I and II include 3.4 acres of 1,637 stream feet of restoration, or 0.31 miles, for combined credits of 69,073,622 kilocalories/day.<sup>3</sup> This is roughly 11 percent of the total number of kilocalories (620 million) required in the Medford trade. Should future trades be reflective of these initial ones, the city will be on target to restore a total of 2.51 miles of stream by 2022. Putting aside the very significant difference between assertions by TFT that this trading project would result in over 30 miles of stream restoration,<sup>4</sup> we question the environmental benefits associated with the trades done to date. While the trades may, eventually, yield negative kilocalories, the choice of restoring the Rogue River at rivermile 128 raises questions about how this effort meets DEQ's stated policies or the goals of Oregon's water quality standards.

In particular, this trade illustrates that permittees can obtain far more kilocalories by restoring riparian vegetation on the banks of a large river than they can by restoring vegetation on the banks of a much smaller river or stream. Yet from the standpoint of environmental benefit, which has the more significance to ambient water quality and on the designated uses that depend on cooler water? Without a doubt, the answer is restoration of the smaller waterbody. While restoration on the banks of a roughly 200-foot Rogue River will presumably improve the microhabitat along the 1,637 feet of restored streambank, it will have no impact whatsoever on the temperature of the Rogue River. Restoration on a smaller stream, however, has the potential to completely shade that stream, thereby maintaining lower stream temperatures, the purported purpose of preventing kilocalories from reaching stream surfaces. Because the surface area of a smaller stream is significantly smaller than that of a large river, the investment in restoring a smaller stream will perforce generate a smaller number of water quality trading credits. But it will be a more significant water quality outcome. In addition, the salmonid uses are more likely to receive direct benefits associated with restoration of a rearing area than they are with a minute fraction of a migration area. And, given that market forces will not be stimulated by the Medford trade, the trade must be evaluated squarely on its own, without consideration of any theoretical additional benefits, such as the "economic incentives for voluntary pollution reductions" cited in DEQ's IMD<sup>5</sup> and EPA's guidance.

It appears that TFT, Medford's trading partner, puts a priority on so-called "uplift," meaning in their vernacular the maximum number of kilocalories that can be obtained in a given geographic area. *See, e.g.,* TFT, Standard Operating Procedure: Basin Prospecting and Prioritization for Shade-Based Uplift at 4 ("These [output] maps are used in-house to visualize the general distribution of the available uplift. They also serve a function in the landowner recruitment

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<sup>3</sup> See *infra* at 8 for discussion of how credits are defined.

<sup>4</sup> *See, e.g.,* Mark Freeman, Mail Tribune, Cool waters, City of Medford partners with landowners to help shade Rogue River (July 14, 2013) ("roughly 30 miles of habitat projects the trust must complete by 2022 to meet the DEQ standards.") *available at* <http://www.mailtribune.com/apps/pbcs.dll/article?AID=/20130714/NEWS/307140331&cid=sitesearch>.

<sup>5</sup> IMD at 4.

phase. Green is defined as low (33.3%), yellow as medium (66.6%), and red as high (99.9% uplift.”), 5. So-called high uplift guides the choice of which lands to restore, thereby emphasizing wider rivers where more of the project’s shade can be used as credits. *See also* Proposal, Medford Regional Water Reclamation Facility, Thermal Credit Trading Program (hereinafter “Plan”) at 3 (“Sites with the highest potential for generating credits will be preferred.”); TFT, Project Report (May 6, 2013) (“[TFT] is prioritizing the sites in each sub basin by uplift potential.”).

The concept of “additionality” is built into EPA’s trading policy through its emphasis on obtaining greater environmental benefits than would otherwise be achieved through traditional regulatory approaches. *See e.g.*, EPA, Water Quality Trading Policy (Jan. 13, 2003) (hereinafter “EPA Trading Policy”). This is echoed by Oregon’s guidance that states “achiev[ing] greater environmental benefits than those under existing regulatory programs” is an objective of trading programs. IMD at 4. In the Medford example to date, however, despite a vague permit term encouraging a focus on restoring areas with a “greater potential for overall ecological benefit,” trading executed by TFT on Medford’s behalf has thrown additionality out the window.

**B. Trading in the Tualatin Basin Has Been Driven by Policies to Encourage Salmonid-Based Priorities**

In contrast to Medford, the riparian restoration work done by Clean Water Services (CWS) to achieve trades in the Tualatin Basin has been driven by a policy to support salmon recovery. The NPDES permit accomplished this end by incorporating inducements to restore riparian vegetation on smaller streams and to set priorities for that restoration based on streams’ importance to salmon. Specifically, while the permit established a 2:1 ratio for streams over seven feet wide, “[f]or streams 7 ft across and smaller, a trading ratio of 1 will be used.” CWS, Revised Temperature Management Plan (Feb. 28, 2005) Appendix B Thermal Budget Explained (Revised 2 28 05) (hereinafter “TMP”) at 16. In other words, very roughly speaking, CWS needed to do only half the work on small streams to gain the necessary credits.

While supporting the underlying policy goal of encouraging restoration of streams most used by salmon, EPA pointed out that DEQ’s selected approach did not stand up to scientific or mathematical scrutiny:<sup>6</sup>

The elimination of the 2:1 trading ratio for streams less than 7 feet across is not based on hard data about the time to achieve shade on smaller streams, though anecdotal evidence indicates that vegetation height can grow to double the stream width on smaller streams in as little as five years. DEQ’s decision to go with a 1:1 trading ratio on smaller streams is based on the fact that DEQ wished to remove the strong disincentive that existed for restoring smaller streams, on the grounds that these smaller streams can provide valuable salmon habitat. With

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<sup>6</sup> EPA agreed in comments: “[We could not] find any information in Appendix B which would numerically support the elimination of this contingency factor. We request that this decision be reconsidered and, if retained, that further justification be provided which scientifically supports the reduction in the contingency factor. We further recommend that the revised contingency factor continue to account for the delay associated with growing shade, which does occur on both wide and narrow streams.” EPA, DEQ Response to Comments at 19.

regards to the strength of the disincentive, the cost to restore a mile of stream is the same regardless of the stream width, yet the number of stream miles that CWS would have to plant to offset their excess thermal load doubles if they plant streams that are 5' across as opposed to streams that are 10' across.

EPA Comments, DEQ, Clean Water Services Revised Temperature Management Plan, Comments Received and DEQ's Responses (Feb. 28, 2005) (hereinafter "DEQ Response to Comments"). DEQ ignored this comment and allowed CWS to obtain credits for kilocalories that are simply not produced (a 1:1 ratio applied at time of planting). In reality, however, CWS reports that it does not currently use the allowed 1:1 ratio on any of the streams it has restored and will not do so until it has been able to demonstrate how quickly effective shading can be developed on smaller streams.<sup>7</sup> See Clean Water Services, Temperature Management Plan and Water Quality Credit Trading Combined Annual Report (2005) at 4. Moreover, CWS also indicates that it believes a ratio closer to 1:1 for smaller streams would only be justifiable where the shade has an effective difference in actual stream temperature and where it will have a positive impact on the aquatic life designated uses. Therefore, rather than the DEQ policy embedded in the NPDES permit conditions, it is the far wiser internal policies of CWS that have led to stream widths of its restoration projects ranging from 2 to 47 feet, with a few outliers at 57, 120, and 210 feet. See *id.*

Similarly, the CWS program set out with a specific intent to prioritize areas where shade creation would benefit beneficial uses. See TMP at 20. Keyed to the 2001 TMDL, the CWS TMP "emphasizes the improvement of spawning and rearing areas." *Id.* A model was used to identify high, medium, and low priorities, while focusing the first year on simply achieving some success. *Id.* at 21; TMP Appendix E: Shade Priority Area Map (establishes high, medium, and low or unknown priority throughout the subbasin). The TMP notes that:

Streams in High Priority areas are typically quite narrow. Some are only three or four feet wide during the summer months. As indicated by the graph in Appendix B, it takes several times more shade area, and a corresponding increase in resources, to achieve an equivalent reduction in thermal energy blocked along these streams than it does along wider streams, such as lower portions of major tributaries or the Tualatin River mainstem, which are typically at least 15-20 feet wide and sometimes much wider.

*Id.* at 22. We should note that NWEA strongly objects to the DEQ permit conditions that fail to require any trading ratio to account for uncertainty in CWS trades for small streams. Nor do we support providing trading credits for kilocalories that were not produced, such as the use of the 1:1 ratio applied at the time of planting. But, like EPA, we support the objective in this permit and we strongly support CWS's own re-thinking of this issue. What is deeply troubling is how DEQ could have progressed over time to completely ignoring this policy objective in the Medford and Wilsonville trades. Ignoring policy in favor of regulatory expedience is always a mistake.

Even DEQ itself has pointed out that its stakeholder group agreed on the importance of location:

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<sup>7</sup> Pers. communication with Robert Baumgartner, CWS.

Riparian restoration may take place on tributaries as well as on the mainstem. One justification for this is that it is easier to achieve a closed canopy on a small tributary than on the mainstem, and so the same amount of shade on a tributary is likely to achieve more than a similar project on the mainstem. Another justification is that *salmon spend a greater proportion of their lifecycle in tributaries than they do on the mainstem, and so would benefit more from restoration projects taking place on tributary streams.*

Case Study at 10 (emphasis added). DEQ had also explained that the physics of stream heating argue for restoration of riparian vegetation in tributaries:

There are many miles of stream in the Tualatin Sub-basin that lack adequate shade. *Shading areas highest in the basin would be the most efficient strategy because it is easier to prevent water from heating up than it is to cool it after it has been heated.* Increasing shade also provides ancillary benefits, such as reduced erosion and increased wildlife habitat.

*Id.* at 14 (emphasis added). And DEQ's guidance specifically directs that "[t]o ensure that shading projects are effective and to avoid widely disconnected projects with no discernible net impact on either temperature or the ecosystem," trading programs should conduct restoration in areas of low riparian forest fragmentation, a high percentage of land with high levels of riparian protection, or streams with high opportunity. IMD at A-4. Despite all of this wisdom, DEQ no longer requires any of these considerations be addressed in its trading permits.

### **C. DEQ Acknowledges Key Issues Need Significant Further Development**

The contrast between the Medford and CWS trades demonstrates how, over time, DEQ's use-based policies have given way to crude regulatory expedience. DEQ's past reflections on the trading program also show where the agency could have developed the program but chose not to. As far back as 2007, DEQ acknowledged that additional work was needed to support its trading program, including the following specific issues:

- "Consider providing additional incentives for restoration on high priority areas."
- "Consider providing incentives for the completion of contiguous projects, since contiguous projects will have more value than disconnected projects."
- "Consider developing a trading ratio that takes into account stream width."
- "Explore giving credit for protection."

Case Study at 17. Likewise, in 2009, DEQ suggested the following issues could need further discussion:

- The need to specify maximum or minimum buffer widths;
- Use of trading ratios as an incentive mechanism to direct location or type of trade;
- Establishing DEQ-approved priorities for riparian shade restoration in TMDLs;
- Whether to include federal lands and dams;
- Requirements for private and public dams;
- Whether the IMD encourages active restoration of agricultural lands; and
- The need to develop protocols for trades involving improved habitat.

See DEQ IMD, Appendix G: Issues for Further Consideration at G-1 – G-2. The IMD also makes specific reference to looking at cold water refugia and cooling features, such as hyporheic flows, noting there must be “adequate modeling or other appropriate demonstrations of their value.” *Id.* at 14.

DEQ has failed to tackle the issues it identified as important in the past and has made no progress in developing protocols to address habitat improvement projects. If anything, DEQ appears to have moved backwards by issuing a guidance document on how to discharge heated effluent *into* hyporheic zones<sup>8</sup> and proposed a permit modification to Wilsonville that contained even less information and justification than the two trades that preceded it. This trend suggests that DEQ would rather delegate the mechanics of trading to permittees’ “trading partners” and ignore the policy implications of trading altogether. Both are an incorrect response.

## **II. CONTINUED REGULATORY PROBLEMS PERSIST WITH TRADING IN OREGON**

NWEA raised a number of concerns related to the incorporation of water quality credit trading in the Medford NPDES permit in our earlier letter. These included DEQ’s: (1) failure to properly assess the nonpoint source regulatory baseline, including TMDLs; (2) failure to incorporate the assumptions and requirements of the applicable TMDLs into the water quality-based effluent limitations allowed to be met by trading; and (3) inappropriate use of compliance schedules. These concerns appear consistent with EPA’s own interests in clear compliance-related provisions in permits that allow trading:

Regardless of how water quality trades are included in NPDES permits, it is imperative that NPDES permitting authorities ensure the trades meet specific criteria such as enforceability, accountability, transparency, and consistency with water quality standards.

The permit should clarify what constitutes compliance with permit conditions, explain the measurement and timing of compliance, address compliance issues related to meeting permit limits using water quality trading, and address compliance schedules.

EPA, Water Quality Trading Toolkit for Permit Writers (June 2009) at 41-42.

In NWEA’s view, the recent experience with the proposed Wilsonville permit modification demonstrated that DEQ has made no progress in addressing the regulatory weaknesses we identified earlier. Moreover, other issues involved in Oregon trades have the effect of undermining the clarity and enforceability of one of the nation’s key pollution controls, the NPDES permit. These include lack of clear definitions, an inattention to baseline analysis,

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<sup>8</sup> See Letter from Nina Bell, NWEA, to Dan Opalski, EPA, Re: Use of Hyporheic Flows for the Cooling of Thermal Discharges (July 26, 2013); DEQ, Disposal of Municipal Wastewater Treatment Plant Effluent by Indirect Discharge to Surface Water via Groundwater or Hyporheic Water Internal Management Directive (Sept. 2007); Letter from Christine Psyk, EPA, to Jennifer Wigal, DEQ Re: EPA Concerns About Oregon DEQ Internal Management Directive – Disposal of Municipal Wastewater Treatment Plant Effluent by Indirect Discharge to Surface Water via Groundwater or Hyporheic Water (DRAFT, dated September 2013).



ambiguous and potentially unenforceable permit conditions, a disconnect from water quality standards, and lack of transparency and accountability.

**A. Key Regulatory Definitions are Unclear**

Underlying many trading issues is that of “baselines,” a concept that has been rendered nearly unintelligible by its many competing definitions. While there are different and important types of baseline analysis, DEQ has not clarified how any of them should be addressed and whether any one of them must be addressed. Instead, “baseline” can be read as any one of the following: (1) the baseline vegetation at a site<sup>9</sup> or its existing riparian buffer width;<sup>10</sup> (2) the regulatory baseline for nonpoint sources, including any applicable TMDLs;<sup>11</sup> (3) the amount of thermal load that must be offset;<sup>12</sup> (4) the level of thermal impairment<sup>13</sup> or existing solar loading;<sup>14</sup> (5) the general condition of a site;<sup>15</sup> and (6) “applicable water quality-based effluent limitation, quantified performance requirement, or management practice” and wasteload allocations.<sup>16</sup> Given the importance of all of these types of “baselines” to evaluating and establishing trades, better definitions and how each of them will be treated in the regulatory process is key to success of a trading program. Moreover, in the absence of state administrative rules, all regulatory requirements must be established in the NPDES permits themselves, not DEQ guidance or other non-binding documents (e.g., TFT guidance, fact sheets).

Similarly, the fundamental metric of trading, the credit, is also subject to inconsistent usage, putting aside for the moment, the ways in which baselines and uncertainty ratios factor into calculation of trading credits. For example, the DEQ fact sheet for Medford states that the required number of credits is based on incorporating a 2:1 ratio into the calculation, by placing it in the denominator. *See* Medford Fact Sheet at 30; *see also* Medford Permit Schedule D § 7.c.i.

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<sup>9</sup> TFT, Wilsonville Restoration Approach for Temperature Compliance (hereinafter “Wilsonville Approach”) at 1.

<sup>10</sup> IMD at A-11.

<sup>11</sup> As EPA is aware, The Freshwater Trust has attempted to distinguish between different types of regulatory baselines in order to avoid the fact that wasteload allocations in TMDLs are based on load allocations, as well as the natural thermal potential temperatures themselves, both of which assume no anthropogenic contribution by nonpoint sources.

<sup>12</sup> *See, e.g.*, Case Study at 30 (“the thermal load that CWS is required to offset . . . can be thought of as the trading baseline[.]”).

<sup>13</sup> IMD at A-7 (“For trades taking place in 303(d) impaired waters, credit generation would start after the baseline condition is developed by the process described in Water quality limited: pre-TMDL, p. 11, and approved by DEQ.”).

<sup>14</sup> IMD at A-11.

<sup>15</sup> *See, e.g.*, Medford Plan at 4.

<sup>16</sup> IMD at 19-20.

Likewise the contract between TFT and Medford states “TFT shall deliver Thermal Credits according to the DEQ IMD two to one (2:1) ratio requirement.” Medford Contract at A-1. Although the statement is ambiguous as to whether the ratio is included in the calculation, the numbers are the same as those in the permit, meaning a contracted credit has already been discounted by the ratio. In this light, it is unclear why TFT enters credits into the Markit Environmental Registry<sup>17</sup> without having first incorporated the ratio. As a result, the “credits” in the registry convey a value that is one half those as defined by the permit. Similarly, credits in the CWS trade appear to have been calculated without incorporation of the ratio. DEQ’s guidance is not particularly helpful, stating that “[a] credit is the unit of trade that represents the amount (e.g., mass, kilocalorie) of pollutant reduced over a specified time period (e.g., day, month, year) by a particular action (e.g., riparian shade restoration).” IMD at 20. To the extent that definition appears to suggest gross credits prior to their being discounted by a trading ratio, DEQ has not followed its own guidance in subsequent years. Finally, EPA defines credits as “pollutant reductions greater than those required by a regulatory requirement or established under a TMDL.” EPA Trading Policy at 5.<sup>18</sup> It is unacceptable that ambiguity concerning such a central concept as the unit in trade can remain unresolved and inconsistent for as long as it has. NWEA believes this structural defect is a reflection on the overall inattention to detail and lack of programmatic robustness from which the Oregon credit trading program suffers.

Identifying the total credits required is also elusive because permits, proposals, and plans do not clearly state whether “totals” are for certain time periods or cumulative totals for a permit term or compliance schedule term. For example, the Medford permit sets out “a total” number of kilocalories that must be obtained by certain dates. *See* Medford Permit, Schedule C §1.a. A fair reading of the final date would be a cumulative total. *Id.* at §1.a.iv. (“By December 31, 2022, permittee must have obtained a total of at least 177 million kilocalories per day in thermal credits.”). The trading plan, however, suggests otherwise, presenting annual unenforceable “goals” with a “cumulative” running total that shows 309,700,000 million kilocalories are intended to be offset by 2022. Plan at 2, Table 1. Likewise, the Medford contract with TFT contains a chart with delivery deadlines and “total volume” of thermal credits associated with each deadline, implying a cumulative total; buried in the text, however, is a statement that the credits will amount to “an aggregate total of 310 million Thermal Credits.” *Id.*

**B. The Wilsonville Example Demonstrates Ambiguity in Oregon Trading Permits is Getting Worse**

While DEQ’s Medford permit suffers from ambiguity, its proposed Wilsonville trade was worse in that respect. Both of these permits referred obliquely to their incorporating by reference a “DEQ-approved Credit Trading Program,” without its being clear what the document was and

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<sup>17</sup> *See* Markit Environmental Registry, Rogue RM 128(ID: 103000000000136) available at [http://mer.markit.com/br-reg/public/project.jsp?project\\_id=103000000000136](http://mer.markit.com/br-reg/public/project.jsp?project_id=103000000000136) (last visited July 3, 2014).

<sup>18</sup> It goes on to clarify that “where a TMDL has been approved or established by EPA, the applicable point source waste load allocation or nonpoint source load allocation would establish the baselines for generating credits.” *Id.*

whether DEQ was taking public comment on it.<sup>19</sup> In fact, that ambiguous notice in both cases constituted the only opportunity for public comment on the proposed trading in the permit.<sup>20</sup> And, although, in the case of Medford, this “program” (entitled a “proposal”) is incorporated into the Medford permit by reference, it is not even attached to the permit made available to the public on DEQ’s website, being attached, instead, to the fact sheet.

That was not the worst of it. As we said in our comments on the proposed permit modification, “there is no substance to the proposed trading program other than it will be done in whatever fashion third parties intend to do it.” Letter from Nina Bell, NWEA, to Nancy Stellmach, DEQ, Re: Proposed Modification of City of Wilsonville Water Quality NPDES Permit, File #97952 (Sept. 27, 2013) (hereinafter “NWEA Comments”) at 4. EPA, in its comments on the proposed modification, similarly concluded: “This section is too vague to be able to determine what an approvable trading program needs to contain. . . . The section must also list the amount of credits that are needed by the facility to meet its temperature limit in a specific time period.” Letter from Michael Lidgard, EPA, to Nancy Stellbach, DEQ Re: U.S. EPA Comments Proposed Modification NPDES Wilsonville Water Quality Permit (Sept. 11, 2013) (hereinafter “EPA Comments”) at 3. As we explained, a proposed permit condition that included references to variable, adjustable practices, references to third parties, and to future DEQ approval were not unambiguous permit conditions likely to ensure compliance with 40 C.F.R. § 122.44(d). *See* NWEA Comments at 15.

Oddly, for a permit modification specifically drafted to allow trading, DEQ’s fact sheet was more silent than not on the proposed trading aspects of the permit. As our comments noted, DEQ failed to explain and evaluate how long plant growth would take to generate shade, why planting anywhere within the Willamette Basin was justified, why any type of baseline did not need to be evaluated, how uncertainty would be addressed, and why buffer widths could be variable. *Id.* at 15. In fact, it appears that DEQ simply relied upon TFT to ensure that TFT’s policies were carried out, as if TFT’s policies are, without question, the same as those that the DEQ would establish were it to put its mind to having policies. In this way, not only was DEQ relying on its own internal guidance to implement its statutory authority<sup>21</sup> to use trading programs to achieve the state’s water quality objectives and standards, it was relying upon

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<sup>19</sup> *See* NWEA Comments at 3-4.

<sup>20</sup> DEQ’s guidance also holds open the possibility that the agency would sanction trades without any public input whatsoever. *See* IMD at 27 (trades may be “implemented through . . . DEQ order).

<sup>21</sup> The Oregon statute mandates that DEQ “develop and implement a pollutant reduction trading program,” ORS § 468B.555(1), by “develop[ing] a procedure,” ORS § 468B.555(3)(a). There is no evidence, other than the vague IMD, that DEQ has developed either a program or a procedure, and certainly it has not assisted the Oregon Environmental Quality Commission to adopt administrative rules, which presumably the statute intended. Nor is there any evidence that DEQ’s regulatory activities to date have consistently “result[ed] in a net reduction of pollutants, assist[ed] in meeting water quality standards and implement[ed] total maximum daily load allocations.” ORS § 468B.555(3)(a).

guidance issued by a non-governmental party.<sup>22</sup> For example, TFT has issued a number of guidance documents that purport to establish policies: on tree heights to estimate thermal abatement potential;<sup>23</sup> establishing basin priorities;<sup>24</sup> monitoring protocols;<sup>25</sup> dates for calculating potential effluent limit exceedances;<sup>26</sup> contracting for thermal credits required to meet effluent limits;<sup>27</sup> and evaluating thermal limits based on Oregon’s mixing zone rules.<sup>28</sup> Some of these guidance documents read as if TFT actually issues Oregon’s NPDES permits. *See, e.g.*, TFT, Standard Operating Procedure: Thermal Exceedance Calculation Process and Credit Obligation Evaluation at 2 (“In order to conduct the near-field evaluation, TFT will need to obtain effluent temperature and effluent flows for the facility.”). In other words, not only does TFT appear to define the policies that establish the credits but also to evaluate how many credits are required for a source to be in compliance with Oregon’s water quality standards. As TFT itself notes, “[t]he dates of concern [for calculating thermal credits] are not mandated by Oregon DEQ at this time, other than extreme flexibility of picking one of many options . . . This memo outlines the dates we choose as our uplift calculations standard and the justification therein.” TFT, Uplift Calculation Date Selection Criteria (Aug. 13, 2013). Yet these third-party policies are not mentioned, incorporated by reference, or discussed in the credit trades that have been consummated or proposed by DEQ; there are no explanations or justifications made to the public by DEQ on any of the issues covered. As one consequence of DEQ’s reliance on the policies of a third party, none of these policies and guidance documents have been subject to public comment or external expert review even as applied to individual NPDES permits.

In contrast to the TFT guidance documents, DEQ’s catalogue of information needed to support

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<sup>22</sup> This is certainly contrary to DEQ’s recent settlement of *Northwest Pulp and Paper Association v. Oregon DEQ*, Settlement Agreement (April 21, 2014) at 3 (“DEQ acknowledges that a DEQ directive, standard, regulation, or statement of general applicability—regardless of whether made in a memorandum, guidance, settlement agreement, or other context—that implements, interprets, or prescribes law or policy, or describes the procedure or practice requirements of the agency is a “rule” as defined in ORS 183.310(9)[.] . . . DEQ further acknowledges that any such rule must be adopted through applicable rulemaking procedures in order to be valid.” Use of non-DEQ guidance documents is beyond the pale.

<sup>23</sup> TFT, Tree Height Parameter Selection Criteria for Shade-A-Lator Modeling (Aug. 5, 2013).

<sup>24</sup> TFT, Standard Operating Procedure: Basin Prospecting and Prioritization for Shade-Based Uplift (Oct. 29, 2013).

<sup>25</sup> TFT, Revegetation Monitoring Protocol for Water Quality Trading Projects (Dec. 18, 2013).

<sup>26</sup> TFT, Uplift Calculation Date Selection Criteria (undated).

<sup>27</sup> TFT, Standard Operating Procedure: Thermal Credit Obligation Evaluation (Oct. 29, 2013).

<sup>28</sup> TFT, Standard Operating Procedure: Thermal Exceedance Calculation Process and Credit Obligation Evaluation (Nov. 19, 2013).

trades includes only the following: (1) a general description of activities that will generate credits and how they will be used; (2) a list of proposed trading partners and copies of contracts and agreements, if any; (3) quantification of the proposed trade consistent with a TMDL; (4) identification of ancillary benefits if any; and (5) reasonable assurance of implementation. *See* IMD at 27-28. Of no importance, apparently, is how the credits are calculated, including assumptions about existing vegetation, regulatory baselines and what it means to be “consistent with the TMDL” given that none of these are actually substantively discussed. Moreover, in the two proposed trades for Medford and Wilsonville, DEQ did not provide the public with copies of contracts and agreements that supported the trading program or any explanation of how the proposed trade met the requirements of the IMD, Oregon’s trading statute, EPA’s trading policy, or federal permitting regulations. As a consequence, DEQ permit writers appear to have deferred entirely to permittees and TFT as their trading partner.

A prime example of this inappropriate deference is that while DEQ’s guidance states that permit conditions must include the “[g]eneral methodology for credit calculation,” neither the Medford nor Wilsonville permits contain either general or specific methodology other than they will use the so-called Shade-a-lator model, which begs the question about the policies on how to use the model and its outputs. While the DEQ’s guidance states that a proposed trading program should “[t]arget areas that are in need of improvement. . . . to focus on areas that have greater potential for overall ecological benefit, *id.* at 29, neither the Medford nor Wilsonville permits require any targeting for ecological benefit.<sup>29</sup> While DEQ’s guidance states that permit conditions must include “[m]easures (e.g., trading ratios, aggressive planting plans) being taken to address uncertainties in the methodology if they exist,” *id.* at 28, there is no discussion of uncertainties in methodology nor any discussion of measures taken to address uncertainty in the Medford and Wilsonville trades. Even without its having provided any substance as to the relationship between the restoration activities and the generation of thermal credits, the incorporation of the “proposal” for trading into the NPDES permit is, in DEQ’s view, the end of public input into the trading program. *Id.* at 29. While the DEQ guidance references the role of compliance schedules in permits that allow trading, *id.* at 29, it provides no guidance to the permit writer other than to observe that “[p]lanting program goals are not to be incorporated into permit requirements as compliance schedules due to the inherent variability experienced in planting projects (e.g., drought conditions, flooding, pest infestations),” *id.* at A-10.<sup>30</sup> The list of items required to be documented in the fact sheet to the public is even less. *See id.* at 31. Given this backdrop it is not surprising that the proposed trading “program” for Wilsonville is under six pages compared to Medford’s 11 pages. It seems that as time goes on, DEQ will accept any barrel scrapings as acceptable.

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<sup>29</sup> *See infra* at 20 for a discussion of the inconsistency between permits and DEQ-approved trading plans with regard to ecological benefits.

<sup>30</sup> While DEQ’s IMD on trading allows for compliance schedules, DEQ’s IMD for compliance schedules does not contemplate their use for trading. DEQ, Internal Management Directive: Compliance Schedules in NPDES Permits (updated June 21, 2010) at 3. This limitation is due to a Settlement Agreement signed by DEQ with NWEA and other plaintiffs in which DEQ agreed to limit the use of compliance schedules to facilities that “must perform substantial facility modifications or substantial modifications in processes or both in order to meet the new or newly applied WQBELs.” Settlement Agreement, *Northwest Environmental Defense Center, et al. v. U.S. EPA*, Civil No. 07-cv-1396 (D. Or.) (June 12, 2010).

C. **Credit Accounting – What is True Verification and How are Credits Adjusted?**

The NPDES permitting program is defined by its use of clear, enforceable permit conditions that are consistent with water quality standards and allow for accountability. In contrast to the statute and regulations that ensure these qualities, the Oregon trading program has introduced a method of meeting water quality-based effluent limits that defies accountability. The regulatory and contractual documents that support trading refer to credit “verification” as the desired outcome. But “verification,” in the vernacular of the vested interest non-profits that promise it, means a paper exercise in which the “third party verifier” primarily checks over the paperwork of the entity creating the credit, with some field review of the project. *See, e.g.,* Willamette Partnership, Ecosystem Credit Accounting: Pilot General Crediting Protocol: Willamette Basin Version 1.1 (Sept. 23, 2009) (hereinafter “Willamette Partnership Protocol”) at 3 (“This process [of verification] confirms calculations done by (or for) the seller and confirms the work done on the ground.”). So, what exactly is being verified? The answer is the credit calculation in which “[p]roject developers apply approved methods to calculate a baseline condition and a post-action condition based on conservation or restoration designs. This stage produces a formal estimate of credit quantity that can be independently verified.” *Id.*; *see also id.* at 21 (“Credit generation protocols were followed completely and accurately.”).<sup>31</sup>

Checking the paperwork and reviewing the calculations are only as good as the requirements that bear on the paperwork. Oregon trading permits do not appear to require the actual production of negative kilocalories that are consistent with projections and that are consistent with offsetting projected kilocalorie discharges. Instead, the permits just require paperwork credits, the calculation of which has been placed in the hands of someone other than the authorized permitting agency. We believe this is at the heart of why Oregon’s trading program is inconsistent with the Clean Water Act.

There is no way to determine if permit conditions and purported state policies have been integrated into this private calculation of credits. In the case of assessing “baseline” regulations, for example, neither TFT as the credit producer nor the Willamette Partnership as the credit verifier have provided any indication that baseline regulatory requirements were evaluated. The results of such reviews certainly have not been made public nor is there any indication that if they exist they have been reviewed by state agencies. In documents that can be found on-line, the Willamette Partnership claims that “[a]ll issued credits must result from conservation actions that are: 1) above and beyond a regulatory threshold for compliance, and 2) above and beyond business as usual,” noting that “business as usual” will be based on a “set of questions answered by the landowner during the project validation process.” *Id.* at 8-9. However, the set of questions appears to double as the source of the regulatory analysis as well: “Will the project exceed regulatory requirements and other legal mandates?” Willamette Partnership, Self-Validation Checklist: Credit Types, Project Design, and Eligibility (March 20, 2010).<sup>32</sup>

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<sup>31</sup> This paperwork is then sent to the “Market Administrator” to issue a certificate that is based on checking the paperwork that checked the paperwork. *Id.* at 24.

<sup>32</sup> The remaining questions are as follows: (1) Are the project actions commonly employed in the field or industry as part of “business as usual”; (2) Were public dollars dedicated for conservation used to fund any activity in the project area?; and (3) “Have any

Given that agricultural landowners generally are unaware of applicable basin rules and TMDLs,<sup>33</sup> using the landowner as the method of assessing regulatory baselines is dubious at best. Given that even DEQ and ODA have struggled to determine the meaning of ODA's rules, it cannot be correct to rely on landowners' perceptions of them. *See infra* at 27. There is no indication that TFT, Willamette Partnership, the Markit Registry, or the DEQ evaluate and/or review the question of regulatory baseline analysis.

Skipping to later in the process, on-going "verification" is limited to continuing to review paperwork and periodic field inspection. Nothing in this purported verification of credits, however, assesses whether the projected shade upon which the credits are based, came to pass and when. Post-planting assessment appears to be limited to counting trees, not measuring shade. Therefore, there never is a true verification of the projections upon which the credits are based. Instead, the scheme relies on the model to project shade in 20 years and continues to rely on the model to assess whether the shade was produced. It's as specious as using a scientific hypothesis to prove the hypothesis was correct; it has but a whiff of scientific rigor.

A different approach is taken by CWS. This utility evaluates shade production at its restoration sites. In a retrospective analysis discussed in its 2008 annual report, CWS rejected granting itself credits for re-vegetated riparian areas based on a series of criteria including long term maintenance. CWS continues to evaluate the shade production of its restoration activities. In addition, CWS has continued planting beyond permit requirements in order to obtain more than the required number of credits to be prepared for future growth. This also allows the permittee to be in a position to discard various sites without having fallen behind in meeting its permit obligations.

The actions taken by CWS, however, are not driven solely by its NPDES permit but, instead, by its own internal policies. As described above with regard to Medford, Oregon trading permits are ambiguous with regard to credits that have been miscalculated, whether because of model limitations in predicting shade increases or damage to restored areas. In its trading guidance, DEQ asserts that it "does not support any trading activity that would delay implementation of a TMDL or would, over time, cause the combined NPDES permit and nonpoint source loadings to exceed the total loading capacity established by a TMDL." IMD at 12. Likewise, in commenting on the proposed CWS trade, EPA stated that "full offset of the thermal load is not only a goal but a requirement of the NPDES permit." EPA, Response to Comments. But DEQ has not included requirements in permits that clearly require adjustments of credits granted if projections were not accurate. In fact, DEQ has not required that credits be demonstrated to have been accurately projected. In addition, DEQ has not required permittees to anticipate problems and obtain more credits than are needed (separate from the trading ratio) so that permittees do not fall behind. Nor do permits provide for the rate of replanting along with compensation for the delays. These areas of uncertainty are simply ignored.

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credits been previously sold from the project area?" *Id.*

<sup>33</sup> *See, e.g.*, ODA, Curry County Biennial Review Summary from the Local Advisory Committee (Nov. 13, 2012) ("Summary of Impediments: General lack of awareness of the Curry Area Plan and Rules, in the agricultural community and the public. Lack of awareness that the Rules are mandatory, not voluntary.").

Finally, the need for credit adjustment over time, whether due to failed projects, inaccurate projects, or unforeseen problems, is not clearly spelled out in permit conditions. It is clear that *force majeure* provisions place the risk of loss squarely on the permittee. *See, e.g.*, Willamette Partnership Protocol at 28 (“For water temperature credits, liability rests with final buyer using credits for offsets.”); *see also* EPA Trading Policy at 10 (“ In the event of default by another source generating credits, an NPDES permittee using those credits is responsible for complying with the effluent limitations that would apply if the trade had not occurred.”). These risks, of course, can be influenced by geographic choices made by the credit generator, for example by choosing areas more or less likely to be damaged by wildfires, floods, or loss of irrigation. There is little incentive for credit generators to correctly evaluate these risks because DEQ has failed to clearly articulate its policy on enforcement of trading permit conditions. The agency’s further failure to require any form of risk assessment associated with the multiple forms of project related risk – ranging from landowners pulling out of their contract agreements to pest outbreaks, wildfire, and drought – raises serious questions about the degree to which DEQ takes seriously the water quality benefits expected to stem from trading projects.

#### **D. Oregon Trading Permits Ignore Baseline Assessments**

##### **1. *Regulatory Baselines to Prevent Double Counting***

As you will recall, NWEA was particularly concerned about DEQ’s complete failure to assess the TMDL and other regulatory baselines in the credit trade for Medford. In its own guidance, DEQ offers a muddled assessment of what the baseline for nonpoint source control is. While stating that trades must be “consistent with the assumptions and requirements upon which the TMDL is established,” IMD at 12, DEQ goes on to assert that baselines for nonpoint sources are the “[p]rovisions for the TMDL Implementation Plans for designated management agencies,” *id.* at 20. Because the load allocations to nonpoint sources and the assumptions of nonpoint source controls that underlie the TMDL calculations and wasteload allocations for point sources are distinctly not the same as the TMDL implementation plans set out in DEQ’s Water Quality Management Plans (WQMP), it is unclear what DEQ intends. DEQ’s intent is likely not consistent with federal permitting requirements. 40 C.F.R. § 122.44(d)(vii)(B) (WQBELs must be “consistent with the assumptions and requirements of any available wasteload allocation for the discharge[.]”). Specifically, TMDLs often include a load allocation to nonpoint sources of zero or another small increment of heating, frequently granted to cover levees and other areas not susceptible to shade restoration,<sup>34</sup> yet implementation plans are merely the same practices that are currently required or encouraged of nonpoint sources, reflecting no change in the status quo.<sup>35</sup>

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<sup>34</sup> *See, e.g.*, DEQ, North Coast Basin TMDL (load allocations zero); DEQ, Rogue River Basin TMDL at 2-28 (“Nonpoint source effective shade targets represent system potential riparian vegetative conditions. . . . based on no anthropogenic disturbance[.]”); 2-36 (system potential vegetation “represents the maximum possible effective shade for a given location, assuming the vegetation is fully mature.”); 2-36 (load allocations for nonpoint sources 0.04°C described as “[m]ost streams simulated have no assimilative capacity, which translates into a zero heat load allocation for nonpoint sources.”)

<sup>35</sup> *See, e.g.*, DEQ, Rogue WQMP at 4-20 (one page description of reasonable assurance that nonpoint sources will meet load allocations describes the state statute, the two



Just as inconsistent is DEQ's guidance that "[c]redit can only be given for actions that are not currently required by existing regulation or are above and beyond the minimum regulatory requirement," and a statement "if there is a state requirement to minimize activity within a 25 foot buffer next to a stream, temperature credit could be given for areas within that buffer that are actively planted and maintained to provide for stream shading[.]" *Id.*. While we agree with the first observation, DEQ has failed to analyze existing regulations in any of its authorized trades. And it is our view that the second statement is inconsistent with the first and, at the very least, requires some further interpretation. In any case, DEQ has steadfastly failed to engage in any analysis of TMDLs and nonpoint source practices baselines, or required permittees or their trading partners to do so, in authorizing trading in NPDES permits, inconsistent with both its policies and its explicit permit conditions.

As in its guidance, DEQ also gave no consideration to baseline requirements for nonpoint sources that might be involved in generating thermal credits for trading with Wilsonville, the most recent example of its trading program. *See* NWEA Comments at 7 - 8, 14-16. EPA too noted that the twin provisions of the proposed modification that credits could be generated for "areas that are not already required by statute or rule" and that such restoration activities "must also target areas that are in need of improvement," citing proposed Section 9.b.(1).a, "seems to contradict two other sections of the permit and needs better explanation." EPA Comments at 3. EPA specifically called out the Goal 5 requirements of Oregon law:

The example used [by DEQ] states that "if there is a city or county requirement to protect a 50 ft buffer next to a stream, DEQ will give thermal credit for areas within that buffer that are actively planted and maintained to provide for stream shading." This does not specifically require new activity and therefore could be misinterpreted and misapplied to allow credit for planting that was done since 2006 for other purposes. Additionally, it does not refer to the specific city and county rules or ordinances that may require landowners to do restoration within that 50 foot buffer, which would make that activity ineligible for credit.

*Id.* at 3-4. EPA notes further that there is no description of the regulatory baseline from which to measure credits. *Id.* at 4. Put another way, DEQ provides lipservice to analyzing regulatory baselines including TMDLs but makes no effort to ensure that either the agency, the permittee, or the source of the credits factors in such baselines. And the public has certainly not been invited to comment on the methodology for doing so because there is no methodology presented in the proposed permits on which to comment.

In the earlier Medford trade, DEQ also made no analysis of baselines, as we discussed in our previous letter. And, in the CWS trade, DEQ allowed the permittee to take full credit for federal taxpayers' support of restoration activities in something termed "enhanced CREP," despite the Conservation Reserve Enhancement Program's role in implementing the TMDL's load allocations and rather than simply dividing the CREP-based restoration proportionally based on CWS' support. DEQ's response to comments criticizing CWS's obtaining credit for taxpayers' efforts was complete disinterest: "The funding source CWS chooses to rely on to pay for the temperature trade is not DEQ's concern. Likewise, DEQ does not see a need to limit the credit

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ODA plans that apply to the Rogue River basin, and gives examples of best management practices including "streamside buffer of site appropriate vegetation."

that CWS gets for projects completed with the help of CREP funds.” DEQ, Response to Comments at 10. This type of response certainly undermines the Oregon trading program because it demonstrates that DEQ has no interest in assessing baselines, TMDL requirements, or fundamental fairness.

## 2. *Obtaining Credits for Existing Vegetation*

In DEQ’s guidance, the methodology for credit quantification includes subtracting the “effective shade before planting” from the estimated effective shade after planting. IMD at A-5. It also includes a note that DEQ may approve alternative methods with “adequate justification.” *Id.* DEQ does not state that such justification must be made public. Nowhere in the Medford or proposed Wilsonville trades did DEQ clearly address the question of how existing vegetation would be addressed in riparian restoration activities. *See, e.g.*, Plan at 4 (recording is required of “current site conditions and any relevant baseline condition observations *that may influence performance of the site* (i.e., adjacent property use, evidence ungulate browsing or livestock damage, etc.)”) (“Photo-point monitoring locations will be established to document baseline conditions. . . . *to track site conditions and monitor changes* in vegetation and structure.”) (emphasis added). TFT appears to ignore it. *See, e.g.*, TFT, Standard Operating Procedure: Basin Prospecting and Prioritization for Shade-Based Uplift (existing vegetation is not mentioned). The Wilsonville fact sheet indicates that estimated effective shade before planting will be subtracted from the shade estimated after planting but there is no requirement in the permit to do so and the DEQ-approved “program” does not include baseline vegetation in its credit calculation methodology, to the extent there is a methodology. *See* Wilsonville at 2.

In contrast, as EPA pointed out in comments on the proposed CWS trade, not only must “site-specific information on the level of shade provided by existing vegetation (prior to CWS’ active planting programs) must first be established,” but the permit “should discuss the need for such a determination as well as how and when this site-specific shade baseline will be determined” and “how this will be integrated into the modeling and calculations utilized to determine the shade credit.” EPA, DEQ Response to Comments at 16. EPA further noted that it is rare that no shade currently exists. *Id.* DEQ’s response was not to take responsibility for ensuring that CWS was given credit only for shade creation. Instead, DEQ responded that “[t]he need to take into account existing shade has been passed onto CWS” and that it had modified the permit to require CWS to “monitor shade levels at the start of each riparian restoration project, and then monitor changes in stream shade at regular intervals.” *Id.* Needless to say, monitoring is not the same as a permit limitation that would preclude a permittee’s taking credit for protecting existing riparian vegetation.

### **E. The “Permit Shield” Requires Clear, Enforceable Permit Conditions**

A fundamental principle of the NPDES permitting program is that permittees are granted a “permit shield” to avoid the otherwise strict liability of the Clean Water Act so long as the permittee complies with the terms of the permit. In this way, while providing certainty to the permittee, on the one hand, the permit provides certainty to the public, on the other, thereby creating a balance between polluter and public interests. The integrity of the permit shield and its ability to achieve this balance is integrally linked to the permit conditions that ensure a pollution source is not causing or contributing to violations of water quality standards and any other permit conditions that ensure and support that outcome.

In the trading that has taken place to date in Oregon, the integrity of the permit shield has been placed in doubt for a number of reasons. First, the permit delegates the determination of thermal credits to non-governmental entities without oversight or public review. Second, permit conditions are not necessarily carried over into the “trading program,” a separate document incorporated by reference into the permit. Third, not enough detailed information is required of permittees to evaluate how credits were derived in order to ensure compliance with permit conditions.

For example, in the Medford NPDES permit, the permittee was given effluent limits expressed as “excess thermal load” limits.<sup>36</sup> Medford Permit Schedule A. The compliance schedule set out in the permit requires Medford to meet the final 2022 load limit and the interim load limits set for 2014 and 2018 expressed as “million kilocalories per day in thermal credits.” *Id.* at Schedule C. §1.a. Finally, the permit allows effluent limits to be met through water quality credit trading that comply with the permit, *id.* at Schedule D § 7, and that are conducted according to the “trading program” incorporated into the permit by reference, *id.* at § 7.a.<sup>37</sup> DEQ refers to this plan as “DEQ approved” but provides no information on why DEQ approved the plan and even whether it was approved before or after public comment. It is not clear how to interpret the permit when there are differences between permit conditions and the DEQ-approved plan. For example, comparing Medford’s plan to its permit conditions yields the following observations:

- The permit requires the permittee to provide “the methodology used to calculate the quantity [of credits].” Permit Schedule D § 7.a.iii(2). In contrast, the plan simply asserts credits will be calculated with the Shade-a-lator model. Plan at 3. The plan provides no description of how the calculation of credits will take into account, *inter alia*, (1) the baseline vegetation present in the restoration area; (2) the baseline regulations that require vegetation and/or protection of what already exists; (3) requirements to mitigate existing degraded conditions; (4) requirements that vegetation once planted remain in place; (5) the requirements and assumptions of the applicable TMDL; (6) the projected timeframe for maximum shade’s being cast; and (7) how or if predicted shade will be re-evaluated and adjusted based on actual outcomes. In other words, there is no assurance that some of EPA’s fundamental goals for a trading program will be met.

There is nothing in the permit’s reporting requirements that assures trading policies or permit conditions will be met including, for example, that credits cannot be granted for activities already required by statute or rule. This is borne out in reality. *See, e.g.*, TFT Final Verification Report, attached to Letter from Dennis Baker, Medford, to Andy Ullrich, DEQ, Re: City of Medford – Annual temperature Trading Report (Jan. 24, 2013) (“Characterization of baseline and projected future conditions used in the credit calculation meets applicable standards and was verified.”). Nowhere in the public record

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<sup>36</sup> These are associated with various time periods and stream flows, that extend beyond the November 30, 2016 expiration date of the permit to November 1, 2022 (consistent with compliance schedule requirements).

<sup>37</sup> Medford is required to monitor or calculate and report “thermal credits . . . per the procedures in the approved trading program.” *Id.*, Schedule B §1.b. It is also required to report on February 1 of each year the results of its credit trading activities for the previous year including “quantity of credits generated by each activity.” *Id.*, Schedule B § 3.b.i.

is there a description of how the “baseline” meets the unspecified “applicable standards” and how it was verified – not in the permit, the fact sheet, the trading program, DEQ’s guidance, the required annual reports, or documents available from the Market Registry.

- The permit requires a statement of “unenforceable” interim yearly goals. *See* Permit Schedule D § 7.a.iii(3)(c). It also requires that “[b]eginning in 2013 and ending in 2022, permittee must complete planting of at least one project per calendar year.” Permit Schedule C § 1.a.i. It is unclear whether this latter provision is as unenforceable as the interim yearly goals. What is clear is the permit writer’s intention to just barely meet the letter of the law on compliance schedules without meeting its substantive intent. *See* 40 C.F.R. § 122.47(a)(3) (“the schedule shall set forth interim requirements and the dates on compliance their achievement . . . not [to] exceed 1 year[.]”). So, while establishing a compliance schedule based on thermal credits alone, the permit still touches ever so lightly on actual tree planting in order to appear to meet legal requirements.
- The permit requires that credits be granted for activities “not already required by statute or rule.” Permit Schedule D § 7.b.i.(1). Yet nothing in the plan either echoes this requirement or presents a methodology by which this requirement will be evaluated and met. Therefore, the plan is not consistent with the permit and there is no assurance that the credits granted by outside entities are consistent with the conditions of the NPDES permit. (The only discernable place where existing rules and regulations might be described is the “self-validation checklist,” which is not made publicly available or included as an attachment with the Validation Notice or Validation Report issued by the Willamette Partnership.)

Likewise, the permit states that the “permittee may use credits for as long as the credit generation activity is monitored and functioning as described in the approved trading program.” Permit Schedule D § 7.b.iii. However, this condition fails to take into account that once planted and fully vegetated, the land owner may be required by statute or rule to leave all or some of the vegetation in place, thereby not being allowed to claim the vegetation as credits, pursuant to the permit’s own limitations discussed immediately above. Neither the permit, plan, or fact sheet addresses this issue.

- The permit states that credits “should focus on areas that have greater potential for overall ecological benefit whenever possible.” Permit Schedule D § 7.b.i.(1). In contrast, the plan states that “[s]ites with the highest potential for generating credits will be preferred.” Plan at 3. These are incompatible directives, as discussed *supra* at 4. Yet in DEQ’s approval of the plan, it apparently found no discrepancy.
- The permit allows for damage to projects used to generate thermal credits that are “beyond the permittee’s reasonable control.” Permit Schedule D § 7.v.(1); *see also* Permit Schedule D § 7.v.(3) (“Credits from projects that are damaged due to events beyond the reasonable control of the permittee remain valid provided the permittee demonstrates to DEQ that the sites will be restored or alternative solutions implemented within a reasonable timeframe.”). In contrast, EPA regulations require that a permit be modified when “good cause exists for modification of a compliance schedule, such as an act of God, strike, flood, or materials shortage or other events over which the permittee has little or no control and for which there is no reasonably available remedy.” 40 C.F.R. § 122.62(a)(4). Given this description of when a permit can be modified, it cannot

logically follow that DEQ can simply adjust through re-restoration of a restoration site or an alternative solution without a permit modification. In addition, the permit itself requires that “[m]odification of compliance schedules” is the basis for modification, revocation, or reissuance. Permit Schedule F § A5.f. Compliance schedules cannot be modified outside the public process, including by permit provisions that seek to avoid legal requirements. Moreover, acts of God etc. that are not included in a permit’s legally permissible exceptions of “upset” and “bypass” are not a basis for creating exceptions from permit conditions within the permit itself.

It is clear that the permit’s conditions rely on the use of thermal credits yet there is no assurance provided in the permit that “credits” provided, calculated, and adjusted by outside sources will be established in conformity with the permit’s conditions and applicable law. In fact, there is every reason to believe that they will not, as demonstrated above. Just the single example of the lack of evidence that the Medford program considers baseline regulatory requirements, contrary to the permit’s explicit terms, is sufficient to demonstrate that the plan is not in conformity with the permit. Yet the plan is both “DEQ-approved,” incorporated into the permit, and apparently was considered acceptable to EPA. Such ambiguity is contrary to the letter and intent of Section 402 of the Clean Water Act and EPA’s trading policy.

#### **F. Current Oregon Trading Programs Lack Transparency**

DEQ’s guidance emphasizes the importance of public participation, “because stakeholder involvement is necessary for program effectiveness and credibility” and transparency in information. IMD at 8. In addition to the worst transgressions with regard to transparency – namely the ambiguous nature of the permits – DEQ’s trading program is also opaque in many other ways. The fact sheets that are intended by federal regulation to provide the “significant factual, legal, methodological and policy questions considered in preparing the draft permit,” 40 C.F.R. § 124.8(a), do little to elucidate how credits will be calculated. For example, the fact sheet for Medford says very little and primarily relies upon the plan itself rather than DEQ’s staff analysis of it. In less than a single page it merely cites the IMD, the basic equation to calculate credits that omits discussion of every type of baseline, a statement that credits can be used at planting, and that a written planting plan is required. *See* Medford Fact Sheet at 30-31.

The website DEQ maintains on water quality credit trading is extremely outdated. It has no easy access to any of the trading contracts, explanation of how thermal credits are calculated, link to the Markit Environmental Registry, explanation of the Shade-a-lator despite its being the basis for assessing credits, permittee monthly reports, and it only has one very outdated annual report (from CWS). While the DEQ guidance notes that permits must have monitoring and reporting on trading activities, *id.* at 31, DEQ points out that if a member of the public wants something, they will have to obtain it from DEQ “upon request.” *Id.* at 8. Not only is DEQ’s approach to information not “transparent,” it is possible and even likely that DEQ would charge fees to obtain the requested information, placing an additional burden on citizens.

In theory, TFT credits are available for public viewing on the Markit Environmental Registry.<sup>38</sup> In reality, transparency has not been achieved because there is no indication which permittee has

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<sup>38</sup> Available at <http://mer.markit.com/br-reg/public/index.jsp?q=The%20Freshwater%20Trust&s=cp>.

purchased the credits that are posted. The only way in which one can possibly locate projects on Markit that are associated with a particular NPDES permit is by clicking on prospects and then reviewing documents that might contain the information. The information on trades conducted to meet NPDES permits' effluent limits is not available from any other source than, presumably, the discharger itself, because DEQ does not make any records available on-line nor require permittees to make any records available. As the number of projects increases, picking through them on Markit, where it is used, without even the guarantee of finding information, will become increasingly difficult and does not constitute "transparency." As DEQ is authorized by statute to collect fees associated with administrative costs associated with trading, DEQ should in fact collect sufficient fees to cover the costs of posting annual and monthly reports on-line. *See* ORS 468B.555(4)(a).

### **III. UNCERTAINTIES IN OREGON'S TRADING SCHEMES REMAIN UNADDRESSED**

As we discussed in our earlier letter, EPA has built its trading policy on the premise that trading introduces additional uncertainty into how NPDES permittees can meet their water quality-based effluent limits. EPA makes clear that this is a major issue that must be addressed. *See, e.g.*, EPA Trading Policy at 9.<sup>39</sup> In contrast to EPA's emphasis on assuring the integrity of trading programs by addressing uncertainty, Oregon DEQ has given slight lipservice to the issue and no follow-through.

Many areas of uncertainty point to deficiencies in the trading permits that Oregon DEQ has issued. The problems range from inadequate trading ratios, ratios that are depleted by provisions allowing credits to remain in perpetuity, unsubstantiated growth projections, and little or no assurance credits will be adjusted to reflect reality. Because NPDES permits are the only enforceable mechanism to ensure the integrity of trading, it is essential that they become much more robust.

#### **A. DEQ Acknowledges But Does Not Account for Uncertainty in Trading**

DEQ has not disagreed that uncertainty underlies the trading approach. As it noted in 2007,

Riparian restoration is a young science. Symptomatic of this, there are no widely-available performance standards by which the success of riparian projects might be evaluated, nor are there agreed-on planting densities and or expectations for follow-up care for riparian restoration projects.

Case Study at 19. Likewise DEQ noted:

There is a need for greater rigor in this field. From DEQ's perspective, it is important that projects involving riparian restoration perform as intended. . . . If it

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<sup>39</sup> "Where trading involves nonpoint sources, states and tribes should adopt methods to account for the greater uncertainty in estimates of nonpoint source loads and reductions. Greater uncertainty in nonpoint source estimates is due to several factors including but not limited to variability in precipitation, variable performance of land management practices, time lag between implementation of some practices and full performance, and the effect of soils, cover and slope on pollutant load delivery to receiving waters."

is not possible to provide a reasonable level of assurance that these projects will be successful, then it may become difficult for DEQ to justify their being done in the circumstances just described.

*Id.* at 34. And, in its guidance, DEQ reiterated that:

Uncertainties in trading activities are predominantly associated with the challenges of accurately assessing and monitoring nonpoint source credit generation activities (e.g., riparian shade restoration, livestock fencing, cold water refugia) and their resulting pollutant load reductions.

IMD at 16; *see also id.* at 27 (“credits generated by nonpoint sources may be challenging to quantify and trading ratios and/or margins of safety may need to be adjusted accordingly.”); *id.* at A-10 (“Planting program goals are not to be incorporated into permit requirements as compliance schedules due to the inherent variability experienced in planting projects (e.g., drought conditions, flooding, pest infestations).”). DEQ has also pointed out that:

The baseline for nonpoint sources would be the pollutant load level associated with existing land uses and management practices that comply with existing state or local regulations. *It may be challenging to quantify the baseline for a particular nonpoint source due to the variability associated in management practices; however, DEQ would compensate for this difficulty by developing appropriate trading ratios and/or margins of safety.*

*Id.* at 19-20 (emphasis added).

In its guidance, DEQ summarizes EPA’s guidance on the types of ratios that can be used to address uncertainty: delivery or location ratios, equivalency ratios, and retirement ratios. *See id.* at 16-17. And DEQ states that it has chosen the 2:1 ratio it has used in recent permits “to compensate for the time it takes for riparian restoration projects to provide effective shade *and to account for the variability inherent in such projects.*” *Id.* at 16. Yet this statement is misleading and cuts to the core of why DEQ’s approach to uncertainty flies in the face of EPA guidance and its own observations of the presence of uncertainty in trading. No action taken by DEQ to date has used ratios to account for “variability” or any other form of uncertainty. Instead, ratios have been used exclusively to address timing of credits granted at planting. For example, in its case study, DEQ stated: “*To compensate for the fact that the heat load offset by shading will take years to establish*, the Department has decided that at the end of the 20 years, the heat load offset by shading must be two times the actual excess thermal load. This can also be thought of as a 2-to-1 trading ratio.” Case Study at 16 (emphasis added); *see also id.* at 30; CWS, Revised Temp Plan at 13, 14 (“It should be noted that the vegetation that exists after 5 years will not be of a sufficient height or maturity to offset CWS’ excess thermal load.”); IMD at A-6 – A-7 (“This [2:1] ratio provides a way to account for the time it takes for shade to establish.”). EPA must impress upon DEQ the need to address uncertainty through both ratios and other approaches.

Moreover, there is uncertainty in timing that the 2:1 ratio does not address. At no point – in its guidance, its case study, or the fact sheets for proposed permits – has DEQ evaluated the time it takes for restoration projects to provide shade such that a 2:1 ratio is, on average, an appropriate basis upon which to grant thermal credits at the time of planting. It is highly unlikely that

different species of trees considered appropriate in different areas of the state will all grow at the same rate or that they will all cast maximum shade in the same time frame regardless of the stream width.

In one instance DEQ completely waived the 2:1 timing ratio to encourage restoration of riparian vegetation on small streams for CWS, noting that “a closed canopy can be achieved on a smaller stream in significantly less than 20 years. Depending on site potential vegetation, it may be achieved in less than 10 years.” Case Study at 31. While we understand and strongly support DEQ’s interest in encouraging restoration of small streams, it flies in the face of DEQ and EPA guidance to waive all ratios and concurrently to allow calculation of credits based on planting vegetation that casts no shade whatsoever. The result of this policy is to have possibly allowed thermal credits to be issued that constitute less than the full shade being generated, and less than the kilocalories needing to be offset. Needless to say, it also raises significant issues with regard to how such a trade can be viewed as consistent with federal permitting regulations.

DEQ has also suggested other ways in which it might lower the default 2:1 trading ratio, thereby further increasing uncertainty:

[A] lower ratio may be considered if the project proposal also preserves existing riparian shade upstream of the project location to increase the effectiveness of the downstream riparian shade restoration project. A lower ratio may also be considered for projects with multiple elements, such as floodplain restoration or creation of cold water refugia, provided additional improvement of stream temperature or fish habitat would occur above what would be expected with traditional shading projects.

IMD at A-6 – A-7. This explanation does not address the fundamental uncertainty issues that still need to be addressed in trades. Nor does it explain, in its first example, how DEQ can grant credit in the form of a lower ratio to projects that preserve existing vegetation, without a concurrent discussion as to whether there are laws in place that protect that existing vegetation in the first place.

Finally, as to DEQ’s suggestion that it might use margins of safety<sup>40</sup> and monitoring of surrogates to address uncertainty, IMD at 16-17, there has been no discussion in the trading that has taken place to date on either of those approaches. That DEQ has used the surrogate parameters of plant survival and effective shade in lieu of ambient stream temperatures adds nothing to the discussion of uncertainty. As much of the trading that has taken place to date has not even purportedly affected stream temperatures, it would be a pointless exercise to monitor water quality. Measuring surrogates does not offset in any way the inherent uncertainty of accurately assessing the benefits of the trade at the outset and assigning the appropriate credits; it merely assures that the outcome is proportional to the likely flawed projection.

In summary, on the key issue of addressing uncertainty in trading and assuring that trades are at

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<sup>40</sup> Defined by DEQ as use of “greater planting densities or wider buffer widths in riparian shade restoration projects to compensate for low survival rates or high rates of channel migration. DEQ could also require that a permittee use conservative estimates and assumptions if modeling is necessary to determine the impact of a proposed trade.” IMD at 17.



least consistent with EPA permitting regulations, DEQ has proposed and effected nothing. At best it is likely that by granting credits at planting and requiring a 2:1 ratio, DEQ is allowing a one-to-one offset of kilocalories discharged, thereby ignoring entirely the matter of accounting for uncertainty. At worst, it is not even requiring a full offset of the kilocalories discharged.

## **B. Length of Time for Which Credits are Given for Riparian Restoration**

When DEQ issued the permit for CWS, it had concluded that credits for riparian shade production would last for 20 years. DEQ concluded that because after trees have become established, keeping them in place is the “responsibility of the nonpoint sources in the basin,” CWS should no longer be given credit for the shade:

It is anticipated that the number of thermal credits that CWS will be required to achieve via stream shading will be determined based on what they are able to achieve via other means. The duration of the credit for shading will be 20 years. This was established by the DEQ based on consideration of local conditions and other options available to CWS. In the Tualatin Sub-basin, areas with less-than-adequate shade are commonly dominated by Himalayan blackberry. Local experts on riparian vegetation agree that this forms an extremely stable monoculture and shade producing vegetation consisting of overstory trees will not develop in such areas unless there is active planting. One could argue that if this is the case, then CWS should get credit for the trees they plant for as long as they make sure the trees stay planted. *However, to do so would be considered double-counting, that is, giving CWS credit for shade that should ultimately be the responsibility of nonpoint sources in the basin. In light of this, DEQ has decided to limit the duration of the credit to 20 years, which is approximately equal to the useful life of mechanical refrigeration equipment.*

DEQ, Clean Water Services Watershed-based National Pollutant Discharge Elimination System Permit, Permit Evaluation Report and Fact Sheet , File #108014 (Feb. 2, 2004) at 23 (emphasis added). On this basis, the credits would be good for only 20 years, after which they would “expire.” *See, e.g.,* CWS, Revised Temperature Plan at 13; *see also* Case Study at 10 (“Members of the stakeholder group pointed out that 20 years is a typical planning horizon for a treatment plant, therefore it seemed reasonable for this project as well.”), 15.

In stark contrast, by the time DEQ had issued the permit allowing thermal trades for Medford, the 20 year limitation had morphed into something entirely different. Now, according to that permit, the permittee “may use credits for as long as the credit generation activity is monitored and functioning as described in the approved trading program, unless otherwise specified by this permit or DEQ in writing.” Medford Permit at Schedule D § 7.b (iii). There is no discussion of the duration of the credits in the accompanying fact sheet. DEQ’s guidance casts no light: “Credits will be effective for as long as they are maintained.” IMD at 23; *see also id.* at 28 (permits must include “[c]onditions pertaining to the duration of credits and applicability for future permit cycles.”), A-7.

DEQ has provided no explanation of why something that it once explicitly referred to as “double-counting” is now considered an acceptable regulatory approach to permittees’ meeting their effluent limits. DEQ has not addressed regulations that require riparian vegetation, once planted, to remain in place. Nor has DEQ addressed the applicability of permit provisions that

preclude the granting of credits for activities already required by statute or rule. This could include municipal and county ordinances to meet Goal 5 requirements, Oregon Department of Forestry, and ODA regulations among others. If such regulations apply to riparian vegetation, DEQ must incorporate those in the time period credits are allowed to be used. Specifically, all or a portion of such credits must be retired, no longer to be used to offset point source discharges, because they are required by regulation.

In addition, if the intent of the 2:1 ratio is to account for the growth of trees such that at the conclusion of 20 years the amount of negative kilocalories produced over that period of time is roughly equivalent to 20 years of kilocalories discharged, allowing the credits to continue in perpetuity is to eventually allow more kilocalories to be discharged than have been offset. In contrast, DEQ's earlier trades sought to achieve a complete offset of thermal loading. *See* Port of St. Helens' Port Westward Industrial Site, NPDES Permit No. 102650 (Feb. 10, 2003), Schedule D. This mitigation project was intended "to offset the estimated aggregate excess heat load that the permittee will discharge . . . over 40 years, which is the estimated life of the projects that initially will be discharging wastewater to the permittee for discharge under this permit," *id.* at § 1.e, "taking into consideration the time necessary for plants to mature to the point of providing the projected levels of shading," *id.* at § 1.e.B. The point source was not allowed to continue claiming offset credits for matured plants. As DEQ pointed out when it first identified the problem of double-counting, even technological solutions to treating effluent require additional capital expenditures over time. DEQ must adopt a policy that adheres to the goals of trading programs and is consistent with the Oregon statute that calls for a program that provides a "net reduction of pollutants." ORS § 468B.555(3)(a). An initial net reduction cannot be a permanent get-out-of-jail-free card for each permittee that completes trading activities for a purported 20 years of kilocalories.

**C. Long-Term Benefits of Riparian Credit Trading Are in Question if Restored Vegetation is Not Protected**

The other side of this coin is that if restored vegetation is not protected after completion of the credit term, it is unclear that trading programs have provided the asserted environmental benefits. As DEQ noted in its case study,

The possibility that trees might be cut down prior to 20 years was explored in the development of the TMP. What CWS concluded, after working with farmers to design incentive programs to get riparian areas planted, was that requiring 20 years of "no touch" would significantly reduce participation in the incentive programs, and that significant disincentives already existed for cutting down riparian areas.

Case Study at 18. In fact, DEQ considered whether farmers would view restored riparian buffers as tree farms:

The difference in stream shade that is created by going from a 50 ft buffer to a 180 ft buffer is negligible, so there is little-to-no value to CWS in paying to plant these wider buffer widths. It has been suggested that some farmers who signed up for the maximum buffer widths regard the tree-planting as a long-term investment in timber, with the only up-front cost being the temporary loss of the land for other uses. If this is true, the funds might be better spent doing riparian

restoration on more miles of stream. A narrowly-planted riparian area subject to seasonal inundation is less likely to be viewed as a timber investment than a buffer that is 180 feet wide and contains some upland area.

*Id.* at 18. This analysis points out that DEQ had no idea what local or state requirements existed in the Tualatin basin to protect already-planted riparian vegetation, whether under county, ODA, or ODF rules, and it made no attempt to find out. Without knowing what the law requires to protect existing vegetation, of course, DEQ could not make any sort of reasoned choices on policies pertaining to baseline regulatory requirements, benefits of riparian shading over other alternatives to addressing thermal loads, or policies needed to preserve the benefits of trading. This line of thinking comes back around to the question of how DEQ can assure that it is able to quantify the benefits of the proposed trade and to preclude “credit for taking an action that is already required.” Case Study at 2. It never has even attempted to do so. Without knowing this information, DEQ could not make a reasoned policy on maintaining environmental benefits from trades once credit terms have expired.

In 2007, when the case study was finalized, DEQ knew somewhat less about nonpoint sources than it does today. Then, DEQ found that under state law “farmers do have some responsibility for protecting water quality but the responsibility is limited. . . . landowners in TMDL basins are encouraged to allow shade-producing vegetation to become established in riparian areas[.]” Case Study at 15. Today, DEQ is working with ODA to evaluate precisely what landowners’ responsibilities are, at least in the MidCoast Basin. See DEQ, Generalized Decision Path for Assessing Compliance with Mid-Coast Agricultural Rules OAR 603-095-2200 for Establishment and Development of Riparian Vegetation (draft April 11, 2011). Then, DEQ also noted that, according to ODA, “SB 1010 is a principal strategy as part of agriculture’s role in responding to the federal Clean Water Act, the Coastal Zone Management Act, and other natural resource conservation mandates including listings and potential listings of fish under the Endangered Species Act.” *Id.* fn. 6. And, accordingly, DEQ has claimed that Oregon has a program in place to meet water quality standards for all nonpoint sources, including agriculture, as needed to meet the Coastal Zone Act Reauthorization Amendments. See, e.g., Letter from NWEA to Michael Bussell, EPA, and John King, NOAA, Re: Oregon Coastal Nonpoint Pollution Control Program; EPA and NOAA’s Interim Approval of Agricultural Management Measures for Oregon (May 2, 2012). But, on the other hand, DEQ observed that “CWS’s experiences have also shown that farmers are also not willing to commit to keeping areas restored even when there are significant financial incentives for doing so.” Case Study at 22. In the end, DEQ has plunged forward with trading and has never evaluated the extent to which ODA rules, or other laws, would legally preclude farmers from removing restored riparian vegetation and, therefore, would either preclude continued use of restored areas for thermal credits or demonstrate the need for policies to protect environmental benefits obtained through the trading program.

#### **D. Timeframe for Trading May Undermine Efforts to Implement TMDLs**

Both the trades for Medford and Wilsonville allowed credits for activities implemented any time after DEQ’s adoption of the respective TMDLs, without specifying that the purpose of any post-TMDL restoration had to be limited to the generation of thermal credits.<sup>41</sup> This provision created

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<sup>41</sup> This proposal is consistent with DEQ’s guidance. IMD at 21 (“For trades taking place within a TMDL framework, DEQ will give credit for actions started after the initial TMDL

the very real likelihood that most of the state's riparian restoration would be completed for potential sale rather than environmental protection. The policy effect could be an overall decrease in restoration rather than an increase, contrary to EPA's trading policy. *See, e.g.*, EPA Trading Policy at 3. It appears contrary to the Oregon trading statute as well. *See* ORS § 468B.555(3)(a) (DEQ shall develop a program "that results in a net reductions of pollutants[.]").

**E. The Use of One-Size Fits All Tree Growth Projections is Inappropriate and Post-Growth Verification is Required**

As discussed above, DEQ has adopted a policy of requiring trading for 20 years of projected kilocalorie discharges and a related policy of allowing credits to be obtained at the time of planting along with a 2:1 trading ratio. This approach may generate roughly the same kilocalories from restoration activities as are discharged over the 20 year time frame in some circumstances. But it certainly cannot be assumed. There are many variables that can affect the production of shade from restoration including the species of trees, the density of the planting, the width of the stream being shaded, the projected height of the trees, their growth rate, herbicide use, fertilization, irrigation, etc. For example, achieving full projected shade for a wide river could take more than 20 years. Fast-growing hybrid or native cottonwoods are not the appropriate tree for every stream and their rate of growth cannot be claimed everywhere without discrimination. Much is known about the growth rate and height of species; this information should be taken into account in making projections of negative kilocalories and calculating thermal credits. Likewise, no consideration has been given to site-specific impacts that likely will affect shade, and therefore credit, generation. For example, Oregon has no policy that evaluates issues specific to arid lands. There are no offsets required for irrigation withdrawals that decrease flow (thereby increasing temperatures) to irrigate riparian vegetation or for irrigated return flows that heat streams. There is no offset for or evaluation of continued intermittent use of herbicides to prevent invasive species' returning to a restored site. A one-size-fits-all policy is not appropriate given the state of the science.

Moving to a post-planting period, projections need to be verified and credits adjusted to reflect reality. The trading programs should be required to establish methodologies for verification in which monitoring data are assessed to assure that growth rate projections, plant survival, shade projections, etc. were correct. DEQ's current guidance focuses on monitoring achievement of restoration plans but once initial success has been verified additional effectiveness monitoring should be required to demonstrate the effectiveness of the restoration planting in achieving the end goals. These monitoring data and information should not only be used to ensure that there is a complete offset commensurate with permit effluent limits, but that areas of uncertainty and methods of addressing uncertainty (e.g., trading ratios) are evaluated to support program improvements in the future. Oregon has a history of failed restoration projects, much paid for with CWA section 319 funding; it cannot afford to assume that trading restoration projects will universally fare so much better.

**F. Do Requirements of Oregon TMDLs Leave Room for Trading?**

In our previous letter we noted that TMDLs make the assumption that full riparian vegetation will be restored throughout applicable river basins and on the basis of that assumption, DEQ

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is issued by DEQ.").

issues wasteload allocations to point sources. DEQ itself states that “[t]rades and trading programs in impaired waters for which a TMDL has been issued by DEQ need to be consistent with the assumptions and requirements upon which the TMDL is established[.]” IMD at 12. In addition, in approving TMDLs, EPA makes a finding that there is reasonable assurance that DEQ’s assumption of such widespread nonpoint source controls, primarily in the form of riparian restoration, is based in fact. This leaves little in the way of nonpoint source controls left for point sources to control in lieu of end-of-pipe treatments.

The solution, however, cannot be for EPA – or DEQ – to ignore the TMDLs, as they are integral to the Clean Water Act’s regulatory scheme and represent the interpretation of water quality standards to the pollution sources in a particular geographic area. Specifically, the TMDLs establish wasteload allocations (WLA) which must be interpreted into water quality-based effluent limits in NPDES permits that are required to be consistent with the assumptions and requirements of the TMDLs. 40 C.F.R. § 122.44(d)(vii)(B). An effluent limit that provides for trades that rely on nonpoint source controls that nonpoint sources themselves are assumed to do in the TMDL is inconsistent with federal law. EPA’s 2003 Trading Policy supports this view. There are only three apparent approaches that remain. First, TMDLs can instead establish lower wasteload allocations since there is no basis, and never has been one, for the assumption that nonpoint sources will be fully and adequately controlled. Second, trading can turn from riparian restoration to other types of restoration focused on protection of designated uses, such as restoration and protection of hyporheic flows, off-channel habitat, and other types of thermal refugia. Third, DEQ can begin to require nonpoint source controls.

EPA is likely to see the first of these options as unfair and expensive but it is not necessarily either. It is not unfair to place the burden on point sources because Congress established the policies for point and nonpoint sources in the Clean Water Act and unless and until a state adopts sufficient nonpoint source controls as a matter of state law, the Act requires the burden to be placed on point sources. Oregon has a choice to make and so far its policy choice has been to burden point sources. That DEQ writes TMDLs that fly in the face of its own extremely dim assessment of the likelihood of nonpoint source controls<sup>42</sup> is simply its capitulation to point sources and its need to maintain the fiction that land owners are “stewards” of Oregon’s lands. As to the expense, as is already a matter of public record, dischargers gain huge financial savings from using riparian restoration in lieu of treatment technology. That they might have to spend more is simply the cost of doing business in a state that does not care to keep the burden equally placed on urban and rural landowners. To the extent that burden is excessive, compliance schedules exist as a means to spreading the cost out over time. There are many things that are “not fair,” starting with the pollution of public waters by private landowners, an activity which elicits no reaction from DEQ. Perhaps some polluters’ having to meet the requirements of the Clean Water Act will bring the issue of fairness into sharp focus for the Oregon Legislature.

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<sup>42</sup> See, e.g., Case Study at 21 (“A TMDL that simply requires both point and nonpoint sources to reduce loads by 90% effectively precludes point/nonpoint source trading, because there are so few BMPs available to nonpoint sources that could reliably achieve a greater than 90% reduction in load. An unfortunate aspect to this situation is that given the lack of regulatory control over nonpoint sources, they are unlikely to achieve the 90% reduction anyway. Consequently, the intended reductions are not likely to be achieved, and trading is not an option, although with adequate trading ratios, it could potentially accomplish a greater overall reduction than might be achieved by the point sources alone.”)

It also should be noted that CWS was required by the Tualatin Basin TMDL to reduce its thermal discharge by approximately 95 percent. *See* Case Study at 12. As DEQ pointed out, “[t]he magnitude of this reduction provided CWS with strong motivation for trading.” *Id.* In any case, this example demonstrates that what was likely “not fair” was, in fact, what the Clean Water Act required and DEQ did not hesitate to implement. And CWS has, in fact, responded enthusiastically.

#### **IV. LARGER POLICY CONSIDERATIONS ARE BEING IGNORED IN OREGON’S TRADING PROGRAM**

In setting up Oregon’s program, DEQ has focused on regulatory expediency for NPDES permittees. This focus is understandable but it fails to recognize that there is a much larger picture that needs to be evaluated, one that involves the nonpoint sources themselves. There are a myriad of issues to be considered but we wish here to end our letter with just a few by way of suggesting that EPA needs to assist Oregon in addressing them.

The end goal of TMDLs and the entire water quality program is to meet water quality standards including, most important, the protection of beneficial uses. Thermal credit trading is a way to allow point sources to take responsibility for the heat portion of their discharges but it in no way offers hope that point sources will pay for all of the riparian and flow restoration that must take place across the state to meet water quality standards. What role does trading play then in the larger policies that are needed to restore waters to standards? Has Oregon considered that paying for maximum “uplift” is another way of saying that the worst of the bad actors will stand to financially benefit the most from trading? Has Oregon considered that trading works best for those in the business of trading when there is the least amount of nonpoint source regulation, regulation that is essential to the widespread nonpoint source controls needed to meet standards? Has Oregon considered that taxpayers and ratepayers may be paying for restoration of vegetation whilst Oregon agencies provide no effective baseline protection for riparian vegetation that currently exists? Or that the improvement of nonpoint source regulations diminishes the likelihood of a credit trading market, the purported desired outcome of the trading efforts to date?

These policy and regulatory questions must be both asked and answered before trading continues in Oregon. And, at the same time, there is enough experience with trading in NPDES permits in Oregon upon which to reflect and assess the practical regulatory details. As EPA has stated, “[p]eriodic assessments of environmental and economic effectiveness should be conducted and program revisions made as needed.” EPA Trading Policy at 11. If Oregon wants to continue using water quality credit trading, EPA should insist that the state begin a public assessment of its trading program to ensure that the program and DEQ actions do not undermine the goals of the Clean Water Act.

#### **Conclusion**

NWEA wrote EPA over a year ago and, while we have talked with the agency about the content of our letter, we have not seen any indication that EPA will hold water quality credit trading in Oregon to an appropriately high standard in the future. All we have to go on is EPA’s words and its actions; thus far it has been all words and no actions. In the most recent episode, we told DEQ, “[the Wilsonville] proposal is considerably less informative than the last one and fails to address any of the issues that have been discussed.” NWEA Comments. EPA appeared to agree with our analysis, telling DEQ that “[t]he required elements of the City’s Trading Program and

approval process are vague. Additional detail must be added to the permit. If there is existing guidance upon which DEQ will review and approve the City's Credit Trading Program, the permit must either refer to that document, or provide that detail in the Permit." EPA Comment at 2. But there is no indication EPA would have stood in the way of DEQ's issuing this permit. Our summary of the situation is that DEQ's trading program has gone backwards in terms of regulatory clarity and public transparency and EPA has not stepped in. We are fearful of what may happen next in DEQ's permitting program and we urge EPA's intervention.

Meanwhile DEQ's trading guidance continues to age with a list of issues for "further consideration" languishing without attention. These issues are among some of the most important to be resolved *before* Oregon issues more trading permits. In light of this inaction, we urge EPA to work with DEQ to address these issues, preferably through rulemaking. The apparently chosen alternative – in which EPA is participating in a closed-door process with Oregon, Washington, and Idaho and two vested-interest non-profit organizations – is neither an adequate nor an appropriate approach.

Finally, we close by noting that EPA itself has hundreds of pages of guidance, but no rules, on water quality credit trading. It has summarized these pages into a simple and colorful poster on what "every trading program should strive to be":

### TRANSPARENT

Keep the public informed at every step of the process by:

- ☆ Involving stakeholders in the design of the trading program;
- ☆ Communicating to the public information deemed necessary to maintain stakeholder confidence.

### REAL

Show pollutant reductions and water quality improvement by:

- ☆ Measuring reductions;
- ☆ Verifying BMP installation and maintenance, e.g. through a third-party.

### ACCOUNTABLE

Manage the program effectively by:

- ☆ Including trade tracking mechanisms in the program design;
- ☆ Periodically reviewing the program's process and results.

### DEFENSIBLE

Base the program on sound science and protocol by:

- ☆ Using dynamic water quality models;
- ☆ Requiring credit generators to certify credits;
- ☆ Developing scientifically-based trading ratios.

### ENFORCEABLE

Establish responsibility for meeting or exceeding water quality standards by:

- ☆ Incorporating clearly-articulated trading provisions in NPDES permits.<sup>43</sup>

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EPA, Water Quality Trading, Keys to Success (June 2007).

Dan Opalski  
July 17, 2014  
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As our letters have demonstrated, Oregon's trading program fails this simple test. Therefore, it is well past time for "EPA [to] use its oversight authorities to ensure that trades and trading programs are fully consistent with the CWA and its implementing regulations." EPA Trading Policy at 11. Without actual EPA oversight and action, the agency's poster is merely wall decoration that provides no service to the nation's taxpayers.

Sincerely,

A handwritten signature in black ink, appearing to read "Nina Bell". The signature is fluid and cursive, with a large initial "N" and a long, sweeping underline.

Nina Bell  
Executive Director

cc: Dick Pedersen, DEQ  
Claire Schary, EPA