

NORTHWEST ENVIRONMENTAL ADVOCATES



March 15, 2013

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Environmental Protection Agency
1200 S.W. Sixth Ave.
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Via Email only: Lidgard.Michael@epa.gov

Re: EPA Oversight of Trading in Oregon Permits Needed to Ensure Consistency with EPA Regulations Implementing the Clean Water Act

Dear Mr. Lidgard:

Recently Northwest Environmental Advocates had the opportunity to review the NPDES permit issued by Oregon Department of Environmental Quality (DEQ) to the City of Medford Waste Water Treatment Plant (WWTP) including the thermal trading scheme incorporated into the permit. While NWEA applauds innovations that protect Oregon's waters, our review revealed a number of ways in which the Medford permit and its associated thermal trading are inconsistent with the Clean Water Act (CWA) and EPA's implementing regulations, and therefore undermine the whole premise of a trading program. As a result, we are writing to ask EPA to evaluate Oregon's thermal trading program, with special attention to the Medford WWTP.

We have two primary concerns with regard to this trade and its apparent inconsistency with EPA regulations implementing the CWA. Our first concern is DEQ's assumption that landowners have any thermal credits to trade at all. As described below, underlying DEQ's approval of this trading scheme, and its incorporation into the Medford permit, is its assumption that the landowners on whose land trees will be planted to generate thermal credits have no responsibilities under state law to have planted, or to not have removed, trees and other riparian vegetation. This, and other assumptions embedded in the trade, threatens to undermine Oregon's thermal water quality standards. The second concern is whether Oregon's treatment of this trading scheme with a compliance schedule is consistent with EPA's regulations and thus the CWA.

I. Oregon Relies on Fundamentally Flawed Assumptions in Authorizing Thermal Load Trades

One of the fundamental objectives in EPA's trading policy is to ensure that trades "[a]chieve[] greater environmental benefits than those under existing regulatory programs." EPA, *Water Quality Trading Policy Statement* (hereinafter "2003 Trading Policy") 3 (January 13, 2003). Consistent with that objective, EPA has made clear since the inception of its trading policy that

in trades between permitted NPDES point sources and nonpoint sources, “trading baselines” must be established to identify what level of pollution control is already required of the landowner: “the baseline for nonpoint sources should be the level of pollutant load associated with existing land uses and management practices that comply with applicable state, local or tribal regulations.” *Id.* at 5. More recently, EPA has reiterated this position:

As stated in the Essential Trading Information for Permit Writers section, a nonpoint source should meet the specified baseline before entering the trading market as a credit seller. Baseline is defined as the pollutant control requirements that apply to a buyer and seller in the absence of trading. After a seller meets its baseline, it can generate credits. A baseline for a nonpoint can be derived from a load allocation (LA) established under a total maximum daily load (TMDL). Where an LA does not exist, EPA’s Trading Policy states that state and local requirements or existing practices should determine a nonpoint source’s baseline.

EPA, *Water Quality Trading Toolkit for Permit Writers* (hereinafter “Toolkit”) 8 (August 2007, updated June 2009) (internal citations removed).

In keeping with EPA’s directive, some states have clear policies to ensure nonpoint sources cannot trade pollutant reductions that they were already required to achieve. For example, Pennsylvania has established numeric baselines for minimum levels of best management practices (BMP) implementation by nonpoint sources before allowing any gains from nonpoint sources to become tradable credits. Similarly, the State of Washington has incorporated existing nonpoint source responsibility to control pollution into its water quality trading regulations, which allow “[o]nly the proportion of the pollution controls which occurs *beyond existing requirements* for those sources can be included in the offset allowance.” WAC 173-201A-450(2)(e)(emphasis added).

In stark contrast to these states and EPA guidance, Oregon has barely touched the issue. In its own trading guidance document, Oregon merely says 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.

DEQ, *Water Quality Trading Internal Management Directive* (hereinafter “Oregon IMD”) 19-20 (December 2009). The Oregon IMD adds that, after a TMDL has been established, “[p]rovisions of the TMDL Implementation Plans for designated management agencies would be the baseline for nonpoint sources.” *Id.* As is discussed further below, in the case of the Medford WWTP, Oregon gave no consideration whatsoever to baseline requirements for nonpoint sources involved in creating thermal credits. As a result, DEQ simply assumed that existing conditions – not TMDL Implementation Plans – are that baseline. DEQ never considered whether the state has either regulated or promised some level of riparian vegetation to meet other requirements, let alone the TMDL, before allowing point sources to take credit for that very same restoration. This makes no sense. EPA should share our concern that such permitting not only is in conflict with the CWA and EPA regulations and guidance, but it fundamentally undermines the integrity of the

statute.

A. Treatment of Assumptions Underlying a TMDL and its Wasteload Allocations

As EPA is well aware, NPDES permits must not cause or contribute to violations of water quality standards. When a state, as in the Rogue River Basin in Oregon, has developed a Total Maximum Daily Load (TMDL), it has assessed and allocated the relative responsibilities of point and nonpoint sources for restoring waterbodies to meet water quality standards. EPA regulations describe this point versus nonpoint source balancing process as follows: “If B[est] M[anagement] P[ractices] or other nonpoint source controls make more stringent load allocations practicable, then wasteload allocations can be made less stringent. Thus the TMDL process provides for nonpoint source control tradeoffs.” 40 C.F.R. § 130.3(i). The more pollution nonpoint sources can control, the less pollution point sources must remove in order to meet water quality standards. As a result, nonpoint source controls are part of the fundamental assumptions underlying the wasteload allocations TMDLs generate, and which must be implemented through NPDES permits issued to point sources, to ensure discharges do not cause or contribute to the existing violations. In other words, through the TMDL process, the state and EPA assess the likely nonpoint contribution to the waterbody of a given pollutant, and, in light of the likely nonpoint controls, determine how much pollutant loading can come from point sources and still meet the water quality standards for that pollutant. Put another way, in the event that the TMDL includes wasteload allocations that are not zero, the state and EPA have determined that there is reasonable assurance nonpoint source controls will be established.

Where a TMDL has been developed and approved by EPA, water quality-based effluent limitations in an NPDES permit are required to be consistent with the assumptions that underlie the TMDL. Specifically, EPA permitting regulations require that effluent limits must be “consistent with the *assumptions and requirements* of any available wasteload allocation for the discharge prepared by the State and approved by EPA pursuant to 40 CFR 130.7.” 40 C.F.R. § 122.44(d)(1)(vii)(B)(emphasis added). EPA’s trading policy supports this position: “Trades and trading programs in impaired waters for which a TMDL has been approved or established by EPA should be consistent with the assumptions and requirements upon which the TMDL is established.” 2003 Trading Policy at 5. Not only must the wasteload allocation be incorporated into the permit but the effluent limits must be consistent with the assumptions underlying the TMDL. Among the assumptions that underlie any wasteload allocation is the relative allocation between point and nonpoint sources discussed above. Specifically, in order to establish a wasteload allocation for all NPDES permitted sources of 0.20°C in its Rogue River Basin TMDL, DEQ decided to assume that nonpoint sources would implement controls to achieve the load allocations given to various nonpoint sources. Without such assumptions, DEQ would have had to set the wasteload allocations for point sources in the basin at zero.

These assumptions in the Rogue River Basin TMDL appear to leave little or no room for the type of trading used in the Medford permit. The TMDL establishes load allocations for nonpoint sources by first granting a load allocation of 0.04°C to all nonpoint sources termed “riparian and other” (i.e., not including irrigation districts and dams). DEQ, *Rogue River Basin Total Maximum Daily Load*, 2-32 (2008). The load allocation to riparian nonpoint sources has been translated into “effective shade curves” that are “general heat load allocations applicable to any stream that was not specifically simulated for temperature.” *Id.* at 2-40. For those streams that were modeled as part of the TMDL, site specific effective shade surrogates were established.

These are set out in Figure 2.20. *Id.* at 2-38 – 2-39. The TMDL concludes that “[a]ttainment of the effective shade surrogate measures is equivalent to attainment of the nonpoint source heat load allocations.” *Id.* at 2-36. Therefore, at a minimum, it can be said that the load allocations for riparian nonpoint sources in the TMDL are intended to provide *maximum* shade because

Nonpoint source effective shade targets represent *system potential riparian vegetative conditions*. This is especially useful for nonpoint source activities that affect streamside vegetation and shade levels. Shade targets based on *no anthropogenic disturbance* identify TMDL objectives more clearly to land managers than change in stream temperature or energy units such as kilocalories.

Id. at 2-28 (emphasis added). In other words, the restoration of vegetation contemplated in the Medford permit trade is already required in the TMDL and incorporated into the applicable wasteload allocations.

This is, of course, not the only place state law assumes the restoration of riparian revegetation. Indeed, the full restoration of the system potential riparian shade is also an assumption that underlies the TMDL’s analysis of natural thermal potential (NTP) temperatures, which have had the effect of changing the underlying numeric criteria for the river. These criteria underlie the wasteload allocations made to point sources such as the Medford WWTP. As the TMDL notes, the NTP simulation “used the following assumptions”:

- Restored riparian vegetation.
- Natural flow conditions – no dams, no irrigation or drinking water withdrawals, no point sources, no water imported into the watershed.
- Tributary temperatures and flows were adjusted to reflect an estimate of natural thermal potential conditions.

Id. at 2-29. As with the TMDL, the NTP calculation assumes landowners’ restoring riparian vegetation as the basis for the wasteload allocation incorporated into the Medford WWTP permit. Riparian vegetation that is assumed for the purposes of the TMDL’s load allocations and, as well, its superseding NTP criteria, cannot also be used to meet the wasteload allocation of one of the point sources whose wasteload allocation is based on those assumptions. To put it crassly, that is double dipping. In fact, it is triple dipping. But it gets worse.

B. Other Assumptions of Nonpoint Source Controls

The Rogue River Basin TMDL is not the only regulatory document that assumes nonpoint sources in this basin will have riparian vegetation in place. EPA and the National Oceanic and Atmospheric Administration (NOAA) Office of Coastal Resource Management (OCRM) have assumed that agricultural riparian areas are or will be protected sufficiently to meet water quality standards and protect designated uses. Pursuant to the Coastal Zone Act Reauthorization Amendments (CZARA), which the federal agencies co-administer, EPA and NOAA concluded on a preliminary basis that Oregon’s agricultural program was adequate to meet CZARA’s statutory mandate. In a letter sent to the federal agencies last year, we pointed out this preliminary finding was incorrect for, among other reasons, relying on Oregon’s Agricultural Water Quality Management Area Plans, which do not require sufficient riparian vegetation and are not enforceable. Letter to Michael Bussell, EPA, and John King, NOAA OCRM, from Nina Bell, NWEA, *Oregon Coastal Nonpoint Pollution Control Program; EPA and NOAA’s*

Interim Approval of Agricultural Management Measures for Oregon (May 12, 2012). Nonetheless, the federal agencies have found that they are. If the agencies are correct, how can EPA and NOAA find that agricultural land owners are required to maintain riparian vegetation sufficient to meet water quality standards pursuant to CZARA, but yet allow the Oregon DEQ to ignore that existing requirement in counting riparian planting for the purposes of supplying thermal credits to point sources? Simply put, both cannot true.

A second and related issue is what, precisely, do Oregon's enforceable agricultural water quality *rules* require of nonpoint sources in the Rogue River Basin? The applicable rules for the Inland Rogue area are intended to "prevent and control water pollution from agricultural activities and soil erosion" in order to "aid in the achievement of applicable water quality standards[.]" OAR 603-095-1400(2). These rules apply to "all lands within the Inland Rogue Agricultural Water Quality Management Area in agricultural use, agricultural and rural lands that are lying idle, or on which management has been deferred, and forested lands with agricultural activities." OAR 603-095-1420(2). The rules establish the following enforceable prohibition: "Agricultural management of riparian areas shall not impede the development and maintenance of adequate riparian vegetation to control water pollution, provide stream channel stability, moderate solar heating, and filter nutrients and sediment from runoff." OAR 603-095-1440(3)(a). What precisely these ODA rules actually mean is unknown. As discussed in our May 12, 2012 letter, the rules appear to be interpreted through a lens called "site capability," which is defined by ODA as "the highest ecological status an area can attain given political, social, or economic constraints." NWEA Letter, *supra*, at 18. However unclear they are, the rules apparently mean that ODA has enforcement authority over something concerned with riparian vegetation. Unless this is a false assumption -- in which case EPA should make itself aware of just how faulty -- DEQ must take this required baseline into account in determining the amount of riparian plantings that can be used in thermal trades. There is no indication that DEQ has done so in the fact sheet prepared to support the revised NPDES permit. *See* DEQ, *City of Medford RWRP Proposed NPDES Permit Amendments to Fact Sheet (Evaluation Report)* (hereinafter "Medford Fact Sheet") (December 12, 2011).

II. Timing and Uncertainty of Credits Associated with Nonpoint Source Controls

Aside from the problems identified above, there remain serious flaws in the Medford trade itself that further undermine the role this trading scheme plays in meeting water quality standards.

A. Thermal Credits Must Not be Granted Prior to Generation of Any Thermal Benefits

In its guidance, EPA addresses whether credits can be granted for activities that are assumed in the future to result in pollution reductions but are not effective at the time they are installed. The guidance states that

Permitting authorities should be aware of potential time lags between BMP installation and full pollutant reduction efficiency. BMPs that are not yet fully functional cannot generate the full number of expected credits. Credits generated by nonpoint sources through installation of BMPs may not be available immediately because of a time lag between installation of the BMP and its effectiveness in reducing loadings or otherwise improving water quality. In some cases, the credit generation could be prorated on the basis of pollutant reduction

the BMP is achieving during the current reconciliation period, even where the BMP has not reached its maximum expected pollutant reduction efficiency. The decisions required to determine when credits have been generated may have already been made in the program design. The permitting authority should be aware of these decisions made in trading program design. If the trade agreement or other document external to the permit does not dictate how and when credits become available for purchase, the NPDES permit should address the time lag between BMP installation and full treatment efficiency (see Reporting Requirements).

Toolkit, *Water Quality Trading Scenario: Nonpoint Source Credit Exchange* 4-5.

In its thermal trading scheme for the Medford WWTP, DEQ states that “[c]redits for specific riparian shade restoration projects may be used as soon as the planting has been accomplished according to the planting plan.” Medford Fact Sheet at 30. The trees being planted are “one to two-year old bare root seedlings” being planted in an “average buffer width of 60 feet, measured from the edge of the stream bank.” *Id.*, *Proposal, Medford Regional Water Reclamation Facility Thermal Credit Trading Program*, 4. There is no possibility that at the time these whips are planted they are generating any shade at all. Therefore, they should not be deemed to be providing any thermal credits at the time of planting or thereafter until they actually provide shade.

We recognize that EPA has not wholly ignored this timing issue in its past reviews of thermal trades in Oregon. In its guidance, EPA briefly summarizes the thermal trade for Clean Water Services in Oregon, stating that “[b]ecause trees provide more shading as they grow, a component of Oregon Department of Environmental Quality’s (DEQ) Heat Source model is used to determine effective shade for each project based on the year of initiation.” Toolkit, *Water Quality Trading Scenario: Nonpoint Source Credit Exchange* 4. In the case of the Medford WWTP trade, however, there is no indication from the Medford Fact Sheet that such prorating based on the Heat Source model used in the Rogue River Basin TMDL was used to determine the shade created by each year of initiation. The trading ratio of 2:1 used for the Medford trade does not appear to take into account the many years in which a credit is granted for no thermal benefit whatsoever.

That the trees may, some day, provide shade is clear, so long as their planting remains permanent. Even that, however, is in doubt because it appears that in some cases the trees will be under contract with the landowner for merely a 20-year lease. *See, e.g.*, The Freshwater Trust, *Overview of The Freshwater Trust’s Implementation Activities and Quality Standards for Temperature Credit* 4 (undated). It is unclear how Medford will meet its effluent limits in the future if any of the landowners involved in trading remove riparian vegetation after expiration of their 20-year leases. In the event this happens, will the permitting authority merely require Medford to begin planting trees again under a new compliance schedule, thereby bearing no responsibility for their newly-unmitigated discharge? How would this be consistent with CWA antibacksliding requirements which, incidentally, are not discussed in the Medford fact sheet? *See* Fact Sheet at 36. The use of credits where there is no water quality benefit and the potential for that benefit to be temporary raises serious questions about Oregon’s use of compliance schedules to achieve water quality standards.

B. Trading Ratios for Nonpoint Source Controls Must Address Multiple Uncertainties

EPA trading policy acknowledges the uncertainty associated with trades between point and nonpoint sources. *See, e.g.*, 2003 Trading Policy at 9. The primary approach to addressing this uncertainty is the use of greater than 1:1 trading ratios. *Id.* EPA states that “the basic categories of trading ratios are delivery, location, equivalency, retirement, and uncertainty.” Toolkit 43 (emphasis omitted). The uncertainties for nonpoint sources include lack of knowledge about precisely how successful the nonpoint source controls will be, the time lag between implementation of some practices and full performance, the location of the pollution controls vis-à-vis the discharge, the uncertainty about when pollution reductions will be achieved, the pollution control effect of the baseline, etc.

In contrast to EPA guidance, Oregon takes a simplistic approach to its trading ratio in its guidance. Oregon IMD at 16. DEQ’s view is that the 2:1 trading ratio it “typically” uses “compensate[s] for the time it takes for riparian restoration projects to provide effective shade and to account for the variability inherent in such projects.” *Id.* While the guidance goes on to discuss delivery or location ratios, equivalency ratios, and retirement ratios, it does not establish any means by which the state will actually develop ratios that make sense for the particular trades that are proposed and which will address those specific issues. In addition, it does not discuss uncertainty ratios except in the context of a “margin of safety” which DEQ does not address in the Medford trade. DEQ does not, in its guidance or in its Fact Sheet for the Medford WWTP thermal trade, explain how the 2:1 ratio in the Medford trade accounts for the delay in trees growing and the limitations of the average 60-foot buffers used for the trade in establishing shade and the uncertainties about how much pollution reduction will be achieved and the location of the trade with respect to the discharge. Moreover, DEQ does not explain how the 2:1 trading ratio addresses all of those concerns and the “difficulty” of assessing nonpoint source baselines, which its guidance specifically states will be addressed through “appropriate trading ratios and/or margins of safety.” Oregon IMD at 20. Instead, DEQ just applies an across-the-board 2:1 ratio and assumes, without analysis, that it is sufficient to address the delays inherent in the growth of one-year-old trees as well as the sum total of all the other uncertainties associated with nonpoint source pollution controls.

III. The Medford Permit’s Compliance Schedule Does Not Meet EPA Regulations

EPA regulations regarding compliance schedules are set out in its permitting regulations, which, in turn, are captured and discussed in a 2007 EPA memorandum frequently referred to as the “Hanlon Memo.” Memorandum from James A. Hanlon, Director, Office of Wastewater Management, to Alexis Strauss, Director, Water Division, EPA Region 9, *Compliance Schedules for Water Quality-Based Effluent Limitations in NPDES Permits* (May 10, 2007). In order to be consistent with the statute and its implementing regulations, the Hanlon Memo states that

Any compliance schedule contained in an NPDES permit must be an “enforceable sequence of actions or operations leading to compliance with a [water quality-based] effluent limitation [“WQBEL”]” as required by the definition of “schedule of compliance” in section 502(17) of the CWA. *See also* 40 C.F.R. § 122.2 (definition of a schedule of compliance).

Hanlon Memo at 2 (brackets in original). In the Medford NPDES permit, however, DEQ has

made the sequence of actions, which is the planting of trees on a yearly basis, *explicitly unenforceable*: “[At a minimum, the permittee’s program must include the following:] Interim yearly goals by which the success of the program will be measured. *These goals are not subject to enforcement action by DEQ.*” DEQ, City of Medford NPDES permit, No. 100985 at 21 (December 13, 2011)(emphasis added), Schedule D, Condition No. 7(a)(iii)(4). There is no explanation provided in the Fact Sheet for Oregon DEQ’s decision to make the required sequence of actions unenforceable, a decision at odds with EPA requirements.

In addition, the Hanlon Memo states that the permitting authority

has to make a reasonable finding, adequately supported by the administrative record and described in the fact sheet (40 C.F.R. § 124.8), that a compliance schedule is “appropriate” and that compliance with the final WQBEL is required “as soon as possible.” See 40 C.F.R. §§ 122.47(a), 122.47(a)(1).

Hanlon Memo at 2. The Medford Fact Sheet states that a compliance schedule is appropriate because the permittee cannot immediately meet its WQBEL. The Fact Sheet does not, however, establish whether the compliance schedule is “as soon as possible.” Instead, DEQ’s evaluation includes several facts: (1) that Medford does not own most of the riparian property slated for restoration; (2) that the city “carefully considered” how much time it would take to recruit and contract with landowners; and (3) and that it is consistent with the experience of the City of Tualatin’s Clean Water Services which has averaged approximately five miles of restoration per year over the past seven years. Fact Sheet at 34. Rather than justifying the compliance schedule as being “as soon as possible,” DEQ merely concludes without analysis that “the Medford RWRP proposal to restore one mile during the first year of their program followed by three miles in future years is considered by DEQ to be reasonable and as short as possible.” *Id.* In fact, the proposal – now incorporated into the permit – is for seven years of one mile each, nine years of three miles each, two years of 1.4 miles, and one year of 1.19 miles. There is no basis provided for dropping the miles restored to 1.0-1.40 per year for the last nine years of the compliance schedule, no explanation of how Medford’s proposal is consistent with the very different pace in Tualatin, no evaluation of the city’s “careful consideration,” and therefore no independent explanation of why DEQ has established a schedule that provides for meeting its final WQBEL “as soon as possible.” And, finally, if the landowners remove the riparian vegetation at the conclusion of their 20-year leases, how can any new compliance schedule, with more planting and more tree growing, be deemed to be meeting the final 2011 WQBEL “as soon as possible”?

Conclusion

In conclusion, we see a deep disconnect between Oregon’s trading program and EPA’s regulations and guidance. This letter is not intended to be a complete analysis of the Medford permit or its pollutant trading scheme, and it does not reflect all of our concerns about this trade. It is, however, intended to cast light on two very troubling aspects of this permit and its inconsistency with EPA regulations. EPA Region X’s website has a glorified take on the benefits of trading – “agricultural producers are finding opportunities to get paid for stewardship activities through water quality trading[!]” It is now past time for the regional office to step up to its responsibilities to review Oregon’s trading program and to ensure its consistency with the statute, regulations, and federal guidance.

Michael Lidgard
March 15, 2013
Page 9

We look forward to your evaluation of our concerns and, as well, strongly encourage EPA to increase its oversight of Oregon's permitting program.

Sincerely,

A handwritten signature in black ink, appearing to read "Nina Bell". The signature is fluid and cursive, with a large loop at the beginning and a long tail.

Nina Bell
Executive Director

cc: Dan Opalski, Director, Office of Water & Watersheds
Christine Psyk, Associate Director, Office of Water & Watersheds
Karen Burgess, EPA NPDES Permitting
Hanh Shaw, EPA NPDES Permitting
Susan Poulosom, EPA NPDES Permitting
Dennis Ades, Oregon DEQ