NORTHWEST ENVIRONMENTAL ADVOCATES

October 18 2021

Jennifer Maglinte-Timbrook
Water Quality Permit Coordinator
4026 Fairview Industrial Drive S.E.
Salem, OR 97302 *via email only*: jennifer.maglinte-timbrook@deq.state.or.us

Re: **DEQ Requests Comments on Proposed City of Ashland Water Quality Permit Renewal**

Dear Ms. Maglinte-Timbrook:

Despite the length of time it has taken the Oregon Department of Environmental Quality ("DEQ") to issue this proposed permit—the current permit has been expired for 13 years, as it was issued on May 27, 2004 and expired on December 31, 2008—it does not appear to reflect much careful thought on the part of DEQ and it fails to meet multiple legal requirements.

I. LEGAL REQUIREMENTS FOR NPDES PERMITS

If the technology-based limits required by the federal and state statutes and regulations are not sufficient to ensure that a discharge will not cause or contribute to violations of water quality standards, permits must include water quality-based effluent limits (WQBELs). 33 U.S.C. §§ 1311(b)(1)(C), 1342(a)(2) ("[T]here shall be achieved . . . any more stringent limitation, including those necessary to meet water quality standards . . . established pursuant to any State law or regulations [.]"); *see also, id.* §§ 1311(e), 1312(a), 1313(d)(1)(A), (d)(2), (e)(3)(A); 40 C.F.R. §§ 122.4(a), (d). (Federal regulations are made applicable to states by 40 C.F.R. § 123.25(a).) The agency issuing an NPDES permit "is under a specific obligation to require that level of effluent control which is needed to implement existing water quality standards without regard to the limits of practicability." S. Rep. No. 92-414, at 43 (1971). Because WQBELs are set irrespective of costs and technology availability, they further the technology-forcing policy of the CWA. *See NRDC v. U.S. E.P.A.*, 859 F.2d 156, 208 (D.C. Cir. 1987) ("A technology-based standard discards its fundamental premise when it ignores the limits inherent in the technology. By contrast, a water quality-based permit limit begins with the premise that a certain level of water quality will be maintained, come what may, and places upon the permittee the

responsibility for realizing that goal."); *see also Riverkeeper, Inc. v. U.S. E.P.A.*, 475 F.3d 83, 108 (2d Cir. 2007) (Sotomayor, J.) (referencing the Act's "technology-forcing imperative"), *rev'd sub nom by Entergy Corp*, 556 U.S. 208.

WQBELs must be set at a level that achieves water quality standards developed by the states for waters within their boundaries. *See* 33 U.S.C. §§ 1313(a)(3), (c)(2)(a); 40 C.F.R. Part 131; *PUD No. 1 of Jefferson Cnty. v. Wash. Dept. of Ecology*, 511 U.S. 700, 704–707 (1994); WAC 173-220-130(1)(b)(i) and (iii), (2), (3)(b); *Defenders of Wildlife v. Browner*, 191 F.3d 1159, 1163 (9th Cir. 1999). Such water quality standards consist of designated uses for waters and water quality criteria (both numeric and narrative) necessary to protect those uses. 33 U.S.C. § 1313(c)(2)(a); 40 C.F.R. §§ 131.10–.11. Under the CWA's "antidegradation policy," state standards must also protect existing uses of waters and prevent their further degradation. 40 C.F.R. § 131.12.

EPA's permitting regulations mirror the statutory requirement for WQBELs. 40 C.F.R. § 122.44(d). NPDES effluent limitations must control all pollutants that are or may be discharged at a level "which will cause, have the reasonable potential to cause, or contribute to an excursion above any State water quality standard, including State narrative criteria for water quality." 40 C.F.R. § 122.44(d)(1)(i). Accordingly, WQBELs in NPDES permits must be "derived from" and comply with all applicable water quality standards. 40 C.F.R. § 122.44(d)(1)(vii). "No permit may be issued: . . . [w]hen the imposition of conditions cannot ensure compliance with the applicable water quality requirements of all affected States." 40 C.F.R. § 122.4(d).

Thus, establishing WQBELs requires the state to translate applicable water quality standards into permit limitations. *See Trustees for Alaska v. U.S. E.P.A.*, 749 F.2d 549, 556–57 (9th Cir. 1984) (holding that a permit must do more than merely incorporate state water quality standards—it must translate state water quality standards into the end-of-pipe effluent limitations necessary to achieve those standards). As the D.C. Circuit put it, "the rubber hits the road when the state-created standards are used as the basis for specific effluent limitations in NPDES permits." *American Paper Inst., Inc. v. U.S. E.P.A*, 996 F.2d 346, 350 (D.C. Cir. 1993). NPDES "permits authorizing the discharge of pollutants may issue only where such permits *ensure* that every discharge of pollutants will comply with all applicable effluent limitations and standards[.]" *Waterkeeper Alliance, Inc. v. EPA*, 399 F.3d 486, 498 (2d Cir. 2005) (emphasis in original).

Although numeric criteria are easier to translate into a permit limitation, permit writers must also translate state narrative standards. *See id.* EPA regulations clearly specify that narrative criteria must be evaluated and must be met, and that limits must be established to ensure they are met. *See* 40 C.F.R. §§ 122.44(d)(1) (limits must be included to "[a]chieve water quality standards established under section 303 of the CWA, *including State narrative criteria* for water quality"); 122.44(d)(1)(i) (limitations must include all parameters "*including State narrative criteria* for water quality"); 122.44(d)(1)(ii) (reasonable potential must be evaluated for "in-stream excursion *above a narrative* or numeric criteria"); 122.44(d)(1)(v) (WET tests required where reasonable potential exists to cause or contribute to a narrative criterion excursion unless chemical-specific

pollutants are "sufficient to attain and maintain applicable numeric and *narrative State water quality standards*"); 122.44(d)(1)(vi) (options for establishing limitations where reasonable potential exists for a discharge to cause or contribute to an excursion *above a narrative criterion*) (emphases added). As the court in *American Paper* found, when it upheld EPA's permitting regulations pertaining to narrative criteria, faced with the conundrum of narrative criteria "some permit writers threw up their hands and, *contrary to the Act*, simply ignored water quality standards including narrative criteria altogether when deciding upon permit limitations." 996 F.2d at 350 (emphasis added); *City of Taunton, Massachusetts v. U.S. Environmental Protection Agency*, 895 F. 3d 120, 133 (1st Cir. 2018) ("When issuing NPDES permits for states that employ narrative criteria, the EPA must translate those criteria into a 'calculated numeric water quality criterion.'").

EPA has explained that a WQBEL is "[a]n effluent limitation determined by selecting the most stringent of the effluent limits calculated using all applicable water quality criteria (e.g., aquatic life, human health, wildlife, translation of narrative criteria) for a specific point source to a specific receiving water." EPA, *NPDES Permit Writers' Manual*, Appendix A at A-17 (Sept. 2010) (hereinafter "EPA Manual").[2] The first step in establishing a WQBEL is determining if one is required. 40 C.F.R. § 122.44(d)(1) ("Limitations must control all pollutants or pollutant parameters (either conventional, nonconventional, or toxic pollutants) which the Director determines are or may be discharged at a level which will cause, have the reasonable potential to cause, or contribute to an excursion above any State water quality standard, including State narrative criteria for water quality."). Because one requirement in issuing a WQBEL is both to determine if the discharge, collectively with other sources of the same pollutant, is causing or contributing to violations of water quality standards, and to limit that discharge accordingly, the federal regulations require the permit writer to assess the role of other sources in causing the violation. *Id.* at § 122.44(d)(1)(ii) ("When determining whether a discharge causes, has the reasonable potential to cause, or contributes to an in-stream excursion above a narrative or numeric criteria within a State water quality standard, *the permitting authority shall use procedures which account for existing controls on point and nonpoint sources of pollution*, the variability of the pollutant or pollutant parameter in the effluent, the sensitivity of the species to toxicity testing (when evaluating whole effluent toxicity), and where appropriate, the dilution of the effluent in the receiving water.") (emphasis added). If, having conducted this evaluation, the permit writer determines that a discharge "causes, has the reasonable potential to cause, or contributes to an instream excursion above the allowable above the allowable ambient concentration of a State numeric criteria within a State water quality standard for an individual pollutant, the permit must contain effluent limits for that pollutant." *Id.* at § 122.44(d)(1)(iii). Where a state finds a reasonable potential to cause or contribute to a violation of narrative criteria for which the state has no numeric criteria, the federal regulations establish methods for establishing effluent limits. *Id*. at § 122.44(d)(1)(vi)(A-C).

---

[2] *Available at* http://www.epa.gov/npdes/pubs/pwm_app-a.pdf .

The matter of determining whether a discharge is causing or contributing to a violation of standards is not resolved by the permit writer's merely looking at the point of discharge and whether it is on the state's 303(d) list for a parameter or pollutant discharged or affected by a parameter or pollutant in the discharge. The process begins with a determination of reasonable potential:

> NPDES permits "must control all pollutants or pollutant parameters" that the EPA "determines are or may be discharged at a level which will cause, have the reasonable potential to cause, or contribute to an excursion above any State water quality standard, including State narrative criteria for water quality." 40 C.F.R. § 122.44(d)(1)(i). The EPA has interpreted "reasonable potential" to mean "some degree of certainty greater than a mere possibility." *In re Upper Blackstone Water Pollution Abatement Dist*., 14 E.A.B 577, 599 n. 29 (EAB 2010).

City of Taunton, 895 F. 3d at 133.

First, there is a question of the nature of the parameter or pollutant discharged and how it is anticipated to affect water quality. Nutrient discharges are among those pollutants that have a far-field effect, creating impacts on dissolved oxygen and algal growth—which can be both deleterious by itself and contribute to lowered dissolved oxygen—far away from the point of discharge. *See, e.g.*, EPA Manual at 176 ("Nutrients are another class of pollutants which would be examined for impacts at some point away from the discharge. The special concern is for those water bodies quiescent enough to produce strong algae blooms. The algae blooms create nuisance conditions, dissolved oxygen depletion, and toxicity problems (i.e., red tides or blue-green algae); *id*. at 198 ("[pollutants] such as BOD may not reach full effect on dissolved oxygen until several days travel time down-river.").

For pollutants such as nutrients, the Environmental Appeals Board (EAB) has held that:

> The plain language of the regulatory requirement (that a permit issuer determine whether a source has the "reasonable potential to cause or contribute" to an exceedance of a water quality standard) does not require a conclusive demonstration of "cause and effect." *See In re Upper Blackstone Water Pollution Abatement Dist*., NPDES Appeal Nos. 08-11 through 08-18 & 09-06, slip op. at 31-34 & n.29 (EAB May 28, 2010), 14 E.A.D. ___.

In re Town of Newmarket, NPDES Appeal No. 12-05, slip op. at 54 n. 23 (EAB Dec. 2, 2013) (emphasis added); *see also City of Taunton*, 895 F. 3d at 136 ("the EPA did not need to show causation . . . to support its conclusion that the Taunton Estuary was nutrient impaired. Rather, the EPA needed only to conclude that the further discharge of nitrogen had the 'reasonable potential to cause, or contribute to an excursion above any State water quality standard.'"). In

other words, the fact of a source's contributing to loading of a pollutant that has been identified to be causing a water quality impairment is sufficient to support a reasonable potential determination.

Second, there is a question as to whether a waterbody must actually be identified as impaired in order for a discharge to present a reasonable potential to cause or contribute to violations of water quality standards. The key here is impairment, not the technicality of 303(d) listing. Again, the EAB provides assistance on the plain meaning of the permitting regulations and the policy rationale behind them:

> NPDES regulations do not support the City's contention that a permit authority must include effluent limits only for the pollutants discharged into receiving waters that are identified as impaired on the state's 303(d) list.
>
> * * *
>
> NPDES permitting under CWA section 301 applies to individual discharges and represents a more preventative component of the regulatory scheme [than 303(d)] in that, under section 301, no discharge is allowed except in accordance with a permit. Moreover, the CWA's implementing regulations require the Region to include effluent limits in discharge permits based on the reasonable potential of a discharge facility to cause or contribute to exceedances of water quality standards, even if the receiving water body is not yet on a state's 303(d) list. *See* 40 *C.F.*R. § 122.44(d)(1)(i). Although a 303(d) listing could presumably establish that water quality standards are being exceeded, necessitating an appropriate permit limit, the Region is not constrained from acting where a water body has not yet been placed on the 303(d) list. *Id.; see also In re Upper Blackstone Water Pollution Abatement Dist., 14* E.A.D. 577, 599 (EAB 2010) (explaining that the NPDES regulations require a "precautionary" approach to determining whether the permit must contain a water quality-based effluent limit for a particular pollutant), aff'd. 690 F.3d 9 (1st Cir. 2012), *cert. denied*, 133 S. Ct. 2382 (2013).

In re: City of Taunton Department of Public Works, NPDES Appeal No. 15-08, slip op. at 38-39 (EAB May 3, 2016), *aff'd*. 895 F.3d 120 (1st Cir. 2018); *see also City of Taunton*, 895 F. 3d at 137 ("we hold that the EPA did not act arbitrarily or capriciously in determining that the Taunton Estuary and Mount Hope Bay were already nutrient impaired, such that further nitrogen discharges would have at least a 'reasonable potential' to give rise to violations of state water quality standards.").

Moreover, the finding of reasonable potential has repeatedly been deemed to be a low bar in order to ensure that NPDES permits protect water quality. EPA regulations require that NPDES limits "*must* control all pollutants" that "*may* be discharged at levels" that will cause or contribute to violations. 40 C.F.R. § 122.44(d)(1)(i) (emphasis added). The emphasis is

regulation of discharges that may be a problem. As the EAB observed of EPA's action of issuing a permit with nutrient limits,

> the Region observed that "[e]ven if the evidence is unclear that a pollutant is currently causing an impairment, a limit may be required if the pollutant has the reasonable potential to cause, or contribute to an exceedance of a water quality standard (i.e., the permit limit may be preventative)." Response to Comments at 36. The Region also noted that "the pollutant need not be the sole cause of an impairment before an NPDES limit may be imposed; an effluent limit may still be required, if the pollutant 'contributes' to a violation." *Id*. (citing *In re Town of Newmarket*, NPDES Appeal No. 12-05, slip op. at 54 n. 23 (EAB Dec. 2, 2013), 16 E.A.D. ___). Ultimately, the Region concluded that the City's discharges cause, have a reasonable potential to cause, or contribute to nitrogen-related water quality violations in the Taunton Estuary and Mount Hope Bay. . . . As such, CWA regulations required the Region to impose a nitrogen limit in the Permit. *See* 40 C.F.R. § 122.44(d)(1)(vi)[.]

In re City of Tauton at 37.

Third, there is the question of whether a permit writer can simply not include an effluent limit because to do so is challenging. Clearly the statute and regulations demonstrate that the answer is "no." Federal courts agree. The Second Circuit cited with approval its decision in *Waterkeeper All., Inc. v. EPA,* 399 F.3d 486, 498 (2d Cir. 2005) for the proposition that "NPDES permits 'may issue only where such permits *ensure* that every discharge of pollutants will comply with all applicable effluent limitations and standards.'" *N.R.D.C. v. U.S. EPA* 808 F.3d 556, 578 (2d Cir. 2015) (emphasis in original). Moreover:

> Even if determining the proper standard is difficult, EPA cannot simply give up and refuse to issue more specific guidelines. *See Am. Paper Inst., Inc. v. EPA*, 996 F.2d 346, 350 (D.C. Cir. 1993) (articulating that, even if creating permit limits is difficult, permit writers cannot just "thr[o]w up their hands and, contrary to the Act, simply ignore[] water quality standards including narrative criteria altogether when deciding upon permit limitations"). Scientific uncertainty does not allow EPA to avoid responsibility for regulating discharges. *See Massachusetts v. EPA*, 549 U.S. 497, 534 (2007) ("EPA [cannot] avoid its statutory obligation by noting the uncertainty surrounding various features of climate change and concluding that it would therefore be better not to regulate at this time.").

Id. The First Circuit and EAB have agreed that uncertainty does not excuse the permit writer from its obligation to set permit limits. *Upper Blackstone Water Pollution Abatement Dist. v. U.S. EPA*, 690 F.3d 9 (1st Cir. 2012), *cert. denied*, 133 S. Ct. 2382 (2013); *In re City of Taunton*

at 61-62; *City of Taunton*, 895 F. 3d at 140 (citing *Massachusetts v. EPA*, 549 U.S. 497, 534, 127 S.Ct. 1438, 167 L.Ed. 2d 248 (2007) (explaining that the EPA cannot avoid its statutory obligation to regulate greenhouse gases by "noting the uncertainty surrounding various features of climate change" when "sufficient information exists to make an endangerment finding").

Fourth, there is a question as to whether in the absence of a TMDL a permit must comply with the statute and regulations that require compliance with water quality standards. There is no question that it must; the lack of a TMDL is no defense for a failure to find reasonable potential and to establish a WQBEL. As the First Circuit has explained:

> TMDLs take time and resources to develop and have proven to be difficult to get just right; thus, under EPA regulations, permitting authorities must adopt interim measures to bring water bodies into compliance with water quality standards. *Id*. § 1313(e)(3); 40 C.F.R. § 122.44(d); *see also, e.g.*, 43 Fed. Reg. 60,662, 60,665 (Dec. 28, 1978) ("EPA recognizes that State development of TMDL's and wasteload allocations for all water quality limited segments will be a lengthy process. Water quality standards will continue to be enforced during this process. Development of TMDL's . . . is not a necessary prerequisite to adoption or enforcement of water quality standards . . . .").

Upper Blackstone Dist., 690 F.3d 14 n. 8. The First Circuit also explained that waiting for the completion of exhaustive studies is equally unacceptable:

> [N]either the CWA nor EPA regulations permit the EPA to delay issuance of a new permit indefinitely until better science can be developed, even where there is some uncertainty in the existing data. . . . The Act's goal of "eliminat[ing]" the discharge of pollutants by 1985 underscores the importance of making progress on the available data. 33 U.S.C. § 1251(a)(1).

Id. Likewise, the EAB recently held the same:

> Where TMDLs have not been established, water quality-based effluent limitations in NPDES permits must nonetheless comply with applicable water quality standards. In discussing the relationship between NPDES permitting and TMDLs, EPA has explained that the applicable NPDES rules require the permitting authority to establish necessary effluent limits, even if 303(d) listing determinations and subsequent TMDLs lag behind. 54 Fed. Reg. 23,868, 23,878, 23,879 (June 2, 1989); *see also In re Upper Blackstone Water Pollution Abatement Dist.*, 14 E.A.D. 577, 604-05 (EAB 2010) (expressly rejecting the idea that the permitting authority cannot proceed to determine permit effluent limits where a TMDL has yet to be established), *aff'd*. 690 F.3d 9 (1st Cir. 2012), *cert. denied*, 133 S. Ct. 2382 (2013).

In re City of Taunton at 11; *see also id.* at 40-41 (citing, *inter alia*, 54 Fed. Reg. 23,868, 23,879 (June 2, 1989) (clarifying in the preamble to 40 C.F.R. § 122.44 that subsection (d)(1)(vii) "do[es] not allow the permitting authority to delay developing and issuing a permit if a wasteload allocation has not already been developed and approved"). Delaying an effluent limit due to the time needed to develop a TMDL is parallel to allowing a compliance schedule to meet an effluent limit due to the time needed to develop a TMDL—an approach EPA has determined is prohibited.[3]

Fifth, in the absence of a TMDL, is the permit writer obligated to assess the individual discharger's responsibility to cease contributing to violations of water quality standards? Not only do the federal regulations explain that the answer is clearly "yes," as discussed above, but so has the First Circuit:

> The Act's TMDL and interim planning process both contemplate pollution control where multiple point sources cause or contribute to water quality standard violations. 33 U.S.C. § 1313(d), (e). Under earlier legislation, including the 1965 Federal Water Pollution Control Act, when a water body failed to meet its state-designated water quality standards, pollution limits could not be strengthened against any one polluter unless it could be shown that the polluter's discharge had caused the violation of quality standards. *See EPA v. California ex rel. State Water Res. Control Bd.*, 426 U.S. 200, 202-03 (1976). This standard was ill-suited to the multifarious nature of modern water pollution and prevented the imposition of effective controls. *Id.* In 1972, Congress declared that the system was "inadequate in every vital aspect," and had left the country's waterways "severely polluted" and "unfit for most purposes." S. Rep. No. 92-414, at 3674 (1971). The CWA rejected the earlier approach and, among other things, introduced individual pollution discharge limits for all point sources. 33 U.S.C. 1311(b). To maintain state water quality standards, the Act establishes the TMDL and continuing planning processes, which target pollution from multiple sources. *Id*. § 1313(d), (e). . . . We thus reject the notion that in order to strengthen the District's discharge limits, the EPA must show that the new limits, in and of themselves, will cure any water quality problems.

---

[3] *See* Memorandum from James A. Hanlon, Director, Office of Wastewater Management, EPA, to Alexis Strauss, Director, Water Division, EPA Region 9 Re: *Compliance Schedules for Water Quality-Based Effluent Limitations in NPDES Permits* (May 10, 2007) at 3 ("A compliance schedule based solely on time needed to develop a Total Maximum Daily Load is not appropriate, consistent with EPA's letter of October 23, 2006 to Celeste Cantu, Executive Director of the California State Water Resources Control Board, in which EPA disapproved a provision of the Policy for Implementation of Toxic Standards for Inland Waters, Enclosed Bays, and Estuaries for California.").

Upper Blackstone Dist., 690 F.3d 32-33. The law clearly establishes that an NPDES permit may not be issued for discharges that may cause or contribute to violations of water quality standards. While "cause" may be considered to refer to the sole source of a violation, "contribute" sweeps all sources of a pollutant into the regulatory requirements, including this permittee. Federal regulations provide only very limited exceptions. For example, 40 C.F.R. § 122.44(d)(1)(ii) requires that in determining reasonable potential a permit authority "use procedures which account for existing controls on point and nonpoint sources of pollution."

Sixth, with regard to the provision that the permitting agency take existing controls on nonpoint sources into account in issuing a permit, here the law requires the permitting authority make a finding on those existing controls and include a provision in the permit to address the finding. Where DEQ finds that it cannot determine whether there are existing controls on nonpoint sources contributing nitrogen and phosphorus to the receiving water affected by the discharge's nutrient pollution or where DEQ finds that existing controls on nonpoint sources of nitrogen are not sufficient, it must at a minimum include a provision to address the nonpoint source contribution in the near future. For example, in 2012, EPA issued an NPDES permit that contained a provision described as:

> referencing the need to achieve nitrogen loading reductions from nonpoint sources in order to achieve water quality standards in the Lamprey River and specifying that collaboration with the State and other stakeholders, including certain specified steps, is required to accomplish that goal.

In re Town of Newmarket, New Hampshire, 16 E.A.D. 182, 194 (Dec. 2, 2013). Further, this provision includes a "reopener condition," in order to ensure compliance with permitting regulations, which provides:

> Following issuance of the final permit, EPA will review the status of the activities described above * * * at 12 month intervals from the date of issuance. In the event the [nonpoint source] activities * * * are not carried out within the timeframe of this permit (5 years), EPA will reopen the permit and incorporate any more stringent total nitrogen limit required to assure compliance with applicable water quality standards.

Id.; *see also* EPA, *Authorization to Discharge Under the National Pollutant Discharge Elimination System, Town of Newmarket, NH, Permit No. NH010096*, at 2-3 (Nov. 16, 2012).[5] While nitrogen in the Great Bay Estuary to which the Town of Newmarket discharges is

[5] *Available at* https://www3.epa.gov/region1/npdes/permits/2012/finalnh0100196 permit.pdf (last accessed July 1, 2020).

described as being primarily from nonpoint sources, the contribution of nonpoint sources to excess nutrients in Ashland Creek, Bear Creek, and the Rogue River is also substantial.

Another approach to meeting the federal regulation is demonstrated by Wisconsin's phosphorus rule, which includes a watershed adaptive management option. *See* Wis. Admin. Code NR 217.18. This provision allows permittees, in circumstances where nonpoint sources and urban stormwater are significant sources, to submit a plan with specific actions that will achieve compliance with the phosphorus criterion. *Id.* at (2). A permit that incorporates these provisions nonetheless also includes WQBELs that will take effect if the plan fails or is terminated. *Id*. at (2)(e)(1). If the criterion is not met within ten years after permit issuance, the permittee is allowed an additional five years to come into compliance with the WQBEL. Thus, the NPDES permits issued by Wisconsin provide for existing or non-existing controls on nonpoint sources.

Seventh, where there is a TMDL in place, Ecology is required to establish WQBELs that "are consistent with the assumptions and requirements of any available wasteload allocation for the discharge prepared by the State and approved by EPA[.]" 40 C.F.R. § 122.44(d)(1)(vii)(B). This applies to the derivation of "effluent limits to protect a narrative water quality criterion, a numeric water quality criterion, or both." *Id.* DEQ, however, may not rely on that TMDL if it is no longer applicable because the regulations also require that "[t]he level of water quality to be achieved by limits on point sources established by this paragraph is derived from and complies with all applicable standards." *Id*. § 122.44(d)(1)(vii)(A). Where the TMDL is clearly no longer applicable, the wasteload allocations in the TMDL must be adjusted to ensure that their use is consistent with water quality standards.

Last, there is a question of a source's contribution to downstream water quality impairments. Meeting water quality standards includes meeting the water quality standards of downstream waters. 40 C.F.R. § 131.10(b).

II. TECHNOLOGY-BASED LIMITS

In discussing the applicable technology-based limits for Ashland, DEQ fails to cite to and apply the requirements of OAR 340-041-0007(1) ("Notwithstanding the water quality standards contained in this Division, the highest and best practicable treatment and/or control of wastes, activities, and flows must in every case be provided so as to maintain dissolved oxygen and overall water quality at the highest possible levels and water temperatures, coliform bacteria concentrations, dissolved chemical substances, toxic materials, radioactivity, turbidities, color, odor, and other deleterious factors at the lowest possible levels."). Instead, DEQ (perhaps) makes a passing reference to this requirement as the need for it to calculate mass load limits from the applicable basin-specific design criteria: "based on the proposed treatment facility capabilities and the highest and best practicable treatment." Fact Sheet at 8. The problem here is that DEQ's version of this requirement, wherein the "proposed treatment facility capabilities" comes into play, is nowhere found in OAR 340-041-0007(1). The regulation specifically states:

"the highest and best practicable treatment . . . must in every case be provided." OAR 340-041-0007(1). DEQ, of course, goes on to cite its previous findings pertaining to what the "treatment plant was capable of" as if that were a sufficient response to this technology-based requirement. The same is true of the Note to Table 3-2 that states "[t]he CBOD5 and TSS concentration limits are established based on EPA's secondary treatment standard requirements." Nowhere does DEQ cite to any basis for concluding that EPA's technology-based requirements for sewage treatment plants are an appropriate interpretation of Oregon's technology-based requirement. In establishing OAR 340-041-0007(1), had DEQ intended that the state's technology-based limit be as limited as the federal limits, it would simply have said so. It did not.

III. WATER QUALITY-BASED EFFLUENT LIMITS

A. The Proposed Temperature Restrictions are Inadequate

1. The 2007 Bear Creek Temperature TMDL

While DEQ is correct in stating that the 2007 Bear Creek Temperature TMDL provides Ashland with a wasteload allocation that "allows the City to warm Bear Creek 0.1ºC above the biologically-based numeric criterion," Fact Sheet at 17, it is incorrect to say that the TMDL itself is not based on the natural conditions criterion, *id*. at Table 3-10. The TMDL is quite clearly based on the then-applicable natural conditions narrative criterion. *See e.g.,* 2007 Temperature TMDL at 28 (narrative criterion), 34 ("site potential" as basis for TMDL), 2 (calculation of difference between "natural thermal potential" and current load is the loading capacity), 2–3 (load allocations expressed as increases over "natural thermal potential"); *see also id.* at 2 ("The simulation of natural thermal potential temperatures exceeded the biologically based numeric criterion, indicating that there is no assimilative capacity available in Bear Creek. This indicates that in addition to the human use allowance, there is no additional load available to give to point or nonpoint sources above natural thermal potential.").

The relevance of this is that DEQ cannot simply rely on a wasteload allocation for Ashland from a TMDL that is not based on currently-applicable water quality standards. The 2007 Temperature TMDL gives Ashland the following wasteload allocation: "0.10C No greater than increase above the applicable criteria (18°C May 16-Oct 14, 13°C Oct. 15-May 15) in Ashland Creek at point of maximum impact." TMDL at 2. (The point of maximum impact was "considered to be the mixing zone during both the summertime and fall critical periods[.]" Temperature Appendix A at 34.) Ashland has been in violation of this wasteload allocation ever since. *Id*. at 32 ("there is often a significant increase in temperature from below the WWTF as compared to temperatures above the plant"); *see also id.* at 32–33 (Figures 4 and 5, the latter a graphic "taken from NPDES Permit evaluation fact sheet" dated March 8, 2004). More to the point, DEQ apparently didn't bother to read its own TMDL, which explains that Ashland was given numeric criteria-related wasteload allocations because "Ashland Creek was not Heat Source modeled by DEQ as part of the temperature TMDL. In the absence of modeling the

temperature criteria that applies to Ashland Creek [are numeric].") 2007 Temperature TMDL at 47. If the remainder of the allocations in the TMDL are based on higher temperatures than the numeric criteria, and they are by virtue of the use of the natural conditions criteria, there is less heat load to allocate to Ashland if the loading capacity is reduced because the natural conditions criteria is no longer a valid water quality standard. Wasteload allocations from TMDLs aimed at meeting no longer applicable standards do not negate the requirements of federal regulations that require that a permit ensure it will not allow a discharge to violate currently applicable water quality standards.

DEQ does not reflect the assumptions and requirements of the 2007 Temperature TMDL in other ways. In the fact sheet, DEQ states that "[t]he WLA is the same for either location and allows the City to warm Bear Creek 0.1ºC above the biologically-based numeric criterion." Fact Sheet at 17. This is not accurate, however. In addition to stating that the wasteload allocation is calculated on the basis of the portion of the human use allowance, the TMDL calculates the actual effluent temperature for both locations as wasteload allocations. *See* Temperature TMDL at 50 (Table 17 "Table 17. Ashland WWTF Waste Load Allocation – Current Outfall into Ashland Creek," showing two seasonal periods of effluent limits, 18.13 and 13.18°C); Appendix A Bear Creek Watershed Temperature Assessment at 35 (Table 6. "Table 6. Ashland WWTF Waste Load Allocation – Outfall into Bear Creek," showing 14 seasonal periods with effluent limits ranging from 13.20 to 18.36°C). However, the wasteload allocations for Ashland's potential discharge to Bear Creek are, unlike those calculated for Ashland Creek, based on the now-voided natural conditions criterion and, as such, cannot be relied on without further analysis.

In addition, DEQ cannot blindly rely on a TMDL without taking into consideration its age. The Temperature TMDL is now 14 years old. When it was issued, DEQ allocated 0.05°C to nonpoint sources of "Ashland, Talent, Phoenix, Medford, Central Point, Jacksonville, Jackson County, ODA, ODF, USFS, BLM, ODOT," described as: "Cumulative impact no greater than 0.05°C above the applicable criteria at the point of maximum impact." 2007 Temperature TMDL at 2. It also gave a load allocation to the Emigrant Dam of "[n]o increase in natural thermal potential temperatures when the biologically-based numeric criteria are exceeded," and a load allocation to three irrigation districts, "TID, MID, RRVID" of "[n]o greater than 0.05°C increase above the applicable criteria due to management of waters by TID, MID, RRVID in Bear Creek at the point of maximum impact." *Id*. After 14 years, DEQ must have some information on whether these load allocations have been met or whether the sources have made any measurable progress towards meeting them. The TMDL found that "[t]he natural thermal potential temperatures in the rest of Bear Creek is cooler by up to 14°F." 2007 Temperature TMDL at 44; *see also id*. at 45 (fig. 12). These temperatures could also be colder with "[a]dditional improvements in Bear Creek channel function (reduction of width-to-depth ratio or better connection of groundwater) or more profound cooling of tributary temperatures." *Id.* DEQ provides no information on whether any progress has been made in reducing Bear Creek temperatures by up to or over 14°F. If DEQ can demonstrate that there is a continuing reasonable assurance that these load

allocations, upon which the wasteload allocations are based, can and will be met, it may be able to rely upon the wasteload allocations. But it may not rely upon a wasteload allocation that is based on load allocations for which there is no such reasonable assurance this many years down the road. It may not rely upon a demonstrably stale TMDL indefinitely; federal permitting regulations prohibit such an outcome.

There is some information that suggests water temperatures may have increased since the 2007 TMDL was completed. In the TMDL, temperatures in Bear Creek are shown as ranging from approximately 66°F at the confluence of Ashland Creek, climbing upward and reaching 70°F around rivermile 13. *See* 2007 Temperature TMDL at 45, fig. 11. But the fact sheet, which says very little about the receiving water conditions, states that "[m]onitoring data indicate that the ambient (stream) temperatures are typically 21ºC or greater during the July – October period[.]" Fact Sheet at 19. Twenty-one degrees C is 69.8°F. So where in Bear Creek are these data coming from? And how is an average temperature from July through October a useful data point? In looking at the data associated with the 303(d) listing of Bear Creek, temperatures appear to range from 22–26°C in July, 24–26°C in August, and 17–22°C in September. *See* assessment data for Assessment Unit OR_SR_1710030801-05-10552. These rough figures demonstrate that DEQ's statement regarding stream temperatures is disingenuous at best. There is simply not enough information in the fact sheet upon which to draw any conclusions. But regardless of whether temperatures have stayed the same or increased 14 years after the completion of a TMDL for temperature, and 30 years after DEQ's TMDLs purportedly to address water chemistry alterations caused by nutrient and temperature-fueled aquatic weed and algae growth, DEQ can no longer rely on the TMDL's wasteload allocations.

B. The Proposed Permit Contains Inadequate Limits on Nutrient Pollution

The fact sheet is unclear when it comes to its discussion of nutrients in the Ashland discharge. In discussing the applicable wasteload allocations that should form the basis of the effluent limits in the permit, DEQ states:

> During the previous renewal, additional modeling was performed to develop allocations addressing a newly adopted dissolved oxygen criterion. These allocations were applied in the existing permit resulting in less stringent limits than what would be required from the 1992 TMDL. These allocations were never officially approved so the allocations shown above and reaffirmed in the 2007 TMDL are applicable and are being proposed in this permit.

Fact Sheet at 12. First, it's nice that DEQ acknowledges its permitting error in the existing permit; thank you. The fact sheet does not make clear that the 1990 TMDL (approved by EPA in 1992), reaffirmed by DEQ in 2007, does not apply to the same parameters as between Ashland Creek and Bear Creek. As DEQ summarized in 2007, Ashland Creek has TMDLs for ammonia

and phosphorus whereas Bear Creek has TMDLs for aquatic weeds and algae, dissolved oxygen, and phosphorus. *See* 2007 Bear Creek TMDL at 49 (table 3). These are not the same and DEQ has not addressed this issue in its permit fact sheet. Moreover, in the 2007 look at the 1990 TMDLs, DEQ also summarized those older TMDLs as having "address[ed] the non-attainment of pH, aquatic weeds and algae and dissolved oxygen (DO) standards by establishing instream concentration criteria and load and wasteload allocations for total phosphorus, ammonia nitrogen, and biochemical oxygen demand." *Id.* at 44. But this is not an accurate reflection of the earlier TMDLs. The 1990 Bear Creek TMDL, however, states that it addresses nonattainment of pH and the pollutant to be controlled is "Total phosphate as Phosphorus." *See* 1990 pH TMDL at 1 of 8. A second 1990 Bear Creek (winter) TMDL addresses nonattainment of dissolved oxygen by controlling biochemical oxygen demand. *See* 1990 DO Winter TMDL at 1 of 5. A third 1990 Bear Creek dissolved oxygen TMDL is controlled by "Biochemical Oxygen Demand (Nitrogenous+ Carbonaceous Oxygen Demands)." *See* 1990 DO TMDL at 1 of 5. In other words, the 1990 TMDLs do not claim to address violations of water quality standards on aquatic weeds and algae regardless of the claim in the 2007 review of the TMDLs. See 2007 TMDLs at 45 (Pollutant Identification: "Increased algal biomass resulting from inorganic phosphorus loading and increases in stream temperature, channel modifications and near stream vegetation disturbance/removal. Organic solids which settle and cause a sediment oxygen demand."). Nor do they claim to address biocriteria, for which water quality standards were not yet established. As a result, DEQ may not rely on these TMDLs as the basis of adequate nutrient limits to ensure that the discharge does not cause or contribute to violations of these standards.

Despite the 2007 TMDLs' having noted that "DO deficits and pH standards violations occur as a result of conditions conducive to excessive aquatic weeds and algae (especially periphyton) growth," 2007 TMDLs at 44, DEQ makes no attempt to evaluate the Ashland discharge with regard to the nutrient and temperature-fueled growth of algae and aquatic weeds. The words "weed," "algae," and "periphyton" literally do not show up in the fact sheet or permit (with the exception of an irrelevant algae used for WET testing). The fact sheet does not mention DEQ's earlier view on what is causing pH problems in Bear Creek but, rather, limits its consideration of pH violations to establishing pH limits for the effluent. This approach is not consistent with the assumptions and requirements of the 1990 pH TMDL to the extent that in 2007, DEQ determined that it was excessive aquatic weeds and algae that are driving pH violations in Bear Creek and that implicit conclusion given that the 1990 pH TMDL seeks to control loading of phosphorus. While there is a reasonable potential analysis for pH in the fact sheet, there is no such analysis for phosphorus (or nitrogen).

The sheer age of the TMDLs that purportedly apply to nutrients, dissolved oxygen, and aquatic weeds and algae—now three decades old—requires DEQ to evaluate whether the load allocations made to nonpoint sources have been met such that the permit writer may rely on solely on the TMDLs to establish the effluent limits for nutrients in the Ashland discharge. It is not enough to pluck the wasteload allocation of two pounds per day phosphorus (at a three mgd design flow) from the 1990 TMDLs without further consideration. The question must be asked:

are the load allocations to nonpoint sources being met after 30 years of presumed implementation of the TMDL? In fact, this 1990 pH TMDL includes a "Proposed Monitoring Schedule to be Developed in nonpoint source program plans" that was intended to ensure that the load allocations were met. 1990 pH TMDL at Schedule B. It states that "[t]he Department and Designated Nonpoint Source Management Agencies (DMA) shall operate a receiving water monitoring program to evaluate the effectiveness of the TMDL and to guide development of any additional control strategies" and includes the locations, the agencies to conduct the monitoring, the parameters to be monitored, the minimum frequency and the type of sample. *Id*. If this monitoring has not taken place, or if it has and the monitoring demonstrates that the load allocations to nonpoint sources have not been met or no or little progress has been made in meeting them, permitting regulations require that point sources, including Ashland, be required to further limit their discharges of the relevant pollutants below the levels established by the 1990 wasteload allocations. Again, as discussed above, DEQ may not rely on a stale, baseless, TMDL. This is even more true of a TMDL that is now over 30 years old. DEQ is also required to discuss the results of the required monitoring and its analysis of this wasteload allocation to Ashland in the fact sheet. And, it must factor in potential changes in flow and other parameters to all waterbodies in the 30 years since the TMDL was developed. But there is no discussion of the relevance of these TMDLs in the fact sheet. (It should also be noted that the 1990 pH/phosphorus TMDL bases its wasteload allocation to Ashland on a design flow of 3 mgd whereas the two 1990 dissolved oxygen TMDLs base their wasteload allocations to Ashland on a design flow of 2 mgd.)

Note, too, that the 1990 DO Winter TMDL was not intended to meet water quality standards but only to "prevent additional excessive loads until such time that the observed winter period dissolved oxygen violations are more fully addressed." 1990 DO Winter TMDL at 2. And the 2007 revisiting of the 1990 TMDLs noted that "elevated stream temperatures are also [a] significant factor in periphyton growth[.]" 2007 TMDLs at 44. To the extent that DEQ has failed to address ongoing high temperatures in Bear Creek, it cannot assume that the levels of nutrients established by the 1990 TMDLs remain sufficient to meet water quality standards.

Further, DEQ may not rely on the Ashland Creek ammonia wasteload allocation to address the far-field effects of nitrogen discharged from Ashland. Nor can it rely on that wasteload allocation for the Bear Creek outfall. The 2007 TMDL noted that:

> In the portion of the Bear Creek watershed which has been determined to be impaired for aquatic weeds and algae, the algae are also causing DO and pH impairments. To address the DO and pH impairments large reductions in the growth of algae are necessary. It is likely that these reductions will be sufficient to address the aquatic weeds and algae narrative criteria.

2007 TMDL at 56. In saying this, DEQ points itself to the problems with this permit. First, the fact sheet makes no mention of algae and aquatic weeds in Bear Creek or Ashland Creek, let

alone the Rogue River. If, after 30 years, there continue to be violations of the water quality standards applicable to algae and aquatic weeds downstream of the discharge, the discharge is contributing to the violations and must be curtailed. We have been told that there is, indeed, excessive algal growth in Bear Creek. Looking at the assessment data, there are no data for biocriteria and no data for algae and aquatic weeds. DEQ cannot assume that because there is a TMDL in place and has been for over three decades the problem has gone away. It should have required Ashland to monitor for downstream receiving water quality before issuing this permit. As DEQ said 14 years ago, "large reductions in the growth of algae are necessary." If DEQ does not currently know what the status of this growth is, it must include data collection requirements in this permit and include a reopener with a date certain to evaluate the relevant parameters that are causing Ashland to contribute to this growth of algae and/or weeds. It cannot simply ignore the issue, the way it did for previous permits for the City of Medford, even if DEQ developed a TMDL 30 years ago and even if the City of Ashland currently provides some nutrient control in its sewage treatment process. The same is true, of course, of the DO and pH impairments that may persist in Bear Creek downstream of the Ashland discharge (not just at the point of discharge). Moreover, the use of the ammonia wasteload allocations in the 1990 TMDL, cited as applicable to this permit, Fact Sheet at 11, cannot be assumed to be sufficient to control the nitrogen that may be causing or contributing to violations of water quality standards for all of the same reasons cited above for phosphorus and algae/aquatic weeds. None of these issues are resolved by moving the Ashland outfall from Ashland Creek to Bear Creek because nutrients are both near- and far-field pollutants.

Bear Creek flows into a segment of the Rogue River that is on the Oregon 303(d) list for violations of biocriteria. DEQ has concluded that "[h]igh nitrogen and phosphorus loads are believed to be, at least in part, causing excessive aquatic vegetation, algae growth, and changes to the biological communities in the Rogue River downstream of the permittee's discharge (Stillwater Sciences 2020). Based on the studies to date, DEQ believes the nitrogen and phosphorous loadings from the permittee's discharge are contributing to the biocriteria listing, and effluent limits are needed for these nutrients." DEQ, *Draft Permit Fact Sheet for City of Medford* (March 2020) at 27. Previously, as just discussed, DEQ concluded that DO and pH violations in Bear Creek were caused by the excessive and significant growth of algae and aquatic weeds. Logically, DEQ must evaluate Ashland for its contribution of both phosphorus and nitrogen to Bear Creek and to the Rogue River.

In its fact sheet for Ashland, DEQ discusses only "total ammonia nitrogen." Based on an exception to the antibacksliding restrictions, DEQ proposes to increase the allowable discharge of ammonia based on the relocation of the Ashland outfall to Bear Creek. It states that the existing limits will be maintained for Ashland Creek until the Bear Creek outfall is completed and in use. Fact Sheet at 21. DEQ then derives new ammonia limits based on the acute and chronic criteria for ammonia as a toxic pollutant. *Id*. at 21–22. Ammonia toxicity, however, is not the same as attempting to use ammonia as a surrogate for nitrogen pollution that, as a nutrient, causes the growth of algae and aquatic weeds that, in turn, affect DO and pH. Aside

from ammonia, nitrogen is never discussed in the fact sheet and DEQ has not conducted a reasonable potential evaluation for nitrogen despites its knowledge about impacts of nitrogen to the Rogue River. Ammonia limitations as a surrogate for nitrogen can only work to address a discharge's near-term effect of nitrification—the process in which ammonia and ammonium consume oxygen to change to nitrite and nitrate—on dissolved oxygen levels. They cannot be sufficient to address the growth of algae and/or aquatic weeds. In addition, there is no evidence that DEQ addressed the total oxygen demand potential of the ammonia discharge because the demand caused by nitrification is 4.57 times that of the ammonia mass, which is nowhere mentioned in the fact sheet. Moreover, the impact of ammonia discharges on receiving water oxygen levels depends on how much of an oxygen demand is released and how fast that oxygen demands occurs relative to how fast oxygen is brought back into the water from aeration, again not addressed. An ammonia-only limit does not address the discharge of nitrogen in the form of nitrate, the oxygen demand of the nitrification process by ammonia, the storage of nitrogen in aquatic weeds, of the growth of algae and aquatic weeds.

The only reference to nitrates and nitrites, other than in the required monitoring for these parameters, is in the reasonable potential analysis. For Bear Creek nitrates-nitrites is identified as requiring an evaluation, given the answer "data" is the "R[easonable]P[otential] at end of pipe? Yes/No" no question with the finding that the applicable criterion is 100,000 µg/L and a finding of "- -" to the question of whether there is a reasonable potential to exceed. Fact Sheet at 38. This is not an answer to the question of whether there is reasonable potential for nitrogen to cause or contribute to exceedances in Bear Creek or the Rogue River downstream. For Ashland Creek, similarly an evaluation is determined to be required but the questions are all answered with a blanket "[e]valuation will occur with DO analysis." *Id*. at 39. There is no explanation of what this "DO analysis" is. A word search for "dissolved oxygen" or "DO" yields nothing other than a reference to the now over 30 year-old TMDLs that were ostensibly intended to address DO impairments. Note that one of the 1990 DO TMDL lists "biochemical oxygen demand" as the TMDL parameter, not ammonia, and the other lists "biochemical oxygen demand (Nitrogenous + Carbonaceous Oxygen Demands)." The NBOD + CBOD addresses the total oxygen demand of the wastewater but fails to evaluate the impact of nitrogen as a nutrient fueling the growth of algae (in Bear Creek and/or the Rogue River) that, in turn, affects DO and pH, as DEQ has observed. Note, too, that the 1990 TMDLs called for monthly and semimonthly monitoring of NH_3-N, NO_2+NO_3-N, Total Kjeldahl Nitrogen, along with Total Phosphorus and Dissolved Ortho Phosphorus "to evaluate the effectiveness of the TMDL." There is no discussion of the required monitoring or lack thereof in the over 30 years since the TMDL was issued and no discussion of current levels of DO in Bear Creek. Instead, there is this cryptic note, buried in a chart, that "evaluation will occur with DO analysis."

Not only are the nutrient loads from Bear Creek contributing to the nutrient-driven impairments of the Rogue River at their confluence, but also to impairments not currently reflected on the 303(d) list of waters well downstream in the Lower Rogue River. These have been described as follows:

> Increased water temperature projected from climate change combined with declining river flow and excess nutrients during the critical period exacerbate this already serious water quality problem. Diurnal dissolved oxygen levels and pH levels have been documented to change dramatically in most systems where these circumstances exist. However, monitoring of dissolved oxygen levels in the lower [Rogue] River has been insufficient to clearly quantify the current seriousness of this trend.
>
> From an anecdotal level, the slime covering the rocks in the lower [Rogue] River during the late summer and early fall months is a clear indication that excess nutrients and warm water are a problem. The slime is so bad in the Agnes area of the River that one can barely stand up in the River. Also, the aquatic plant growth in late summer is a real hindrance to fishing to lower River. Excessive aquatic plant growth also causes diurnal dissolved oxygen problems which affect fish. At times, it is nearly impossible to fish for any length of time without bait being engulfed with algae. Unfortunately, monitoring data in the lower River by the regulatory agency (ODEQ) is mostly lacking for nutrients and associated water quality impacts. Finally, excess nutrients dumped into the River along with the current and worsening water temperature will only make survival of salmonid species less likely. Just recently, water temperatures recorded at the USGS station at Agnes measured water temperatures of nearly 80 degrees F!

David Ragsdale, *Comments on the [Oregon Department of Fish and Wildlife] Rogue-South Coast Multi-Species Conservation and Management Plan* (July 31, 2021). DEQ is obligated to ensure that issuance of the Ashland permit does not allow the city to cause or contribute to violations of water quality standards. It cannot rely on the fact that it has failed to develop nutrient TMDLs for the Rogue River as the basis for not including effluent limitations on Ashland, as discussed above.

Lower Rogue River at Canfield Bar, by Dave Ragsdale

In addition, the wasteload allocations from the pH and DO TMDLs apply only to the May 1 through November 15 season. DEQ has failed here to consider that nutrient controls may be required year-round. This seasonal approach fails to consider that nutrient retention in algae/aquatic weeds often takes place outside this season of pollution control. As discussed, pertaining to the Medford discharge downstream:

> There was no apparent recognition of the fact that benthic algal biomass in many north temperate rivers is maximal in spring—such as maximal *Cladophora* biomass in Montana streams during May-June shortly after spring runoff (Dodds 1991, Lohman and Priscu 1992). Importantly, as well, in north temperate waters, maximal *Cladophora* biomass has been strongly linked to high nutrient concentrations in winter as well as during the rest of the year: there was a significant linear relationship between annual maximum *Cladophora* biomass and mean winter phosphate concentration (Parker and Maberly 2000). ***Such findings underscore the importance of setting effluent TN and TP limits for the Medford RWRF as daily maxima and weekly averages applied year-round***.
> In making the above recommendation, Stillwater Sciences additionally did not address downstream impacts. For example, as previously mentioned (Section II.G), nitrate is highly soluble and can travel distances of more than 200 miles downstream. Thus, if nitrate concentrations are not minimized during late fall through mid-spring, the high nitrate concentrations could easily reach nitrogen-sensitive coastal marine waters downstream, as well as segments of the Rogue River downstream that have been identified as violating DO criteria.

JoAnne M. Burkholder, Richard E. Hafele, Christine Weilhoefer, *Rebuttal of the Report, "Nutrient Discharge Limit Assessment for the Rogue River in the Vicinity of the City of Medford Regional Water Reclamation Facility," by Stillwater Sciences (March 2020)* (May 30, 2020) at 53 (emphasis original).

C. Narrative Criteria Compliance

The draft permit does not contain any effluent limitations or other conditions to ensure compliance with the state-wide narrative criteria at OAR 340-041-0007(9)–(13), and it appears that DEQ has not even undertaken a reasonable potential analysis to verify for itself whether there is the potential for the Ashland discharge to contribute to violations of those narrative criteria. DEQ must include permit limitations and conditions necessary to ensure compliance with applicable water quality standards, "including State narrative criteria for water quality." 40 C.F.R. § 122.44(d)(1)(i); *see also Am. Paper Inst., Inc. v. Envtl. Protection Agency*, 996 F.2d 346, 350 (D.C. Cir. 1993); *Waterkeeper Alliance, Inc. v. Envtl. Protection Agency*, 399 F.3d 486, 498 (2d Cir. 2005). Federal regulations provide a mechanism for establishing effluent limitations for narrative criteria. 40 C.F.R. § 122.44(d)(1)(vi). DEQ has long been aware that the Ashland has been contributing to downstream violations of the state-wide narrative criteria because of the 1990 and 2007 TMDLs to address those violations. However, the fact sheet for the proposed Ashland permit does not say one way or the other whether there continue to be violations of narrative criteria in Ashland or Bear Creeks downstream of the discharge.

D. The Enlargement of the Mixing Zone Violates Antibacksliding Restrictions

The 2004 permit included a regulatory mixing zone described as follows:

> Except as provided for in OAR 340-045-0080, no wastes shall be discharged and no activities shall be conducted which violate Water Quality Standards as adopted in OAR 340-041-0365, except in the following defined temperature mixing zone:
>
> > The allowable temperature mixing zone is that portion of Ashland Creek which allows for mixing of the treated effluent with 25 percent of the stream flow,

2004 Ashland Permit, Condition A.1.a.5. In the new draft permit, DEQ proposes a mixing zone as follows:

> a. Bear Creek Outfall 002
> The mixing zone is defined as 50 percent of Bear Creek flow and no more than 60 feet downstream from the outlet into the creek. The zone of initial dilution is defined as 50 percent of the Bear Creek flow and no more than 20 feet

> downstream from the outlet into the creek.
>
> b. Ashland Creek Outfall 001
> The mixing zone is defined as 50 percent of Ashland Creek flow and no more than 60 feet downstream from the outlet into the creek. The zone of initial dilution is defined as 50 percent of the Ashland Creek flow and no more than 20 feet downstream from the outlet into the creek.

Draft Permit Condition A.5. DEQ explains why this is not a violation to the prohibition on antibacksliding because "[t]he existing permit does not have a mixing zone during the dry season[.]" Fact Sheet at 15. But the existing permit does have a mixing zone, solely for temperature. Second, the draft permit fact sheet states that the mixing zone only didn't exist during the dry season and therefore Ashland may have a mixing zone in the wet season, when the outfall to Ashland Creek will be used for overflows. But, again, nothing in the 2004 permit indicates that the temperature-only mixing zone only applies seasonally. DEQ proposes to establish a new regulatory mixing zone for all pollutants, for a new Bear Creek outfall, of 60 feet downstream. It asserts that such a mixing zone will "minimize adverse effects to aquatic life" and "allow room for fish passage." Fact Sheet at 14. The fact sheet is inadequate because all it does it cite to a mixing zone study report to which the public has no access and summarizes its conclusions, rather than providing any explanation for those conclusions. For example, what does it mean to "minimize adverse effects"? How is there "room" for fish passage where water quality standards are already being violated? Is this "room" merely referring to whether there is actual blockage of movement? Is that the definition of meeting water quality standards, just not blocking movement? There is little information on the quality of the receiving stream in the fact sheet. It merely states that "[m]onitoring data indicate that the ambient (stream) temperatures are typically 21ºC or greater during the July – October period[.]" Fact Sheet at 19. This is misleading, as discussed above.

E. No Mixing Zone Can be Allowed for Pollutants or Parameters for Which Bear Creek is Impaired

Bear Creek is impaired. This includes the parameters for which it is listed on Oregon's 303(d) list but also for impairments that DEQ simply has not addressed. Among these is the algal growth downstream of Ashland that, in addition to being violations of narrative criteria, are also likely biocriteria violations. The fact that Oregon has not obtained sufficient monitoring data and reflected those data in the 303(d) list is a formality that does not relieve DEQ of having to address these impairments in the Ashland permit. *See* discussion *supra*. Where waters are violating water quality standards there is, by definition, no assimilative capacity available for the identified impairment pollutants, and thus a mixing zone may not be granted for those pollutants. Put another way, since there is no apparent capacity of Bear Creek or the downstream Rogue River to dilute the effluent, a mixing zone is clearly inappropriate and the final WQBEL must be applied at end-of-pipe. Where, as here, there is a TMDL that has established a

wasteload allocation, that allocation can be the basis of a discharge that would otherwise be deemed to be causing or contributing to violations of water quality standards. However, also as here, where the allocations to other sources made in that TMDL have not been met after the substantial passage of time, DEQ may no longer rely upon it, as discussed *above*.

If the receiving water is impaired, no mixing zone may apply to the water quality limited parameters. DEQ's "common practice" may be to allocate the mixing zone as a percentage of the receiving stream, Fact Sheet at 13, but if there is no stream flow for dilution of the effluent, there is no rationale for a mixing zone. It is not merely that the situation is "not amenable to using mixing zone models"; there is nothing to mix with. For example, the reference to "allow[ing] room for fish passage," *id*. at 14, is an oxymoron if the water quality is already violating water quality standards whether because that is the state of the water quality of the receiving stream or because the receiving stream is primarily comprised of effluent.

Any mixing zone for Ashland's discharge of nutrients, no matter how small, would impermissibly conflict with DEQ's own guidance, including *Regulatory Mixing Zone Internal Management Directive, Part One: Allocating Regulatory Mixing Zones* (ODEQ, May 2012) at pp. 10–11 ("Mixing Zone IMD"), as well as DEQ's Memo to permit writers RE: *Mixing Zones in Columbia River Waters Listed as Water Quality Limited for pH* (Ron Doughten, WQ Permit Program Manager, Nov. 30, 2018) at 1. Moreover, DEQ is obligated to ensure that any mixing zone for nutrients does not result in "nuisance conditions," such as the growth of algae downstream. *See* OAR 340-041-0053(2)(a)(C); EPA, *Water Quality Standards Handbook, Chapter 5: General Policies* (Sept. 2014) at 8–9. Accordingly, the final permit must require compliance with the load allocations and water quality standards at the end-of-pipe, not at the edge of a mixing zone. *See, e.g*., EPA, *NPDES Permit Writers' Manual* (Sept. 2010) at 6-16 ("Where consideration of a dilution allowance or mixing zone is not permitted by the water quality standards or is not appropriate, the relevant water quality criterion must be attained at the point of discharge.").

III. THE PERMIT FAILS TO ADDRESS CLIMATE CHANGE IMPACTS TO THE RECEIVING WATERS

The analysis of the permit limits does not include any anticipated reductions in flow and increases in temperature caused by climate change. For example, the Oregon Department of Fish and Wildlife (ODFW) has stated, with regard to climate changes in the Rogue River basin:

> These changes are having both direct and indirect effects on fish and fish habitat. Effects are expected to be largely negative for the cold-water salmonids, such as those covered in this plan, though they are not occurring in a uniform manner across the landscape.

ODFW, *Rogue-South Coast Multi-Species Conservation and Management Plan, PUBLIC REVIEW DRAFT* (June 30, 2021) at 25. Likewise, ODFW comments:

> Limiting factors related to water quality and quantity are of primary importance for all populations covered by this plan. Water quality and quantity are discussed together because stream temperatures are linked to flow regimes (Poole and Berman 2001), and many actions will address limiting factors in both categories.
>
> * * *
>
> Temperature and low flows are the most important and pervasive limiting factors related to water quality and quantity[.]

Id. at 49. As the regulator of pollution in the affected waters, DEQ is obligated to consider the current and future conditions affected by climate change insofar as they affect the dilution capacity of pollutants and whether the designated uses are protected by the permit it proposes to issue.

IV. THE PERMIT FAILS TO ADDRESS TOXIC POLLUTANTS IN THE RECEIVING WATER

ODFW has found that "[t]oxic pollutants are considered a potential limiting factor [to salmonids] in Bear Creek, the most urbanized watershed in the Rogue Basin." *Id*. at 49. It elaborates:

> The effects of toxin pollution from anthropogenic chemical compounds as a limiting factor for salmonid populations has received less attention than physical habitat restoration (NRC 1996). While acute pollution events such as toxic spills have a clear and direct mortality impact, examining the indirect effects at appropriate spatial scales must overcome the ecological complexity of exposure routes across trophic groups, time, and space, and the combinatorial toxicity of co-occurring pollutants from both point and non-point sources (Laetz et al. 2009; Macneale et al. 2010; Ross et al. 2013). In addition, it is now recognized that most chemical toxins affect individual fish health and populations through protracted and convoluted biological processes. These include effects at low concentrations that alter metabolism and behavior, influence sexual differentiation, degrade immune function, and limit growth and development (Ross et al.; Baldwin et al. 2009). The result is a reduction in fitness that can have consequences for population performance (e.g., increased vulnerability to disease and predation, pre-spawn mortality, and homing ability). Recent research has shown that these effects can severely reduce spawner abundance in urban watersheds (Feist et al.; Tian et al. 2020). Given recent findings and as new information emerges, the relative role of toxins as a limiting factor on salmonid performance merits additional attention, particularly in watersheds with significant urban development. In the RSP planning area, toxic pollutants are

> most likely to act as a limiting factor in the Bear Creek watershed in the Upper rogue population area.

Id. at 49–50. Since, apparently, DEQ has not obtained sufficient information to establish WQBELs for toxic pollutants in this permit, it must include requirements that together ensure that Ashland will not cause or contribute to violations of water quality standards, including designed use support, narrative criteria, and Tier I of the antidegradation policy. It can do this by including in the permit specific, date-certain, monitoring in Bear and Ashland Creeks (and any other relevant depositional areas downstream), along with effluent, that addresses the concerns about toxic pollutants that the expert state fish agency has identified as a limiting factor to salmonids, and that it include a specific, date-certain, reopener to establish WQBELs for such toxic pollutants should they be required. It is not sufficient to include monitoring alone, as explained in the legal section above, to ensure that the Ashland discharge will not cause or contribute to violations of water quality standards. It is also not sufficient to include monitoring only of Ashland's effluent rather than the effluent and the receiving water quality because DEQ does not conduct sufficient monitoring to be able to determine the quality of the receiving water.

IV. COMPLIANCE SCHEDULE

DEQ muses that "Ashland and DEQ entered into a Mutual Agreement and Order No. WQ/M-WR-2019-017 on February 12, 2019 because Ashland was unable to comply with the excess thermal load limits in the existing permit." Fact Sheet at 6. This implies that perhaps DEQ and Ashland only came to the realization that the facility was violating its permit and water quality standards in 2019. In fact, it has long been a matter of public knowledge this is the case. For example, in the 2007 Bear Creek TMDL for Temperature—written over a decade before the MAO—DEQ wrote:

> The City has monitored temperatures both upstream and downstream of the discharge since September 2000 and installed continuous monitors in August 2002. A preliminary review of these data indicate that the temperatures of secondary effluent (7 day mean of daily maximum) frequently exceeds the biologically based numeric criterion (Figure 4) and that <u>there is often a significant increase in temperature from below the WWTF as compared to temperatures above the plant</u> (Figure 5).

2007 Temperature TMDL at 32 (emphasis added). It was not a slight exceedance. *See id*. at 48 (Figure 16: Ashland Creek Temperatures above WWTF). Given the extremely long period of time in which both Ashland and DEQ have known about the significant contribution of the city to the temperature exceedances, we do not agree that a five-year compliance schedule is "reasonable." However, our view is not the regulatory standard, which in any case DEQ ignores.

Any compliance schedule must "require compliance as soon as possible, but not later than

the applicable statutory deadline under the CWA." 40 C.F.R. § 122.47(a)(1); *see also* OAR 340-041-0061(12) (also requiring compliance with final effluent limits "as soon as possible"). A compliance schedule must include an "*enforceable* sequence of interim requirements (for example, actions, operations, or milestone events) leading to compliance with" the final WQBELs. 40 C.F.R. § 122.2 (emphasis added). EPA guidance requires DEQ to make findings on the following topics, the basis for which must be supported by DEQ's administrative record and explained in the Fact Sheet:

- that the compliance schedule will lead to compliance with an effluent limitation to meet water quality standards by the end of the compliance schedule as required by sections 301(b)(1)(C) and 502(17) of the CWA. *See also* 40 C.F.R. §§ 122.2, 122.4(d), 122.44(d)(1)(vii)(A).
- 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).
- that the discharger cannot immediately comply with the WQBEL upon the effective date of the permit. 40 C.F.R. §§ 122.47, 122.47(a)(1).

See EPA, *Memorandum from James Hanlon to Alexis Strauss, Compliance Schedules for Water Quality-Based Effluent Limitations in NPDES Permits* (May 10, 2007); *see also* DEQ, *Internal Management Directive, Compliance Schedules in NPDES Permits* (June 21, 2010) ("Compliance Schedule IMD") (setting similar requirements).

In assessing the appropriateness of the compliance schedule, DEQ should consider:

> how much time the discharger has already had to meet the WQBEL(s) under prior permits; the extent to which the discharger has made good faith efforts to comply with the WQBELs and other requirements in its prior permit(s); whether there is any need for modifications to treatment facilities, operations or measures to meet the WQBELs and if so, how long would it take to implement the modifications to treatment, operations or other measures; or whether the discharger would be expected to use the same treatment facilities, operations or other measures to meet the WQBEL as it would have used to meet the WQBEL in its prior permit.

Id. at 3; *see also* Compliance Schedule IMD at 5. Further, in assessing whether the compliance schedule requires compliance with the final WQBELs "as soon as possible," DEQ should consider "the steps needed to modify or install treatment facilities, operations or other measures and the time those steps would take." *Id.* Here, the fact sheet for Ashland does not explain why the 5-year compliance schedule satisfies the "as soon as possible" requirement but just concludes, without explanation, that DEQ feels that it's reasonable. DEQ fails to explain how the criteria of 40 C.F.R. § 122.47, OAR 340-041-0061(12), the 2007 Hanlon Memo, and DEQ's Compliance Schedule IMD have been satisfied here.

Moreover, DEQ has not looked at Ashland's extensive history of noncompliance. In 2007, DEQ stated that:

> DEQ did not HeatSource model Ashland Creek as a part of this TMDL because the creek was not on the 303(d) list at the time of data collection. Load allocations and waste load allocations were developed for the creek as a part of this TMDL. Carrollo Engineers is currently under contract with the city of Ashland to determine approaches to meet the WLA and to develop a HeatSource model for the creek. DEQ has been assisting in this effort. The implementation plan for the city will address all water quality impacts including the management of the reservoir and dam.

DEQ, *Bear Creek Watershed TMDL Total Maximum Daily Load (TMDL) & Water Quality Management Plan (WQMP) Response to Public Comment* (July 2007) at 10 (hereinafter "Response to Comments"). How is it that Ashland had a contract with reputable water quality engineers as early as 2007—14 years ago—and yet it still needs 24 months to "complete flow augmentation feasibility studies," 36 months to "complete a study and submit findings to DEQ on the thermal benefits of cold water releases from Reeder Reservoir," and 48 months to "submit a DRAFT Flow Augmentation Water Quality Trading Plan"? Permit at Schedule C.1. Where is the HeatSource model for Ashland Creek that DEQ was assisting with 14 years ago? Why are the results not discussed in the fact sheet? What is in the implementation plan from Ashland that was not completed or is relevant as a baseline for the proposed pollution trading?

The interim compliance dates proposed by DEQ in the permit are not adequate to meet federal requirements. *See* Permit at Schedule C.1. There are several problems including that DEQ cannot take unrelated actions or events into account in establishing a compliance schedule. The relocation of the outfall to Bear Creek is unrelated to meeting the temperature limitations. The compliance schedule must have interim milestones with time periods of no longer than one year between them, and those milestones "must be concrete, verifiable and fully enforceable commitments . . . leading to compliance with the WQBELs." Compliance Schedule IMD at 6; *see also* 40 CFR 122.47(3)(ii). The submittal of multiple progress reports does not satisfy this requirement.

V. TEMPERATURE POLLUTION TRADING PLAN AUTHORIZATION

While temperature pollution trading has some inherently appealing aspects, DEQ does not attempt, in proposing the Ashland trading proposal, to demonstrate that the actions taken and the credits obtained will in any way offset the actual temperature impacts Ashland's discharge has on either Ashland or Bear Creek. That is, there is no suggestion that these credits will have a measurable impact on the temperatures of these waterbodies anywhere, and particularly at the point of discharge. Therefore, this proposed permit does not ensure that the discharge will not

cause or contribute to violations of water quality standards. Trading should only be allowed when it actually creates assimilative capacity in the receiving stream. Put another way, cold-water fish in Bear Creek do not benefit one iota from a paperwork exercise involving pollution trading credits. The use of pollution trading, if used, must result in measurably colder water for fish.

A. DEQ Impermissibly Authorizes Self-Regulation

If one accepts the premise of water pollution trading, one of the key elements is determining the correct baseline. In this permit, DEQ proposes to allow Ashland and its contractors to determine the all critical baseline without DEQ evaluation or public review, stating that:

> The current plan used the 2008 Rogue River TMDL to determine the applicable baseline requirements. In addition, review of applicable federal, state and local requirements and existing site conditions are required to determine site-specific baselines prior to planting.

Fact Sheet at 29. That is the sum total of DEQ's explanation of how baselines will be established because DEQ has impermissibly chosen to not evaluate the proposed undated Ashland trading plan "[d]eveloped with assistance from The Freshwater Trust for compliance with NPDES Permit No. 101609." *See* City of Ashland, *Water Quality Trading Plan* at cover (undated).

Allowing permittees to establish their own permit limits, whether through trading provisions or other permit provisions, amounts to an impermissible form of self-regulation. As the Second Circuit stated:

> The Environmental Petitioners broadly indict the CAFO Rule as countenancing the creation of an "impermissible self-regulatory permitting regime." More precisely, the Environmental Petitioners argue that the CAFO Rule is unlawful because: (1) it empowers NPDES authorities to issue permits to Large CAFOs in the absence of any meaningful review of the nutrient management plans those CAFOs have developed; and (2) it fails to require that the terms of the nutrient management plans be included in the NPDES permits. We agree with the Environmental Petitioners on both counts.

Waterkeeper, 399 F.3d at 498. As the Ninth Circuit held earlier, in remanding the self-regulatory program established by the Phase II stormwater rule to EPA,

> Nothing in the Phase II regulations requires that NPDES permitting authorities review these Minimum Measures to ensure that the measures that any given operator of a small MS4 has decided to undertake will *in fact* reduce discharges to

> the [statutory requirement of the] maximum extent practicable. . . . Therefore, under the Phase II Rule, nothing prevents the operator of a small MS4 from misunderstanding or misrepresenting its own stormwater situation and proposing a set of minimum measures for itself that would reduce discharges by far less than the maximum extent practicable.
>
> * * *
>
> No one will review that operator's decision to make sure that it was reasonable, or even good faith. Therefore, as the Phase II Rule stands, EPA would allow permits to issue that would do less than require controls to reduce the discharge of pollutants to the maximum extent practicable.

Environmental Defense Center v. EPA, 344 F.3d 832, 855 (2003). The court concluded: "EPA is still required to ensure that the individual programs adopted are consistent with the law." *Id*. at 856.

Here, there is nothing in the draft permit that ensures the meaningful review of the trading project baselines because, quite literally, the only reference to "baseline" in the permit is the requirement that Ashland submit an annual report that includes "[t[he trading project baseline" for any projects it implements. NPDES Permit at Condition 12.f.ii. Oregon DEQ has not suggested any method by which it will ensure that these projects will be consistent with the law. There is no provision in the permit that requires DEQ to review the chosen baselines before the issuance of permit coverage that concurrently regulates and provides a shield to the permittees. There is not even any provision that requires DEQ to review the chosen baseline after the submission of an annual report, to ensure after-the-fact that a correct baseline was chosen and used to meet effluent limits. As there is no assurance in the permit terms that these plans or projects will meet permit requirements or water quality standards, agency review is essential.

Among other methods, meaningful review can be ensured by allowing public comment on any plans that the permit considers to be enforceable effluent limits. *See Waterkeeper*, 399 F.3d at 502. In *Environmental Defense Fund*, the Ninth Circuit held that the Phase II stormwater rule's failure to provide for public participation on the Notices of Intent (NOI) for coverage was "contrary to the clear intent of Congress" because "it is the NOIs, and not the general permits, that contain the substantive information about how the operator of a small MS4 will reduce discharges to the maximum extent practicable." *Id*. at 857. Here, with regard to the proposed Ashland permit, the trading plan authorizes the permittee to determine the applicable baseline but exercises no oversight over this selection, and allows for no public participation in those choices, despite the fact that there is no clarity about what the baselines are now, at the time the permit (and permit shield) is issued. *See* discussion *infra*. This self-regulatory scheme of choosing the means by which a permittee will purportedly meet the requirements of the Clean Water Act makes the trading projects the means by which the operator will meet water quality standards, and therefore it is the project plans that must be subject to public comment, not some vague plan.

B. Determining the Trading Baseline Requires a Complicated Assessment

As stated above, DEQ's permit and fact sheet fail to explain how baselines will be calculated to ensure compliance with the CWA, its implementing regulations, and Oregon trading regulations. As Ashland's Trading Program describes, Oregon regulations require that:

> Pursuant to the trading rule, a "trading plan must identify any applicable regulatory requirements from OAR 340-039-0030(1) that apply within the trading area and that must be implemented to achieve baseline requirements." Credits can only be generated from best management practices (BMPs) that result in water quality benefits above trading baseline requirements.

Trading Program at 8. The Program goes on to cite EPA guidance in support of this fundamental principle of trading, including that:

> The 2003 EPA Trading Policy states that "pollutant reductions [should be] greater than those required by a regulatory requirement or established under a TMDL. In developing its rule, Oregon went one step further and specifically defined "trading baseline" as the "pollutant load reductions, BMP requirements, or site conditions that must be met under regulatory requirements in place at the time of trading project initiation.

Id. (footnotes omitted). The trading program here proposes that "when Ashland initiates a new trading project, it will assess and document whether any of the baseline requirements described in the rule affirmatively apply to the site(s)[.]" Trading Program at 8. It then goes on to set out on pages 8 through 10 a variety of baseline requirements that may apply.

The problem comes in that the actual meaning of these baseline requirements, at the time of permit issuance, is not at all clear. That is, they require interpretations that are not set out in writing anywhere, least of all in the DEQ fact sheet or proposed permit. Whereas, for example, the Jackson County local ordinance clearly discusses retention of existing vegetation with numeric riparian buffer widths, *id.* at 9, the agricultural rules are vague and have no known meaning:

> (a) 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. (b) This condition is not intended to prohibit riparian grazing where it can be done while managing for riparian vegetation required in OAR 603-095-1440(3)(a)."

* * *

> If agricultural management of potential site is actively impeding the development and maintenance of adequate riparian vegetation, or associated with any of the other prohibited conditions, such management practice must stop before credit can be generated.

id. at 8–9. Further, it cites an Oregon Department of Agriculture plan purportedly intended to meet the requirements of a TMDL:

> "Agricultural activities that eliminate the possibility of natural regeneration of trees and shrubs along waterways are not allowed. … [N]ear-stream riparian management [is limited] to seasons and practices that enhance growth of grasses, shrubs, and trees canopy….").

Id. at 10. It is, of course, a complete mystery as to how animals can graze in riparian areas that are concurrently being "manag[ed] for riparian vegetation" including both a moderating influence on solar heating and stability of stream channels. That alone demonstrates that the ODA rules are nonsensical and subject to such a disparity of interpretations that such interpretations cannot be left in the hands of the permittee to determine. Moreover, the Trading Program makes no attempt to reconcile the differences between the ODA rules that allow grazing in riparian areas with the unenforceable ODA plans that prohibit activities that eliminate the possibility of natural regeneration. And, neither the rules nor the plan is, in fact, consistent with the requirements of the Bear Creek Temperature TMDL, which goes entirely undescribed in this baseline section.

The 2007 Bear Creek Temperature TMDL establishes a load allocation to all nonpoint sources described as coming under the authority of "Ashland, Talent, Phoenix, Medford, Central Point, Jacksonville, Jackson County, ODA, ODF, USFS, BLM, [and] ODOT" of a "[c]umulative impact no greater than 0.05°C above the applicable criteria at the point of maximum impact." 2007 Temperature TMDL at 46. DEQ stated then that "such [load] allocations will be used for such things as the placement of roads, highways and bridges and the uncertainty that vegetation management will be completed successfully in all locations through time." *Id*. at 50. In other words, DEQ's load allocations to the cumulative nonpoint sources other than irrigation districts and dams, were and are intended for impacts <u>other than the riparian buffers</u> that are required on, at a minimum, "311.7 streams miles" to provide maximum shade to the watershed's streams. 2007 Temperature TMDLs at 1, 44; *see also id*. at 22 ("All perennial and intermittent fish bearing streams that drain to Bear Creek are included in this temperature TMDL."). Roads, highways, and bridges are essentially immovable objects that eliminate the potential for riparian vegetation. And uncertainty is essentially a margin of safety applied to the load allocation itself. Put another way, the TMDL establishes load allocations of maximum shade to all nonpoint sources capable of supporting riparian vegetation. DEQ does not explain how, given these load allocations, there is any activity involving the planting of streamside trees that is not already a part of the baseline requirements of the TMDL. The TMDL also translates this load allocation—

of what amounts to an allocation of zero warming to agriculture, logging, and development—into shade targets. *See id.* at 51 (Table 18). DEQ also does not explain how these shade targets will be used—or ignored—to develop baselines for pollution trading purposes.

What DEQ does not do, because it has consistently refused to use TMDLs to clarify the actions needed by nonpoint sources, is to translate the load allocations into required riparian buffer widths, heights, and densities. This is not something that can be left to Ashland to interpret as it conducts its pollution trading program; DEQ must do this or allow public comment on each project wherein the permittee attempts to translate the TMDL's load allocations into riparian buffer widths, heights, and densities. DEQ itself notes the role that these three riparian vegetation variables play in heating stream temperatures: "Near-stream vegetation disturbance/removal reduces stream surface shading via decreased riparian vegetation height, width and/or density, thus increasing the amount of solar radiation reaching the stream surface[.]" *Id.* at 33. It also comments on the role of riparian vegetation in maintaining the width:depth ratios that prevent anthropogenic stream warming. *Id*. at 34. With regard to what width, height, and density will suffice to meet a load allocation of essentially zero, DEQ is silent. It does comment that site potential riparian vegetation, "assumed to be managed to reach their full system potential condition," *id*., requires:

- Vegetation is mature and undisturbed;
- Vegetation height and density is at or near the potential expected for the given plant community;
- Vegetation buffer is sufficiently wide to maximize solar attenuation (Note: Buffer widths required to meet the site potential target will vary given potential vegetation, topography, stream width, and aspect.);

Id. And, unhelpfully, that "buffer widths required to meet the shade targets will vary given potential vegetation, topography, stream width, and aspect." *Id*. From the slightly more detailed appendix, one can glean that DEQ might have used a shade width of 100 feet in its model to represent natural conditions. *See* Appendix A at 12-13 (Fig. 10) (maximum shade width of current conditions stops at 100 feet). But even so, this appendix still fails to shed light on the buffer characteristics needed to meet the load allocations such that a pollution trading program can be constructed:

> Site potential is defined as an estimate of a condition without anthropogenic activities that disturb or remove near stream vegetation. This condition is defined by riparian vegetation that is mature and undisturbed; vegetation height and density at or near the potential expected for the given plant community, <u>vegetation buffer is sufficiently wide to maximize solar attenuation</u>, vegetation width accommodates channel migrations.

Id. at 17 (emphasis added); *see also id*. at 18 ("The widths of shade producing riparian belts currently vary from zero to greater than 100 ft as shown previously in Figure 10. . . . The site potential values used in the natural thermal potential condition scenario assumed a shade width wide enough to not limit shade production upon the Bear Creek mainstem.") (emphasis added). This last statement does not actually state what the scenario used for its input of "a shade width wide enough to not limit shade production." DEQ's choice to keep secret its inputs into the natural thermal potential condition scenario certainly preclude any conclusion that the TMDL's load allocations to nonpoint sources can be readily interpreted for purposes of determining the applicable baseline for trading.

Finally, even if DEQ had stated the shade width input it used for the purpose of running its shade model, that alone is not a sufficient basis for concluding that an even larger riparian buffer would not provide more shade, let alone have positive impacts on the width:depth ratio that affects warming. While not including this factor in its explicit load allocations in this particular temperature TMDL, DEQ does note that "[a]dditional improvements in Bear Creek channel function (reduction of width-to-depth ratio or better connection of groundwater) or more profound cooling of tributary temperatures could result in further cooling of the natural thermal potential condition. That cooling could occur at any point along Bear Creek." *Id*. at 30. As the TMDL's load allocations to nonpoint sources are a cumulative warming of 0.05°C, a warming that is intended primarily to address sources that cannot be altered such as roads, over "applicable criteria," namely the then-applicable natural conditions criteria, which is defined as "site potential vegetation, geomorphology, stream flows and other measures to reflect natural conditions," *id*. at 22, the width:depth ratio is part of the definition of so-called natural temperatures. That is, riparian buffers are required by the TMDL that are sufficient to preserve the geomorphology that would have existed in nature insofar as they affect water quality, specifically the temperature of the streams in Bear Creek. This calculation, as with the riparian buffer variables for shade, cannot be left to the permittee to determine. This is DEQ's job and it has chosen to not do so in the fact sheet or the proposed permit, rendering it an interpretation that it must do, and take public comment on, for each pollution trading project in the future.

C. DEQ Proposes to Allow Double-Counting

In addition to the problem of determining a baseline, DEQ has failed to propose a permit wherein the effluent limit is consistent with the assumptions and requirements of an EPA-approved wasteload allocation, as required. *See* 40 C.F.R. § 122.44(d)(1)(vii)(B). The wasteload allocation to Ashland in the TMDL is 0.1°C if the discharge is to Ashland Creek. TMDL at 23. In the event that the outfall is moved to Bear Creek, it is the same. *Id.* at 49; *see also* Appendix A at Table 6. This significant wasteload allocation is premised on load allocations to nonpoint sources, to reservoir operations and irrigation districts, being met and to a reserve capacity that DEQ does not intend to use because there are so many uncertainties:

> [DEQ] There are currently questions centering on when the reserve capacity will be available for use. There are uncertainties as to when significant reductions in

> thermal load will occur. This coupled with the uncertainties over the impact of dams and irrigation, have resulted in a recommendation to distribute the reserve capacity only after it is demonstrated that a significant reduction in thermal loads will be achieved within a specified timeframe.

DEQ, 2007 TMDL Response to Comments at 12. The wasteload allocation itself is based on load allocations to nonpoint sources established to meet a water quality standard that no longer exists, with criteria considerably warmer than the applicable numeric criteria. In other words, the loading capacity calculated under the TMDL is no longer available given the removal of the natural conditions criteria from Oregon water quality standards. The Bear Creek TMDL shows the superseding criteria in Appendix A, figure 27, along with the temperature reductions required to bring current conditions down to natural thermal conditions, *id*. at figure 28, ranging as high as over 14 degrees Fahrenheit. As current conditions include 32 percent of the temperatures "lethal to immature fish," *id*. at 31–32 (fig. 30), and 41 percent over the applicable numeric criteria for rearing and migration, *id*., the question that DEQ must answer is whether the load allocations to the nonpoint sources have been implemented such that the wasteload allocation in the TMDL can be used?

DEQ already has the answer to some nonpoint sources' having implemented the load allocations. As EPA commented on the TMDL:

> The Oregon Forest Practice (OFP) Rules is identified as the TMDL implementation plan for non-federal forest lands in Oregon. EPA is concerned that current Best Management Practices (BMPs) under the OFP Rules do not consistently support the attainment of water quality standards. In past meetings of the Oregon Board of Forestry, EPA representatives have testified that the preponderance of monitoring, assessment, and research efforts demonstrate that Oregon's existing forest practice rules will not adequately protect water quality or recover fisheries. The December 2000 DEQ/ODF Temperature Sufficiency Analysis found that there are water quality impairments due to forest management activities even with Forest Practice Act (FPA) rules and BMPs in place. An October 2002 DEQ/ODF Temperature Sufficiency Analysis indicates that for some medium and small streams current riparian management area prescriptions for western Oregon may result in short-term temperature increases. In addition, data from the DEQ/ODF CWA Section 319 shade study demonstrates that harvest allowed under the FPA in riparian management areas can significantly reduce shade below the levels necessary to achieve temperature TMDL load allocations.

Response to Comments at 27. DEQ's response was that it is "continuing discussions with the Oregon Board of Forestry," *id.*, a discussion that continues today—14 years later. Moreover, in 2015, the U.S. Environmental Protection Agency (EPA) and the National Oceanic and Atmospheric Administration (NOAA) determined that Oregon's inadequate forest practices for the Rogue River basin and other coastal watersheds are the basis for a determination that "the State has not adopted additional management measures applicable to forestry that are necessary

to achieve and maintain applicable water quality standards under Clean Water Act section 303 and to protect designated uses. NOAA and EPA first identified and notified the State of the need to implement the additional measures in 1998." NOAA/EPA, *NOAA/EPA Finding That Oregon Has Not Submitted a Fully Approvable Coastal Nonpoint Program* (January 30, 2015) at 1.

VI. LACK OF SUFFICIENT PROHIBITIONS

The 2004 permit contains the following provision:

> Except as provided for in OAR 340-045-0080, no wastes shall be discharged and no activities shall be conducted which violate Water Quality Standards as adopted in OAR 340-041-0365, except in the following defined temperature mixing zone:

Permit A.1.a.5. The proposed permit does not include this language that fills the gaps left by various missing numeric effluent limits in Schedule A. If DEQ intends to issue the Ashland permit without nitrogen limits, despite evidence that Ashland is contributing to violations of water quality standards downstream, fails to evaluate whether the discharge is causing or contributing to violations of downstream biocriteria, and fails to evaluate whether the outdated phosphorus wasteload allocation is adequate, the permit must include this language. Moreover, removal of this provision constitutes a violation of antibacksliding restrictions. *See* 33 U.S.C. § 1342(o); 40 C.F.R. § 122.44(l)(1). Without a host of newly developed and immediately applicable site-specific WQBELs, many narrative and numeric water quality standards (including both the biocriteria and the state-wide narrative criteria that are, for example, the basis for NWEA's ongoing Clean Water Act litigation against the City of Medford), would effectively be rendered inapplicable and unenforceable against Ashland if the final permit were issued without that prohibition. *See Nw. Env 'tl Advocates v. City of Portland*, 56 F .3d 979 (9th Cir. 1995); *Northwest Environmental Advocates v. City of Medford*, Case No. 1: 18-cv-00856-CL, Order (Adopting Findings and Recommendations) (September 20, 2021); *id.* Finding and Recommendations (June 9, 2021).

VII. MONITORING

Under the Clean Water Act, every NPDES permittee is required to "monitor its discharges into the navigable waters of the United States in a manner sufficient to determine whether it is in compliance with the relevant NPDES permit." *Nat. Res. Def. Council v. County of Los Angeles (NRDC)*, 725 F.3d 1194, 1207 (9th Cir. 2013) (citing 33 U.S.C. § 1342(a) (2); 40 C.F.R. § 122.44(i)(1)). "That is, an NPDES permit is unlawful if a permittee is not required to effectively monitor its permit compliance." *Id.* Citing the same Ninth Circuit case, the Second Circuit noted: "Enforcing compliance with a permit is the key to an effective NPDES program." *Natural Resources Defense Council v. U.S. E.P.A.*, 808 F.3d 556, 581 (2015).

Monitoring was considered key to DEQ when it issued the 1990 TMDLs over three decades ago, as well as 14 years ago when it issued the temperature TMDLs. *See* discussion *supra; see also* 1992 DO (NBOD + CBOD) TMDLs at Schedule B ("The Department and the City of Ashland shall operate a receiving water monitoring program to evaluate the effectiveness of the TMDL

and to guide development of any additional control strategies.") (emphasis added); Response to Comments at 5 ("After implementation plans are submitted and approved by DEQ, effectiveness monitoring over time will determine if load allocations will be met and if changes to plans will be needed. . . . DEQ also recognizes that the technology for controlling nonpoint source pollution is, in many cases, in the development stages and will likely take one or more iterations to develop effective techniques to meet TMDL derived allocations."), at 6 ("the system is very sensitive to boundary condition temperatures and that future monitoring should focus on gaining better data on the natural conditions temperatures of the tributaries that feed Emigrant Reservoir.").

Regardless of the importance of having sufficient receiving water quality upon which to base Ashland's effluent limitations, the permit does not require any monitoring of Ashland Creek, Bear Creek, the Rogue River, or the many tributaries in which it proposes to allow water pollution trading for temperature and nutrients and related parameters. Instead, the permit requires only influent monitoring, Permit Schedule B.3.a, and effluent monitoring, id. at B.3.b. *See also id.* at Schedule B.5, B.6, and B.7. The only exception is the monitoring for parameters required to implement the copper and aluminum criteria, which must be taken in the receiving stream. *See id*. at B.4. There is no rational basis for DEQ's failure to include receiving stream monitoring, both upstream and downstream, for the parameters that have already, for decades, been demonstrated to be a problem in these waterbodies, to which Ashland has contributed, and that have been the subject of TMDLs with no known outcome despite the significant passage of time. As the story of Medford has demonstrated, DEQ's head-in-the-sand approach to permitting only serves to postpone the day when pollution controls will be installed sufficient to meet water quality standards while the natural resources DEQ is charged with protecting continue to deteriorate, a problem worsened by climate change, population growth, and the inherent sensitivities of species that streams and rivers home. With the Medford permit—only because of a local flyfishing club paid for an expert report on the effects of the discharge and only because NWEA brought a citizens suit against the city based on that report—DEQ has included a requirement for instream studies. Why not Ashland?

Conclusion

Fourteen years after Ashland's permit expired, DEQ has managed to put out a draft permit for public comment that fails to meet the most basic, minimum requirements.

Sincerely,

Nina Bell
Executive Director