

NORTHWEST ENVIRONMENTAL ADVOCATES



October 21, 2019

Kai Shum
NPDES Permit Section, Water Division
U.S. Environmental Protection Agency, Region 10
1200 Sixth Avenue, Suite 155 (WD-19-C04)
Seattle, Washington, 98101-3188

via email only: shum.kai@epa.gov

**Re: Draft NPDES Permit No. WA0023256 Kitsap County Public Works
Suquamish Wastewater Treatment Plant**

Dear Mr. Shum:

This letter constitutes the comments of Northwest Environmental Advocates (NWEA) on the proposed issuance of Kitsap County Public Works NPDES Permit No. WA0023256 for the Suquamish Wastewater Treatment Plant.

Although nitrogen and phosphorus end up in Puget Sound and its tributaries from diverse sources, such as stormwater and agricultural lands, the Washington Department of Ecology (Ecology) has concluded that municipal and industrial discharges are the primary source of anthropogenic nutrient inputs into the Sound. Thus, a critical component of Washington's effort to attain and maintain water quality standards in Puget Sound must be to impose limits, under the Clean Water Act (CWA), on the amounts of nitrogen and phosphorus that sewage treatment facilities may discharge into rivers and the Sound. Although, as demonstrated in the U.S. Environmental Protection Agency's (EPA) fact sheet that accompanies this draft NPDES permit, EPA Region 10 appears to believe that it can suspend the requirements of the CWA and the federal and state regulations that govern the issuance of NPDES permits on various grounds, that approach is contrary to law, as explained in the comments below. EPA is prohibited from issuing NPDES permits that allow dischargers to cause or contribute to violations of water quality standards including the violations that have been measured, those that have been predicted to exist by Ecology models, those that are threatened to develop as nutrient pollution increases, and those that in combination with other factors and parameters—such as lowered flows and higher temperatures—create increasingly more widespread and deleterious effects on water quality and the beneficial uses that depend upon high quality waters.

Ecology has sought to continue “the dialogue” about nutrient pollution in Puget Sound without taking any of the actions required by the CWA to control a pollution problem that it both can mitigate and is required to mitigate. It refuses to complete a Total Maximum Daily Load (TMDL) for Puget Sound nitrogen, or even to commit to developing a TMDL for Puget Sound in the future, to address dissolved oxygen and other nutrient-driven impairments in the Sound and its embayments. It then relies on its own regulatory failure to issue a TMDL as the basis for not including water quality-based effluent limitations (WQBEL) in NPDES permits that it issues. Ecology has informed EPA that it will not adopt numeric nutrient criteria because it intends to

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rely, primarily, upon its existing water quality standards for dissolved oxygen to address the effects of excess nutrients, yet when confronted with that very scenario in Puget Sound, it neither commits to developing a TMDL nor issues NPDES permits with nutrient limits, thereby putting the lie to its commitments. In response to a 2018 rulemaking petition from NWEA regarding its failure to comply with a 1945 Washington State law requiring the use of all known, available, and reasonable treatment (“AKART”) for the control and reduction of pollution, a technology-based requirement, Ecology promised that it would “use current permit reissuance schedules . . . by mid-2019” to “set nutrient loading limits at current levels,” “require permittees to initiate planning efforts,” and “require reissued discharge permits to reflect the treatment efficiency of the existing plant [with nutrient removal processes],” yet it has not included any of these three items in the permits that it has proposed to issue since then. *See* Letter from Maia Bellon, Ecology Director, to Nina Bell, NWEA, Re: Petition for Rulemaking to Adopt a Presumptive Definition of “All Known, Available, and Reasonable Treatment” as Tertiary Treatment for Municipal Sewage Dischargers to Puget Sound and its Tributaries (Jan. 11, 2019) at 2 (hereinafter “AKART Denial”); *see also* Letter from Nina Bell, NWEA, to Tricia Miller, Ecology, Re: Draft NPDES Permit No. WA0030597 for Skagit County Sewer District No. 2 Big Lake Wastewater Treatment Plant (Oct. 4, 2019). In short, Ecology is engaged in a shell game. *See* Northwest Environmental Advocates, *Before the U.S. Environmental Protection Agency, Petition for Corrective Action or Withdrawal of Authorization from the State of Washington to Issue National Pollutant Discharge Elimination System Permits* (Feb. 13, 2017).

Ecology’s failure to comply with the Clean Water Act is one thing. It is quite another for EPA to propose to flout the federal law as well. Its proposal to issue a permit to Kitsap County’s Suquamish sewage treatment plant with the same provisions as the current permit, that is to say without effluent limitations for nutrient discharges, and with its only change being the addition of monitoring requirements, is contrary to law and to its obligation to show Ecology how to follow the law. *See* EPA, *Fact Sheet: The U.S. Environmental Protection Agency (EPA) Proposes to Reissue a National Pollutant Discharge Elimination System (NPDES) Permit to Discharge Pollutants Pursuant to the Provisions of the Clean Water Act (CWA) to: Suquamish Wastewater Treatment Plant, Kitsap County Public Works 15* (Sept. 19, 2019) (hereinafter “Fact Sheet”) (“The Draft Permit proposes the same effluent limits as the existing permit”).

I. NPDES PERMITS ARE PROHIBITED FROM CAUSING OR CONTRIBUTING TO VIOLATIONS OF WATER QUALITY STANDARDS

A. Discharges are Prohibited from Causing or Contributing to Violations of Water Quality Standards; Reasonable Potential Findings Required

If the technology-based limits required by the statute 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 (WQBEL). 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).¹ 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

¹ The federal regulations are made applicable to states by 40 C.F.R. § 123.25(a).

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); *Port of Seattle v. Pollution Control*, 90 Pd.3d 659, 677 (Wash. 2004) (“NPDES permits may be issued only where the discharge in question will comply with state water quality standards.”); *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; *see also* WAC 173-201A-010(1)(a) (“All surface waters are protected by numeric and narrative criteria, designated uses, and an antidegradation policy.”).

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). WQBELs are typically expressed numerically, but when “numeric effluent limitations are infeasible,” a permit may instead require “[b]est management practices (BMPs) to control or abate the discharge of pollutants.” 40 C.F.R. § 122.44(k)(3). However, “[n]o 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).

When EPA or states establish WQBELs, they must 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. *Id.* at 350 (emphasis added); *see also, id.* at 353, “[EPA’s] initiative seems a preeminent example of gap-filling in the interest of a continuous and cohesive regulatory regime[.]”); *City of Taunton, Massachusetts v. U.S. Environmental Protection Agency*, 895 F. 3d 120, 133 (First 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, are 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 § (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.”). 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 § (d)(1)(iii). Where a state finds a reasonable potential to cause or

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

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 § (d)(1)(vi)(A-C).

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. Nitrogen 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 impaired in order for a

discharge to present a reasonable potential to cause or contribute to violations of water quality standards. 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.").

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. Not long ago, 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. v. EPA (2012) 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”); *see also* Ecology, *Water Quality Program Permit Writer’s Manual* (Revised July 2018) (hereinafter “Ecology Manual”) at 195 (“In the absence of a basin TMDL and the resultant WLA, the permit writer must develop an individual WLA.”).³

In its Permit Writer’s Manual, Ecology misstates the law by creating an exemption that is not justified or supported by the statute, federal or state regulations, or case law:

If the pollutant is a far-field pollutant, is present in the discharge and is the subject of a TMDL in progress, the permit writer may defer any water quality-based limits on the pollutant until the TMDL is completed and a WLA is assigned. When the WLA is assigned the permit writer may modify the permit or incorporate the WLA at the next reissuance, depending on timing.

Id. at 198.⁴ Similarly, the guidance states that if a TMDL has not been started yet, the permit writer may ask the question: “Can the effluent be treated or can the effluent or pollutant(s) be removed seasonally at a cost which is economically achievable or reasonable”? *Id.* at 199 fig. 23. This question and the options that flow from its answers are not supported in federal law. There is no provision in the statute or regulations for deferring needed WQBELs based on TMDLs’ being in progress. In fact, 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.⁵

³ This statement is immediately contradicted on the next page in the Ecology Manual, which incorrectly asserts that a “basic principle” of permitting is that:

A point source discharging to a water body with multiple sources (point and nonpoint) of impairment, which is a minor source of the impairment, and may gain relief from a TMDL is not required to have a final limitation as the numeric water quality criteria before a TMDL is completed.

Id. at 196. In fact, there is no such exemption for minor sources in the statute or the regulations nor is there any provision for a permit writer to determine whether a TMDL may provide “relief” to a discharger. Ecology cites no law to support its principle.

⁴ *See also, id.* at 179 (“Suspected water quality problems due to nutrients are best handled by a TMDL process conducted by the EA Program.”) While this may very well be true, if Ecology does not develop TMDLs its permit writers must still meet federal and state regulatory requirements when issuing NPDES permits.

⁵ *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

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:⁶

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.

Upper Blackstone Dist. v. U.S. EPA, 690 F.3d 9 (1st Cir. 2012), *cert. denied*, 133 S. Ct. 2382 (2013). 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."

Last, there is a question related to whether the waterbody is impaired but is not currently listed

provision of the Policy for Implementation of Toxic Standards for Inland Waters, Enclosed Bays, and Estuaries for California.").

⁶ Ecology has not even committed to using its modeling results for Puget Sound to develop a TMDL that would lead to wasteload allocations for dischargers such as this. *See, e.g., Ecology, South Puget Sound Dissolved Oxygen Study Water Quality Model Calibration and Scenarios* (March 2014) at 22 ("Ecology may not conduct a TMDL if alternative management approaches are used to address violations."). The agency cannot simultaneously refuse to develop a TMDL and claim that it is waiting to complete a TMDL before it develops wasteload allocations for specific dischargers' NPDES permits.

on the state's EPA-approved 303(d) list.⁷ The key here is impairment, not the technicality of 303(d) listing. See *In re City of Taunton* at 38 (“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.”). 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 Taunton at 37.

B. Applicable Water Quality Standards

Water quality standards are defined as the designated beneficial uses of a water body, in combination with the numeric and narrative criteria to protect those uses and an antidegradation policy. 40 C.F.R. § 131.6. The CWA requires numeric criteria adopted in water quality standards to protect the “most sensitive use.” 40 C.F.R. § 131.11(a)(1).

However, since that is not always possible, the task of evaluating whether standards have been met also requires an assessment of the impacts to designated beneficial uses. In *PUD No. 1*

⁷ Ecology’s Permit Writer’s Manual incorrectly states the law in asserting two “basic principles.” The first assertion is that “[a] water body listed on the 303(d) list is not a presumption of impairment unless the listed section is the point of discharge.” *Id.* at 194. While this statement is less than clear, it appears to suggest that a discharge to a non-listed segment that flows into a downstream listed segment is not a discharge that contributes to a violation of water quality standards. This is incorrect. Washington’s water quality standards require that “[u]pstream actions must be conducted in manners that meet downstream water body criteria.” WAC 173-201A-260(3)(b); see also 40 C.F.R. § 131.10(b) (“the State shall take into consideration the water quality standards of downstream waters and shall ensure that its water quality standards provide for the attainment and maintenance of the water quality standards of downstream waters.”).

of Jefferson County v. Washington Department of Ecology, 114 S. Ct. 1900, 1912 (1994), the U.S. Supreme Court underscored the importance of protecting beneficial uses as a “complementary requirement” that “enables the States to ensure that each activity—even if not foreseen by the criteria—will be consistent with the specific uses and attributes of a particular body of water.” The Supreme Court explained that numeric criteria “cannot reasonably be expected to anticipate all of the water quality issues arising from every activity which can affect the State’s hundreds of individual water bodies.” *Id.*⁸ In short, a permitting agency cannot ignore the narrative criteria and use only numeric criteria where either numeric criteria do not exist or where the numeric criteria fall short of providing full support for designated uses.

Washington’s water quality standards for marine and fresh waters including Puget Sound are intended to be “consistent with public health and public enjoyment of the waters and the propagation and protection of fish, shellfish, and wildlife, pursuant to the provisions of chapter 90.48 RCW.” WAC 173-201A-010(1). As in federal law, Washington’s regulations make the legal definition of a water quality standard very clear: “All surface waters are protected by numeric and narrative criteria, designated uses, and an antidegradation policy.” WAC 173-201A-010(1)(a). In addition, the state rules clarify that:

Compliance with the surface water quality standards of the state of Washington requires compliance with chapter 173-201A WAC, Water quality standards for

⁸ EPA regulations implementing section 303(d) of the CWA reflect the independent importance of each component of a state’s water quality standards:

For the purposes of listing waters under §130.7(b), the term “water quality standard applicable to such waters” and “applicable water quality standards” refer to those water quality standards established under section 303 of the Act, including numeric criteria, narrative criteria, waterbody uses, and antidegradation requirements.

40 C.F.R. § 130.7(b)(3). When EPA adopted these regulations it clearly stated the expectations it had of states:

In today’s final action the term “applicable standard” for the purposes of listing waters under section 303(d) is defined in § 130.7(b)(3) as those water quality standards established under section 303 of the Act, including numeric criteria, narrative criteria, waterbody uses and antidegradation requirements. In the case of a pollutant for which a numeric criterion has not been developed, a State should interpret its narrative criteria by applying a proposed state numeric criterion, an explicit State policy or regulation (such as applying a translator procedure developed pursuant to section 303(c)(2)(B) to derive numeric criteria for priority toxic pollutants), EPA national water quality criteria guidance developed under section 304(a) of the Act and supplemented with other relevant information, or by otherwise calculating on a case-by-case basis the ambient concentration of the pollutant that corresponds to attainment of the narrative criterion. Today’s definition is consistent with EPA’s Water Quality Standards regulation at 40 CFR part 131. EPA may disapprove a list that is based on a State interpretation of a narrative criterion that EPA finds unacceptable.

surface waters of the state of Washington, chapter 173-204 WAC, Sediment management standards, and applicable federal rules.

WAC 173-201A-010(4). The designated uses for marine waters are set out at WAC 173-201A-612, Table 612. Currently applicable dissolved oxygen criteria applicable to Puget Sound waters are set out at WAC 173-201A-210(1)(d). The designated uses for freshwaters are set out in WAC 173-201A-602 Table 602. The dissolved oxygen criteria for freshwater are set out in WAC 173-201A-200(1)(d). In addition, the following standards apply to both marine and fresh waters:

Upstream actions must be conducted in manners that meet downstream water body criteria. Except where and to the extent described otherwise in this chapter, the criteria associated with the most upstream uses designated for a water body are to be applied to headwaters to protect nonfish aquatic species and the designated downstream uses.

WAC 173-201A-260(3)(b). Likewise, the following narrative criteria also apply to both marine and fresh waters:

Toxic, radioactive, or deleterious material concentrations must be below those which have the potential, either singularly or cumulatively, to adversely affect characteristic water uses, cause acute or chronic conditions to the most sensitive biota dependent upon those waters, or adversely affect public health[.]

Aesthetic values must not be impaired by the presence of materials or their effects, excluding those of natural origin, which offend the senses of sight, smell, touch, or taste[.]

WAC 173-201A-260(2)(a), (b) (hereinafter “narrative criteria”); *see also* WAC 173-201A-210(1)(b).

Finally, Washington’s water quality standards contain an antidegradation policy, the purpose of which is to “[r]estore and maintain the highest possible quality of the surface waters of Washington” and “apply to human activities that are likely to have an impact on the water quality of a surface water.” WAC 173-201A-300(2)(a), (c). To ensure this outcome, Tier I of the antidegradation policy “is used to ensure existing and designated uses are maintained and protected and applies to all waters and all sources of pollution.” *Id.* (2)(e)(i). Tier I requires:

- (1) Existing and designated uses must be maintained and protected. No degradation may be allowed that would interfere with, or become injurious to, existing or designated uses, except as provided for in this chapter.
- (2) For waters that do not meet assigned criteria, or protect existing or designated uses, the department will take appropriate and definitive steps to bring the water quality back into compliance with the water quality standards.

WAC 173-201A-310. Federal regulations explain the meaning of “existing uses” that may not be designated uses: Tier I requires the maintenance and protection of “[e]xisting instream water uses and the level of water quality to protect the existing uses[.]” 40 C.F.R. § 131.12(a)(1).

Existing uses are “those uses actually attained in the water body on or after November 28, 1975, whether or not they are included in the water quality standards.” 40 C.F.R. § 131.13(e).

Washington’s antidegradation policy also includes the purpose of “ensur[ing] that all human activities that are likely to contribute to a lowering of water quality, at a minimum, apply all known, available, and reasonable methods of prevention, control, and treatment (AKART)[.]” WAC 173-201A-300; *see also* Laws of 1945, Ch. 216, § 1; RCW 90.48.520; RCW 90.52.040; RCW 90.54.020(3)(b); Washington Attorney General Opinion, AGO 1983 No. 23; Northwest Environmental Advocates, Petition for Rulemaking to Adopt a Presumptive Definition of “All Known, Available, and Reasonable Treatment” as Tertiary Treatment for Municipal Sewage Dischargers to Puget Sound and its Tributaries (Nov. 14, 2018) (hereinafter “AKART Petition”). AKART is defined as “the most current methodology that can be reasonably required for preventing, controlling, or abating the pollutants associated with a discharge.” WAC 173-201A-020. No discharger may be granted a mixing zone if it is not fully compliant with AKART. WAC 173-201A-400(2).

II. THIS DISCHARGER CAUSES OR CONTRIBUTES TO VIOLATIONS OF WATER QUALITY STANDARDS

Discharges of nitrogen to Puget Sound, directly and indirectly via tributaries, are by definition causing or contributing to violations of water quality standards, at a minimum those of dissolved oxygen and the narrative criterion that prohibits deleterious material that causes adverse effects.

A. Dissolved Oxygen Violations in Puget Sound

Ecology has been studying and modeling dissolved oxygen levels in Puget Sound for many years and, therefore, many permit cycles. As of 2012, Washington’s EPA-approved 303(d) list of impaired waters included 140 segments of Puget Sound impaired for dissolved oxygen. *See Ecology, South Puget Sound Dissolved Oxygen Study Water Quality Model Calibration and Scenarios* (March 2014) (hereinafter “2014 DO Scenarios”) at 35, 36.⁹

In the course of this process, Ecology has concluded that:

Portions of South and Central Puget Sound are on the Clean Water Act Section 303(d) list of impaired waters because observed dissolved oxygen (DO) measurements do not meet the numeric criteria of the Washington State water quality standards. There are not violations across the entire South or Central Puget Sound. Human sources of nutrients can increase algae growth, which can decrease oxygen as the additional organic matter decays. Low oxygen can impair fish and other marine life.

Id. at 9. The model predicts an additional array of additional dissolved oxygen violations, based on decreases greater than 0.2 mg/L below predicted natural conditions, based on all current

⁹ An additional 555 segments are listed as having insufficient data on which to conclude impairment. *See* 2012 WQ Search Tool, Washington State Water Quality Assessment, 303(d)/305(b) Integrated Report, *available at* <https://fortress.wa.gov/ecy/wats/approvedsearch.aspx>.

human sources as well as the increase in impairments that is associated with current NPDES permittees discharging at maximum allowable levels. *See id.* at 17, fig. ES-3.

Ecology's model predicts "minimum DO [that] naturally falls below the applicable numeric criterion throughout most of South and Central Puget Sound." *Id.* at 89. Levels of DO are predicted to be as low as 4.58 mg/L in waters for which the numeric criterion is set at 7 mg/L; 3.92 mg/L in waters for which the numeric criterion is set at 6 mg/L; and as low as 4.95 mg/L in waters for which the numeric criterion is set at 5 mg/L. While these predictions of natural conditions may be perceived as currently supplanting the numeric criteria and adding an additional increment of 0.2 depression to these predicted natural dissolved oxygen levels, even this result does not eliminate the anthropogenic effect on dissolved oxygen levels. *See id.* at 90, fig. 45.

Mostly recently, Ecology has continued to confirm its initial findings that nitrogen is causing and contributing to violations of dissolved oxygen standards. Ecology, *Puget Sound Nutrient Source Reduction Project: Vol. 1: Model Updates and Bounding Scenarios* 9 (Jan. 2019) (hereinafter "2019 Model Updates") ("Low levels of dissolved oxygen have been measured throughout Puget Sound and the Salish Sea. In numerous places, seasonal oxygen levels are below those needed for fish and other marine life to thrive, and water quality standards are not being met. Nutrient pollution from human activities is worsening the region's naturally low oxygen levels.").

Ecology has determined that nutrient discharges from sewage treatment plants discharging to Puget Sound are causing or contributing to violations of dissolved oxygen water quality standards in Puget Sound:

Excess nutrients can cause too much plant and algae growth which ultimately depletes dissolved oxygen (oxygen). Many parts of Puget Sound have oxygen levels that fall below the concentrations needed for marine life to thrive and are below our state's water quality criteria. Discharges of excess nutrients to Puget Sound from domestic sewage treatment plants (WWTPs) are significantly contributing to low oxygen levels in Puget Sound. Ecology must require WWTPs to control nutrients consistent with the US Clean Water Act and Washington's Water Pollution Control Act.

Ecology, *Focus on: Water Quality Permitting to Control Nutrients in Puget Sound* (Aug. 2019) at 1. This determination is extensively documented. *See, e.g.*, the following documents and their attachments: Northwest Environmental Advocates, *Petition for Corrective Action or Withdrawal of Authorization from the State of to Issue National Pollutant Discharge Elimination System Permits* (Feb. 13, 2017); Northwest Environmental Advocates, *Petition for Rulemaking to the Department of Ecology Seeking a Total Maximum Daily Load and Wasteload Allocations for Nitrogen in Puget Sound* (Oct. 10, 2017); Northwest Environmental Advocates, *AKART Petition*. This discharger is on Ecology's list of sewage treatment plans that might be subject to the general permit and is included in the modeling documents cited in the attachments to the previous documents. Ecology, *Potential Permittee List for a Puget Sound Nutrients General Permit* (Aug. 7, 2019) at 3; *see also* Ecology, *Puget Sound Dissolved Oxygen Model: Nutrient Load Summary for 1999–2008* (Nov. 2011) at 121 (App. E).

B. Narrative Criterion Violations In Puget Sound

Ecology has,

frequently document[ed] extensive algal blooms, Noctiluca blooms, and jellyfish masses at the surface. Many of the phytoplankton blooms show high abundances of autotrophic flagellates. In contrast, depth-integrated algal biomass (chlorophyll a) shows a significant steady decline from 1999 to 2011. These seemingly opposing observations - high algal biomass and Noctiluca at the surface and decreasing biomass below the surface - could be clues to a shifting food-web structure and nutrient fluxes in Puget Sound.

Laura Friedenber, *et al.*, *Increasing nutrients, changes in algal biomass, and large Noctiluca blooms in Puget Sound: Is eutrophication fueling the microbial food web?*, Publication No. 13-03-019 (April 2013) (citations omitted) (hereinafter “Friedenber Publication”). Again, Ecology most recently confirmed that nitrogen discharges to Puget Sound are responsible for violations of the narrative criteria:

Excessive nutrients flowing into marine waters can lead to profound consequences for the ecosystem. In addition to low levels of oxygen, some effects include:

- Acidification, which can prevent shellfish and other marine organisms from forming shells.
- Shifts in the number and types of bottom-dwelling invertebrates.
- Increases in abundance of macroalgae, which can impair the health of eelgrass beds.
- Seasonal reductions in fish habitat and intensification of fish kill events.
- Potential disruption of the food web.

2019 Model Updates at 9.

1. Algal Growth Causes Deleterious Conditions

Excess nutrients cause algal blooms, particularly in combination with warm temperatures and sunlight. *See, e.g., Harmful algal blooms in Puget Sound.*¹⁰ These harmful algal blooms in Puget Sound may have been increasing over the last two decades. *See, e.g., Harmful Algal Blooms*, Encyclopedia of Puget Sound, Puget Sound Institute, University of Washington.¹¹ Among the findings by Ecology are the following:

- Although ocean boundary conditions significantly drive water quality in Puget Sound macro-nutrients have continued to steadily increase independent of ocean variability.
- Changes in the silicate to dissolved inorganic nitrogen (Si:DIN) ratio are considered a

¹⁰ Available at <https://www.eopugetsound.org/articles/harmful-algal-blooms-puget-sound>.

¹¹ Available at <https://www.eopugetsound.org/science-review/section-3-harmful-algal-blooms>.

- sign of human nutrient inputs.
- A decline in the Si:DIN ratio paired with the measured increase in nitrate will increasingly favor the growth of non-silicified phytoplankton species such as the dinoflagellate *Noctiluca*.
- Over the last two years, the Department of Ecology's Eyes Over Puget Sound reports (EOPS) have documented extensive near-surface blooms of *Noctiluca* and other dinoflagellates in Puget Sound.
- *Noctiluca* is frequently associated with eutrophication of coastal environments.
- *Noctiluca* blooms reduce chlorophyll a concentrations in the water column. The impact of *Noctiluca* grazing on phytoplankton biomass appears in Ecology's Victoria Clipper ferry transect data.
- Despite large, frequent surface blooms of dinoflagellates, chlorophyll a concentrations have significantly declined and sub-surface clarity has significantly increased.
- Changes in the lower food web structure may have much larger implications for ecosystem functioning.

See Friedenbergs Publication.

Ecology's models also predict algal blooms:

The April model predictions include algal blooms in Sinclair Inlet, Oakland Bay, and Totten Inlet. EOPS [Eyes Over Puget Sound] aerial photos show a red phytoplankton bloom in Sinclair Inlet, brown algal bloom in Oakland Bay, and red-brown bloom in Totten Inlet. The June model predictions include algal blooms in Port Madison (Central Puget Sound), Filucy Bay (near McNeil Island), and Henderson Inlet. EOPS aerial photos show a *Noctiluca* (a dinoflagellate) bloom in Port Madison accumulating at surface in filaments following large eddies, phytoplankton bloom in Filucy Bay across from McNeil Island in colors of green and brown, and green and red phytoplankton bloom in Henderson Inlet. The EOPS photos represent ground truth of algal blooms in these two periods as predicted by the model.

2014 DO Scenarios at 76.

There is ample evidence that algal blooms in Puget Sound are caused, in part, by anthropogenic nutrient contributions, a violation of the narrative criteria.

2. *Jellyfish Cause Deleterious Conditions*

Poor water quality is also associated with increases in jellyfish that are associated with declines in fish. See Greene C, *et al.*, *Forty years of change in forage fish and jellyfish abundance across greater Puget Sound, Washington (USA): anthropogenic and climate associations*, Mar Ecol Prog Ser 525:153-170 (2015).¹² This study involved a 40-year evaluation of jellyfish and forage fish abundance in Puget Sound that found trends in abundance of all forage species in four subbasins of the Sound. The historically-dominant forage fishes (Pacific herring and surf smelt) have declined in surface waters in two subbasins (Central and South Puget Sound) by up to two

¹² Available at <http://www.int-res.com/abstracts/meps/v525/p153-170/>

orders of magnitude. While two other species of forage fish (Pacific sand lance and three-spine stickleback) increased in all four of the subbasins, jellyfish-dominated catches increased three- to nine-fold in Central and South Puget Sound, and abundance positively tracked human population density across all basins. The strongest predictors of forage fish declines were human population density and commercial harvest. Forage fish support salmonids, sea birds, and marine mammals; jellyfish do not. This trend in relative declines/abundance may explain plummeting populations higher in the food chain, such as Chinook salmon and orca whales. Regardless, the abundance of jellyfish is itself a violation of the narrative criterion. Ecology's failure to consider the narrative criteria, antidegradation policy, and designated uses when developing its 303(d) list cannot excuse its permit writers' failure to establish permits that comply with all aspects of water quality standards.

C. Human Nutrient Sources Are Causing and Contributing to Violations of Water Quality Standards in Puget Sound

Ecology has concluded that nitrogen is causing the violations of dissolved oxygen in Puget Sound. *See, e.g., 2014 DO Scenarios* at 13. It has also concluded that “[t]he dominant human sources are through marine point source discharges of treated municipal wastewater. Watershed inflows, which include both natural and human components, deliver nitrogen to the surface waters of South and Central Puget Sound.” *Id.* at 13-14; *see also Ecology, Puget Sound and the Straits Dissolved Oxygen Assessment Impacts of Current and Future Human Nitrogen Sources and Climate Change through 2070 (March 2014)* (hereinafter “Future Impacts”) at 7 (“Human nitrogen contributions from the U.S. and Canada to the Salish Sea have the greatest impacts on DO in portions of South and Central Puget Sound. Marine point sources cause greater decreases in DO than watershed inflows now and into the future.”). By 2014, Ecology had also concluded that:

Wastewater treatment plants deliver 3,250 kilograms/day (kg/d) of total nitrogen (TN) to South Puget Sound and 24,740 kg TN /d to Central Puget Sound. Watersheds deliver 2,410 kg TN/d to South Puget Sound and 2,910 kg TN/d to Central Puget Sound. Natural sources within the watersheds deliver 1,510 kg TN/d to South Puget Sound and 2,530 kg TN/d to Central Puget Sound. Atmospheric deposition to the marine water surface discharges an additional 360 kg TN/d. Comparing the natural and anthropogenic loads from sources within the South and Central Puget Sound, anthropogenic sources contribute about 6 times the nutrient loading compared to natural loads. External anthropogenic load entering the Edmonds open boundary from north is relatively high at approximately 40,000 kg TN /d.

Id. at 15. As a result of modeling, Ecology concluded that:

Compared with natural conditions, current human nutrient loads to South and Central Puget Sound (both internal and external to model domain) cause >0.2 mg/L decreases in daily minimum oxygen concentrations in portions of Totten, Eld, Budd, Carr, and Case inlets of South Puget Sound (Figure ES-3a). We also found violations in East Passage in Central Puget Sound.

Id. at 16. In addition, Ecology determined that:

If marine point sources (internal to model domain) discharged at their maximum permitted loads every day of the year, maximum loads would cause >0.2 mg/L depletions in more regions of the South Sound inlets and in a large portion of Central Puget Sound[.]

Id. at 18. And the agency found that “marine point sources alone cause >0.2 mg/L depletion in more regions than human sources in watershed inflows alone.” *Id.* (citations omitted).

Other findings of the report include the following:

- A 25% reduction would eliminate nearly all of the violations in East Passage and Case Inlet, and would reduce the magnitude and extent of violations in the other South Puget Sound inlets.
- A 50% reduction would further decrease the maximum depletion, and a 75% reduction would eliminate all violations except in Eld Inlet, where the maximum violation would be 0.24 mg/L.
- Central Puget Sound sources influence at least East Passage, Carr, and Case Inlets.
- South Puget Sound sources decrease oxygen in Carr, Case, Totten, Eld, and Budd Inlets.
- Central Puget Sound sources may decrease oxygen in Totten, Eld, and Budd inlets but the proportion of Central Puget Sound sources reaching South Puget Sound has not yet been determined.
- Results indicate that current sources violate the standards
- Results indicate that marine point sources have a greater impact than human sources within watersheds
- South Puget Sound sources have the largest impact on finger inlets.
- There is a possible under-estimation of violations due to possible over-prediction of DO (though not statistically significant) in the bottom layers of shallow inlets.
- Human sources decrease DO by up to 0.38 mg/L below natural conditions. Violations occur for up to 13 weeks.
- In the spring, chlorophyll a levels reflect strong algae growth, particularly in the shallow regions of South and Central Puget Sound.
- East Passage also exhibits strong algae growth, potentially spurred by vertical mixing near the Tacoma Narrows sill. Surface DO levels increase while DIN decreases during high algae growth.

See, id. at 20-21. Ecology’s determination has not changed with the passage of time. *See Ecology, Focus on: Water Quality Permitting to Control Nutrients in Puget Sound* (Aug. 2019) at 1 (“Discharges of excess nutrients to Puget Sound from domestic sewage treatment plants (WWTPs) are significantly contributing to low oxygen levels in Puget Sound. Ecology must require WWTPs to control nutrients consistent with the US Clean Water Act and Washington’s Water Pollution Control Act.”). Its most recent modeling work has concluded that “[e]xcessive nutrients in rivers and from point sources flowing into the Sound, such as municipal wastewater treatment plants, deplete dissolved oxygen below the water quality standards. *2019 Model Update* at 9. Running the Salish Sea model, “Ecology found that implementing nutrient reduction at wastewater treatment plants would achieve significant improvements toward meeting the dissolved oxygen water quality standards.” *Id.* at 11. More specifically, Ecology summarized its work that showed:

The results of the first phase of modeling conducted in 2018 confirm that human

sources of nutrients are having a significant impact on dissolved oxygen in multiple Puget Sound embayments. It is clear from the modeling study that it will take a combination of nutrient reductions from wastewater treatment plants and other sources of nutrient pollution in watersheds to meet marine water quality standards.

Id. at 11. Ecology modeled nitrogen and CBOD₅ reductions with effluent limits set to 8 mg/L in a variety of scenarios. *Id.* at 38. These reductions—which are nowhere close to the limits of technology—do not resolve the problem: “If reductions are made at all municipal wastewater treatment plants as modeled, approximately 10% of the greater Puget Sound would not meet the standards. This represents roughly a 50% improvement in compliance area for the dissolved oxygen standards.” *Id.* at 11.

D. Continued Nutrient Discharges, in Combination with Other Circumstances, Will Result in Water Quality’s Becoming Worse in the Future

Ecology has pointed out that “nutrient concentrations in Puget Sound have significantly increased and nutrient ratios have steadily changed over the last 13 years despite the strong influence of the ocean on Puget Sound water quality.” *Friedenberg Publication* (citations omitted). Ecology’s modeling has demonstrated that this trend will continue into the future. The model was run using the maximum permitted loads, resulting in predicted oxygen depletions above the currently-allowable 0.2 mg/L level in Oakland Bay, Totten Inlet, Eld Inlet, Budd Inlet, Case Inlet, and Carr Inlet in the South Puget Sound and Colvos Passage and the region between Tacoma and Seattle in the Central Puget Sound. *See 2014 DO Scenarios* at 100.

In addition, Ecology looked at how future nutrient contributions could worsen dissolved oxygen declines in Puget Sound in combination with population increases, ocean conditions, and climate change. Its report concluded that:

Human nitrogen contributions from the U.S. and Canada to the Salish Sea have the greatest impacts on DO in portions of South and Central Puget Sound. Marine point sources cause greater decreases in DO than watershed inflows now and into the future. Both loads will increase as a result of future population growth and land use change. Most of the Salish Sea reflects a relatively low impact from human sources of nitrogen. However, future human nutrient contributions could worsen DO declines in regions of Puget Sound.

Future Impacts at 7. Ecology noted that Pacific Ocean trends, climate change, and sediment-water interactions would further decrease DO.

III. THE PROPOSED PERMIT FAILS TO MEET LEGAL REQUIREMENTS

The facts set out above demonstrate that all current point source discharges of nitrogen to Puget Sound, including from this permittee, are causing or contributing to violations of water quality standards in Puget Sound. The exact location of the point of any given discharge and its impairment status on the EPA-approved 303(d) list is irrelevant to this conclusion for several

reasons. First, Ecology has carved the Puget Sound up into thousands of segments or grid cells¹³ and it does not and cannot expend the resources to obtain data for that number of small areas of Puget Sound. It cannot carve a waterbody into minute pieces for modeling or 303(d) listing purposes and then point to the absence of data for all the pieces as a rationale to avoid regulation. Second, as discussed above, the effects of nutrients including nitrogen do not occur at the point of discharge but, rather, in combination with other sources and other parameters wherever the circulation of water takes it. These far-field effects are not linked to effects at the precise point of discharge and therefore the analysis for the permit cannot be done on that basis alone. Third, Ecology has already made the necessary findings that require regulation of this nitrogen discharge. Ecology has already determined that Puget Sound is riddled with impairments for numeric dissolved oxygen criteria; it has ignored applicable narrative criteria. Ecology has already determined that marine point sources are the largest contributor to violations of dissolved oxygen standards. Fourth, Ecology has not issued a 303(d) list based on any data on marine water quality since 2009. And Ecology has already determined that even massive reductions in anthropogenic sources of nitrogen from these very marine point sources are required in order to meet the standards throughout the Sound. In contrast, EPA has failed to conduct a reasonable potential analysis for nitrogen from this source.

A. The Discharge Causes or Contributes to Violations of Water Quality Standards and Therefore a WQBEL is Required for Nutrients

As set out in EPA's permitting guidance, there are four steps in the standards-to-permits process: (1) determine applicable water quality standards; (2) characterize effluent and receiving water; (3) determine the need for WQBELs; and (4) calculate WQBELs. *See* EPA Manual at 6-2. The applicable water quality standards have been set out above. *See also id.* at 6-3 ("Water quality standards comprise three parts: Designated uses. Numeric and/or narrative water quality criteria. Antidegradation policy."). In its guidance, EPA points out that:

In addition to criteria for individual pollutants or pollutant parameters, many states include in their water quality standards criteria for dissolved oxygen. Often, criteria for dissolved oxygen are addressed by modeling and limiting discharges of oxygen-demanding pollutants such as biochemical oxygen demand (BOD), chemical oxygen demand (COD), and nutrients (phosphorus and nitrogen).

Id. at 6-6. Using dissolved oxygen criteria describes Washington's purported approach to

¹³ Ecology has carved the Puget Sound into an unknown number of waterbody segments, with each grid cell sized at approximately 2,460 feet by 3,660 feet. *See* Ecology, *Water Quality Program Policy, Assessment of Water Quality for the Clean Water Act Section 303(d) and 305(b) Integrated Report* (July 2012) at 5. For purposes of modeling, Ecology has divided the South Sound into 2,623 grid cells, each 500 meters square, up to Edmonds. *See, e.g., Ecology, South Puget Sound Dissolved Oxygen Study Circulation Modeling Overview* (Oct. 28, 2009), available at http://www.ecy.wa.gov/puget_sound/docs/102809_SPSDOS_hydromodel_presentation.pdf at 9.

nutrients.¹⁴ The EPA guidance also repeats a simple statement of the law: “As previously noted, CWA section 301(b)(1)(C) requires NPDES permits to establish effluent limitations as necessary to meet water quality standards.” *Id.* at 11. Note, there are no exceptions.

The federal guidance itself does not cover nutrients and far-field effects of oxygen-demanding pollutants because as non-conservative pollutants “the effects of biological activity and reaction chemistry should be modeled, in addition to the effects of dilution, to assess possible impacts on the receiving water.” *Id.* at 24; 6-26 (“It is important for permit writers to remember that, in some situations, the selected steady-state model could be more complex than the simple mass-balance equation shown. For example, there could be other pollutant sources along the stream segment; the pollutant might not be conservative (e.g., BOD); or the parameter to be modeled might be affected by multiple pollutants (e.g., dissolved oxygen affected by BOD and nutrients).”).¹⁵

¹⁴ Ecology claims it need not establish numeric nutrient criteria because,

Due to a lack of data in estuaries and the known highly complex relationship between nutrients and trophic health in marine systems, statewide criteria were not recommended for marine waters. Ecology has chosen an alternative pathway for the control of nutrient concentrations in marine systems that relies on other indicators and triggers for trophic health, and more water body specific modeling to select nutrient threshold values.

* * *

A primary driver in marine waters for setting the agency’s priorities is the failure to comply with dissolved oxygen criteria. Paramount to this issue is the role that is played by excessive nutrient contributions from tributaries and point sources in these waters. Several large sectors of Puget Sound have been modeled to date with the focus on where problems with dissolved oxygen and excess algal production have been found to exist.

Ecology, *Nutrient Criteria Development in Washington State* (April 2004) at 37.

¹⁵ See, for example, EPA Region 5’s explanation on how to follow the federal regulations in issuing permits for nutrient discharges:

EPA expects that Illinois EPA will follow 40 CFR § 122.44(d) when it develops permits for nutrient discharges. Specifically, Illinois EPA must: (1) determine whether nutrient discharges will cause, have a reasonable potential to cause, or contribute to an excursion beyond the criteria [in state water quality standards] in proximate and downstream waters; and (2) set nutrient effluent limitations which are derived from and comply with [state water quality standards], as applicable, when it makes an affirmative determination. In addition, Illinois EPA must: (1) determine whether nutrients, either alone or in combination with carbonaceous biochemical oxygen demand (CBOD) and ammonia, will cause, have a reasonable potential to cause, or contribute to an excursion beyond the criteria [at state water quality standards] in proximate and downstream waters; and (2) set nutrient effluent limitations which, either alone or in combination with limits on CBOD, ammonia, and/or dissolved oxygen, are derived from and comply with [state

WQBELs are required to ensure that permits that allow discharges of nutrients to Puget Sound do not contribute nutrients that cause or contribute to violations of water quality standards in part because EPA has repeatedly rejected petitions seeking to amend the definition of secondary treatment to include removal of nutrients. EPA has denied these petitions based explicitly on its belief that WQBELs would be established to address nutrients in individual permits. *See, e.g., Maier v. EPA*, 114 F.3d 1032, 1036 (10th Cir. 1997) (“The EPA maintained that [nitrogen oxygen demand (NOD)] would be better dealt with on a case-by-case basis in NPDES permitting. The EPA therefore characterized NOD controls as a form of “advance treatment” to be imposed by permit where necessary. The EPA also noted that total impact on dissolved oxygen level (ultimate BOD) is to be considered in the NPDES permitting process.”) (internal citations omitted). The basis for EPA’s position is that,

The CWA requires application of effluent limitations for nutrients that are met by using advanced treatment where necessary to meet applicable water quality standards. . . . Specifically, where secondary treatment is insufficient to protect the quality of the receiving waterbody, POTWs must meet any more stringent water quality-based effluent limits derived to achieve water quality standards.

The EPA’s long-held view, consistent with the requirements of the CWA, is that given the site-specific variation in technological feasibility and costs of nutrient treatment systems, as well as how aquatic ecosystems respond to nutrient additions, POTW nutrient discharges are best addressed through water quality-based permitting.

* * *

In many areas water quality-based permit limits can prevent or correct nutrient-related impairments more effectively than national technology-based nutrient limits due to site-specific variability of waterbody response to nutrients.

Letter from Michael H. Shapiro, Deputy Assistant Administrator, Office of Water, EPA, to Ann Alexander, NRDC (Dec. 14, 2012) at 6. In fact, the Tenth Circuit Court of Appeals asserted that “the EPA and the States approved to administer the NPDES permit program *routinely impose NOD and nutrient limitations on POTWs on a case-by-case basis by permit.*” *Maier* at 1043 (emphasis added), *see also id.* at 1044 (“Congress has, in this closely related statutory section, provided for water quality-based permitting as a gap-filling measure [that] gives strong support to the EPA’s exercise of delegated authority to fill the gap where it has concluded that NOD should not be part of standard secondary treatment.”); 1045 (“[it] is being dealt with —by permit.”). As a consequence, EPA cannot look to the technology-based limits established by EPA and the state to provide assurance that this discharge will not cause or contribute to violations of water quality standards pertaining to nitrogen-driven oxygen demand. And, it cannot avoid the WQBELs that are a required part of the permitting process upon which EPA and the federal courts are relying for nutrient controls. It must address the problem by permit.

water quality standards] when it makes an affirmative determination.

Letter from Tinka G. Hyde, Director, Water Division, Region 5, EPA to Marcia Willhite, Illinois Environmental Protection Agency (Jan. 21, 2011) at 2 (citations omitted).

B. The Permit Fails to Assess Reasonable Potential for this Discharge to Cause or Contribute to Violations of Water Quality Standards and to Establish Required Effluent Limits

Municipal sewage treatment plant permits have technology-based limits on BOD₅ or CBOD₅, sometimes water quality-based limits for the same, and sometimes water quality-based limits on ammonia. None of these individually or together are sufficient to control nitrogen inputs to Puget Sound from this source, which has only a technology-based BOD₅ limit. EPA was required to assess whether this source has the reasonable potential to cause or contribute to violations of water quality standards in any waterbody to which its pollutants discharge. EPA's own fact sheet acknowledges this fact:

Section 301(b)(1)(C) of the CWA requires the development of limitations in permits necessary to meet Water Quality Standards (WQS) by July 1, 1977. Federal regulations at 40 CFR 122.4(d) require that the conditions in NPDES permits ensure compliance with the WQS of all affected States. A State's WQS are composed of beneficial use designations, numeric and/or narrative water quality criteria, and an anti-degradation policy.

Fact Sheet at 11.

This discharger is a known source of nitrogen to Puget Sound. Puget Sound is impaired for dissolved oxygen because of nitrogen. The receiving water quality at the point of discharge as set out by EPA in the fact sheet states that minimum dissolved oxygen is 6.3 mg/L, *see* Fact Sheet at 11 and 41, a violation of the Extraordinary Aquatic Life Use criterion for dissolved oxygen of 7.0 mg/L, *see* WAC 173-201A-210(1)(d), Table 210(1)(d). These data are certainly out-of-date as they are from 2002 through 2005. *Id.* at 41. More to the point, the fact sheet also mentions that

EPA concluded that there is one 303(d) listing near Port Madison in Puget Sound, located approximately 1.4 miles north of the facility's discharge. This listing is for Dissolved Oxygen (Category 5; Listing #: 38714; Assessment Unit: 47122H5F5).

Fact Sheet at 12 (footnote omitted). However, as explained above, the proximity of dissolved oxygen impairments are not necessarily relevant to the evaluation of the need for effluent limits for far-field pollutants such as nitrogen. In any case, the fact sheet does not include any discussion of whether there is reasonable potential for nitrogen discharged by the facility to cause or contribute to violations of water quality standards in Puget Sound despite concluding that dissolved oxygen and Nitrate plus Nitrite and TKN are "pollutants of concern," *id.* at 16, that "may need water quality-based limits," *id.* at 15. Instead, EPA suggests that the Clean Water Act and the agency's own implementing regulations do not apply:

This listing will be addressed through the Puget Sound Nutrient Source Reduction Project. The Puget Sound Nutrient Source Reduction Project is a collaborative effort with Puget Sound stakeholders to find solutions for reducing human sources of excess nutrients. This work focuses on using the latest science to find the right solutions for regional investments to reduce nutrient sources. The objective is to improve Puget Sound water quality to support salmon and orca recovery and

increase resiliency to climate impacts.

Id. And EPA concludes that “[f]or this permit, Ammonia is the only parameter of concern applicable for a reasonable potential analysis because this parameter is present in the waste stream, and has a WQ-based standard.” *Id.* at 44. After noting that “[t]he Draft Permit proposes the same effluent limits as the existing permit,” EPA states that it proposes to add monitoring for nitrate plus nitrite, Total Kjeldahl Nitrogen, and dissolved oxygen and to increase the monitoring for ammonia. *Id.* at 15.

Both the failure to reflect the actual nitrogen reductions achievable at this facility in effluent limitations and the failure to “cap” the nitrogen discharges at current levels are contrary to the promises that Ecology made when it denied NWEA’s AKART Petition. *See AKART Petition; AKART Denial Letter.* In its response to NWEA’s AKART petition, Ecology stated that it would “through the individual permitting process . . . [s]et nutrient loading limits at current levels from all permitted dischargers in Puget Sound and its key tributaries to prevent increases in loading that would continue to contribute to Puget Sound’s impaired status.” *Id.* at 2. This is an individual permitting process. There is no load limit on nutrients. The timeline for these Ecology promises was the “permit reissuance schedules . . . by mid-2019.” *Id.* October is past the midpoint of this year. EPA makes no mention of this permitting commitment by Ecology.

As demonstrated above, given that this discharger is a known source of nitrogen to Puget Sound, and therefore it is contributing to violations of water quality standards, the permit is required to also contain water quality-based effluent limits for total nitrogen.¹⁶ EPA agrees:

¹⁶ Writing of Kentucky’s failure to use available information as the basis for WQBELs, EPA supports our reading of its regulations:

KDOW [the state agency] states that it had insufficient data to conduct the RPA for these pollutants and, therefore, is requiring five quarters of effluent monitoring for these pollutants, coupled with in-stream chemical and biological monitoring.

* * *

KDOW does not consider available, valid, and representative data showing that the proposed discharges have the reasonable potential to cause or contribute to violations of WQS. Given the existence of information indicating that reasonable potential exists, KDOW’s proposal to conduct the RPA during the permit term does not comply with the CWA and its implementing regulations, which require that the permit contain WQBELs for all discharges that have reasonable potential to cause or contribute to a violation of WQS (40 CFR § 122.44(d)(1)(iii, iv, vi)).

* * *

KDOW can characterize the effluent using data from similar discharges . . . or other sources of information about the likely composition of the effluent. KDOW could have independently sought to obtain such data or rejected the application as not sufficient and required additional data from the applicant.

* * *

Given the existence of information indicating that reasonable potential does exist, KDOW’s approach of deferring an RPA to the middle of the permit term is inadequate.

The NPDES regulation 40 CFR 122.44(d)(1) implementing Section 301(b)(1)(C) of the CWA requires that permits include limits for all pollutants or parameters which 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 or Tribal water quality standard, including narrative criteria for water quality.

Fact Sheet at 17. EPA must certainly conduct a reasonable potential analysis. However, the Fact Sheet demonstrates that EPA did not assess whether this discharge has the reasonable potential to cause or contribute to violations of water quality standards, and did not use procedures to account for existing controls on point and nonpoint sources of nutrients and parameters affecting dissolved oxygen and the narrative criterion as required by federal regulations, to which EPA cites. Fact Sheet at 18. Instead, EPA merely concludes, in a sentence that is not complete, that “In this case because there are no approved TMDLs that specify wasteload allocations for this discharge.” *Id.* The remainder of its so-called reasonable potential analysis consists of a discussion of dilution analysis, the very analysis that does not pertain to far-field pollutants:

EPA compares the maximum projected receiving water concentration to the water quality criteria for that pollutant. If the projected receiving water concentration exceeds the criteria, there is reasonable potential, and a water quality-based effluent limit must be included in the permit.

Id. EPA goes on to discuss mixing zones, which are also not pertinent to far-field pollutants. *Id.* at 18 – 21.

EPA’s reasonable potential analysis and need for water quality-based effluent limitations for nitrogen is summarized in one paragraph as follows:

To better understand any possible impacts from the WWTP, the draft permit requires monthly monitoring for these nitrogen compounds: Nitrate plus Nitrite Nitrogen, and TKN. The data generated will be used to determine during the next permit cycle if permit limits are necessary to reduce nutrients from this WWTP for the next permit. In addition, the data will be used to inform the Puget Sound Nutrient Source Reduction Project.

Id. at 23. This additional monitoring suggests that perhaps there are no data on nitrogen discharges to Puget Sound from this source yet the Suquamish plant has been included in the modeling work done by Ecology. *See, e.g., 2019 Model Update, Appendix A5 at 35; see also id.*

Letter from James D. Giattina, Director, Water Protection Division, Region 4, EPA to Sandy Gruzesky, Kentucky Department for Environmental Protection, Re: Notice of Specific Objection – Xinerj Corporation (KY0108014) (Oct. 22, 2010) (hereinafter Gruzesky Letter) at 3 – 4. Unlike in the Kentucky example, Ecology does not even acknowledge its obligation to conduct a reasonable potential analysis on nitrogenous oxygen demand pollutants contributing to violations of water quality standards and it ignores, entirely, the data that it does have and the modeling that it has completed. As EPA points out in this letter, there is a distinction between a situation where there is no information whatsoever and where there is sufficient information to connect the content of the effluent and the quality of the receiving water. *See, id.* at 4, fn. 6.

at 41 (showing that flows at the facility have increased over time), 211.

The result of this analytical failure is EPA's failure to have established limits that ensure that this discharge does not cause or contribute to violations of water quality standards and to ensure that the level of water quality achieved by the limitations that it placed on this discharge are derived from and comply with all applicable water quality standards, in violation of the CWA and federal and state regulations set out above.

C. The Proposed Permit Fails to Comply with 40 C.F.R. § 122.44(d)(1)(ii)

EPA regulations require the permit to, *inter alia*, "use procedures which account for existing controls on point and nonpoint sources of pollution." 40 C.F.R. § 122.44(d)(1)(ii). EPA agrees. Fact Sheet at 18. Regardless, nothing in the draft fact sheet demonstrates that EPA has engaged in this evaluation despite all the evidence, discussed above, about the many other sources of nitrogen pollution in Puget Sound. With regard to nitrogenous oxygen-demanding materials, which this permit does not evaluate, the permit writer must take into account the existing lack of controls on nonpoint sources such as on-site septic systems, which contain no nitrogen controls, and the existing lack of controls on permitted discharges from municipal sewage systems. EPA's failure to account for these non-existing pollution controls on point and nonpoint sources renders its draft permit inconsistent with federal regulations and the Clean Water Act.

D. The Proposed Permit Fails to Evaluate Whether the Discharge Will Cause or Contribute to Violations of Narrative Criteria

EPA cites the narrative criteria and the legal requirement to comply with them. *See* Fact Sheet at 10 – 11, 17. EPA's discussion of how it concludes this source is complying with the criteria fits in a short paragraph. EPA concludes that:

Ecology's regulations at WAC 173-201A-216(3)(a) [sic] describes [sic] narrative general criteria for the protection of recreational uses, referencing WAC 173-201A-260(2)(a) and (b) concerning toxic, radioactive, and deleterious materials, and for aesthetic values. To comply with this [sic] criteria, the Draft Permit requires that the permittee must not discharge floating, suspended, or submerged matter of any kind in concentrations causing nuisance or objectionable conditions or that may impair designated beneficial uses. The EPA normally would also require the permittee to perform visual monitoring to ensure compliance with this criteria.

Id. at 17. EPA goes on to say that visual monitoring is "impractical" and therefore is not required. *Id.* This discussion is seriously flawed. First, it is unclear why EPA restricts its discussion of applicable narrative criteria to those in WAC 173-201A-210(3)(a), which are recreational criteria for primary contact recreation. The narrative criteria also apply to shellfish harvesting, WAC 173-201A-210(2)(a), and aquatic life, WAC 173-201A-210(1)(b). Nitrogen pollution that affects dissolved oxygen, the food chain, etc., affects aquatic life. Nitrogen pollution that affects local acidification affects shellfish harvesting. Nitrogen pollution that affects algal growth, polluting beaches and causing an aesthetic blight, affects recreation. All of these provisions are relevant.

Further, it is unclear on what basis EPA concludes that the narrative criteria discussed are

limited to that which may be observed by visual monitoring coming out of the outfall. The narrative criteria to which EPA cites are not so limited. WAC 173-201A-260(2)(a) states in pertinent part that “deleterious material concentrations must be below those which have the potential, either singularly or cumulatively, to adversely affect characteristic water uses, cause acute or chronic conditions to the most sensitive biota dependent upon those waters, or adversely affect public health.” Discharges of nitrogen are deleterious materials current discharged in concentrations that, in combination with other water quality parameters and pollutants, are adversely affecting the uses of aquatic life, shellfish harvesting, and human recreation, and where algal blooms are toxic, the public health. Or, put into the words that EPA summarized, and quoted above: “concentrations causing nuisance or objectionable conditions or that may impair designated beneficial uses.” How EPA arrives from that to limiting the scope of this prohibition to material floating out of the discharge pipe is a mystery.

The same, of course, is true of the other cited narrative criterion, that prohibits aesthetic values from being “impaired by the presence of materials or their effects, excluding those of natural origin, which offend the senses of sight, smell, touch, or taste.” WAC 173-201A-260(2)(b). Again, EPA’s limiting its evaluation of compliance with this criterion to those materials that might float out of the outfall is inconsistent with the regulations.

There is simply no evidence that EPA made the necessary examination therefore the public can only conclude that it did not. There is no reference to the procedures established in 40 C.F.R. § 122.44(d)(1)(vi). In addition, as this discharge is one of many such discharges that contribute to violations of the narrative criterion in the waters of the Sound, and the fact sheet is silent on the question of whether EPA took existing controls—or lack thereof—on point and nonpoint sources into account, the proposed issuance of this permit is contrary to law.¹⁷

E. Permit Violates Tier I of the Antidegradation Policy Contained in Washington’s Water Quality Standards

As explained above, Washington’s water quality standards contain Tier I requirements to protect existing and designated uses. Puget Sound water quality is impaired, failing to fully support existing and designated uses. Such water quality is prohibited. WAC 173-201A-310(1). The continued discharge of nitrogen from this facility, authorized by the draft permit, is a violation of Tier I’s prohibition on “degradation . . . that would interfere with , or become injurious to, existing or designated uses[.]” *Id.* In addition, Tier I requires that “[f]or waters that do not meet assigned criteria, or protect existing or designated uses, the department will take appropriate and definitive steps to bring the water quality back into compliance with the water quality standards.” WAC 173-201A-310(2). EPA concurs. Fact Sheet at 51. EPA agrees that “[t]his facility must meet Tier I requirements.” *Id.*

Washington’s antidegradation rule focuses on protecting both existing uses and designated uses by generally prohibiting degradation of water quality below that necessary to maintain existing

¹⁷ For example, EPA has emphasized the federal regulation’s requirement to ensure compliance with narrative criteria in its review of state-issued permits. *See, e.g.,* Gruzesky Letter at 2 (“NPDES regulations at 40 CFR 122.44(d)(1)(vi) are clear that NPDES permits must contain provisions implementing narrative WQS, and the RPA that must be completed for numeric WQS, must also be completed for narrative standards.”).

uses. Each state's antidegradation policy must comply with the federal antidegradation policy promulgated at 40 C.F.R. § 131.12, which EPA has consistently described as the "absolute floor of water quality in all waters of the United States." *See, e.g.*, EPA, *Water Quality Standards Regulation*, 48 Fed. Reg. 51,400, 51,403 (Nov. 8, 1983); EPA, *Water Quality Standards Regulation* (Advance Notice of Proposed Rulemaking), 63 Fed. Reg. 36,742, 36,781 (July 7, 1998)). The antidegradation rule is a separate and independent requirement that is not necessarily satisfied by proper implementation of the applicable state water quality criteria. By characterizing the antidegradation rule's focus on existing uses as the "absolute floor of water quality," EPA clearly contemplated that circumstances would arise where the antidegradation rule's requirements require more stringent limits than would be required by the otherwise applicable water quality criteria. EPA's Office of Water discussed the significance of the antidegradation rule in a 1985 memorandum, which stated that "the antidegradation policy is an integral component of water quality standards and must be considered when developing . . . NPDES permits." Memorandum from Edwin L. Johnson, Director Office of Water Regulations and Standards, EPA, to Water Management Division Directors Regions I-X (1985). This memorandum instructed that "[a]ll Agency staff involved in . . . permitting should be reminded that in developing . . . permits . . . consideration must, of course, be given to the States applicable water quality standards, *including the antidegradation provisions.*" *Id.* (emphasis added). The regulatory prohibition against issuing a permit that does not ensure compliance with state water quality "standards" requires the permitting authority to consider compliance with all components of the state's water quality standards, including compliance with the antidegradation rule, and not just compliance with the state's numeric water quality "criteria." *See* 40 C.F.R. § 122.4(d) which refers to compliance with water quality "standards," not "numeric criteria."

Issuing a permit that will allow a source to contribute to water quality that is harming existing and designated uses is a violation of Tier I of the antidegradation policy. Nitrogen discharges from this and other facilities is harming existing and designated uses, as discussed above. EPA's conclusion that "[a]ll the effluent limits in the Draft Permit are as stringent as the previous permit, and beneficial uses will not be impaired by the facility. The facility meets Tier I . . . the proposed permit conditions will protect existing and designated uses of the receiving water," is entirely conclusory because despite a reference to "[t]he analysis described," there is no discussion of the protection of existing and designated uses. *Fact Sheet* at 51 – 52. EPA is unable to point to appropriate and definitive steps to bring the water quality back into compliance with water quality standards and in issuing a permit that fails to include the required effluent limitations, EPA is merely adding to Ecology's failure to take those steps. The fact that the effluent limits are the same as the last permit is not any form of proof that this discharge is not in violation of the Tier I requirements. In addition, EPA's failure to require AKART for this permittee—see discussion immediately below—is a violation of the antidegradation policy. WAC 173-201A-300(2)(d).

F. The Permit Fails to Ensure the Implementation of AKART

"'AKART' is an acronym for 'all known, available, and reasonable methods of prevention, control, and treatment.' AKART shall represent the most current methodology that can be reasonably required for preventing, controlling, or abating the pollutants associated with a discharge." WAC 173-201A-020. The AKART standard is required to all dischargers. RCW 90.54.020(3)(b), 90.54.040; WAC 173-220-130(1)(a). AKART applies to discharges from domestic wastewater facilities. *Id.*; WAC 173-221-010.

Enhanced secondary and tertiary treatment for the removal, control, and treatment of nutrients is a known method of removing nitrogen. *See, e.g., Ecology, Technical and Economic Evaluation of Nitrogen and Phosphorus Removal at Municipal Wastewater Treatment Facilities* (June 2011).¹⁸ These treatments are available methods for removal, control, and treatment of nitrogen. *See, e.g., id.* Therefore, in our opinion, the use of enhanced secondary and/or tertiary treatment for removal of nitrogen is AKART. It is possible that this facility is using AKART. But EPA does not mention anything about AKART in its fact sheet.

AKART is also required in order to obtain a mixing zones in Washington State. *See WAC 173-201A-400(2); see also BNSF Railway Co. v. Washington Ecology*, PCHB No. 11-150, Order on Summary Judgment (Dec. 4, 2012) at 20 (“Ecology’s regulation governing mixing zones does require a showing that the applicant has fully implemented AKART before a mixing zone may be granted.”). Without a showing that the facility has met the AKART requirements, EPA cannot issue a permit that relies upon a regulatory mixing zone.

Conclusion

EPA has exhibited a total disinterest in issuing a permit that is consistent with federal regulations that it itself has promulgated. It frankly leaves one speechless.

Sincerely,



Nina Bell
Executive Director

Attachments:

Letter from Maia Bellon, Ecology Director, to Nina Bell, NWEA, Re: Petition for Rulemaking to Adopt a Presumptive Definition of "All Known, Available, and Reasonable Treatment" as Tertiary Treatment for Municipal Sewage Dischargers to Puget Sound and its Tributaries (Jan. 11, 2019)

Letter from Nina Bell, NWEA, to Tricia Miller, Ecology, Re: Draft NPDES Permit No. WA0030597 for Skagit County Sewer District No. 2 Big Lake Wastewater Treatment Plant (Oct. 4, 2019)

Northwest Environmental Advocates, Before the U.S. Environmental Protection Agency, Petition for Corrective Action or Withdrawal of Authorization from the State of Washington to Issue National Pollutant Discharge Elimination System Permits (Feb. 13, 2017)

Ecology, Water Quality Program Permit Writer's Manual (Revised July 2018)

¹⁸ Available at <https://fortress.wa.gov/ecy/publications/documents/1110060.pdf> (last accessed Oct. 17, 2016).

Ecology, South Puget Sound Dissolved Oxygen Study Water Quality Model Calibration and Scenarios (March 2014)

Northwest Environmental Advocates, Petition for Rulemaking to Adopt a Presumptive Definition of "All Known, Available, and Reasonable Treatment" as Tertiary Treatment for Municipal Sewage Dischargers to Puget Sound and its Tributaries (Nov. 14, 2018)

Ecology, Puget Sound Nutrient Source Reduction Project: Vol. 1: Model Updates and Bounding Scenarios (Jan. 2019)

Ecology, Focus on: Water Quality Permitting to Control Nutrients in Puget Sound (Aug. 2019)

Northwest Environmental Advocates, Petition for Rulemaking to the Department of Ecology Seeking a Total Maximum Daily Load and Wasteload Allocations for Nitrogen in Puget Sound (Oct. 10, 2017)

Ecology, Potential Permittee List for a Puget Sound Nutrients General Permit (Aug. 7, 2019)

Laura Friedenber, et al., Increasing nutrients, changes in algal biomass, and large Noctiluca blooms in Puget Sound: Is eutrophication fueling the microbial food web?, Publication No. 13-03-019 (April 2013)

Harmful algal blooms in Puget Sound, Encyclopedia of Puget Sound, Puget Sound Institute, University of Washington

Harmful Algal Blooms, Encyclopedia of Puget Sound, Puget Sound Institute, University of Washington

Ecology, Puget Sound and the Straits Dissolved Oxygen Assessment Impacts of Current and Future Human Nitrogen Sources and Climate Change through 2070 (March 2014)

Ecology, Water Quality Program Policy, Assessment of Water Quality for the Clean Water Act Section 303(d) and 305(b) Integrated Report (July 2012)

Greene C, et al., Forty years of change in forage fish and jellyfish abundance across greater Puget Sound, Washington (USA): anthropogenic and climate associations, Mar Ecol Prog Ser 525:153-170 (2015)

Ecology, South Puget Sound Dissolved Oxygen Study Circulation Modeling Overview (Oct. 28, 2009)

Ecology, Nutrient Criteria Development in Washington State (April 2004)

Letter from Tinka G. Hyde, Director, Water Division, Region 5, EPA to Marcia Willhite, Illinois Environmental Protection Agency (Jan. 21, 2011)

Letter from Michael H. Shapiro, Deputy Assistant Administrator, Office of Water, EPA, to Ann Alexander, NRDC (Dec. 14, 2012)

Letter from James D. Giattina, Director, Water Protection Division, Region 4, EPA to Sandy Gruzesky, Kentucky Department for Environmental Protection, Re: Notice of Specific Objection - Xinerdy Corporation (KY0108014) (Oct. 22, 2010)

Ecology, Technical and Economic Evaluation of Nitrogen and Phosphorus Removal at Municipal Wastewater Treatment Facilities (June 2011)

Ecology, Puget Sound Dissolved Oxygen Model: Nutrient Load Summary for 1999–2008 (Nov. 2011)

Sent by CD via U.S. Postal Service: Attachments to Northwest Environmental Advocates, Before the U.S. Environmental Protection Agency, Petition for Corrective Action or Withdrawal of Authorization from the State of Washington to Issue National Pollutant Discharge Elimination System Permits (Feb. 13, 2017); Northwest Environmental Advocates, Petition for Rulemaking to Adopt a Presumptive Definition of "All Known, Available, and Reasonable Treatment" as Tertiary Treatment for Municipal Sewage Dischargers to Puget Sound and its Tributaries (Nov. 14, 2018); and Northwest Environmental Advocates, Petition for Rulemaking to the Department of Ecology Seeking a Total Maximum Daily Load and Wasteload Allocations for Nitrogen in Puget Sound (Oct. 10, 2017)