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VIA EMAIL and ONLINE SUBMISSION

Eleanor Ott, P.E.  
Washington State Department of Ecology  
P.O. Box 47696  
Olympia, WA 98504-7696  
[Eleanor.ott@ecy.wa.gov](mailto:Eleanor.ott@ecy.wa.gov)

**RE: Comments of Puget Soundkeeper Alliance, Draft Puget Sound Nutrient NPDES General Permit**

Dear Ms. Ott:

## INTRODUCTION

These comments on the Department of Ecology's ("Ecology") Draft Puget Sound Nutrient National Pollutant Discharge Elimination System General Permit (the "Permit") are submitted by Earthjustice on behalf of Puget Soundkeeper Alliance ("PSA"). PSA is a Washington non-profit environmental organization whose mission is to protect and enhance the waters of Puget Sound for the health and restoration of our aquatic ecosystems and the communities that depend on them. PSA engages its mission through monitoring and patrolling Puget Sound and its tributaries; through education, outreach, and advocacy with the community and regulators; and through pursuit of legal action, where necessary, to protect Puget Sound. PSA generally agrees that nutrient pollution from wastewater treaters can be addressed through a general permit, but objects to the Permit because it is not in compliance with state and federal requirements, does not create a pathway to actually meeting water quality standards, and because the Permit will do nothing to reduce nutrient pollution discharges to Puget Sound during the term of the Permit and potentially well afterwards.

## BACKGROUND

### I. NUTRIENT POLLUTANTS AND PUGET SOUND

#### A. Nutrient Pollutants

Many, if not most, of the nation's marine ecosystems are polluted by excess nutrients; both nitrogen and phosphorus. EPA, *Nutrient Criteria Technical Guidance Manual: Estuarine and Coastal Waters* [EPA Nutrient Guidance] at xvii and 1-1 (Oct. 2001). Furthermore, at least two-thirds of U.S. estuaries and marine coastal waters have been assessed as seriously degraded by chronic nutrient pollution (National Research Council 2000, Bricker et al. 2008). Water systems are considered impaired when the water fails to meet the standards required to protect specified designated uses. *Id.* Nutrient pollution can cause an increase in harmful algal growth, which in turn can result in reduced or depleted levels of oxygen, an imbalance of the ecosystem,

public health concerns, loss of critical habitat for beneficial aquatic life, greatly reduced biodiversity, and a general decline in fish and aquatic life. EPA Nutrient Guidance at 1-1 and 1-5, Burkholder and Glibert 2013 and references therein. Harmful algal “blooms” (outbreaks) have been linked to major fish kills, significantly affecting local recreational and commercial fisheries. Burkholder 1998, EPA Nutrient Guidance at 4. Blooms of certain cyanobacterial species produce toxins that can cause disease and death of beneficial aquatic life and humans. Chorus and Bartram 1999, EPA Nutrient Guidance at 1-1. Depletion of dissolved oxygen can cause stress and death in bottom-dwelling organisms such as sessile, ecologically, and commercially important marine shellfish. *Id.*; *see also*, Ecology, *South Puget Sound Dissolved Oxygen Study Interim Data Report* (Dec. 2008) at 13; Ecology, *Puget Sound and Straits Dissolved Oxygen Assessment* (2014) at 11.

Chronic nutrient pollution and a related array of impacts are present in Puget Sound. *Id.*<sup>1</sup> As acknowledged by Ecology on its own website and in the Permit Fact Sheet, “[d]ischarges of excess nutrients, particularly nitrogen, to Puget Sound from domestic wastewater treatment plants (WWTPs) are significantly contributing to low oxygen levels in Puget Sound.” Permit Fact Sheet; *see also*, Khangoankar, T. et al., *Analysis of Hypoxia and Sensitivity to Nutrient Pollution in Salish Sea*, *Jour. of Geophysical Research* (2018).<sup>2</sup> According to Ecology, approximately 20 percent of Puget Sound is currently not meeting water quality standards for dissolved oxygen and Ecology’s Salish Sea Model shows parts of Puget Sound failing to meet the standards for 120+ days, one third of the year or more. Information from the Environmental Protection Agency (“EPA”) confirms that dissolved oxygen standards are not being met in Puget Sound and that those conditions are trending worse, not better. <https://www.epa.gov/salish-sea/marine-water-quality>.

About 70% of the anthropogenic nitrogen inputs to Puget Sound are contributed by wastewater treatment point sources, and nutrient pollution has been identified as a major source of water quality degradation to the Sound. Bounding Scenarios Report, Publication No. 19-03-001, Jan. 2019. The Puget Sound region (human population more than 4.5 million) is predicted to sustain a 40% increase (1.8 million more) by 2050 (Ott 2020). Ecology’s Draft Permit will control the discharges from 58 publicly owned domestic wastewater treatment plants into the Sound. The total discharge (“action level”) of these wastewater plants is estimated to contribute more than 28,463,000 pounds per year of highly bioavailable total inorganic nitrogen (TIN)—just one of many pollutants in the effluents—to the already-nutrient-degraded Sound. PSNGP

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<sup>1</sup> *See also* University of Washington, Puget Sound Institute, <https://www.eopugetsound.org/magazine/is/nutrients> and <https://www.pugetsoundinstitute.org/2017/10/puget-sounds-growing-nutrient-problem/>.

<sup>2</sup> More recent indications of Puget Sound being out of balance from excess nutrients (nitrogen and phosphorus), which has been exacerbated by warming trends and other impacts of climate change, can be seen in the “Blob’s” extreme adverse impacts on aquatic ecosystems in the northeastern Pacific Ocean (NOAA 2019), explosions of jellyfish populations, and ocean acidification interfering with shellfish being able to form shells. <https://crosscut.com/environment/2020/12/outdated-sewage-treatment-suffocating-fish-puget-sound>.

Fact Sheet 2021. Clearly, to improve water quality and ecosystem protection, this Permit needs to accomplish significant reduction of effluent pollutants to the Sound from these dischargers.

Ecology has proposed this draft Permit purportedly to address the problem of excess nutrients in Puget Sound from wastewater treatment facilities. Domestic wastewater contains a high proportion of biologically available nitrogen and phosphorus, to such an extent that sewage sources are considered much more potent and high-impact than other nutrient pollution sources (Jarvie et al. 2006, Millier and Hooda 2011, Venkiteswaren et al. 2019). As stated in Ecology's Permit Fact Sheet, "WWTPs are the dominant land-based dissolved inorganic nitrogen (DIN) source during the low flow (summer) months" and "cumulatively contribute to DO impairments in other locations due to the water exchange that occurs between basins." PSNGP Fact Sheet 2021 at 30.

Unfortunately, the Permit as proposed will do little to nothing to control or reduce excess nutrient pollution in Puget Sound and the significant water quality impacts from that pollution. Rather, current pollutant levels will continue apace, and increase as the sources expand, for at least the next five-year permit term and potentially well into the future. As a result, the proposed Permit fails to meet the most basic requirements of state and federal law.

## II. REQUIREMENTS UNDER THE CLEAN WATER ACT AND STATE LAW.

### A. Federal.

Federal regulations prohibit the issuance of a NPDES permit when the conditions in the permit do not provide for compliance with all applicable requirements of the Clean Water Act and/or regulations promulgated under the Act, or when the imposition of conditions cannot ensure compliance with water quality standards. 40 C.F.R. §§ 122.4(a) and (d). Federal regulations require that each NPDES permit shall include technology-based effluent limits (TBELs) and such other more stringent effluent limits (e.g., water quality-based effluent limits or WQBELs) necessary to achieve water quality standards, including any state narrative criteria. *Id.* at § 122.44(a) and (d). Effluent limits must control all pollutants or pollutant parameters which will cause or contribute to (or have the *potential* to cause or contribute to) an excursion above any water quality standard, including narrative criteria. *Id.* § 122.44(d)(1)(i).

When developing effluent limitations as required by these provisions, the state must ensure that the level of water quality achieved through such limits meets water quality standards and is consistent with any applicable wasteload allocation. *Id.* § 122.44(d)(1)(vii). Permit effluent limits for publicly owned treatment works shall be stated as average weekly and average monthly discharge limitations. *Id.* § 122.45(d). Best management practices may be substituted for numeric effluent limits *only* where a numeric limit is infeasible. *Id.* § 122.44(k)(3).

Finally, federal regulations also require that permitting entities ensure that the discharge authorized by the permit will not further degrade waters. 40 C.F.R. § 131.12.

B. State.

In addition to federal requirements for NPDES permitting, the State is required, by statute and its own regulations, to ensure the highest level of protection for all Washington waters, and to that end, that the State require all known, available, and reasonable technology (“AKART”) be applied to prevent and minimize the discharge of pollutants to the state’s waters. RCW 90.48.010; 90.48.520; 90.54.020; WAC 173-226-070; *see also Wash. State Dairy Fed’n v. State of Wash.*, \_\_ P. 3d \_\_, 2021 WL 2660024 (Wn. Ct. App. 2021) at \*6–8. AKART is required regardless of the quality of the receiving water. RCW 90.48.520; 90.54.020(b).

As with the Clean Water Act, no permit may be issued that causes or contributes to the violation of any water quality standard. RCW 90.48.520; WAC 173-201A-510(1). For general permits, Ecology must include such WQBELs as are necessary to meet water quality standards and to ensure that the discharges authorized by the permit do not cause or contribute to a violation of any water quality standard. WAC 173-226-070(2) and (3). WQBELs must be incorporated into the actual terms of the general permit (i.e., not included as assumptions or referenced as background considerations in non-permit materials on the administrative record) if they are necessary for a majority of dischargers covered by the permit. WAC 173-226-070(2)(a); *see also Wash. State Dairy Fed’n*, at \*17. For wastewater dischargers, those limits must be expressed as average weekly and monthly quantitative concentrations and mass limitations. WAC 173-226-070(6)(b).

As with federal regulations, state regulations require that there shall be no degradation of water quality. WAC 173-201A-300, -310.

While the rules at both federal and state levels provide that a permitting agency may use compliance plans to allow a polluter time to come into compliance with new permit requirements, 40 C.F.R. § 131.15, WAC 173-226-180 and 173-201A-510(4)(a), compliance plans do not excuse or negate the requirements described above: that limits be explicitly stated in the permit and that the permitting agency determine those limits will ensure compliance with water quality standards.<sup>3</sup>

## PERMIT CONTENTS

The Permit does not include effluent limits for nutrients, numeric or otherwise. Instead, the Permit suggests best management practices (“BMPs”) only for the purpose of polluters staying within action levels, set at their currently highest (99%) level of nutrient pollutant discharges. Because current levels represent a situation where there has never been an effluent limit, they cannot now suddenly be considered an effluent limit.

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<sup>3</sup> Further, to the extent that they are allowed at all, compliance plans should not extend beyond the 5 years of the permit.

Ecology claims that it is infeasible to develop numeric effluent limits until modeling is complete. Draft PSNGP Fact Sheet 2021, p.34. Ecology claims infeasibility in part because each polluter and its situation, as well as the receiving water location, is unique. At the same time, Ecology claims that a general permit for nutrient pollution discharges from wastewater treatment plants is appropriate and warranted. General permits are allowed under state regulations only for categories of dischargers that meet *all* of the following requirements:

- (i) Involve the same or substantially similar types of operations;
- (ii) Discharge the same or substantially similar types of wastes;
- (iii) Require the same or substantially similar effluent limitations or operating conditions, and require similar monitoring;
- and (iv) In the opinion of the director are more appropriately controlled under a general permit than under individual permits.

WAC 173-226-050; *see also* 40 C.F.R. § 122.28. It is unclear to PSA how nutrient pollution from wastewater dischargers to Puget Sound is unique and case-by-case to the extent that Ecology cannot possibly develop and impose numeric effluent limitations that are AKART, and yet also meet the above requirements for a category of polluters that can be regulated by a general permit. Ecology cannot have it both ways.

Remarkably, Ecology assigns to the polluters themselves the task of setting effluent limits and determining what constitutes AKART for the treatment and limitation of nutrient discharges from wastewater treatment plants. Moreover, the Permit gives the polluters the full five years of the Permit to study and plan.

The Permit requires no reductions in nutrient pollution from any discharger covered by the Permit. Rather, Ecology requires polluters to attempt to optimize their current performance—yet Ecology states this is to occur “reasonably” without investing in “costly upgrades or...infrastructure improvements.” PSNGP Fact Sheet 2021, p.42; Permit S.4.B. and D., 12 and 17–18. Ecology sets an “action level” equal to the top end (99th percentile) of recent levels of nutrient pollution from each pollutant discharger. Permit S.4.B., 13–14. If that action level (that is, the high end of current pollutant levels) is exceeded in two consecutive years or three times total over the entire five years of the Permit, the polluter that exceeded the action level must undertake a year’s worth of planning to propose action to Ecology for bringing its nutrient pollution discharges down by at least 10% within five years (which, depending on the magnitude of the exceedances may still be in excess of the 99th percentile). Permit S.4.D., 17–18. Generally, the permit sets a pollutant load cap at nearly the highest level of historic pollutant discharges and creates a system in which compliance is measured across *years* of the permit term and exceedances don’t lead to noncompliance—let alone penalties. This is not a cap, it’s a suggestion.

Ecology also requires the polluters to study and report on their utility fee structure and specifically to assess whether certain communities within a polluter’s service area are disproportionately affected by the fee structure and what alternative fee structures may be. Permit S.4.E.5.d.

These provisions fail to meet minimal requirements for permitting under federal and state law. They will do nothing to reduce the already excessive nutrient pollution load to Puget Sound that is having devastating effects. For these reasons, PSA objects to the proposed Permit.

## OBJECTIONS TO THE DRAFT PERMIT

### I. THE PERMIT FAILS TO INCLUDE NUMERIC EFFLUENT LIMITS IN VIOLATION OF STATE AND FEDERAL PERMITTING REQUIREMENTS

The Permit makes no findings regarding AKART and imposes no numeric effluent limits, AKART or otherwise, on nutrient discharges by wastewater treatment plants into Puget Sound. As currently drafted, the Permit is indefensible both legally and factually.<sup>4</sup>

#### A. The Permit Fails To Address A Significant Part Of The Problem In Failing To Include Phosphorus.

Despite Ecology's repeated acknowledgment that both nitrogen and phosphorus pollution degrade surface waters including the Sound, Draft PSNGP Fact Sheet 2021, the Permit fails to consider any wastewater treatment plant effluent limits for phosphorus. Ecology's stated basis was that a grey-literature report (Newton and Van Voorhis 2002) "documented that nitrogen is a limiting nutrient for Puget Sound." The cited report contains no such documentation. It describes monitoring of several areas in the Sound, including measurements for phosphate, but not total phosphorus. Algae luxury-consume phosphate (Wetzel 2001); that is, they take up much more than they need when it is available and store it in their cells. For that reason, measurement of total phosphorus is needed to assess the phosphorus potentially available to the algae. Moreover, the report includes nothing about attempts to assess the primary nutrient limiting algal growth in the Sound. It does mention experiments that were mistakenly described as having simulated anthropogenic nutrient loading of "excess" nutrients—but the levels of ammonium and phosphate added (~420 µg/L and ~100 µg/L, respectively) were an order of

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<sup>4</sup> PSA concentrates its comments on portions of the Permit applicable to the larger dischargers (called the "Dominant WWTPs"). However, PSA questions that all smaller dischargers should be exempt from any of the Permit requirements and reserves the right to object. There is no information in the Permit or Fact Sheet concerning where and how much the smaller WWTPs discharge their pollutants. For example, is it to an area that is already failing to meet dissolved oxygen standards? There is no information on sensitivity of receiving waters or growth rates for the smaller WWTPs (defined by Ecology as collectively contributing ~1% of the domestic point source anthropogenic load) which may dictate requiring them to have an effluent limit, when it is easier to address the problem prior to more growth. Examples of facilities that require more information and disclosure—and that may be of concern for lack of limits—are Bainbridge, Mukilteo, Sequim, and Port Townsend (growing communities that are more affluent than surrounding areas). In addition, Penn Cove and Coupeville are of concern as possibly discharging to sensitive shellfish waters.

magnitude lower than effluent concentrations from most wastewater treatment plants discharging to the Sound.

The General Permit reflects Ecology's failure to apply present scientific understanding about the two basic ways that nutrient pollution affects aquatic ecosystems—through *supplies (concentrations)* of both nitrogen and phosphorus, and through the *balance or proportion* of N and P supplies, commonly considered as the N:P ratio (Sterner and Elser 2002, Burkholder and Glibert 2013, and references therein). Large supplies of highly bioavailable N and P from the many domestic wastewater treaters covered in the Permit, in highly skewed proportions relative to historic background, are being discharged into the Sound. Control of one of these two major nutrients without control of the other, as Ecology has directed for Puget Sound in this Permit, drives aquatic ecosystems dramatically out of balance and selects for harmful algae at the base of the food web. These algae are poor in food quality for beneficial aquatic animals. The “domino effect” of poor food quality adversely affects the entire food web, from herbivores to top predators (Glibert et al. 2011 and references therein). To protect and improve aquatic ecosystems degraded by nutrient pollution, the highly bioavailable forms of nitrogen and phosphorus in domestic sewage must be co-managed; that is, they must be significantly decreased in concentration, and in the right proportion to re-establish the Sound's N:P balance (Glibert et al. 2011 and references therein, EPA 2015).

Yet, remarkably, there is *no mention* of phosphorus in the Permit. This oversight must be corrected and phosphorus must be regulated by the Permit.

**B. Total Nitrogen Must Be Controlled.**

Even with the Permit's central focus on effluent TIN, it still falls far short of protecting the receiving waters of the Sound even from continued degradation by nitrogen. While TIN is well known to stimulate algal growth (Glibert et al. 2011, 2016, and references therein), *organic* nitrogen constituents in the total Kjeldahl N (TKN) component of the effluents include stimulatory substances as well. For example, urea is the major organic component of human urine. Various harmful algae, including well-known bloom formers in Puget Sound such as *Heterosigma akashiwo*, can thrive on urea as a nitrogen source (Glibert et al. 2006 and references therein). Urea has also been related to increased toxicity of harmful taxa such as *Pseudo-nitzschia australis*, important in West Coast blooms (Howard et al. 2007). Ecology's eventual target of 3 mg TIN/L therefore will not be sufficiently protective of the Sound ecosystem. The agency's target should be *total* nitrogen; and as previously noted, sewage treatment processes that have been available for decades reliably decrease effluent total nitrogen to 3 mg/L and lower (U.S. EPA 2007). Total N, not TIN, should be the 3 mg/L target.

**C. The Permit Fails To Meet Requirements For TBELs/AKART.**

As set forth above, both federal and state law require imposition of effluent limits. Under state law, Ecology must determine all known, available, and reasonable treatment technology and require that all pollutants be prevented and treated with it, regardless of the status of the

receiving water. It is Ecology's affirmative duty to assess and make a formal determination, when issuing a permit, as to what constitutes AKART and to then include that requirement in the permit. *Port of Seattle v. Ecology*, 2004 WL 2372063 (PCHB Oct. 18, 2004); *see also*, 1983 Atty Gen. Op. No. 23 at 9.

Ecology admits that it has failed to do so here. Ecology's statements show the agency is aware that technology limiting nitrogen discharges to 3 mg/L and phosphorus in the range of 0.05 to 0.3 mg/L is known, reasonable, and in use (for decades) by wastewater dischargers elsewhere. *See, e.g.*, Permit S.4.E.5.e; *see also* Biological Nutrient Removal Processes and Costs, EPA Fact Sheet, June 2007.<sup>5</sup> Treatment to 3 mg/L nitrogen and 0.05 to 0.3 mg/L phosphorus has been described as readily available and current technology. Using current technology, it is possible to remove effluent TIN to less than 1 mg/L after coagulation and filtration. Even allowing for residual recalcitrant dissolved organic nitrogen—dissolved organic nitrogen that is not removed during the wastewater treatment process—of 0.5 to 1.5 mg/L in municipal wastewater, an effluent limit for total nitrogen of less than 3 mg/L can be achieved.<sup>6</sup> This is not 'new' technology. EPA's assessment of biological nutrient removal dates to 2007—well over a decade ago. Other facilities, in states such as Florida, Virginia, and Michigan, have been meeting 3 mg/L nitrogen and 0.3 mg/L phosphorus limits, or lower, since the mid-2000s. Biological nutrient removal to 3 mg/L nitrogen and at least 0.3 mg/L phosphorus is AKART and must be required for all dischargers as an effluent limit in this Permit.

As explained above, Ecology mistakenly asserts that it is "infeasible" to include effluent limits in the Permit. Ecology is incorrect. Effluent limits of 3 mg/L nitrogen and 0.3 mg/L phosphorus are known, achievable, and reasonable, and have been for decades. Information abounds about the treatment technologies that can achieve these limits. The cost-effective technologies that can be used to set 3 mg/L nitrogen and 0.3 mg/L phosphorus as effluent limits are "off the shelf" and Ecology's claim of infeasibility is absolutely contrary to the facts.

Ecology also tries to claim infeasibility by pointing to "site-specific" differences that require careful study/modeling and proposals from the polluters themselves. This assertion is also baseless. The literature demonstrates that technology can commonly achieve 3 mg/L nitrogen and 0.3 mg/L phosphorus and, in some situations, even better. If concerned about "site-specific" situations, Ecology should set 3 mg/L nitrogen and 0.3 mg/L phosphorus as the baseline and require assessment over the course of the Permit for more stringent limits if necessary. Finally, Ecology's own use of a General Permit suggests that there are few differences among WWTPs in this regard. "Site-specific" conditions should not result in anything less stringent than 3 mg/L total nitrogen and 0.3 mg/L total phosphorus.

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<sup>5</sup> EPA's fact sheet on biological nitrogen removal notes that some facilities may be able to achieve nitrogen concentrations below 3 mg/L due to site-specific conditions.

<sup>6</sup> Barnard, James L., *Biological Nutrient Removal: Where we have been, Where we are going?*, Water Environment Federation, WEFTEC 2006.



The Permit's failure to include effluent limits of 3 mg/L nitrogen and 0.3 mg/L phosphorus for all dischargers (or at least the dominant dischargers) is a violation of 40 C.F.R. §§ 122.44(a) and 122.45(d) and RCW 90.48.010; 90.48.520; 90.54.020 and WAC 173-226-070.

II. THE PERMIT DOES NOT REQUIRE ADEQUATE ASSESSMENT OF COMPLIANCE.

WQBELs are supposed to be based on compliance with the state's Surface Water Quality Standards (Chapter 173-201A WAC). Sufficient data must be available to enable assessment of compliance. Yet, even for TIN, Ecology's main target among effluent constituents, the Permit requires only monthly sampling for evaluation on an annual and seasonal basis. The Permit describes a numeric action level for TIN only (in total pounds per year), and an AKART analysis to (eventually) meet Ecology's proposed 3 mg TIN/L target "(or the equivalent load)".

The exceedingly vague description of this "planning" is a major concern, considering that most of the dischargers covered in this Permit presently have *much* higher TIN concentrations in their effluents (mean, 20 mg/L; maximum 45.7 mg/L). Only 8 of the 58 dischargers presently have TIN levels below 5 mg/L; moreover, most of them are only at about one-third to half of their permitted capacity. Without requiring major alterations of most of these WWTPs, it seems highly unlikely that they will attain, even "eventually," a 3 mg N/L target.

Another important question that is not addressed by the draft Permit is how compliance in achieving the "eventual" target will be assessed. To protect the Sound from continued chronic degradation by the effluents, monitoring frequency should be weekly for the important nutrient parameters TKN, ammonia, nitrate+nitrite, and total phosphorus (note: TN = TKN + nitrate+nitrite). The target should be set as a weekly maximum, applicable year-round. Violations should be infrequent rather than routinely allowed, which could easily occur if the target was set as a seasonal average.

III. THE PERMIT FAILS TO ENSURE THAT DISCHARGES AUTHORIZED UNDER THE PERMIT DO NOT CAUSE OR CONTRIBUTE TO VIOLATIONS OF WATER QUALITY STANDARDS.

Independent of the failure to include limits that are AKART, the Permit also violates the requirements to ensure that it does not cause or contribute—or even have the *potential* to cause or contribute—to a violation of narrative and numeric water quality standards. Ecology admits that large areas of Puget Sound already violate numeric standards for dissolved oxygen. Roberts et al. 2014. It is likely that the areas of impairment—violations of dissolved oxygen standards—are much more extensive than reflected on the latest section 303(d) list of impaired waters or than monitored to date. See PSNGP Fact Sheet. Further, narrative standards are plainly violated considering the incidence of algal blooms, acidification, and related adverse impacts to aquatic

life, exacerbated by warming temperatures.<sup>7</sup> Chronic nutrient pollution to Puget Sound is impairing the designated uses of the Sound, resulting in harmful algal blooms, fish kills, contamination of seafood with algal toxins, and imbalances in the overall ecosystem. Those are violations of narrative standards that are supposed to protect the chemical, physical, and biological integrity of the Sound.

Ecology has already identified wastewater treatment plant polluters as the dominant cause of dissolved oxygen violations (and likely the cause of narrative standard violations) in the Sound. *See*, Ecology's application of the Salish Sea Model (SSM) as described in the Draft PSNGP Fact Sheet 2021. Further, at a minimum, even if a polluter is not the "cause," further addition of nutrients to this already impaired and failing ecosystem will contribute to ongoing violations of water quality standards. Such violations should be addressed with numeric WQBELs applied to all dischargers (large and small) in the Permit. 40 C.F.R. § 122.44(d) and RCW 90.48.520, WAC 173-201A-510(1), and WAC 173-226-070(2) and (3).<sup>8</sup> Finally, it is not necessary for Ecology to pinpoint either cause or contribution to a particular degree of certainty. The law requires Ecology to impose WQBELs where there is even the *potential* that a polluter may cause or contribute to an excursion of water quality standards. *Id.*<sup>9</sup> At the minimum, Ecology must restore the natural N:P ratio in the Sound, as explained above, by setting effluent limits on wastewater polluters at levels that will no longer contribute to water quality impairments. That step is critically needed to restore the Sound's ecosystem and create needed resiliency for the expected additional impacts of climate change.

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<sup>7</sup> Ecology has been negligent in developing numeric criteria for nutrients in Puget Sound. *Twenty-one years* ago, the National Research Council (2000) and EPA (2000a) identified a critical need for states to develop numeric nutrient criteria for U.S. waters. Even then, the problem of nutrient pollution was well-known and adversely affecting all of the nation's waters. EPA provided extensive guidance and research to aid states in carrying out their obligations under 33 U.S.C. § 1313(c).

<sup>8</sup> The Permit's lack of a WQBEL also demonstrates a failure to comply with anti-degradation obligations under federal and state law. 40 C.F.R. § 131.12; WAC 173-201A-300, -310. If wastewater polluters are causing or contributing to a violation of water quality standards, then they are also degrading the water quality of Puget Sound. Even areas of the Sound that may be meeting water quality standards (or where violations have not yet been detected) must be protected under the anti-degradation requirements. Ecology identifies much of the Sound as excellent or extraordinary water quality, a level of quality that must be protected. There is no demonstration in the Permit or accompanying materials that Ecology engaged in an adequate anti-degradation analysis or included limits necessary to ensure that any area of the Sound does not degrade due to wastewater nutrient pollution.

<sup>9</sup> Plainly this language is meant to address the kind of argument Ecology is making to avoid WQBELs in this Permit. Delays in controlling pollutants can always occur where polluters or reluctant regulators search for the perfect information. That kind of delay in controlling pollutants is directly contrary to the very intent and purpose, as well as specific directives, in the Clean Water Act and all applicable regulations here which is to be proactive, to protect (not just restore after the fact), and to be action-forcing in that protection.

Ecology has failed to do the required analysis for WQBELs and has shunted off that obligation (thereby adding a new, unnecessary time lag between permit and water quality standard attainment) to the polluters themselves. Ecology has impermissibly done so despite knowing standards are currently violated, the polluters that are the subject of the Permit are the cause (or contributors) to that violation, and that the nutrient pollution dischargers will continue to make it worse. Ecology knows that technology is available to impose effluent limits to at least curb some of that problem. Ecology is disregarding express legal requirements to ensure that no permit is issued that will cause or contribute to a violation of water quality standards by asking the polluters causing the problem themselves to 'look into it and five years from now propose a plan.' The statutory and regulatory obligation is Ecology's, and the final permit must conform to this requirement and Ecology's obligation met.

It seems clear that Ecology does not plan to address this problem at the five-year mark either, because each of those plans will need to be vetted and some period of time for the process of implementation be allotted. The Permit fails to set clear timelines for the ultimate approval and implementation of any pollutant management plans. Each plan submitted to Ecology by the end of this Permit term will need to be reviewed and approved by the agency—a potentially onerous task that should not be rubber stamped and will thus likely take some time to work through. The Permit is setting in place a process which will lead to years of planning without implementation, delays without deadlines, and exceedances without compliance that could lead to a decade or more of non-capped and unabated nutrient discharges into the Sound. Under this Permit, nutrient pollution will continue to wreak havoc in Puget Sound for another decade or more before Ecology takes meaningful action to require polluters to reduce their pollutant loads. By then the problem will have worsened considerably, considering that chronic nutrient pollution is well known to push waterbodies into a 'feedback loop' of harmful algal blooms, die-offs, oxygen depletion during decomposition of blooms, and release of nutrients to fuel additional harmful algal blooms (Burkholder and Glibert 2013, and references therein).

The Permit must include numeric WQBELs for all dischargers of nutrients to Puget Sound. Failure to do so violates 40 C.F.R. § 122.44(d) and RCW 90.48.520, WAC 173-201A-510(1), and WAC 173-226-070(2) and (3).

#### IV. THE PERMIT IMPERMISSIBLY ALLOWS "SELF-REGULATION."

As set forth above, in this Permit Ecology shifts its statutory and regulatory obligations to the polluters themselves. Ecology fails to set numeric effluent limits, instead directing the polluters to study and suggest limits over the five-year permit duration (both AKART and WQBELs). Ecology instructs polluters to obey the law and not "cause or contribute to violations of water quality standards," while knowing that polluters are already doing so and will continue to do so under the proposed terms of the Permit. As a result, the Permit fails to regulate and wrongly allows impermissible self-regulation. *See, Env't'l Def. Ctr. Inc. v. EPA*, 344 F.3d 832, 855–56 (9th Cir. 2003); *Puget Soundkeeper Alliance v. Ecology*, PCHB Nos. 07-021 et al., 2008 WL 5510413 at \*30, ¶ 29.

Similarly, the action level and planning sections of the Permit do nothing to ensure that water quality standards will be met or that nutrient problems in Puget Sound will not worsen. Rather, the action level is set at the highest end (99%) of what wastewater treatment polluters have been discharging for the last several years. If the action level is exceeded for two consecutive years, the polluter has a year to *propose* a remedy to Ecology to “reduce the most recent calculated annual effluent nitrogen load by at least 10%” within five more years. PSNGP Fact Sheet at 41; Permit S.D.1.c. That is, the plan is to reduce from the exceedance level by 10% and give the polluter five years to do it. If the action level is exceeded three times in the five years of the permit, then again, the polluter must propose a remedy to Ecology for 10% reduction in effluent nitrogen. PSNGP Fact Sheet. There would be more than five years of Permit exceedances before that problem was even known. For example, in situations where an action level is exceeded for years 1, 3, and 5 of the permit term (i.e., not exceeded two years consecutively, but three out of five years of the permit term), a remedial action plan would not need to be developed until year 6, and could take until year 11 to be met. This system builds in years—or decades—of potential exceedances of nutrient limits and seems to intentionally limit monitoring, transparency, and oversight. Under the terms of this draft Permit, there could be years of illegal discharges before even Ecology is made aware of a problem—let alone the public. Thus, it is likely, given the built-in time lags, that exceedances of this generous level of pollution will result in *increased* nutrient pollutant loading to the Sound during and after the term of this Permit.

Indeed, there is no rational basis for concluding that wastewater treaters will do anything more than annual reporting or monitoring. Monthly, weekly, daily, and continuous monitoring is the norm across most pollutant types, and the development of real-time averages keyed to annual limits allows facilities—and regulators—to spot problems early and begin to correct them as they arise. The Permit will have zero positive impact on nutrient pollutants discharged to Puget Sound for the next five years and beyond (likely the next 10 years). Instead, the Permit will likely allow pollution in the Sound to worsen during that time. That adverse effect cannot easily be reversed. Ecology should set clear numeric limits in this Permit and ensure that they are implemented as soon as possible within the Permit term.

V. THE PERMIT SHOULD REQUIRE A MORE COMPREHENSIVE ASSESSMENT AND PLAN TO ADDRESS DISPARATE IMPACTS.

While PSA commends Ecology for attempting to incorporate environmental justice concerns into the Permit, Permit S.4.E.5.d., Ecology overlooks important considerations that should be included for a more comprehensive assessment and plan to address disparate impacts.

The Permit requires only that the permittee identify communities within the pollutant discharger’s “service area” that are communities of color, Tribes, indigenous communities, and low-income populations. *Id.* The Permit instructs pollutant dischargers to perform an affordability assessment to identify how much “overburdened” communities can afford to pay

for wastewater utility. The Permit then directs pollutant dischargers to propose alternative rate structures to prevent adverse effects or rate increases on populations with economic hardship. *Id.*

The Permit should also require that the pollutant dischargers identify communities disproportionately affected by the failure to regulate and control nutrient pollution to the Sound. That analysis should not be confined to “service areas,” as communities other than a polluter’s rate-payers may be more adversely affected than rate-payers. Tribes in particular have been, are, and will be disproportionately adversely affected from the effects of low dissolved oxygen, increased acidification, increased temperature, and toxic algal blooms. Ecology is perpetuating its fundamental failure to address this problem, thus continuing to exacerbate harm to those communities and serving to externalize the costs of pollution.

The Permit should also require dischargers to identify communities within the service area with incomes above national median income. Such communities can better bear utility costs and those communities are likely putting a higher burden on water infrastructure. Information concerning those communities should be a necessary and integral part of the assessment, to design proposals for alternative rate structures that are more equitable.

The Permit should require the dischargers to identify how many funding burdens are placed on water utility fees and whether they are being transparent about those fees and hidden taxes. This analysis should include an assessment of how state funding and regressive taxation (or lack of income taxes) affect the ability of dischargers to equitably pay for urgently needed pollution controls. *See e.g.* <https://mannyteodoro.com/?p=2738> for a thorough assessment of the inequities in current water rate structures and how to address them.

Finally, the assessment must include an analysis of rates for Puget Sound wastewater treatment as compared to comparable cities such as Portland, San Francisco, and Berkeley or communities around and near Chesapeake Bay.

## VI. ECOLOGY’S STATEMENT REGARDING POTENTIAL TRADING FOR NUTRIENT POLLUTANTS IS PREMATURE AND UNSUPPORTED.

In the Fact Sheet accompanying the Permit, Ecology states that it intends to allow trading on a watershed scale. This statement is premature, unsupported by the facts of the situation, and must not come to fruition in this Permit’s terms.

First, to “trade” Ecology must understand exactly what is necessary to bring the load in Puget Sound down (it is already violating water quality standards and discharges cannot contribute to that violation) and must set effluent limits such that there is a measure against which any potential trade would occur. It is essentially not possible to “trade” narrative limits—nor to set a trading program without clear caps, a thorough understanding of other sources affecting the “capped reservoir,” and locked-in enforceable provisions for addressing noncompliance. Trading in the almost wholly unregulated situation represented by the Permit is simply moving what Ecology knows to be a current excess of nutrient pollution around in the

Sound, effectively moving deck chairs on the Titanic. This is unacceptable and must be rejected as an option at the outset.

Second, trading as proposed by Ecology is directly contrary to statements and claims elsewhere in the Permit and Fact Sheet that all nutrient discharges and control thereof must be very site-specific and unique and nutrients respond/express very differently in different parts of the Sound. That is why, Ecology claims, Ecology can't set effluent limits/AKART or WQBELs. Given that set of facts, Ecology cannot very well allow trading either. To do so under Ecology's stated lack of knowledge regarding specifics within the Sound will only lead to irreversible mistakes in overloading already polluted areas that are already exceeding water quality standards. This is an unacceptable risk.

PSA wholly objects to nutrient trading in Puget Sound with this Permit.

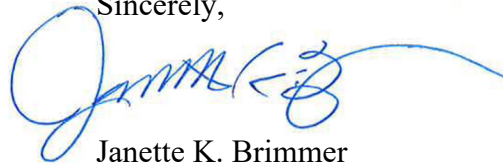
## CONCLUSION

The Permit will result in no nutrient reductions, and may ultimately result in increases to nutrient pollution that is already harming Puget Sound. The failure of the Permit to set TBELs/AKART limits and WQBELs violates the law. Ecology must act now to reverse damage that has already occurred and to ensure resiliency in the face of climate change. Finally, Ecology must go further to address the inequities of environmental impacts from excess nutrients. PSA urges Ecology to revisit the Permit for all the reasons set forth above. The Permit must:

1. Set effluent limits that are AKART, pursuant to state law that must be fully implemented by the end of the Permit term;
2. Set water quality-based effluent limits that ensure that discharges authorized by this Permit will not cause or contribute to violations of water quality standards that must be fully implemented by the end of the Permit term;
3. During the period of time that the dischargers are implementing the AKART and WQBELs, cap monthly nutrient inputs to the Sound from covered wastewater treatment plants at a level significantly lower than the 99% trigger in the draft Permit and provide for noncompliance triggers should there be any exceedance on any month;
4. Require real-time monitoring and regular "rolling" monthly compliance targets to allow for early intervention and mitigation of exceedances;
5. Ensure that any remedial requirements for exceedances are not only developed, but implemented in as short a period as possible so as to limit the deleterious effects of illegal nutrient discharges;
6. Address environmental justice as described above; and
7. Contain all other such requirements necessary for meeting water quality standards.

Thank you for the opportunity to submit comments on this critically important issue. Please do not hesitate to contact the undersigned with any questions.

Sincerely,



Janette K. Brimmer  
Marisa C. Ordonia

cc: Puget Soundkeeper Alliance

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