

August 25, 2025

VIA ONLINE PUBLIC COMMENT FORM

William Weaver, Ph.D., P.E.
Senior Environmental Engineer
Department of Ecology, Water Quality Program
P.O. Box 47696
Olympia, WA 98504-7696

RE: Draft Revised Puget Sound Nutrient General Permit for Wastewater Treatment Plant Discharges

Dear Mr. Weaver:

These comments are submitted on behalf of Puget Soundkeeper Alliance (“Puget Soundkeeper”). Puget Soundkeeper also submitted comments on the earlier version of the Puget Sound Nutrient General Permit dated August 16, 2021, and on the West Point individual permit, and both are fully incorporated herein. A copy of each is enclosed here for ease of reference.

The Washington Department of Ecology (Ecology) has known for decades that wastewater treatment plants are causing or contributing to water quality violations throughout Puget Sound (“domestic WWTPs discharging at secondary treatment levels contribute to the nutrient over enrichment.” Fact Sheet at 21).¹ Ecology has determined and documented that Puget Sound is impaired (i.e., not meeting water quality standards) for dissolved oxygen because of excessive nutrient (nitrogen and phosphorus) pollution. (“Nutrients discharged from wastewater treatment plants have a reasonable potential to contribute to existing low dissolved oxygen levels, *below state water quality criteria*, in the Salish Sea (which includes the Puget Sound.”) West Point NPDES Permit Factsheet.) Many parts of Puget Sound have oxygen levels that do not allow marine life to thrive, cause fish kills, and do not meet water quality standards. Nutrient pollutants are also responsible for algal blooms that are directly harming marine life and can pose health threats to humans. Ecology has determined that 99% of the total inorganic nitrogen loading from wastewater treatment plants comes from 27 wastewater facilities. Original Nutrient General Permit Fact Sheet, 2021. In recent briefing before the Board, Ecology again stated that municipal wastewater treatment plants “have a reasonable potential to cause or contribute to dissolved oxygen standards impairments in Puget Sound, in some cases far from where the wastewater treatment plant discharges.” Ecology Summ. J. Opp’n Br. at 8, Case No. 21-082c.

The Pollution Control Hearings Board (the “Board”) has also found that ongoing nutrient pollution from wastewater treatment plants degrades water quality in the sound and contributes

¹ Washington is significantly behind much of the U.S. in limiting and addressing the negative impacts of nutrients in wastewater.

to the “depletion of dissolved oxygen levels in the Puget Sound.” Order Granting Permittees’ Joint Mot. for Partial Summ. J. (hereinafter “Summary Judgment Order”), PCHB No. 21-082c at 4 (Feb. 28, 2025). Specifically, the Board has found that:

Nutrient over-enrichment reduces oxygen levels below the levels necessary to support aquatic life, making Puget Sound more acidic. . . . Acidic conditions impair the ability of marine organisms to form shells, alters the benthic (bottom dwelling) macroinvertebrate community (which results in changes to the food chain), increases the frequency and duration of harmful algal blooms, and has deleterious impacts to eelgrass meadows.

Id.

Yet Ecology continues to evade its obligations under state and federal law to impose specific effluent limitations on nutrient pollution from even the largest sources of this pollution in Puget Sound. The proposed Nutrient General Permit (the “Permit”) revision still fails to set limits that are All Known, Achievable, and Reasonable Technology (AKART) and the continued use of a separate general permit to address nutrients, even though “voluntary,” raises concerns for Puget Soundkeeper regarding the legality of such approach. Moreover, Ecology’s continued use of the General Permit and the specific revisions at issue in this comment, introduce yet more delay in curbing and reducing nutrient pollution to the Sound.

Puget Soundkeeper objects to Ecology’s continued use of the general permit, even, and perhaps especially in its “voluntary” form, and objects to Ecology’s continued failure to impose numeric effluent limits that represent AKART on nitrogen and phosphorus on wastewater discharges to Puget Sound, especially the largest dischargers.²

I. PUGET SOUNDKEEPER IS OPPOSED TO THE CONTINUED USE OF A “VOLUNTARY” GENERAL PERMIT FOR THE CONTROL OF NUTRIENT POLLUTION IN PUGET SOUND.

Puget Soundkeeper encourages Ecology to abandon the increasingly convoluted and delayed approach of regulating nutrient discharges through a separate general permit and instead to regulate wastewater discharges of nutrients in each wastewater discharger’s individual permit. That approach is clearer for the polluter and the public and will not create confusion regarding the legality and enforceability of the permit limits on nutrients. Soundkeeper remains concerned that based upon Board precedent, continuing to pursue a “voluntary” general permit approach could be legally questionable.

In litigation regarding this Permit, the Board found that if Ecology authorizes the discharge of “domestic wastewater” through an individual permit, it cannot also impose

² The largest dischargers are identified by Ecology as “Dominant Loaders” or “Dominant Dischargers,” responsible for more than 80% of the nutrient pollution to Puget Sound, Fact Sheet at 40, and they include King County West Point, South, and Brightwater plants, Pierce County Tacoma Central No. 1 and Chambers Creek plants, Everett, and Post Point, Bellingham.

additional mandatory restrictions on discharge through a general permit. Summary Judgment Order, PCHB No. 21-082c, at 17–21. “Ecology cannot use general permits to create new permitting requirements on top of individual permits.” *Id.* at 21. More recently, the Board held that West Point’s NPDES permit must be remanded for failure to include effluent limits for nutrients. PCHB Order No. 24-029 at 16–17.

Ecology is now reissuing this General Permit as a “voluntary” permit apparently to get around the Board’s recent ruling. Voluntary pollution limits do not comply with permitting requirements in state law for AKART and requirements in state and federal law for limits that ensure that dischargers are not causing or contributing to violations of water quality standards (Ecology has already found that the largest dischargers are causing and contributing to violations of dissolved oxygen standards.) Ecology claims that if a discharger agrees to coverage under the voluntary General Permit, then the requirements of this Permit become mandatory, yet the representation appears to conflict with the Board’s statements that “if Ecology authorizes the discharge of “domestic wastewater” through an individual permit, it cannot also impose additional mandatory restrictions on discharge through a general permit.” It is unclear that a polluter “signing up” for the General Permit now makes the limits in the General Permit “mandatory” when the discharger also has an individual permit. Further, Ecology will have to amend the individual NPDES permits to include effluent limits for nutrients, regardless, given the Board’s recent order. *See* PCHB Order No. 24-029 at 16–17. Ecology should abandon this failed and convoluted approach to permitting and impose nutrient limits in the dischargers’ individual permits.

II. THE REVISED PERMIT STILL FAILS TO MEET BASIC PERMITTING REQUIREMENTS OF STATE AND FEDERAL LAW.

A. The Permit Must Impose AKART Effluent Limitations To Control Nutrient Pollutants From Wastewater Treatment Dischargers.

Ecology cannot issue or reissue a permit that fails to determine and require all known, achievable, and reasonable technology (AKART). State statutes and Ecology’s own regulations require Ecology to apply AKART in the permit to control pollutants and prohibit Ecology from issuing permits that would allow violations of state water quality standards. RCW 90.48.520, WAC 173-216-110(1)(a) and 173-201A-510(1). *See also* RCW 90.54.020(3)(b). The controls must be included in the permit *at the time of issuance*. *Wash. State Dairy Fed’n v. Dep’t of Ecology*, 18 Wn. App. 2d 259, 275, 490 P.3d 290, 301 (2021) (quoting Ch. 90.52 RCW; Ch. 90.54 RCW; WAC 173-226-070(1)). The AKART requirement applies regardless of the quality of the receiving water (i.e. even if the water is still “clean”). RCW 90.54.020(b) and 90.48.520.

AKART for nutrient control at municipal wastewater plants should result in controls of at least 3 mg/L for nitrogen and .1 mg/L for phosphorus. This is technology that is readily available and in use elsewhere, including in at least one water treatment plant in Washington State (LOTT which already has an effluent limit below 3 mg/L TIN in their individual NPDES permit. Many cities and counties across the state and country have already implemented nutrient-removal technology. As of 2004, Traverse City, Michigan was meeting 1 mg/L nitrogen and .5 mg/L

phosphorus with biological nitrogen and phosphorus removal and chemical polishing; as of 2008, Broad Run, Loudoun County Virginia was meeting 3 mg/L nitrogen and .1 mg/L phosphorus with the same techniques; Florida has 40 facilities discharging an average of less than 3 m/L nitrogen as reported between 2005 and 2007.³ Durham, North Carolina has a limit of 3 mg/L nitrogen to meet Total Maximum Daily Load requirements.⁴ Fairfax County, Virginia is meeting similar limits and purportedly cutting its costs in the process.⁵ These are simply a handful of examples from multiple locations that have been meeting these limits for years if not decades.⁶ Plainly, effluent limits of 3 mg/L nitrogen and .1 mg/L phosphorus are AKART. Yet, Ecology has not set any effluent limits for wastewater treatment plants pollutants, much less levels representing AKART, in any permit.⁷

Instead, as set forth in Puget Soundkeeper's original comment on the Nutrient General Permit, Ecology is allowing existing levels of nutrient pollution, levels that are causing Puget Sound dissolved oxygen levels to violate water quality standards, to continue unabated and possibly even to increase. Specifically, the Nutrient General Permit prohibits discharges of nutrient pollution only when levels exceed "the amount that each facility discharged during the three years prior to the General Permit's issuance." *See also*, Ecology Summary Judgment Opp'n Br. at 10, Case No. 21-082c. Again, these levels of pollution are existing high levels of nutrient pollution, subject to no effluent limits, that are known to be harming Puget Sound. And Ecology

³ Barnard, James L., "Biological Nutrient Removal: Where We Have Been Where We Are Going?," Water Environment Foundation WEFTEC 2006; Erdal, Z.K. Ph.D., P.E.; Crawford, G.V., P.E.; Daigger, G.T., Ph.D., P.E., "Pushing The Limits Of Technology To Achieve Low Nutrient Levels Using Membrane Bioreactors," Water Environment Federation, 2010; Jose Jimenez, Tim Madhanagopal, Harold Schmidt, John Bratby, Hima Meka And Denny Parker, "Full-Scale Operation Of Large Biological Nutrient Removal Facilities To Meet Limits Of Technology Effluent Requirements: The Florida Experience," 2007.

⁴ Veolia Water Technologies, How to Meet Strict Total Nitrogen Limits, <https://www.veoliawatertech.com/en/case-studies/how-meet-strict-total-nitrogen-limits> (last visited Aug. 25, 2025).

⁵ Yewei Sun, Next-Generation Nutrient Removal Method Meets Nitrogen Target While Cutting Costs, <https://www.hazenandsawyer.com/projects/next-generation-nutrient-removal-method-meets-nitrogen-target-while-cutting-costs> (last visited Aug. 25, 2025).

⁶ *See also*, EPA Region 10, Advanced Wastewater Treatment to Achieve Low Concentration of Phosphorous, <https://www.epa.gov/sites/default/files/2019-02/documents/advanced-wastewater-treatment-low-concentration-phosphorus.pdf> (Apr. 2007); The Water Research Foundation, Tertiary Denitrification Processes for Low Nitrogen and Phosphorous Compendium, <https://www.waterrf.org/serve-file/Tertiary-Denitrification.pdf> (Mar. 2019); and Maryland examples: Tony Freed, Wastewater Industry Moving Toward Enhanced Nutrient Removal Standards, <https://www.waterworld.com/home/article/16197289/wastewater-industry-moving-toward-enhanced-nutrient-removal-standards> (Feb. 28, 2007).

⁷ The Permit still only references nitrogen (total inorganic nitrogen "TIN" load) and ignores phosphorous completely. *Both* nutrients must be regulated to adequately address Puget Sound's nutrient pollution. The science concerning nutrients dictates that Ecology must regulate both to ensure the health of Puget Sound. *See* original comment and scientific references therein.

admits that setting action levels for nutrient loading at these historical levels will contribute to the existing and ongoing water quality standard violations in the Puget Sound: “Ecology does not dispute that nutrient discharges from all General Permit permittees’ cause or contribute to water quality standard violations[.]” *Id.* at 21.⁸

Despite these findings, Ecology has never undertaken the engineering or economic analysis required to determine AKART for nutrient pollution (a relatively straight-forward task given that the examples cited herein were readily discerned from simple internet searches). Instead, Ecology once again asks the permittees to study AKART and report back to the agency. As set forth in Puget Soundkeeper’s original comments, Ecology cannot simply allow the polluters themselves to determine AKART at some date in the future. Ecology cannot delegate responsibility for determining what represents achievable and reasonable technology to individual plants or appropriate effluent limitations for nutrients. Ecology must determine what is AKART and impose it at the time of permit issuance. The Ninth Circuit and the Board have ruled that this kind of “self-regulation” in NPDES permits is forbidden and contrary to the entire purpose and intent of the permit system. *Env’tl Def. Ctr. Inc. v. EPA*, 344 F.3d 832, 855–56 (9th Cir. 2003); *Puget Soundkeeper All. v. Ecology*, PCHB Nos. 07-021 et al., 2008 WL 5510413 at *30, ¶ 29 (Aug. 7, 2008). *See also*, Puget Soundkeeper’s original comments regarding the action level and planning components of the Permit.

Finally, the “bubbling” concept of allowing, e.g., King County’s several waste treatment plants to come under one cumulative load, should be eliminated. It is contrary to the legal requirements set forth above regarding AKART for every discharge and ensuring each discharge does not violate standards. It can create hot spots—a significant problem when it comes to nutrients expressing themselves as algal blooms and it will complicate Ecology addressing and enforcing against the causes of those hotspots. It is unclear how this concept would work where individual dischargers can choose not to sign up for the General Permit. This provision of the Permit must be stricken.

B. Ecology Has Failed To Include Limits In The General Permit Sufficient To Ensure That Nutrient Dischargers To Puget Sound Do Not Cause Or Contribute To Existing Violations Of The Dissolved Oxygen Water Quality Standard.

As noted above and as found by the Board, wastewater treatment discharges are causing, and certainly contributing, to violations of Washington’s dissolved oxygen water quality standard in Puget Sound. Under both state and federal requirements for discharge permits, Ecology must ensure, *at the time of permit issuance*, that the permit includes limits necessary to ensure water quality standards are met. 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). State law further provides that: “[i]n no event shall the discharge of toxicants be allowed that would violate any state water quality standard[.]”

⁸ Relatedly, Ecology has said that “[t]he prevalence of 303(d) listings related to depleted dissolved oxygen levels from increased levels of nitrogen and phosphorus *requires Ecology to reconsider the basis of AKART* for domestic WWTPs.” Original General Permit Fact Sheet at 18. (emphasis added).

RCW 98.48.520. And, pursuant to *City and County of San Francisco v. EPA*, 604 U.S. ____, 145 S.Ct. 704, 715–16 (2025), it is Ecology's responsibility, not the permittee's, to determine what effluent limits must be, those limits must be express, they must be specific and numeric, and not subject to any kind of self-regulating language.

C. Ecology's Presumption Of Compliance When Failing To Set Effluent Limits And When Ecology Admits These Discharges Already Violate Standards Is Completely Outside The Bounds Of The Law.

Condition S3 of the Permit must be removed as it is contrary to the facts as admitted by Ecology and contrary to the law outlined above. Condition S3 presumes that permittees have complied with state water quality standards by abiding with the terms and conditions of the Permit, "unless discharge monitoring data or other site-specific information demonstrates that a discharge causes or contributes to an exceedance of water quality standards." Moreover, *Ecology has already and repeatedly admitted that compliance with the terms of the Permit will not ensure compliance with state water quality standards*. Specifically, Ecology has stated that it "does not dispute that nutrient discharges from all General Permit permittees' cause or contribute to water quality standard violations[.]" Ecology Summary Judgment Opp'n Br. at 21, Case No. 21-082c. *See also* Original General Permit Fact Sheet, 2021 and West Point NPDES Permit Fact Sheet, 2024. It is therefore completely contrary to Ecology's own statement for Condition S3 to presume compliance with state law. Ecology does not have authority to permit discharges that will violate state water quality standards and this provision must be deleted.

III. DEADLINES WITHIN THE PERMIT MUST NOT BE EXTENDED AND MUST BE ENFORCEABLE.

Ecology has spent decades "studying" the nutrient problem in Puget Sound all while neglecting the plain AKART obligation in statute and rule; obligations that applied to Ecology permitting of wastewater discharges into the Sound for all those decades *regardless* of the quality of the receiving water. That is, without knowing anything about whether Puget Sound is impaired and not meeting water quality standards (it is impaired) Ecology had an obligation to set effluent limits that are known, achievable and reasonable for all pollutants that wastewater treaters discharge into the Sound from the time it started issuing the dischargers permits. Setting effluents limits in accordance with the law may have kept the Sound from becoming impaired. Now, Ecology must deal with the problem this failure has created.

Ecology finally decided to address nutrients in permitting, announcing its decision to do so in a General Permit for municipal wastewater containing total inorganic nitrogen in January 2020. Despite its claim that it would address nutrients and despite knowing the overall magnitude and cause of the nutrient problem in Puget Sound Ecology issued the General Permit two years later, on December 1, 2021, without effluent limits for nutrients and without determining AKART. Rather it asked the polluters to research AKART over the five years of the general permit. The General Permit was immediately challenged, including by the polluters. Ecology then agreed to stay significant portions of the General Permit at the demand of the polluting parties, for over two years.

On February 28, 2025, the Board partially invalidated the General Permit on grounds argued by the polluters. Ecology sent a letter on April 3, 2025, informing permittees that their coverage under the General Permit had terminated and that Ecology planned a revised version of the General Permit. Ecology released the draft revised General Permit on June 18, 2025, three and a half years into the original General Permit five-year term, a full five years after announcing the need to address nutrients in permits. Ecology is, at this point, complicit in polluters' repeated and obvious attempts to delay regulating their nutrient pollution into Puget Sound in accordance with applicable law.

Given this history, Puget Soundkeeper is absolutely opposed to the extended due dates throughout the revised Permit as contrary to law and contrary to the public interest. For example, the General Permit end date is now December 31, 2027, a year extension (meaning polluters have an additional year to research AKART, something Ecology was supposed to determine *before* issuing the permit in 2021). The Permit already violates the law in its failure to set limits at the time of issuance and this extension simply exacerbates the illegality. The Nitrogen Optimization Report (NOR) for Dominant loaders who are the *cause* of the dissolved oxygen impairment in the Sound, is now due June 30, 2026, more than three years after its original due date. Again, the failure to set limits for the Dominant loaders who are *causing* violations of standards violates state and federal law. The Nutrient Reduction Evaluations for Dominant loaders are now due June 30, 2026, 18 months after their original due date. Again, this simply exacerbates the illegality of this Permit.

The delays in regulating nutrient pollution are exacerbated by the fact that nothing in the revised Permit ensures when even the illegal, weak, extended provisions of this Permit will apply to permittees. Under this "voluntary" Permit, wastewater dischargers have 45 days after the effective date of this Permit (whenever that is) to apply for coverage, but Ecology is not required to determine permit coverage by a date certain. ("Permit coverage begins on the day Ecology issues the coverage letter to the applicant" S2.C.). Further, Ecology has provided no information regarding timelines for nutrient regulation if a discharger does not elect coverage under the revised Permit. Supposedly, that requires revision to that discharger's individual permit, but there is no timeline, no triggers, no suggested language for those revisions and no apparent plan for Ecology to deal with the potential situation of many dischargers electing the individual route. The situation that Ecology has created, by insisting on this highly unusual voluntary permit coverage, is one where all the incentives and opportunities are there for polluters to use the system Ecology has created to further delay controlling nutrient pollution in their discharge.

IV. CLARIFY S4.B TIN ACTION LEVELS SECTION.

As currently written, Section S4.B is confusing. Section S4.B provides: "If a Permittee exceeds its individual TIN action level listed in Table 5 or its bubbled action level listed in Table 6 (assuming all WWTPs listed in Table 5 within the jurisdiction apply for and obtain coverage under this General Permit), the Permittee must employ corrective actions identified in S4.D." One interpretation of the quoted language potentially delays required corrective action for all wastewater dischargers in Table 5 if just one of them refuses to apply for and obtain coverage under the revised Permit. This section must be rewritten to remove the parenthetical and/or revise to clarify that in the case that not every wastewater discharge listed in Table 5 opts for

coverage under the revised Permit, corrective actions are still required for dischargers that have opted for coverage when their individual TIN action levels are exceeded.

V. S8 AND TOTAL MAXIMUM DAILY LOAD (TMDL) COMPLIANCE.

Section S8 states that Ecology will address permit requirements, including narrative and/or numeric effluent limits associated with any TMDL, in the General Permit coverage letter for a Permittee's facility. Addressing permit requirements in a coverage letter—after a facility applies for and obtains permit coverage—removes important information and details about how a permittee must comply with TMDLs from public notice and comment. This violates the Clean Water Act. The law is clear that any substantive provision of an NDPES permit must be subject to public notice and comment prior to it being finalized. Effluent limits necessary to comply with a TMDL must be determined and imposed *prior* to permit issuance and prior to coverage of a particular discharger with notice and comment.

CONCLUSION

To summarize, Puget Soundkeeper urges Ecology to abandon the failed General Permit experiment and instead immediately amend the individual permits of the dischargers of nutrients to Puget Sound to include specific numeric effluent limits of 3 mg/L nitrogen and .1 mg/L phosphorus with a compliance plan to meet those limits not to exceed three years. There is more than enough evidence from around the country that these limits are AKART and can be met readily. Further, for the major dischargers, Ecology must immediately determine whether additional limitations must be included in the individual permits to ensure those dischargers do not continue to cause, and certainly do not continue to contribute to the existing violations of dissolved oxygen standards in the Sound and must work to include any additional limitations in the permits of those dischargers as quickly as possible. These are the basic requirements of state and federal law and have been the basic requirements for decades. It is long past time that Ecology met its obligations and included these requirements to protect Puget Sound. Please don't hesitate to contact the undersigned with any questions.

Sincerely,

A handwritten signature in black ink, appearing to read 'Janette K. Brimmer', with a long, sweeping horizontal line extending to the right.

Janette K. Brimmer
Jaimini Parekh
EARTHJUSTICE
Attorneys for Puget Soundkeeper Alliance

cc: Sean Dixon, Puget Soundkeeper Alliance

Attachment 1



August 16, 2021

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

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.*¹ 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).² 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

¹ *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/>.

² 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.³

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.

³ 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.⁴

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

⁴ 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 (Sternner 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 2007.⁵ 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.⁶ 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.

⁵ 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.

⁶ 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.⁷ 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).⁸ 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.*⁹ 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.

⁷ 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).

⁸ 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.

⁹ 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.

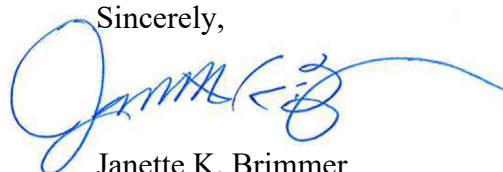
PSA wholly objects to nutrient trading in Puget Sound with this Permit.

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

References Cited

- Bricker, S.B., B. Longstaff, W. Dennison, A. Jones, K. Boicourt, C. Wicks, and J. Woerner. 2008. Effects of nutrient enrichment in the nation's estuaries: A decade of change. *Harmful Algae* 8: 21-32.
- Burkholder, J.M. 1998. Implications of harmful marine microalgae and heterotrophic dinoflagellates in management of sustainable marine fisheries. *Ecological Applications* 8: S37-S62.
- Burkholder, J.M. and P.M. Glibert. 2013. Eutrophication and oligotrophication, pp. 347–371. In: *Encyclopedia of Biodiversity*, Vol. 2, second edition, by Simon Levin (ed.). Academic Press, New York.
- Department of Ecology. 2021. Draft Fact Sheet for the State of Washington – Puget Sound Nutrient General Permit (PSNGP). Department of Ecology, Lacey.
- Fredrickson, K.A., S.L. Strom, R. Crim, and K.J. Coyne. 2011. Interstrain variability in physiology and genetics of *Heterosigma akashiwo* (Raphidophyceae) from the West Coast of North America. *Journal of Phycology* 47: 25-35.
- Glibert, P.M., D. Fullerton, J.M. Burkholder, J.C. Cornwell, and T.M. Kana. 2011. Ecological stoichiometry, biogeochemical cycling, invasive species and aquatic food webs: San Francisco Estuary and comparative systems. *Reviews in Fisheries Science* 19: 358-417.
- Glibert, P.M., J. Harrison, C. Heil, and S. Seitzinger. 2006. Escalating worldwide use of urea – a global change contributing to coastal eutrophication. *Biogeochemistry* 77: 441-463.
- Glibert, P.M., F.P. Wilkerson, R.C. Dugdale, J.A. Raven, C. Dupont, P.R. Leavitt, A.E. Parker, J.M. Burkholder, and T.M. Kana. 2016. Pluses and minuses of ammonium and nitrate uptake and assimilation by phytoplankton and implications for productivity and community composition, with emphasis on nitrogen-enriched conditions. *Limnology and Oceanography* 61: 165-197.
- Howard, M.D.A., W.P. Cochlan, N. Ladizinsky, and R.M. Kudela. 2007. Nitrogenous preference of toxigenic *Pseudo-nitzschia australis* (Bacillariophyceae) from field and laboratory experiments. *Harmful Algae* 6: 206-217.

- Jarvie, H.P., C. Neal, and P.J.A. Withers. 2006. Sewage-effluent phosphorus: A greater risk to river eutrophication than agricultural phosphorus? *Science of the Total Environment* 360: 246-253.
- Millier, H.K.G.R. and P.S. Hooda. 2011. Phosphorus species and fractionation – why sewage derived phosphorus is a problem. *Environmental Management* 92: 1210-1214.
- National Research Council. 2000. *Clean Coastal Waters – Understanding and Reducing the Effects of Nutrient Pollution*. National Academy Press, Washington, DC.
- Newton, J. and K. Van Voorhis. 2002. *Seasonal Patterns and Controlling Factors of Primary Production in Puget Sound's Central Basin and Possession Sound*. Publication #02-03-059. Washington State Department of Ecology, Environmental Assessment Program, Olympia, Washington.
- National Oceanic & Atmospheric Administration. 2019. New marine heat wave emerges off West Coast, resembles "The Blob." Available at: <https://www.fisheries.noaa.gov/feature-story/new-marine-heatwave-emerges-west-coast-resembles-blob>.
- Roberts, M., T. Mohamedali, B. Sackmann, T. Khangaonkar, and W. Long. 2014. *Puget Sound and the Straits Dissolved Oxygen Assessment Impacts of Current and Future Human Nitrogen Sources and Climate Change through 2070*. Publication 14-03-007. Washington State Department of Ecology, Olympia.
- Sterner, R.W. and J.J. Elser. 2002. *Ecological Stoichiometry: The Biology of Elements from Molecules to the Biosphere*. Princeton Univ. Press, Princeton.
- United States Environmental Protection Agency (U.S. EPA). 2000a. *Nutrient Criteria Technical Guidance Manual: Lakes and Reservoirs*. Report EPA-822-B00-001. Office of Water and Office of Science and Technology, U.S. EPA, Washington, DC.
- United States Environmental Protection Agency (U.S. EPA). 2000b. *Nutrient Criteria Technical Guidance Manual: Rivers and Streams*. Report EPA-822-B00-002. Office of Water and Office of Science and Technology, U.S. EPA, Washington, DC.
- United States Environmental Protection Agency (U.S. EPA). 2001. *Nutrient Criteria Technical Guidance Manual: Estuarine and Coastal Waters*. Report EPA-822-B-01-003. Office of Water, U.S. EPA, Washington, DC.
- United States Environmental Protection Agency (U.S. EPA). 2015. Preventing Eutrophication: Scientific Support for Dual Nutrient Criteria. Fact sheet #EPA-820-S-15-001. Office of Water, U.S. EPA, Washington, DC.
- Venkiteswaran, J.J., S.L. Schiff, and B.P. Ingalls. 2019. Quantifying the fate of wastewater nitrogen discharged to a Canadian river. *FACETS* 4: 315-335.
- Wetzel, R.G. 2001. *Limnology: Lake and River Ecosystems*, 3rd edition. Academic Press, San Diego.

Attachment 2

SMITH & LOWNEY
— PLLC —
ATTORNEYS AT LAW

July 7, 2023

Via Online Submission Form

Tricia Miller, Permit Administrator
WA State Dept of Ecology - NWRO
PO Box 330316
Shoreline, WA 98133-9716

**Re. West Point Wastewater Treatment Plant and Combined Sewer Overflows Draft
NPDES Permit WA0029181**

Dear Ms. Miller,

We submit these comments on the draft individual NPDES permit for the West Point Wastewater Treatment Plant (“West Point”) and Combined Sewer Overflows (CSOs) on behalf of Puget Soundkeeper Alliance (Soundkeeper). For many years Soundkeeper has been actively engaged in education and advocacy efforts to improve water quality in central Puget Sound. Soundkeeper conducts river cleanups by kayak and boat, and regular boat patrols of the waterways impacted by the pollution regulated by NPDES Permit WA0029181 (the “Permit”). Soundkeeper has reviewed voluminous records regarding King County’s wastewater operations, toured the Georgetown CSO treatment plant, engaged with numerous other wastewater treatment plants and experts in the field, and engaged in broader efforts to reduce nutrient pollution from Puget Sound wastewater treatment plants. Soundkeeper is also a party to the ongoing challenge to the Nutrient General NPDES Permit and has been actively engaged in assessing the details of that permit with the assistance of experts. Accordingly, Soundkeeper has a well-informed perspective from which it offers these comments.

Communities for a Healthy Bay and Duwamish River Community Coalition join in support of these comments.

I. The Permit Must Include Nutrient Effluent Limitations

As Ecology expressly admits “This individual permit does not contain limits or other conditions related to the regulation of nutrients.” Fact Sheet at 83. The omission of properly derived effluent limits for nutrients violates bedrock state and federal pollution control laws. Ecology should amend the draft Permit to include either technology-based or water quality-based numeric effluent limits for nutrients—whichever is more stringent—and circulate that draft for



public comment. The nutrient limits must be numeric. *See NRDC v. EPA*, 804 F.3d 149, n.16 (2d Cir. 2015) (as amended Dec. 18, 2015) (limits may be non-numeric only if the calculation of numeric limits is “infeasible.”)

A. Permits must include technology- or water quality-based effluent limits, whichever are more stringent.

“When issuing a waste discharge . . . permit, Ecology must ensure that the permit conditions ‘apply and insure compliance’ with ‘[t]echnology-based treatment requirements’ that reflect ‘all known, available, and reasonable methods of prevention, treatment, and control,’ or ‘AKART.’” *Wash. State Dairy Fed’n v. Dep’t of Ecology*, 18 Wn. App. 2d 259, 275, 490 P.3d 290, 301 (2021) (quoting Ch. 90.52 RCW; Ch. 90.54 RCW; WAC 173-226-070(1)).¹ In addition to ensuring permittees implement AKART, “NPDES permits must also ensure compliance with applicable water quality standards **regardless of practicability**.” *Wash. State Dairy Fed’n v. Dep’t of Ecology*, 18 Wn. App. 2d at 289 (emphasis added) (citing *Defs. of Wildlife v. Browner*, 191 F.3d 1159, 1163, *amended on denial of reh’g*, 197 F.3d 1035 (9th Cir. 1999)).

B. Nutrient effluent limits are required to meet AKART.

“AKART involves use of ‘the most current methodology that can be reasonably required for preventing, controlling, or abating the pollutants associated with a discharge.’” *Id.* (quoting WAC 173-201A-020). Issuance of an NPDES permit to a treatment plant is the critical time for ensuring AKART requirements are met. *See Nw. Env’tl. Advocates v. Dep’t of Ecology*, No. 54810-1-II, 2021 Wash. App. LEXIS 1558, at *7 (Ct. App. June 22, 2021) (citing RCW 90.52.040, 90.54.020.) Similarly, the Permit must include effluent limits that ensure AKART is met from day-one; conditions that merely require study and potential future controls do not satisfy the law. *See Wash. State Dairy Fed’n v. Dep’t of Ecology*, 18 Wn. App. 2d at 279–81 (holding that permit condition that allowed existing facilities to operate for up to three and a half years after the permits have been issued without AKART are inconsistent with state law).

EPA, Ecology, and the Pollution Control Hearings Board have all recognized nutrient control technology is a component of AKART for sewage treatment plants like West Point. Approximately fifteen years ago, EPA recognized that, while secondary treatment processes like those used at West Point “do not remove the phosphorus and nitrogen to any substantial extent,” “tertiary treatment” is available to remove nitrogen and phosphorus from sewage. *Nw. Env’tl. Advocates v. Dep’t of Ecology*, No. 54810-1-II, 2021 Wash. App. LEXIS 1558, at *3-4 (Ct. App. June 22, 2021).² An Ecology-commissioned report by Tetra Tech opined that tertiary treatment upgrades to municipal wastewater treatment plants “are available and economically reasonable and have been applied in Washington and elsewhere in the United States,” and recommended site-

¹ *Puget Soundkeeper v. State*, 102 Wn. App. 783, 785, 788, 9 P.3d 892, 893 (2000) (Consistent with Washington’s statutory mandate to maintain the highest possible standards to ensure the purity of all waters in the state, “RCW 90.48.520 requires that wastewater discharge permits issued under the federal Clean Water Act (CWA) and Washington’s water pollution control act (WPCA) include conditions requiring the permit holder to use all known, available, and reasonable methods [“AKART”] to control toxicants in that wastewater.”).

² In 2010, Ecology and the EPA reported that tertiary treatment could also reduce the amount of pharmaceuticals and other toxins that pass out of wastewater treatment plants and into Puget Sound. *Id.*

specific engineering and economic analyses be completed for sewage treatment plants. *Id.* at *24. Tetra Tech found tertiary treatment can limit nitrogen to less than 3 mg/L of effluent and phosphorus to less than 0.1 mg/L. *Id.* at *4. Likewise, ten years ago, the Washington Pollution Control Hearings Board determined that tertiary treatment was AKART for a wastewater treatment plant in Spokane *Id.* at *23.

In past litigation over a petition for rulemaking, Ecology identified the measures it was taking to apply AKART to its individual treatment plant permitting process:

1. Set 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.
2. Require permittees to initiate planning efforts to evaluate different effluent nutrient reduction targets.
3. For treatment plants that already use a nutrient removal process, require reissued discharge permits to reflect the treatment efficiency of the existing plant by implementing numeric effluent limits used as design parameters in facility specific engineering reports.

Nw. Env'tl. Advocates v. Dep't of Ecology, No. 54810-1-II, 2021 Wash. App. LEXIS 1558, at *9–10 (Ct. App. June 22, 2021). While the court upheld Ecology's denial of the petition for a *statewide rulemaking* mandating tertiary treatment for all wastewater treatment plants, the court noted "Ecology is required to comply with AKART when issuing discharge permits, which may result in Ecology mandating tertiary treatment." *Id.* at *37-38.

Most recently, Ecology issued the Puget Sound Nutrient General Permit (PSNGP) which would require treatment plants including West Point to perform an AKART study if they do not "maintain an annual average of < 10 mg/L TIN [total inorganic nitrogen] and a seasonal average of < 3 mg/L." PSNGP at 16. While requiring only a "study" for something that is in fact known, is unacceptable and not in keeping with statutory requirements (*see* Soundkeeper's appeal of the PSNGP), this and Ecology's other requirements in the PSNGP and its Fact Sheet at a minimum 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.*, PSNGP S.4.E.5.e; *see also* Biological Nutrient Removal Processes and Costs, EPA Fact Sheet, June 2007. Even Ecology's measured language in the PSNGP Fact Sheet makes plain that secondary treatment is not AKART and tertiary treatment achieving at least 3 mg/L nitrogen and .1 mg/L phosphorus is AKART, especially for permittees like King County which has many of the planet's wealthiest rate and tax payers. PSNGP Fact Sheet at 18 ("[A]dvancements in treatment technology that are capable of removing some pollutants at a higher level than traditional secondary treatment. . . [and the] prevalence of 303(d) listings related to depleted dissolved oxygen levels from increased levels of nitrogen and phosphorus requires Ecology to reconsider the basis of AKART for domestic WWTPs.")

Despite clear legal requirements and established, well-known science and engineering, the Permit does not include effluent limits that "apply and insure compliance" with AKART for nutrients. *Wash. State Dairy Fed'n v. Dep't of Ecology*, 18 Wn. App. 2d 259, 275. The Permit and fact sheet do not even reflect any AKART analysis for nutrient control. The Permit even fails to include the minimal and wholly inadequate conditions (performance based numeric effluent limits

and investigation of nutrient reduction targets) that Ecology previously represented (incorrectly) as AKART for Puget Sound sewage treatment plants before it refined its approach in the PSNGP. See *Nw. Envtl. Advocates v. Dep't of Ecology*, 2021 Wash. App. LEXIS 1558, at *9–10.³ The Permit omits “limits or other conditions related to the regulation of nutrients” altogether. Fact Sheet at 83. This proposed Permit does not meet the most basic and minimal requirements of state and federal law.

Ecology must conduct an AKART analysis for nutrient pollution control from West Point and Ecology must include effluent limitations based on that analysis in the Permit. Ecology must also document its AKART analysis in a revised fact sheet.

C. Nutrient effluent limits are required to protect water quality.

Where technology based effluent limitations “prove insufficient to attain or maintain certain water quality standards, the [CWA] requires NPDES permits to include additional water quality based effluent limitations.” *Wash. State Dairy Fed'n v. Dep't of Ecology*, 18 Wn. App. 2d at 289. Ecology “must conduct a ‘reasonable potential’ analysis to evaluate whether a facility’s discharge will cause, has the reasonable potential to cause, or will contribute to a violation of water quality standards. . . . If, based on this analysis, the permit writer determines that there is a reasonable potential that a discharge will contain the pollutant in excess of water quality standards, the NPDES permit must include an effluent limitation for that pollutant. *Id.* at 289 (citing 40 C.F.R. § 122.44(d)(1)).

More specifically, [Ecology] may not issue NPDES permits [w]hen the conditions of the permit do not provide for compliance with the applicable requirements of CWA, or regulations promulgated under CWA... [or 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(a), (d). Washington law makes clear that these requirements apply to each discharge: WAC 173-220-150(1)(c) provides that “each issued [NPDES] permit shall require that ... [a]ny discharge of any pollutant ... at a level in excess of that identified and authorized by the permit shall constitute a violation of the terms and conditions of the permit.

Puget Soundkeeper All. v. Pollution Control Hr'gs Bd., 189 Wn. App. 127, 138, 356 P.3d 753, 757-58 (2015).

As Ecology plainly recognizes both here and in its statements and research related to the PSNGP and nutrients in the Sound generally, West Point’s discharges cause and/or contribute to violations of dissolved oxygen and narrative water quality standards in Puget Sound. The Fact Sheet for this Permit and Ecology’s statements about the PSNGP repeatedly acknowledge this fact:

- “[The Salish Sea Model’s (Ahmed et al, 2019)] simulations predict that nutrients discharged from wastewater treatment plants have a reasonable potential to contribute to existing low dissolved oxygen levels, below state water quality criteria, in the Salish Sea

³ To be clear, Soundkeeper does not agree that the existing performance of West Point meets AKART, or that vague self-study requirements meet AKART. See *Wash. State Dairy Fed'n v. Dep't of Ecology*, 18 Wn. App. 2d at 279–81; *Soundkeeper v. Ecology*, PCHB NOS. 05-150, 05-151, 06-034, & 06-040, 2007 WA ENV LEXIS 3, *67-*70 (Findings of Fact, Conclusions of Law, and Order, January 26, 2007).

(which includes Puget Sound).” Fact Sheet at 83; *see also id.* at 84 (recognizing that effluent limits beyond those in the Permit are needed to “ensure that dissolved oxygen criteria are met in the receiving water”).

- “Ecology’s application of the Salish Sea Model (SSM) has shown that nutrients, particularly inorganic nitrogen, discharged from domestic wastewater treatment plants contribute to low dissolved oxygen concentrations in Puget Sound that do not meet state water quality criteria.” PSNGP Fact Sheet at 32; *see also id.* at 78 (West Point’s cumulative nutrient loading is 18,290 lbs/day, the highest of any Puget Sound wastewater treatment plant, and 25.6% of their total cumulative nutrient load).
- “Ecology documented reasonable potential with the determination that domestic wastewater discharges may cause or contribute to a violation of surface water quality standards for dissolved oxygen.” PSNGP Fact Sheet at 34.
- “Ecology believes the Permittees [including West Point] contribute to low dissolved oxygen concentrations in Puget Sound that do not meet state water quality criteria. Interbasin water exchange leads to the transfer of nutrient loads in and around Washington waters of the Salish Sea, and a discharge in one location contributes to impairment in another.” Ecology Interrogatory Response in PSNGP Appeal.

As recognized by Ecology and as demonstrated by all applicable science, West Point’s nutrient discharges cause and/or contribute to violations of water quality standards. Accordingly, Ecology must include properly derived numeric effluent limits for nutrients in the Permit. *E.g.*, 40 C.F.R. § 122.44(d)(1)(iii); WAC 173-201A-510(1).

D. This individual Permit must include nutrient effluent limits.

Ecology’s approach of relying on the PSNGP to regulate nutrient pollution from West Point is inappropriate for several reasons.

First, regardless of the PSNGP, **this** Permit must include nutrient effluent limits as a matter of federal and state law. The “Clean Water Act unquestionably provides that all applicable effluent limitations must be included in each NPDES permit.” *Waterkeeper Alliance, Inc. v. EPA*, 399 F.3d 486, 502 (2nd Cir. 2005) (citing 33 U.S.C. §§ 1311(a), 1311(b), 1342(a)). As the Second Circuit explained, “[r]egardless of the issuer, **every NPDES permit** is statutorily required to set forth, at the very least, ‘effluent limitations,’” *id.* at 491, and “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,” *id.* at 498 (emphasis added); *see also Am. Paper Inst., Inc. v. EPA*, 996 F.2d 346, 349 (D.C. Cir. 1993) (noting that the Clean Water Act “mandates that every permit contain [inter alia] effluent limitations that reflect the pollution reduction achievable by using technologically practicable controls”). Similarly, state law provides, “**each** NPDES permit shall require . . . that each discharge comply with applicable water quality regulations.” *Puget Soundkeeper All. v. Dep’t of Ecology*, No. 48267-3-II, 2017 Wash. App. LEXIS 448, at *10 (Ct. App. Feb. 22, 2017) (citing WAC 173-220-150(1)(c)) (emphasis altered). Pollution controls found in other documents, which cannot be effectuated through enforcement of the instant permit, do not comport with the rule that **no** permit may issue unless it requires and ensures compliance with AKART and water quality standards.

Does Ecology believe or intend that the PSNGP’s substantive controls can be enforced via the Permit? If so, please more specifically identify which Permit conditions implement which nutrient control measures and reissue the draft Permit for further public comment. Importantly,

Ecology's apparent failure to include all necessary requirements in the instant Permit violates public participation requirements. *Waterkeeper All., Inc. v. United States EPA*, 399 F.3d. at 503–04; *Dairy Fed'n v. Dep't of Ecology*, 18 Wn. App. 2d at 306-07.

Second, Ecology cannot rely on the PSNGP because its substantive provisions are stayed and their ultimate fate is uncertain. *See* Stipulation for Partial Stay of Puget Sound Nutrient General Permit, PCHM No. 21-082c (Jan. 14, 2022) (staying, *inter alia*, PSNGP Conditions S3 (compliance with standards) and Conditions S4.D.2 and S5.D.2 (corrective action requirements) in their entirety pending the Board's resolution of the appeal which is itself stayed). Ecology cannot rely on provisions that have no binding effect or known implementation date to meet statutory requirements for pollution control. *See Wash. State Dairy Fed'n v. Dep't of Ecology*, 18 Wn. App. 2d at 279–81.

Third, as explained in Soundkeeper's timely and ongoing appeal of the PSNGP, that general permit does not contain sufficient nutrient controls required under the law. The PSNGP violates the law in the same way this proposed Permit does: it includes no effluent limits for nutrients (technology-based, water quality-based, numeric, or narrative) that Ecology acknowledges are necessary to control nutrient pollution to the Sound in a manner protective of water quality. Soundkeeper adopts and hereby incorporates its comments and all attachments thereto on the PSNGP, appended for ease of reference.

In summary, this Permit does not meet the most basic minimum requirements for nutrient control under either state or federal law. Ecology must include technology- and water quality-based effluent limits for nutrients that meet the requirements for AKART and ensure that West Point discharges do not cause or contribute to violations of water quality standards in Puget Sound. That likely requires AKART-based limits of at least 3 mg/L nitrogen and .1 mg/L phosphorus, although water quality-based limits may have to be more stringent. Once Ecology makes these necessary changes, Ecology must issue a revised proposed permit for public review and comment. The public must have an opportunity to provide comprehensive comments on Ecology's regulation of West Point, including site-specific application of nutrient effluent limits. *Wash. State Dairy Fed'n v. Dep't of Ecology*, 18 Wn. App. 2d at 306-07 (finding such public participation is required).

II. The Permit Must Require Prompt Upgrades to Bypass Controls at West Point

Soundkeeper joins and incorporates the Suquamish Indian Tribe's comments on the need for Permit conditions requiring upgrades to eliminate emergency bypass discharges from West Point. The Permit must include enforceable conditions to address power supply and pump failures, among other things. To the extent Ecology allows a compliance schedule for the necessary infrastructure upgrades, it must comport with state and federal law and undergo public review and comment. *See, e.g., id.*; WAC 173-201A-510; WAC 173-220-140; 40 C.F.R. §§ 122.2, 122.44(d).

III. The Permit Must Include Effluent Limits for PCBs.

Discharges regulated by the Permit have reasonable potential to cause or contribute to violations of water quality standards (including sediment quality standards) for PCBs. *See, e.g.,* Fact Sheet at 46 (two West Point sediment test stations exceeded PCBs SQS); 49 (PCBs identified as contaminants of concern due to exceeding SQS at one or more Elliott West CSO treatment plant test stations). The receiving waters (including sediments and fish tissue) in the vicinity of many of the regulated outfalls are known to exceed standards for PCBs. *See, e.g.,* Fact Sheet at 49–53, 73.

These factors indicate a reasonable potential even where there is insufficient effluent data to perform a statistical reasonable potential calculation.

The Permit Fact Sheet also indicates that Ecology employed a dilution factor when evaluating PCBs. Fact Sheet at 63, 83. Is that correct? Please provide documentation and explanation of how, if at all, Ecology performed a reasonable potential analysis for PCBs, including whether and what dilution factors were used for which outfalls. No dilution factor or mixing zone may be used for PCBs because PCBs do not dilute and there is no assimilative capacity in the receiving water for more PCBs. *Soundkeeper v. Ecology*, PCHB No. 13-137c, 46 (Findings of Fact, Conclusions of Law, and Order, July 23, 2015) (citing, e.g., 63 Fed.Reg. at 36791 (EPA’s guidance cautioning against mixing zones for bioaccumulative pollutants like PCBs and stating that a “separate determination that there is available assimilative capacity in the receiving water” should precede a state’s determination that a mixing zone is appropriate)); WAC 173-201A-400(4).

Because there is reasonable potential for PCBs to cause or contribute to violations of water quality standards, the Permit must include effluent limits for PCBs. Omitting such limits violates bedrock mandates of state and federal law. 40 C.F.R. § 122.44(d)(1)(iii), (d)(1)(vii)(A); *Sierra Club v. Ecology*, PCHB No. 11-184, Findings of Fact, Conclusions of Law, and Order (July 19, 2013) at 20–21. The effluent limits should be no greater the water quality criteria because no mixing zone is allowed. See *Puget Soundkeeper All. v. Dep’t of Ecology*, No. 48267-3-II, 2017 Wash. App. LEXIS 448, at *5-6, n.5 (Ct. App. Feb. 22, 2017). Ecology should require meaningful PCB monitoring using EPA Method 1668. See *id.* at 11–12. Unless and until Ecology requires monitoring capable of detecting a violation of a properly derived water quality based numeric effluent limit, Ecology must use other regulatory tools, such as narrative treatment technology requirements and/or limits on proxy pollutants based on a statistically valid correlation of the proxy to PCBs in the effluent, to ensure the Permit does not authorize discharges that cause or contribute to violations of water quality standards.⁴

IV. The Permit Violates Tier I Anti-Degradation Requirements

As Ecology recognizes, for waters that do not meet assigned criteria, or protect existing or designated uses, such as Puget Sound and the specific receiving waters impacted by the Permit (e.g., the Lower Duwamish River and Elliott Bay) Ecology is to “take appropriate and definitive steps to bring the water quality back into compliance with the water quality standards.” Fact Sheet at 62; WAC 173-201A-300-330. Ecology’s failure to regulate nutrients and control PCBs from West Point and the numerous CSOs violates these Tier I anti-degradation requirements.

V. The Permit Must Prohibit Failed Whole Effluent Toxicity Tests

The Permit is missing the required whole effluent toxicity (WET) effluent limits. See generally, Permit at Conditions S13 and S14 (requiring WET testing but imposing no effluent limit). Ecology’s decision to omit WET limits based on its finding that West Point has “no

⁴ The Permit must also meet the federal “best available technology economically achievable” (“BAT”) for PCBs. 40 C.F.R. § 125.3 (listing criteria); see also *Kennecott v. U.S. EPA*, 780 F.2d 445, 448 (4th Cir. 1985) (BAT represents “the optimally operating plant, the pilot plant which acts as a beacon to show what is possible”).

reasonable potential for effluent discharges to cause receiving water acute or chronic toxicity” based on prior WET tests is inconsistent with WAC 173-205-040, -050, and -120. For example, WAC 173-205-120 requires a minimum of three consecutive test years demonstrating compliance before a WET limit may be eligible for removal, but the Fact Sheet indicates only one year of WET test results in 2017 and suggests the sample(s) failed one or more acute WET tests. Fact Sheet at 149.

Ecology also improperly relegates additional WET testing to procedures outside of the Permit, meaning West Point may fail a WET test without violating the Permit. Fact Sheet at 97. This is illegal. A “single failed WET test violates the narrative water quality standard,” and, because “NPDES permits may not authorize discharges that violate a water quality standard,” the Permit must prohibit a single failed WET test. *Puget Soundkeeper All. v. Pollution Control Hr’gs Bd.*, 189 Wn. App. 127, 142–43, 356 P.3d 753 (2015).

VI. The Permit Fails to Adequately Regulate CSOs

The Permit’s effluent limits for CSOs are inadequate in part because they authorize CSOs from outfalls that Ecology recognizes are not in compliance with state and federal regulations. See, e.g., Fact Sheet at 12 (EPA documented violations in 2007); 31 (“The proposed permit will not include requirements related to [necessary but incomplete CSO control] projects.”); 54 (noting poor performance at Elliott West); 106 (“King County has not completed all CSO control projects and does not fully comply with the performance standard for all outfalls.”). Once again, Ecology appears to rely on external documents, such as the 2013 consent decree to regulate some aspects of the CSOs. See Fact Sheet at 31, 106 (“Since the 2013 CSO consent decree identifies the compliance schedule King County must follow, the proposed permit does not include a compliance schedule.”)

The requirements of the 2013 consent decree (as amended in 2016), along with the control plan milestones are a necessary (but not alone sufficient) component of AKART and water quality-based effluent limits for the CSOs that need to be incorporated into the Permit as enforceable conditions. The compliance schedules must also be incorporated into an NPDES permit; applicable compliance schedule regulations make no exception for CSO compliance schedules. See WAC 173-220-140. Nor does the 2013 consent decree create an exception from Washington’s generally applicable CSO control requirements. WAC 173-245-015 (explaining that “the provisions of this chapter shall still apply” even if Ecology previously agreed to a compliance schedule or CSO reduction plan).

As with the nutrient controls, incorporating all required conditions into the Permit is also necessary to fulfill public participation requirements for NPDES permitting. *Waterkeeper All., Inc. v. United States EPA*, 399 F.3d. at 503–04.

The remainder of Soundkeeper’s comments on CSOs pertain to the terms and specific language contained in the Permit, regardless of the consent decree.

A. Infiltration and Inflow

Soundkeeper joins and incorporates the Suquamish Indian Tribe’s comments on the Permit’s regulation of infiltration and inflow (I&I).

WAC 173-245-040(2)(b) identifies measures to reduce I&I as the very first control alternative that “shall” be considered to achieve the greatest reasonable reduction at each CSO site. There is little indication that King County has considered any meaningful I&I reduction measures

via the consent decree or otherwise. The Permit also fails to require King County to evaluate and implement I&I reductions as a CSO reduction measure.⁵ The Permit should require King County to promptly develop and implement a robust I&I reduction plan.

B. Uncontrolled CSOs

The Permit's uncontrolled CSO conditions may need to be clarified to effectuate Ecology's intent. Soundkeeper interprets the Permit to authorize wet weather discharges from the 20 uncontrolled CSOs, but only if those discharges comply with the nine minimum controls, and only if the discharges comply with water quality standards, recognizing that no mixing zones are provided for these discharges. Is this Ecology's interpretation? Because Ecology cannot authorize any discharges that do not meet AKART, and the uncontrolled CSOs do not currently meet AKART or the nine minimum control measures, Ecology cannot authorize **any** discharges from the uncontrolled CSOs unless and until they qualify as "controlled." To accomplish Ecology's presumed intent more clearly and comply with state and federal law, the Permit should (1) expressly prohibit discharges (wet weather or otherwise) from "uncontrolled" CSOs, and (2) explicitly require that all CSOs comply with water quality standards.

C. "Controlled" CSOs

The Permit impermissibly authorizes discharges from and mixing zones for "controlled" CSOs that do not meet AKART. RCW 90.52.040 (Ecology shall require AKART for every discharge); RCW 90.48.520 (permits shall require AKART); WAC 173-201A-400(2) ("A discharger shall be required to fully apply AKART prior to being authorized a mixing zone."). AKART for CSOs includes measures to reduce and eliminate CSOs altogether **and** primary treatment for discharges that do occur. See WAC 173-245-040(2). Primary treatment means technology that "removes at least fifty percent of the total suspended solids from the waste stream, and discharges less than 0.3 ml/l/hr. of settleable solids." WAC 173-245-020(16). The 38 "controlled" CSOs are not meeting these standards and nothing in the Permit requires them to.

Even if the Permit did require AKART, the mixing zone authorization for the 38 "controlled" CSOs still would not comport with WAC 173-201A-400(4), which provides:

No mixing zone shall be granted unless the supporting information clearly indicates the mixing zone would not have a reasonable potential to cause a loss of sensitive or important habitat, substantially interfere with the existing or characteristic uses of the water body, result in damage to the ecosystem, or adversely affect public health as determined by the department.

See also WAC 173-201A-400(8), (10).

And while the Permit states that it "does not authorize a mixing zone or discharge from a CSO outfall when doing so causes adverse impacts that threaten characteristic uses of the receiving water, cause a loss of sensitive or important habitat, or adversely affects public health," but there is no explanation of how this could be, much less an objective or readily enforceable Permit

⁵ Soundkeeper recognizes that if West Point's capacity is exceeded, the Permit calls for some consideration of I&I in a plan that has no deadline for submittal much less implementation. Draft Permit at 31. Soundkeeper does not consider this to address the obvious ongoing lack of capacity to prevent CSOs, but Condition S4.B could be significantly expanded and strengthened to address the present CSO problem.

condition to make it so. For example, if a CSO discharge adversely affects public health within the otherwise authorized mixing zone (which is unlimited in size) does that violate the Permit? Does the adverse public health impact automatically defeat the mixing zone? What is the practical implication of this Permit language?

There also appears to be some ambiguity in the Permit's classification of "controlled" CSOs and the corresponding limits that should be clarified. Soundkeeper believes that Ecology intends to allow up to one discharge per year,⁶ on a 20-year rolling average, from only those CSOs that qualify as "controlled" and are meeting the "greatest reasonable reduction" criteria. Is this Ecology's interpretation? Several clarifications are warranted to accomplish Ecology's presumed intent and ensure compliance with applicable law:

- (1) For CSOs that are meeting the "greatest reasonable reduction" and other minimum criteria—and only those CSOs—the Permit should expressly and flatly prohibit **any** CSO discharges in excess of one per year on a 20-year rolling average. The Permit should also specify criteria that ensures the one discharge per year allowance does not authorize long periods of discharge that span multiple storms or discrete precipitation events. For all other CSOs, the Permit should expressly prohibit **any** discharges.
- (2) The Permit should be modified so that CSOs that trigger **any** corrective actions under Condition S11.C.d are no longer considered "controlled," and are reclassified as "uncontrolled" (meaning discharges from them are prohibited and not eligible for a mixing zone) until they complete the corrective actions and regain "controlled" status. The draft Permit suggests that outfalls are not reclassified as "uncontrolled" until they have violated the one-discharge-per-year criteria for several years, which brings the draft Permit into conflict with WAC 173-245 and WAC 173-201A. The definition of "greatest reasonable reduction" is black and white: a CSO either qualifies or it does not. The phrase "previously controlled CSO outfall" should be clarified or eliminated from the Permit to avoid creating a grey area.
- (3) To ensure compliance with WAC 173-201A-400(11), the Permit should clarify that the exception from the mixing zone size and overlap limits only applies to the single discharge event allowed once per year. WAC 173-201A-400(11) is a **conditional** once-per year exception, not an open-ended exemption for all discharges from CSOs that may have met control criteria at some point in the past. The Permit language should closely track the regulatory language.

VII. The Elliott West Treatment Plant Effluent Limits Are Deficient

Based on its rudimentary technology, its failure to comply with the 50% removal standard in all but one year (2019), and the very elevated discharges of toxic pollutants such as copper, it is clear that the Elliott West Treatment Plant (Elliott West) is not implementing AKART. *See, e.g.*, Fact Sheet at 54, 61.

The Permit impermissibly fails to require AKART for Elliott West. While the Permit contains a "compliance schedule" for this discharge, the Permit does not contemplate that King County or Ecology will determine what constitutes AKART, including for copper, much less to implement AKART or meet effluent limits that reflect AKART. The "compliance schedule" merely requires King County to describe modifications to bring Elliott West into compliance with

⁶ Of course, the one discharge per year must be due to a storm event.

unspecified permitted limits and bid out the project. King County needs to immediately implement AKART for these discharges, including controls for dissolved toxic metals.

To make matters worse, while the Permit includes a nominal “final effluent limit” for Elliott West, the Permit never imposes that limit or requires King County to meet it. Instead, the “interim” copper limit—84 µg/L, based on the 95-percentile of Elliott West’s highly toxic discharges—applies for full permit term. This open-ended scheme does not comport with WAC 173-201A-510(4), which requires that compliance schedules “shall be developed to ensure final compliance with all water quality-based effluent limits in the shortest practicable time” and “shall generally not exceed the term of any permit.” Nothing in the Permit ensures Elliott West will ever comply with water quality-based effluent limits or even implement AKART.

Because the Permit does not require AKART, Elliott West is not eligible for a mixing zone. The zinc limit of 246 µg/L and the nominal “final” copper limit of 15 µg/L, which were derived using a dilution factor, are therefore illegally high. The water quality-based effluent limits for Elliott West should instead be set not higher than the water quality criteria: 4.8 µg/L (acute) and 3.1 µg/L (chronic) for copper and is 90 µg/L (acute) and 81 µg/L (chronic) for zinc. *See Soundkeeper v. Ecology*, No. 48267-3-II at 20 n. 15 (Ct. App. Feb. 22, 2017).⁷

In addition, given that King County already “submitted a draft alternatives analysis report to outline planning efforts to replace the Elliott West facility with an advanced wet weather treatment system,” Fact Sheet at 54, another five-plus years just to refine and bid a design is not the “shortest practicable time.” WAC 173-201A-510(4). What is the basis for Ecology allowing a year to elapse between each successive design phase? Is it just that WAC 173-220-140(2) states “in no event shall more than one year elapse between interim dates”? What is the intent behind requiring the draft engineering report to “identify the anticipated construction schedule necessary to complete the project by December 31, 2031”? Does Ecology believe that the Permit establishes an enforceable implementation date of December 31, 2031, or that that is a deadline that is part of the compliance schedule in this Permit?

Soundkeeper also joins and incorporates the Suquamish Indian Tribe’s comments regarding total residual chlorine (TRC) in the Elliott West discharge. Ecology should consider ultraviolet disinfection to eliminate TRC and establish a final effluent limit of zero.

VIII. Henderson/MLK and Georgetown Treatment Plant Copper Effluent Limits

The Henderson/MLK CSO Treatment Plant is not implementing AKART in general or for copper specifically. *See* Fact Sheet at 26–27 (noting that the Henderson/MLK plant is “[s]imilar in concept to the Elliott West CSO Treatment Plant” and discharges more than once a year on average); *id.* at 54 (not consistently meeting solids removal standard or limit). Passive settling, disinfection, and removal of floating solids are ineffective at removing copper, especially dissolved copper, and do not result in effluent concentrations below the acute or chronic water

⁷ Even if a mixing zone were allowable, the zinc limit still appears to be too high. Ecology must employ the more stringent of technology based effluent limitations and water quality-based effluent limitations. WAC 173-220-130. A performance-based limit might be more stringent than a water quality based limit for zinc once a dilution factor is applied, and if so, performance based must be used. Please explain how the Permit complies with Ecology’s mandate to require AKART and impose the more stringent of technology and water quality-based effluent limitations. RCW 90.52.040; WAC 173-220-130.

quality criteria. *See* Fact Sheet at 44. Meanwhile, the ambient copper concentration in the receiving water is elevated. Fact Sheet at 38. In other words, the discharge has a reasonable potential to cause or contribute to violations of water quality standards and is not meeting AKART. *See* Fact Sheet at 94 (finding reasonable potential even despite several erroneous unprotective assumptions). The outfall is therefore ineligible for a mixing zone and neither the reasonable potential analysis nor the effluent limit should be based on a dilution factor.⁸ Unless and until Henderson/MLK implements AKART, Ecology must require it to comply with copper effluent limits equal to the applicable water quality criteria. The performance-based limit in the draft Permit is unacceptably high and not based on AKART. Soundkeeper also joins and incorporates the Suquamish Indian Tribe's comments calling for Ecology to reevaluate the applicable copper criteria to ensure the limits meet numeric and narrative water quality standards.

The Permit must also impose appropriately derived effluent limits for copper on the Georgetown Treatment plant's discharge. There is no basis for Ecology's "presumption of no reasonable potential." Fact Sheet at 94. Copper is known to be in the plant influent and there is no discussion of the treatment technology's ability to remove copper, especially the dissolved fraction. And again, copper is elevated in the receiving water. Fact Sheet at 38. This discharge has a reasonable potential to cause or contribute to violations of water quality standards for copper; the Permit must impose properly derived water quality-based effluent limits.

Finally, for all CSO treatment plants with metals limits, the sampling frequency for those metals should be at least daily during discharge events to ensure compliance with standards.

IX. 6PPD and 6PPD-Quinone

The Permit authorizes discharges containing 6PPD/Q⁹ that present a reasonable potential of violating water quality standards, including the prohibition against discharging toxics in toxic amounts. Ecology must include monitoring and treatment for 6PPD/Q to meet AKART and water quality standards.

6PPD makes up 1-3% by weight of all tires in use on the planet.¹⁰ 6PPD-quinone, the derivative product, is acutely toxic to several salmonids, including coho, Chinook, and

⁸ We also note that this outfall configuration is not conducive to mixing and question whether the modeling appropriately accounted for critical conditions.

⁹ The toxic contaminant found in tires, 6PPD, transforms in the presence of ozone into 6PPD-quinone, one of the most acutely toxic substances known to science for aquatic life – and one that was only discovered in 2020. For purposes of these comments and for simplicity, Soundkeeper will refer to 6PPD and 6PPD-quinone and their role in the environment as 6PPD/Q.

¹⁰ These comments rely on and incorporate by reference materials about 6PPD/Q available to the public, developed in coordination with, and/or relied upon by Ecology. Materials are available at: https://dtsc.ca.gov/wp-content/uploads/sites/31/2022/05/6PPD-in-Tires-Priority-Product-Profile_FINAL-VERSION_accessible.pdf; <https://apps.ecology.wa.gov/publications/summarypages/2203020.html>; <https://www.washington.edu/news/2020/12/03/tire-related-chemical-largely-responsible-for-adult-coho-salmon-deaths-in-urban-streams/>; https://fortress.wa.gov/ecy/ezshare/wq/Permits/Flare/2019SWMMWW/Content/Resources/Docs/ForDownload/2022_SWTreatmentOfTireContaminants-BMPEffectiveness.pdf; <https://apps.ecology.wa.gov/publications/documents/2203020.pdf>;

steelhead/rainbow trout. 6PPD/Q can enter salmon habitat suspended in street liquids, after leaching from tire wear particles (TWP), or after leaching from tire products ranging from crumb rubber in turf fields to tires used as fenders or in landscaping. Species which are present in and depend on receiving waters covered by this Permit suffer chronic and acute effects from this toxin. Given its ubiquity, 6PPD/Q will be present in discharges to receiving waters through CSOs, inflow, bypass events, and end of pipe discharges. However, the Permit makes no mention of 6PPD/Q, even though TWP will be present in wastewater and in stormwater released through the combined sewer system.

A. Narrative Criteria

Washington's narrative water quality criterion for toxic substances provides that "toxic substances shall not be introduced above natural background levels in waters of the state which have the potential either singularly or cumulatively to adversely affect characteristic water uses, [or] cause acute or chronic toxicity to the most sensitive biota dependent upon those waters." WAC 173.201(A)(1). Furthermore, each NPDES permit "shall include...(d) any requirements in addition to or more stringent than promulgated effluent limitations guidelines...necessary to: (1) achieve water quality standards established under section 303 of the CWA, including *State narrative criteria* for water quality." 40 CFR § 122.44(d) (*italics added*). Narrative criteria are the basis for limiting specific pollutants where the State has no numeric criteria for those pollutants, and to limit toxicity where the toxicity cannot be traced to a specific pollutant. EPA's NPDES Permit Writer's Manual, available at https://www3.epa.gov/npdes/pubs/chapt_06.pdf; see also Department of Ecology Water Quality Program Permit Writer's Manual, available at <https://apps.ecology.wa.gov/publications/documents/92109.pdf>.

Ecology acknowledges that 6PPD/Q is a contaminant that is highly toxic to aquatic life. Studies show that 6PPD/Q causes both acute and chronic toxicity to fish species at levels even lower than that commonly found in urban stormwater runoff,¹¹ such as that which may exist in circumstances like inflow, treated or untreated CSO discharges, and bypass events, covered by this permit. Furthermore, those fish are known to live in and depend on receiving waters under this permit, including the Duwamish and nearshore Puget Sound. Ecology should revise the permit to include effluent limits for 6PPD/Q that protect water quality from the release of this toxicant in toxic amounts.

<https://ecology.wa.gov/Waste-Toxics/Reducing-toxic-chemicals/Addressing-priority-toxic-chemicals/6PPD>;

https://www.ezview.wa.gov/site/alias_1962/37732/research_and_proposed_alternatives_to_6ppd.aspx;

https://www.ezview.wa.gov/site/alias_1962/37858/addressing_6ppd.aspx;

<https://ecology.wa.gov/Blog/Posts/June-2023/We-re-looking-for-safer-alternatives-to-6PPD-Here>.

¹¹ Lo, B.P., Marlatt, V.L., Liao, X., Reger, S., Gallilee, C., Ross, A.R.S. and Brown, T.M. (2023), Acute Toxicity of 6PPD-Quinone to Early Life Stage Juvenile Chinook (*Oncorhynchus tshawytscha*) and Coho (*Oncorhynchus kisutch*) Salmon. Environ Toxicol Chem, 42: 815-822. <https://doi.org/10.1002/etc.5568>

B. AKART

The presence of 6PPD/Q in permitted discharges triggers requirements for monitoring and treatment. The permit must “include terms and conditions to reduce the discharge of pollutants to protect water quality, *and* to satisfy the water quality requirements of the Clean Water Act.” 40 C.F.R. § 122.34(a) (emphasis added). The Permit must also require AKART which “shall represent the most current methodology that can be reasonably required for preventing, controlling, or abating the pollutants associated with a discharge.” RCW 90.48.010; *see also* WAC 173-201A-020 (noting that BMPs “are considered a subset of the AKART requirement.”)

Ecology should revise the Permit to ensure it requires AKART-level controls for 6PPD/Q in discharges that include stormwater, including from West Point, the 5 CSO treatment facilities, and the 38 “controlled” CSO outfalls.

In addition, a revised fact sheet should describe how the Permit addresses 6PPD/Q in the authorized discharges, including how it ensures against violations of state narrative water quality criteria and how is AKART implemented and enforced.

X. Incorporation of Additional Comments

Soundkeeper joins and incorporates the Suquamish Indian Tribe’s comments regarding per-and polyfluoroalkyl substances (PFAS); other chemicals of emerging concern, including pharmaceuticals known to be present in the discharges; TRC; annual CSO control effectiveness reporting and evaluation; sediment monitoring; and compliance with sediment standards.

Thank you for your close attention to these comments. We look forward to reviewing a revised draft Permit that better protects Puget Sound. If Ecology would like to discuss any of these comments, please do not hesitate to contact Soundkeeper or myself.

Yours very truly,

SMITH & LOWNEY, PLLC

By: /s/Claire Tonry
Claire E. Tonry