

November 14, 2018

Abbey Stockwell
Washington Department of Ecology
P.O. Box 47600
Olympia, WA 98504-7600

RE: 2019 Western Washington Municipal Stormwater Permit Reissuance, Formal Drafts

Dear Ms. Stockwell,

On behalf of The Nature Conservancy of Washington and our 130,000 supporters across the state, I write to provide comment on the Department of Ecology's Draft Municipal Stormwater Permits that you have provided for public consideration.

Puget Sound is a unique feature of our region. It is the largest estuary in the United States by volume and connects more than 10,000 rivers, streams, and creeks from across Washington State with the Pacific Ocean. This is a place where endangered orcas and salmon live alongside one of the fastest growing metropolitan regions in the country. The waters surrounding us are vital to our economy, our environment, our health, our tribal cultures, and our well-being.

In the Puget Sound basin alone, almost 27% of employment is in water-dependent sectors, responsible for nearly \$200 billion in output. Washington State is the leading U.S. producer of farmed shellfish. An industry entirely dependent on clean water, Puget Sound shellfish aquaculture is valued at more than \$72 million.

Stormwater is the fastest growing source of water pollution in the U.S. 75% of the pollutants entering Puget Sound are from polluted stormwater runoff from our hard, urban surfaces. It's killing salmon, harming the food web, and impacting human health. Much of this stormwater runoff is from older, existing development constructed prior to the adoption of the Ecology 1992 Stormwater Management Manual. Researchers estimate that more than 90% of developed land in the Puget Sound drainage basin discharges untreated stormwater (Bissonnette Environmental Solutions & Parametrix, 2010). Effective restoration of the Puget Sound and Washington State ecosystems will need to address these older, developed areas and their legacy of pollution.

The stormwater problem is so large it will take a significant paradigm shift related to urban development if we are to move the needle on water quality. The Conservancy applauds the leadership that Washington State and the Department of Ecology have shown to date and we want to see the State continue to advance as a national leader in ensuring that pollutant removal begins to happen at a scale that is representative of the problem.

Our comments reflect Nature Conservancy's belief the Municipal Stormwater Permits must be informed by experience, newly available technologies, and the most current science to maximize impact and effectiveness. The Permits should continue to support the integration of cost-effective green

infrastructure systems which benefit both clean water and human well-being. Building upon national and local research, the Conservancy has identified four objectives to support cost-effective pollution reduction which we would like to see integrated:

1. *Build additional support for fixing legacy pollution with GSI retrofits at all levels of government.*
2. *Incentivize voluntary, private investment in GSI retrofits solutions targeted at community pollution.*
3. *Plan pollution fixes with a broad, watershed scale perspective.*
4. *Establish nature-based solutions as the go-to strategy to address stormwater challenges in consideration of the full suite of co-benefits. Align and optimize nature-based solutions targeted at pollution control for multiple benefits including transportation & roads, public health, social inequity, and climate readiness.*

1. Build additional support for fixing legacy pollution with GSI retrofits at all levels of government.

[Western WA Phase II Draft Permit S5.C.1.a: Coordination with long-range plan updates.]

Improve interagency coordination and accountability - We are pleased to see requirements for permittees to describe the connections between stormwater management and other long-range land use planning efforts, policies, and implementation strategies. To the extent that these planning documents address GSI retrofits, this is a good first step at aligning plans and policies. The next step is to align plans in support of targeted GSI retrofits in priority areas. [This chart developed by The Nature Conservancy](#) includes a list of plan and policy documents across all levels of government that could be aligned with local efforts to implement GSI retrofits. Integration of clear language prioritizing retrofits in the highest pollution areas would allow jurisdictions to accelerate retrofits of existing impervious surface, particularly at the point of redevelopment or major renovation, when the cost/gallon managed is known to be the lowest.

Leverage green stormwater infrastructure in new public facilities—Every biennium, the legislature invests more than \$2 billion for the creation, improvement or renovation of public facilities, including schools, hospitals, prisons, and universities. These and other municipal Capital Improvement Projects present us with some of the most cost-effective ways to divert runoff from adjacent pollution hotspots – mostly community-owned roads, bridges and highways. Mapping work now provides the opportunity to align green stormwater infrastructure investments with [areas of greatest pollutant loading](#). The permit (and legislature in support of Washington’s clean water outcomes) should focus jurisdictions on seizing opportunities for public works to integrate nature-based solutions that treat toxic runoff from the right-of-way and the surrounding neighborhood.

Increased collaboration between permittees and departments transportation, and other relevant agencies is critical to ensure new financial incentives are developed. The lowest-cost, highest-opportunity point in time for GSI retrofits is likely when the right of way is being torn up for non-related transportation or roads work. This permit should lay the groundwork for how un-related public works can be better incentivized to take advantage of that point in time. It is only in tackling that fundamental issue, when the region will begin to chip away at the legacy of pollution-creating infrastructure that exists in our urban landscape.

2. Incentivize voluntary, private investment in GSI retrofits solutions targeted at community pollution.

[Phase I Draft Permit S5.C.7: Structural Stormwater Controls.]

Private incentives that leverage development in fixing legacy pollution — Incentives are one pathway forward for Phase II municipalities to move the needle immediately on retrofitting community pollution from the right-of-way. [Salmon Safe certification](#) offers 3rd party certification for nature-based solutions designed to treat off-site runoff within the project footprint if it is engineered to meet specific water quality outcomes.

Given the scale of the issue, governmental actions and regulatory frameworks alone are not likely to improve water quality. We also need incentives for the private sector that elicit transformative ways to integrate GSI retrofits. Nearly half of what will be the built environment serving commercial and industrial sectors in 2050 doesn't exist yet, giving the current generation a vital opportunity to reshape future development. (Brookings Institute, Rebuilding America Study)

Regulation could help permittees lean-in to streamline incentives for private property owners. Regardless of type of incentive, certainty and simplicity are key to an effective incentive program. In stakeholder workshops, the Natural Resources Defense Council found that regulations are the primary driver for private participation in GSI in jurisdictions where there are strong requirements for flow reduction or for specific practices and BMPs (Natural Resources Defense Council, 2015). However, stakeholders said government or financial incentives were the catalyst for GSI retrofits. Some owners see GSI retrofits as an amenity that increases the value and marketability of their property. Others are interested in doing the right thing and meeting Green Building or other environmental goals.

Address legacy stormwater pollution issues for roads and bridges— The permit should explicitly allow/encourage permittees to form innovative partnerships with departments of transportation, private organizations, nonprofit entities, etc. to leverage funds, build capacity and meet water quality goals more efficiently.

High-traffic roads under local jurisdiction should also be considered in SSC programs with awarding extra points for retrofits that target and treat runoff from our most polluted hard urban surfaces. The State Department of Transportation has done good work investing in reducing stormwater pollution for new construction projects. Insufficient funding has prevented permittees, Washington State Department of Transportation and local transportation agencies from addressing legacy pollution hotspots along streets, highways and bridges built prior to modern day stormwater codes. The 2017 State of the Sound report by the Puget Sound Partnership celebrated [private developers who treated 600,000 gallons of stormwater runoff](#) from the Aurora Bridge in Seattle through private financing. In fact, several innovative projects in Washington have successfully laid the groundwork to implement a path forward that leverages partnership for maximum impact – [Swale on Yale](#) (public/private), [Aurora Bridge Mitigation Project](#) (private), [Point Defiance Stormwater Facility](#) (public/public).

3. Plan pollution fixes with a broad, watershed scale perspective.

[Phase I Draft Permit S5.C.7: Structural Stormwater Controls.]

[Western WA Phase II Draft Permit S5.C.1.c: Stormwater Management Action Planning.]

Credit for Watershed Planning - TNC recommends that Ecology give credit to municipalities

incorporating planning efforts that have positive results for stormwater runoff management. Cities across the region are making a paradigm shift in the approach to stormwater management and planning broadly. Local jurisdictions are moving away from working on low-hanging fruit or small site-specific projects that have minimal impact on the overall health of the watershed. Jurisdictions used to plan reactively and prioritize projects based on point source management, visible pollution, and local concerns around capacity, flooding, or erosion. This uncoordinated approach did not take into account the combined, incremental effects of small, single site-specific projects on the health of the watershed. Local jurisdictions must now shift to a watershed-level approach that focuses on priority sites, leverages regional coordination for economies of scale, and enables collaborative and consistent data collection. The prioritization scheme that comes out of watershed level planning enables the identification of places where improvements can provide immediate environmental benefit. Since many of these places are likely to be developed areas, GSI retrofits play an important role.

[Use Pollution Mapping to Reduce Stormwater Threats in Existing Hotspots - The Nature Conservancy Pollution Heatmap tool](#) should be explicitly recommended for permittees looking to incentivize or deliver GSI projects immediately. The tool highlights spots with the most toxic runoff based on best available science and helps stormwater decision makers quickly identify places in need of stormwater action. Not surprisingly, transportation and roads hotspots jump out in every jurisdiction. The next generation of the tool will overlay hydrology and high priority ecological areas.

The tool was developed in response to stormwater leaders and decision makers frustrated that their budgets were being spent almost entirely on detailed planning without leaving space for implementation of projects. There is no value in planning if measures cannot be acted upon. Streamlined planning using regional “hotspot” tools that take advantage of data visualization, machine learning and the power of cloud computing, should allow smaller jurisdictions to implement projects during the 2019-2024 permit cycle.

Given the latest research linking tire residues to the death of Coho salmon, we recommend that Ecology encourage consideration by permittees of traffic congestion hotspots and other transportation patterns within the SMAP process, with the goal of reducing toxic runoff from tires.

14 million pounds of chemicals run into Puget Sound each year, affecting immune systems, health and reproductive rates for Orca and Chinook. The Sound is getting sicker faster than it is getting healthy. We must move forward with developing the science, plans and monitoring simultaneously to getting projects in the ground.

[Accelerate new solutions in innovation zones](#)—In addition to utilizing existing tools for reducing toxic contaminants, we have the opportunity to pilot innovative new solutions that close scientific gaps, improve habitat, buy-down costs, and lessen conflicts between salmon, transportation, urban development, and other interests. New technologies and effective use of big data can play a key role to accelerate conservation if used appropriately. Our region is already forging ahead to prove the utility of solutions like [advanced dairy distillation](#), [geospatial tools that deploy machine learning](#), [permeable pavement made from recycled airplanes](#), [IoT sensors creating smart urban watersheds](#), and other leading-edge approaches that have the potential to increase the pace of conservation. The permit should explicitly encourage piloting of out-of-the-box solutions through the creation of innovation zones at a watershed level, giving permittees enough flexibility that they can deploy their limited resources toward streamlined permitting, developing public financing opportunities, and

promoting interagency coordination – all toward mainstreaming use of new technologies that have the potential of fixing systemic barriers and increasing impact.

Establish nature-based solutions as the go-to strategy to address stormwater challenges in consideration of the full suite of co-benefits. Align and optimize nature-based solutions targeted at pollution control for multiple benefits including transportation & roads, public health, social inequity and climate readiness.

[Western WA Phase II Draft Permit S5.C.1.c: Stormwater Management Action Planning.]

Prioritizing Green Stormwater Infrastructure as Go-To Solution – Strategic choice of sites for Green Stormwater Infrastructure (GSI) retrofits helps ensure they deliver multiple benefits, such as transportation & roads, public health and climate readiness. TNC strongly recommends a recognition within the *SMAP Guidance* that green infrastructure and the maintenance of natural systems are critical to achieving long-term water quality goals, and also provide multiple benefits beyond stormwater management. It should be clear from reading the Permit and SMAP Guidance that maintaining green infrastructure and functioning, natural habitat, as well as retrofitting developments and grey infrastructure with green updates are preferred stormwater investments under SMAP.

In addition, unlocking non-traditional funding sources depends on integrated design targeting regional efforts toward maximum impact areas while optimizing a broader suite of community benefits. Often overlooked are the positive effects on public health. Experience of metro nature (the entire sweep of native, cultural and build nature in cities including GSI retrofits) contribute to healthier birth weight in babies, reducing ADHD symptoms in children, stress and anxiety reduction for adults, reduced neighborhood crime, faster healing in hospitals and improved mental health for seniors. GSI retrofits offer an opportunity to address and improve environmental and public health in areas where there have been historic environmental inequities. According to the EPA, communities of color in urban or rural poverty pockets, or on economically impoverished Native-American reservations, face worse environmental conditions than the rest of the country. GSI retrofits can be should used deliberately and collaboratively as part of initiatives targeted at social equity and environmental justice.

Lastly, GSI retrofits are critical in helping Washington State adapt to climate change impacts. Heavy rainfall events are expected to become more intense in future years. Climate models show that the heaviest 24-hour rain events in the Pacific Northwest will intensify by an average of 22% by the 2080s. This increased frequency and intensity will escalate flood risks to many watersheds.

Correcting a Historic Burden of Pollution - History has demonstrated that it is most often communities of color and low-income communities are burdened disproportionately by polluted air and water. Not surprisingly, this emerged in [TNC's pollution mapping tool](#) when pollution heatmaps are looked at side-by-side with minority and low income population demographics. This trend will certainly be amplified if permittees choose to implement projects in less urbanized areas where project costs are more affordable – essentially writing off our most urban pollution hotspots as lost causes. As watershed planning leads to prioritization of watersheds and management interventions by permittees, habitual, historical and current inequities must be meaningfully addressed. The proposed SSC points system must require permittees to work hand-in-hand with impacted communities and incentivize retrofits in low-income communities, communities of color, communities most impacted by climate change, and prioritize future project work where

stormwater discharge indicators place a burden of risk on already disproportionately polluted communities.


Washington State is a special place on the planet. Puget Sound, our lakes, rivers and waterways are the heartbeat of our neighborhoods — the backdrop to our lives, where land and water meet to create communities, economies, and an entrepreneurial spirit that draws people from all over the world.

Many of the restoration and pollution reduction investments designed to recover our waters, also help to make the citizens of Washington state healthier and our communities stronger. Stormwater solutions that bring more nature into cities and towns —not only helps us clean our water and the air we breathe but is a key ingredient in growing communities that thrive, healthier people, kids that learn better, and a strong, vibrant economy.

Once again, thank you for your commitment and service to recovering the waters of Washington State. Making progress will require new approaches to old problems. The challenges facing us are significant and will require difficult decisions, but together we can provide the vision, innovation, and will necessary for both people and nature to thrive.

The Nature Conservancy appreciates the opportunity to offer these comments and we hope to see them integrated into the final permit approach and guidance documents. If you have any specific questions or concerns, I can be reached at Jessie.Israel@tnc.org.

Yours in partnership,

A handwritten signature in blue ink that reads "jessie israel". The signature is written in a cursive, lowercase style.

Jessie Israel
Puget Sound Conservation Director