

February 5, 2019

Foroozan Labib
Washington Department of Ecology
P.O. Box 47600
Olympia, WA 98504-7600

RE: Washington State Department of Transportation NPDES Permit

Dear Mr. Labib,

On behalf of The Nature Conservancy of Washington and our 130,000 supporters across the state, I write to provide comment on the Washington State Department of Transportation National Pollutant Discharge Eliminations System General Permit that you have provided for public consideration.

Washington State's Puget Sound is a unique feature in the United States. It is the largest estuary in the country 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.

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, including highways, bridges, and other roads, and their legacy of pollution.

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. Yet, we recognize an immediate need to address stormwater retrofits of infrastructure, including the bridges and roadways that are within the authority of Washington State Department of Transportation.

Our comments reflect The Nature Conservancy's belief the Washington State Department of Transportation Permit (WSDOT) must be informed by experience, newly available technologies, and the most current science to maximize impact and effectiveness. The Permit should support the integration of cost-effective Green Stormwater Infrastructure (GSI) 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. *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*
2. *Build additional support for fixing legacy pollution with GSI retrofits at all levels of government.*
3. *Incentivize voluntary, private investment in GSI retrofits solutions targeted at community pollution.*
4. *Plan pollution fixes with a broad, watershed scale perspective.*

1. 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.

[WSDOT Draft Permit S5: Stormwater Management Program; Highway Runoff Manual Section 2.]

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

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 suite of native, cultural and built 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 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 and GSI can play a critical role in protecting roadways and neighborhoods.

Correcting a Historic Burden of Pollution - History has demonstrated that it is most often communities of color and low-income communities who 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, like WSDOT, 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 prioritization of stormwater management interventions by permittees is conducted, habitual, historical and current inequities must be meaningfully addressed. The Permit should encourage WSDOT to work together with impacted communities and address 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.

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

[WSDOT Draft Permit S5 A.6: Stormwater Retrofit for Existing Highways.]

In the last biennium, the State legislature allocated over \$4 billion for Highway Improvement and Preservation Programs through the Transportation Capital Budget. At the same time, WSDOT is undergoing a massive effort to remove fish passage barriers across the State. The lowest-cost, highest-opportunity point in time for GSI retrofits is when the right of way is being torn up to resolve fish passage or install other types of improvements. The permit should lay the groundwork to ensure that opportunities to retrofit roads and bridges with green stormwater infrastructure are incorporated into non-stormwater capital projects.

Improve interagency coordination and accountability – As noted in the draft permit and related fact sheet, WSDOT shares basins with Phase I and II permittees, and has interconnected conveyance systems into shared water bodies. We are pleased to see that the permit establishes requirements for coordination in implementing stormwater management programs and planning efforts. To the extent that 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.

Leverage green stormwater infrastructure in new facilities and retrofits through greater collaboration —The permit (and legislature in support of Washington’s clean water outcomes) should focus WSDOT on seizing opportunities for other public works departments to integrate nature-based solutions that treat toxic runoff from the right-of-way and the surrounding neighborhood when other capital projects are underway, including private sector development. Increased collaboration between WSDOT and city/county departments of transportation, and other relevant agencies is critical to ensure new models for project implementation are tested and advanced. This permit should lay the groundwork for WSDOT to partner with other public works to take advantage of the lowest cost time for new and retrofit stormwater infrastructure. The permit should explicitly allow and encourage WSDOT to form innovative partnerships with other departments of transportation, private organizations, nonprofit entities, etc. to leverage funds, build capacity and meet water quality goals more efficiently.

Address legacy stormwater pollution issues for roads and bridges in high impact areas — Washington State Department of Transportation has done good work investing in reducing stormwater pollution for new construction projects. However, insufficient funding has prevented them and other local transportation agencies from addressing legacy pollution hotspots along streets, highways and bridges built prior to modern day stormwater codes. The permit should

explicitly ensure that funding available for legacy pollution retrofits is targeted at the places where GSI will have the greatest water quality impact based on current science.

Use Pollution Mapping to Reduce Stormwater Threats in Existing Hotspots - [The Nature Conservancy's Pollution Heatmap tool](#) should be explicitly recommended for permittees, including WSDOT, to identify stormwater pollution hotspots. 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 jump out across the Puget sound region. The next generation of the tool will overlay hydrology and high priority ecological areas.

Given the latest research linking tire residues to the death of Coho salmon, we recommend that Ecology encourage consideration by WSDOT of traffic congestion hotspots and other transportation patterns within their retrofit prioritization 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. Washington's waters are getting sicker faster than they are getting healthy. We must move forward with developing the science, plans and monitoring simultaneously to getting projects in the ground.

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

[WSDOT Draft Permit S5 A.6: Stormwater Retrofit for Existing Highways.]

Collaborate with incentives programs that leverage public/private partnership to fix legacy pollution - 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).

Incentives are one pathway forward for municipalities to move the needle immediately on retrofitting community pollution from the right-of-way, and a tool that many municipalities are considering implementing in the region. Partnering across sectors is another way to create greater efficiency. 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. This unique project saw a private developer treat stormwater from a WSDOT managed bridge, the permit should explicitly allow and encourage WSDOT to partner with public and private entities to maximize incentives in high pollution areas.

Pilot Third Party Certifications, NACTO Green Roads and Envision — Certifications and guideline programs, like [Envision](#) and [NACTO Green Streets Guide](#) provide evidence for use of Green Stormwater Infrastructure as well as case studies for implementation of GSI in urban areas. Envision is a national program setting the standards for sustainable infrastructure and recognizes unique projects that make significant positive contributions to sustainability. While more focused on local streets, the Green Streets Guide provides additional guidance on incorporating stormwater infrastructure with the human needs of transportation. The permit should allow and encourage WSDOT to pilot projects using these tools to address equity and maximize the co-benefits of GSI.

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

[WSDOT Draft Permit S5: Stormwater Management Program.]

Accelerate new solutions in innovation zones—In addition to utilizing existing tools for reducing toxic contaminants, we can 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 WSDOT enough flexibility to partner with other permittees as well as public and private partners to direct 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.

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 keep our roads safe and 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 chilton@tnc.org.

Yours in partnership,

Chris Hilton
Puget Sound, Urban Partnerships Director