

August 1, 2022

WSDOT prepared this document, in coordination with the Department of Ecology, to be included in the *6PPD and Road Runoff Assessment and Mitigation Strategies Report* as required by the Washington State Legislature Proviso ESSB 5092 Section 302(23) of the Model Toxics Control Operating Account.

WSDOT is committed to improving water quality and protecting aquatic species and habitat from stormwater impacts. Our efforts in this area are necessary to meet regulatory obligations but are driven primarily by our agency's values. WSDOT recognizes the connections between stormwater management and salmon recovery, as well as the wide array of stakeholders involved with these efforts. We actively seek to align priorities with external partners and are coordinating with Department of Ecology, other state and federal agencies, and many other stakeholder groups on the emerging research related to urban runoff mortality syndrome (URMS) and 6PPD-quinone, including identifying affected species, evaluating geographic scope, and prioritizing affected areas. WSDOT is also participating in, and closely tracking, efforts to gather critical additional information on this topic, such as the fate and transport of 6PPD-quinone in the environment as well as related research on bioretention and compost effectiveness in removing or reducing toxicity.

WSDOT understands 6PPD-quinone is a source of pollution generated primarily through use of the transportation system and is detrimental to multiple species of salmon, particularly coho. Existing research on stormwater pollution in general has shown that many roadway pollutants are significantly reduced through implementation of stormwater best management practices (BMPs) and other measures that enable stormwater infiltration, pollutant settlement, biofiltration, adsorption of pollutants to organic matter and soil media constituents, and other biophysical and chemical processes. WSDOT's current approach to stormwater design begins with considering low impact development (green infrastructure), infiltration, and biofiltration facilities, and employs additional treatment options that may be necessary based on the characteristics of stormwater run-off at a particular location. WSDOT is partnering with the Department of Ecology and other public and private organizations to conduct research on the effectiveness of these types of treatments in reducing 6PPD-quinone toxicity. Additional measures necessary to address 6PPD-quinone toxicity will be determined based on this research and other developments on this emerging subject.

While this research is being conducted, WSDOT continues to manage stormwater impacts in accordance with regulatory requirements using best management practices. This includes constructing treatment facilities for new and existing pavement, performing ongoing maintenance of those facilities to remove contaminants before they reach nearby waterbodies and to help ensure they work as intended, and conducting and supporting stormwater research.

WSDOT's stormwater retrofit program addresses stormwater impacts from existing transportation infrastructure through three main approaches. (1) Project-triggered retrofits add stormwater treatment for existing impervious surfaces as a part of transportation improvement projects and as required by regulations. (2) Opportunity-based retrofits add treatment for existing impervious surfaces as a part of transportation projects when it makes sense and is cost-effective, even when not required by regulation. WSDOT specifically looks for these types of opportunities to retrofit with every fish passage project so that fish can return to higher quality habitat after a barrier is removed. (3) Stand-alone retrofits add treatment for existing impervious surfaces at prioritized locations and are not part of a larger transportation project. WSDOT completed its initial stormwater retrofit prioritization in 2017 with a substantial outreach effort to tribes, partners, and stakeholders including other state and local agencies.

This year, the Legislature authorized \$500 million for WSDOT as part of the Move Ahead Washington funding package to enhance stormwater treatment from existing roads and infrastructure, with an emphasis on green infrastructure retrofits over the next 16 years. \$6M of the funding will be dedicated to the I-5 Ship Canal Bridge Pilot Project in Seattle. This is part of a larger partnership with The Nature Conservancy, Department of Ecology, and local agencies in the Seattle area, to develop a green infrastructure stormwater park to treat stormwater from the Ship Canal Bridge and surrounding area. While this new funding to WSDOT will provide incredible benefits to water quality and salmon recovery impacted by state highway runoff, we understand there are also impacts from local roadways which will need additional funds for prioritization and retrofitting. WSDOT is seeking input from regional partners including federal, state, local governments, tribes, and non-profits to prioritize locations on WSDOT infrastructure to address 6PPD-quinone and to best prioritize and spend the legislative funding while focusing on benefits to salmon recovery and ecosystem health, reducing toxic pollution, addressing health disparities, and cost effectiveness.

WSDOT still has a lot of work to do to address our existing priorities for stormwater retrofit, however, we have begun efforts to add new prioritization criteria based on the requirements in the funding package as well as more recent information learned about 6PPD-quinone. In particular, there are several streams that have been verified to have 6PPD-quinone-related pre-spawn mortality events as well as several streams suspected of being vulnerable habitat for coho and/or steelhead exposed to road runoff. By cross-referencing these locations with WSDOT's existing prioritization for stormwater retrofits, we were able to identify the locations in the table below as potential opportunities to address these emerging issues more quickly. WSDOT will continue to work with regional partners in planning and research as described above to ensure that combined efforts are aligned and that we are positioned to incorporate emerging scientific knowledge to continually update policies and priority models for the best possible outcomes for improving ecosystem health.

Potential stormwater retrofit project areas

Creek Name	6PPD-quinone criteria	State Route	Milepost	Lat	Long
Chico Creek	known pre-spawn mortality event	003	40.9	47.601492	-122.70613
Blackjack Creek	known pre-spawn mortality event	016	25.2	47.50362	-122.646171
East Fork Issaquah Creek	suspected vulnerable habitat	090	18	47.532002	-122.021937
Raging River 2	suspected vulnerable habitat	090	23.4	47.518566	-121.924646
White River	suspected vulnerable habitat	410	22	47.174024	-122.023284
Salmon Creek 2	suspected vulnerable habitat	005	6	45.705957	-122.654361
McCallister Creek	suspected vulnerable habitat	005	114	47.068135	-122.719878
Untitled Placemark	suspected vulnerable habitat	101	184.6	47.881235	-124.352055
Weaver Creek	suspected vulnerable habitat	503	5.1	45.740769	-122.551441
Little Bear Creek	suspected vulnerable habitat	522	12.5	47.763881	-122.157475
Cedar River	suspected vulnerable habitat	405	3.7	47.480838	-122.199874

