

Provisional

Regional Stormwater Action Goals



Clean Water
Healthy Habitat



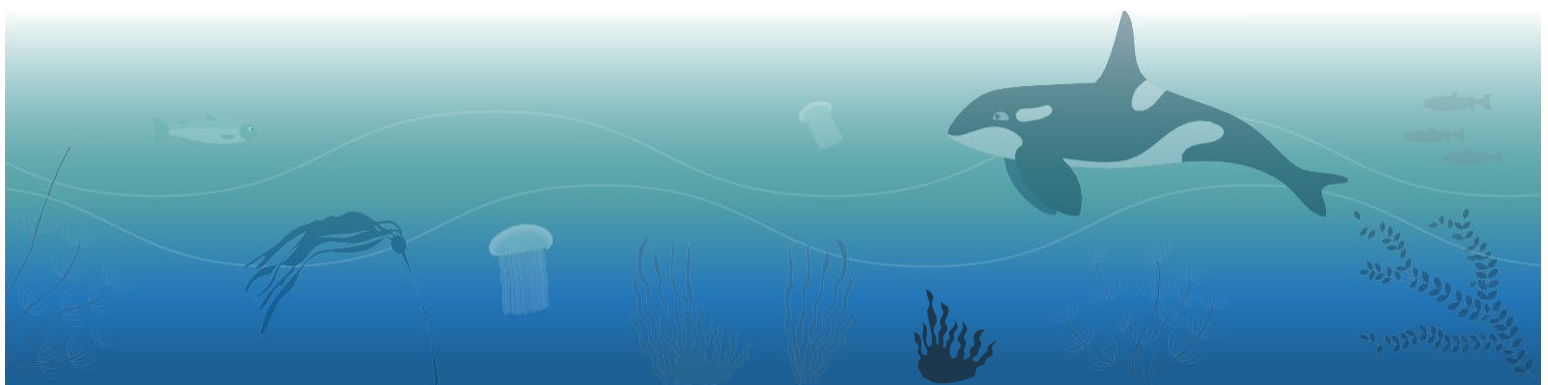
King County

May 2023

As a follow-up to a regional stormwater summit convened by King County in May 2021, the county hosted three technical workshops in late 2022 focused on regional actions to achieve the best outcomes for water quality, communities, and Puget Sound recovery. One hundred and forty practitioners representing 50 municipalities and organizations joined these technical workshops to develop ambitious shared goals to drive regional action and collaboration. A second regional stormwater summit is planned for late May 2023.

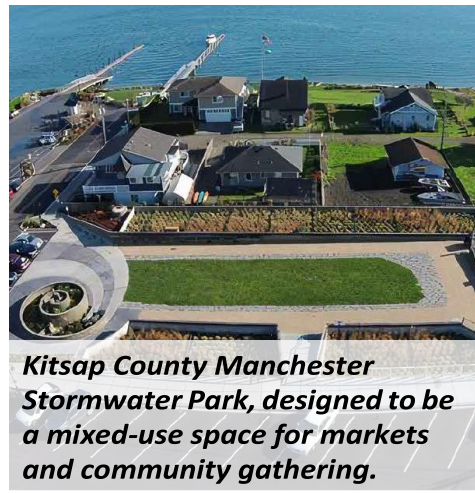
Workshop participants asked for more information on how regional implementation goals are tied to water quality outcomes. They also asked for additional information on the feasibility of the goals. These fact sheets are intended to provide that information.

These provisional goals are a work in progress and are intended to highlight priority areas for regional collaboration and provide a framework for identifying actions and removing barriers.



Build 30 strategically sited regional stormwater parks.

Goal 1



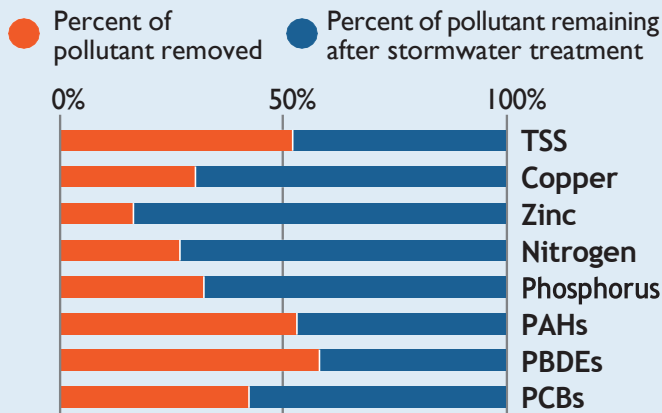
Kitsap County Manchester Stormwater Park, designed to be a mixed-use space for markets and community gathering.

Photo: The Partnership for Water Sustainability in BC

GUIDING PRINCIPLES

- Target the dirtiest stormwater.
- Prioritize communities without access to high quality outdoor space and co-design projects to maximize community amenities.

Expected pollutant reduction for strategically sited stormwater parks



TSS = total suspended solids, PAHs = polycyclic aromatic hydrocarbons, PBDEs = polybrominated diphenyl ethers, PCBs = polychlorinated biphenyls

EXPECTED OUTCOMES

Reducing pollutants at a basin-wide scale, while providing new green space for communities.

Stormwater parks can be designed to remove pollutants like nutrients, heavy metals, and many organic pollutants, including polychlorinated biphenyls (PCBs). If we prioritize placement of parks within watershed where they will have the greatest impact, we could treat more than 7 billion gallons of stormwater a year, reducing between 14% and 60% of upstream stormwater pollutants (as seen in the figure on the left). These estimates were modeled using [King County's Water Quality Benefits Evaluation \(WQBE\) Toolkit](#).

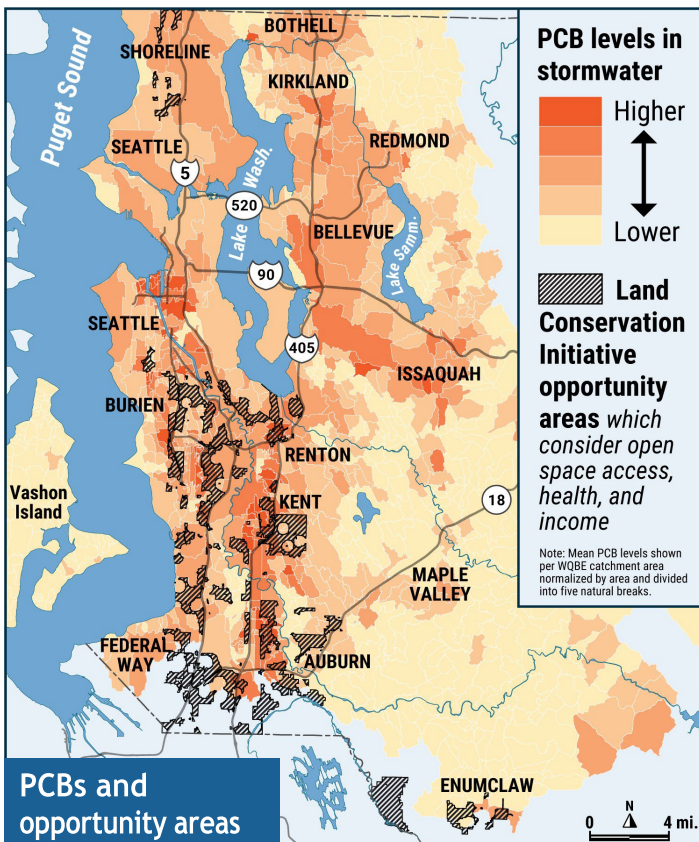
Having basin-wide treatment is especially important for persistent stormwater toxics like PCBs that accumulate in living organisms over the course of their life. Installing regional stormwater parks in polluted areas could move us closer to the big PCB reductions we need to improve outcomes for safe fish consumption and orca health.

Many areas with the dirtiest stormwater runoff are also near communities that lack accessible green spaces. This is an opportunity to invest in and partner with these communities to maximize the amenities and green space that these stormwater parks can offer. The Puget Sound Regional Council recently compiled this [guidance document about stormwater parks](#).

FEASIBILITY

We chose 30 regional stormwater parks as an ambitious, but feasible implementation target based on modeling from the WQBE Toolkit. The modeling suggests 30 stormwater parks could be constructed and maintained for 30 years for under \$500 million, including the cost of land acquisition.

The effectiveness of regional stormwater parks in reducing pollution varies by location in watersheds and can cross jurisdictional boundaries. This underscores the importance of building regulatory incentives and structures for partner collaboration. Experience has also shown that early community engagement is key to gain support for candidate projects.



Treat runoff from 100 miles of roadways through best management practices (BMPs) that remove 6PPD-q and more.

Goal 2

GUIDING PRINCIPLES

- Target coho salmon habitat.
- Prioritize BMPs that provide 6PPD-q treatment where fish passage projects are restoring access to historic habitat.

EXPECTED OUTCOMES

Protecting salmon from toxic roadway runoff.

We know that 6PPD-q (a stabilizing additive in rubber) leaches from tires and kills coho salmon before they have a chance to spawn. While we don't yet have a way to quantify how much 6PPD-q we would remove by implementing this goal, we know it's an essential step toward salmon recovery. Research and modeling are underway now to help us better estimate the benefits and inform prioritization of locations for treatment. Stormwater BMPs that remove 6PPD-q would likely also remove other pollutants like heavy metals and PCBs.

FEASIBILITY

The WQBE Toolkit modeling suggests that treating 100 miles of roadway would be expensive, possibly even a billion dollars in capital costs. Integrating stormwater BMP installation with planned roadwork could significantly decrease the costs.

One example of an opportunity for this type of coordination is with our fish passage projects. For example, King County has set a goal of opening over 142 miles of previously inaccessible fish habitat by 2032. This could be a great opportunity to pair barrier removals with stormwater treatment. We want to make sure that the areas we are opening are not contaminated by roadway runoff containing 6PPD-q.

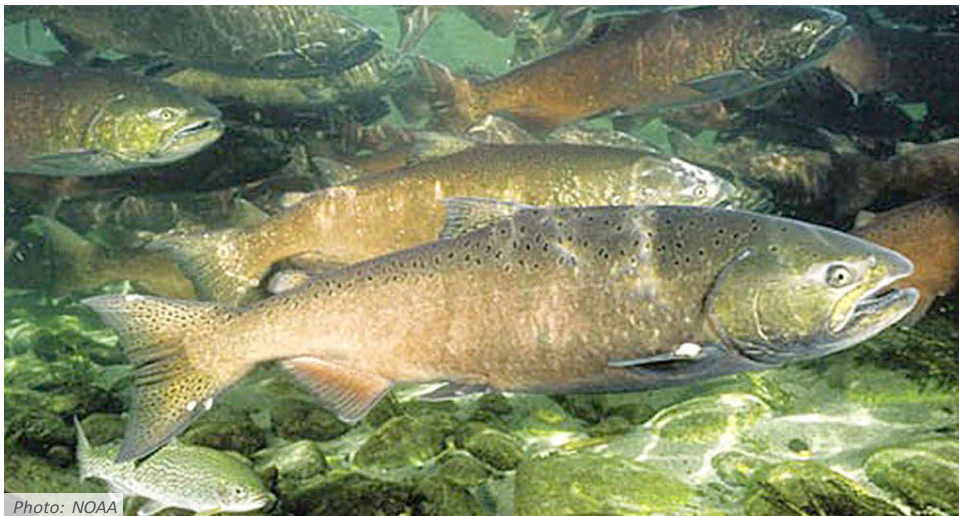
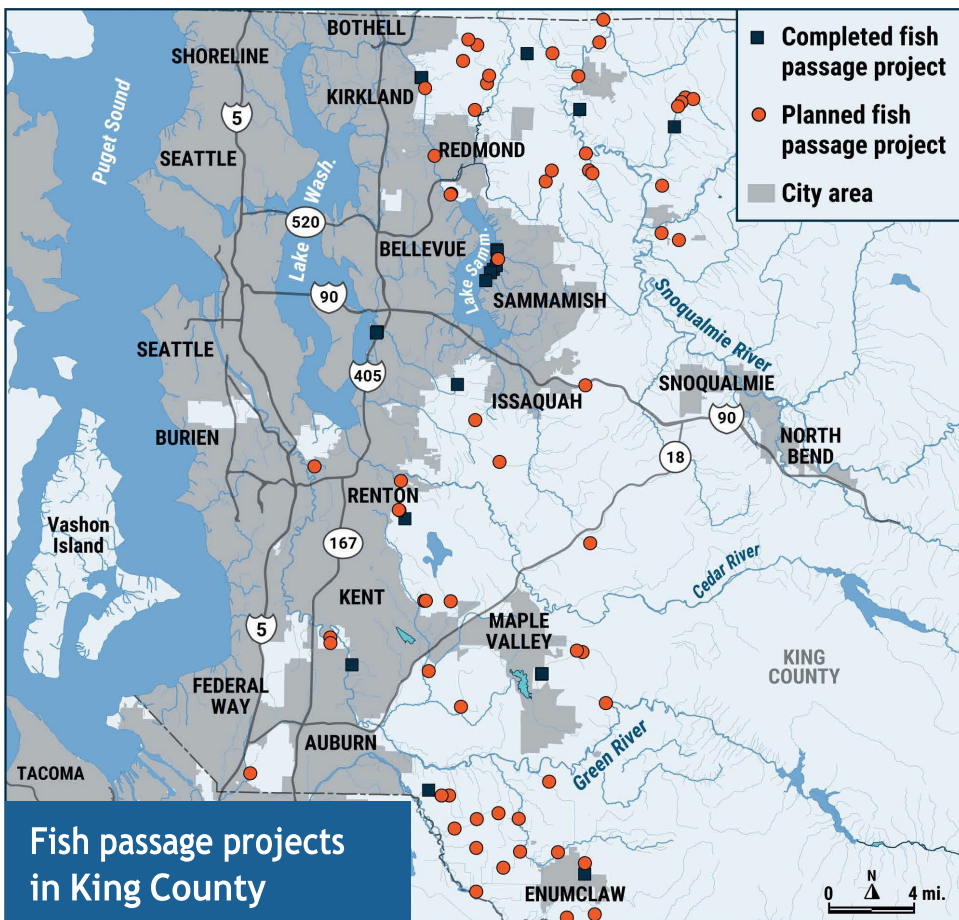


Photo: NOAA



Provide flow control to 5,000 acres through a mix of green stormwater infrastructure (GSI) and new or retrofitted detention ponds.

Goal 3

GUIDING PRINCIPLES

- Target areas prioritized for fish habitat restoration or with stream flashiness concerns.
- Prioritize historically under-resourced areas with known flooding concerns.
- Build long-term maintenance of GSI into programs.

EXPECTED OUTCOMES

Improving stream health, while reducing community flooding.

Unmanaged stormwater runoff can cause flashy stream flows that can create erosion, loss of habitat, and sediment deposition threatening stream health and disrupting the stream bugs they eat. Flow control BMPs can help protect and restore more natural stream flow, salmon habitat, and the diversity of organisms living in the stream. Analysis and modeling are now underway to help us estimate the specific outcomes of implementing this goal, with results anticipated at the end of 2024. Co-benefits of this stormwater goal could include pollutant reduction, community stewardship, and greening streets.

FEASIBILITY

We will be working to further refine this target through conversations with regional partners and through modeling from the WQBE Toolkit due at the end of 2024. So far, we know that reaching this goal will likely require a mix of installing BMPs on public property as well as installing BMPs through partnerships with private property owners. There are existing GSI assistance programs throughout the region we can learn from and build on, ensuring these programs are equitably structured and implemented. Long-term maintenance of these stormwater facilities will be integral to sustaining the benefits of these installations.



A rain garden designed to treat stormwater runoff in a residential area.

Goal under development

Goal 4

Reduce sources of pollutants.

GUIDING PRINCIPLE

- Control sources of toxic pollution as far 'upstream' as possible.



There are many individual efforts in our region to prevent and reduce pollution from toxic chemicals but setting united targets can help us be more effective. Different agencies have different connections to the issue, and each can play a unique role in source control efforts. For example, jurisdictions have purchasing power to decrease sources and regulators can prohibit important sources from entering the market. If we make a concerted effort across multiple fronts, that could reduce sources more effectively. A group of interested partners is still working to develop this goal. A progress update will be shared at the Stormwater Summit in May 2023.