

Frequently Asked Questions

1) **There are several retrofit studies and they all seem a bit different. What are the difference and similarities between these projects?**

One of the predominant studies is the Bissonnette study that surveyed the Puget Sound regional stormwater operations and maintenance managers to determine the cost of facility maintenance. Based on the cost of maintenance, a price was also calculated for how much it would cost to remove the legacy load from these facilities.

The Juanita Creek study, sought to estimate the cost of building and retrofitting enough stormwater BMPs within one basin to reduce stormwater flows and pollutant loads to a level intended to restore stream habitat supportive of its beneficial uses with healthier fish and stream invertebrates. Using the results from the Juanita Study, the King County Capital Needs Assessment sought to prioritize the retrofit projects in 64 small stream basins in unincorporated King County based on costs.

The WRIA 9 retrofit study will determine a cost estimate of retrofitting an entire watershed by using watershed models to look at the interaction of land and water (HSPF) and apply BMPs to that landscape (SUSTAIN). The output will be the lowest cost BMP options that will meet a series of targets and goals that have been developed by stakeholders and the project team.

While the projects assessed retrofit needs different ways, the similarity between these projects is that the estimated cost of these retrofits is high. The clear linkage between these studies is that retrofitting is a large, long term project that will take an enormous amount of planning to ensure efficient and effective outcomes.

2) **What is the SUSTAIN model?**

SUSTAIN is a decision support system that facilitates the selection and placement of Best Management Practices (BMPs) and Low Impact Development (LID) techniques at strategic locations in urban watersheds. It was developed to assist stormwater management professionals in developing implementation plans for flow and pollution control to protect source waters and meet water quality goals. *SUSTAIN* is a tool for answering the following questions:

- How effective are BMPs in reducing runoff and pollutant loadings?
- What are the most cost-effective solutions for meeting water quality and quantity objectives?
- Where, what type of, and how big should BMPs be?

3) **What is the future of SUSTAIN?**

The EPA continues to fund limited development of the SUSTAIN model through its Puget Sound User Group. EPA continues to offer customer support via a contractor through December 2013. Starting in 2014, EPA will offer customer support via internal staff. EPA is weighing options for future SUSTAIN development under the current budget climate. EPA considers the existing model (v1.2) complete and ready for use. This project also assisted in identifying bugs with SUSTAIN to make it a more usable tool.

SUSTAIN, like other relatively new models, is assumed to include unforeseen bugs and glitches. The Puget Sound User Group has actively discovered and fixed numerous model issues in the last 18 months and will continue to do so. It is expected that model usability will continue to increase as issues are resolved. The WRIA 9 project team is an active member of the Puget Sound User Group.

4) **For the WRIA 9 retrofit project, how were the BMP design and cost assumptions agreed on?**

A team of technical experts and representatives from several local jurisdictions worked together to agree on the design and cost assumptions in the SUSTAIN model by using local knowledge and project experience along with the most current available scientific research.

5) What are the differences between scenarios, targets, indicators and goals in this project?

Scenarios: There are two basic scenarios being used in this project. A green treatment train and a green + gray treatment train. The number of BMPs in each treatment train can be changed creating different scenarios.

Indicators: Indicators are quantifiable metrics being measured or modeled. These include things such as high pulse count, BIBI and TSS.

Targets: Targets are the desired numerical values assigned to our indicators, such as a certain BIBI score.

Goals: Goals are what the landscape should look like. Examples include fully forested conditions or what the landscape was in 1976 or current conditions.

6) How are the costs presented?

Costs include costs of land, capital costs, and 30-years of O&M.

7) How can the outcomes of SUSTAIN be used by local jurisdictions?

SUSTAIN is a planning level effort; it is not prescriptive or intended to dictate retrofit implementation. The project will assess the stormwater retrofit needs for WRIA 9 and Puget Sound and provide planning level costs. The cost optimization curves can help regional and local planners provide justification to help secure dollars to do retrofit work as well as help them decide how to prioritize work in specific basins and what the costs will be. It is up to the individual jurisdictions to decide if the model driven suggestion is appropriate for their specific goals. The model output is to be used a decision support tool to help develop basin-specific retrofit priorities and projects that could be included in a long term Capital Improvement Program.

8) How are the WRIA 9 SUSTAIN results going to be extrapolated to Puget Sound?

Again, this is planning level information only. The Puget Sound Region will be analyzed by land use type and given the results from the WRIA 9 SUSTAIN model for similar catchments and then will be assigned similar optimization points. PSP, Ecology, and USEPA are hoping this project will help provide a better assessment of the retrofit needs for the region.

9) Will the information generated from this project be used to set new state water quality standards or storm water discharge requirements?

It is not likely that this modeling effort (and others like it) will lead to revising water quality standards. There are not any plans or intent to use outcomes from this project to alter storm water discharge standards.

10) Will this effort make TMDLs more restrictive?

The SUSTAIN modeling effort is not expected to influence the development of TMDLs for the region. Research suggests that increased retention and infiltration can improve water quality but this project has no plans to measure those effects. Also, there are other TMDL parameters that this project does not address. This project will not trigger new TMDLs but 303(d) listings remain within WRIA 9.

11) Will retrofits become a part of the NPDES permits?

The existing Phase I municipal storm water permits already include a retrofit requirement and will likely become part of every permit at some point. Based on what is being observed on the east coast, it is likely that some kind of stormwater retrofit requirement with a metric will be included in future NPDES permit cycles (estimated post-2018 or later). The WRIA 9 retrofit project is hoping to give more concrete, scientifically defensible information in the costs of stormwater retrofits and help frame a regional, rational discussion regarding how to implement retrofits. This project can help guide Ecology permit writers to build more realistic permit conditions and help facilitate a timeline discussion, as the magnitude of the anticipated costs will require long-term (decades) funding and construction timelines.