

Identifying how we can make the biggest impact on our region's water quality



King County is developing tools to help determine the most effective ways to leverage our efforts

King County is committed to investing billions of dollars in water quality improvements in the next decade, but how do we strategically prioritize our actions? Specifically, how can we determine the relative benefit of actions that reduce one pollutant over another? And what combination of actions could we expect to be most effective?

To help answer these questions, we need to start by identifying why we want to improve water quality.

We improve water quality TO PROTECT:

The health of humans interacting with the water, through swimming or eating fish and shellfish.

The health of aquatic animals, especially endangered or threatened species such as Chinook salmon and Southern Resident orcas.

Identifying benefits and tradeoffs

The tools developed under this project will provide decision-makers with information about which water quality projects and programs could be most effective in reducing threats to people and aquatic animals.

For example, the table below illustrates how actions can affect water quality differently. Actions could be more effective at reducing one pollutant over another and have different impacts on human and animal health. For example: Option B is most effective at reducing pollutant B and threats to safe fish consumption.

POTENTIAL PROJECTS AND PROGRAMS	LOAD REDUCTIONS			THREAT REDUCTIONS				
	Pollutant A	Pollutant B	Pollutant C	Edible fish	Swimming	Shellfish harvesting	Chinook salmon	Orca
Option A	●	○	○	○	●	●	○	○
Option B	○	●	○	●	○	○	●	●
Option C	◐	○	●	◐	○	◐	●	●

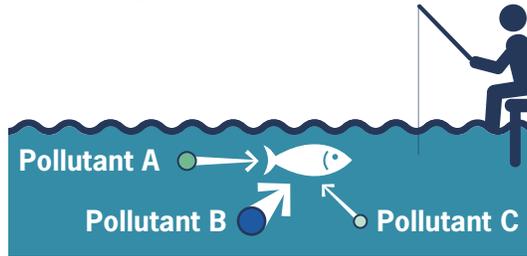
SYMBOLS: ● High reduction ◐ Medium reduction ○ Low reduction

(Continued)

King County's Water Quality Benefits Evaluation

Steps for developing and using the tools:

1 Using the latest science and expert input, determine the biggest threats to what we are working to protect.



2 Identify the sources and pathways of these threats and estimate pollutant loads across the landscape.



3 Determine what preventative and corrective actions can be taken to reduce these threats and estimate their effectiveness and cost per unit.

Examples



1 Rain garden



1 Road mile of street sweeping



1 wet weather treatment plant



1 Tree planting event

Per Unit:	
Cost \$	_____
Pollutant reduction	_____

Other benefits	

4 Use the tools to determine the most cost-effective combination of actions across the watershed that provide the greatest reductions in the pollutants causing the biggest threat to what we're working to protect.



Project Timeline



Method Development

Q3 2019 - Q4 2019

Refine project plan and methods to develop effective tools.

Tool Development

Q4 2019 - Q3 2020

Build the tools and get feedback from experts.

Evaluation/Reporting

Q4 2020 - Q2 2021

Use the tools to determine which types of projects and programs are most effective at protecting the health of humans and animals interacting with water.

King County will use the outputs from these tools to identify projects and programs with the greatest water quality benefits.

For more information, please contact:

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King County

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Water and Land Resources Division



Clean Water
Healthy Habitat