

SUMMIT ATLAS WATERSHED STUDIES, 2025-26

During this school term, environmental science teacher Ayla Wilk engaged teams of senior students in proposing, carrying out, and documenting a wide variety of habitat studies in Seattle's Fautleroy Creek watershed on central Puget Sound. While all had value for the students' understanding of principals of scientific inquiry, this paper summarizes two studies that especially well addressed some of the environmental factors at play in this and potentially other urban watersheds.

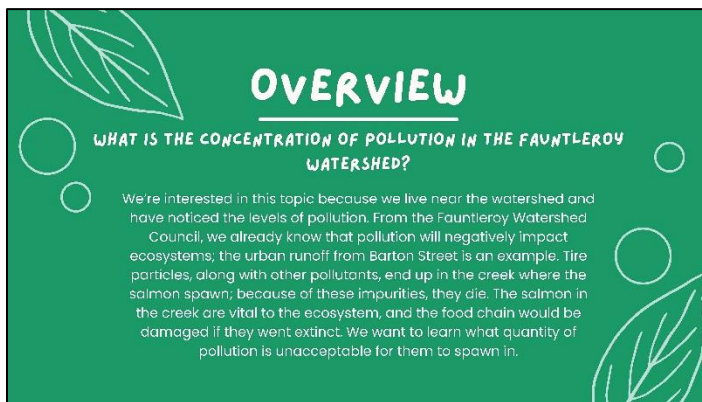


Water Chemistry, Turbidity, and Salmon Health

Using Verify Complete testing strips, we tested water samples from upstream and downstream locations for zinc, copper, and lead, all of which are components of roadway runoff. Although pH was slightly low, water quality at both sites tested sufficiently high for salmon.

We subsequently measured turbidity at both sites and found it to be within the 0-49 NTU range for healthy aquatic life. Greenery, sun, shade, and level of local urbanization all contribute to how well salmon thrive and how much turbidity impacts them.

Given care and preservation efforts in the Fautleroy watershed, we determined that creek turbidity and a well-filtered mini ecosystem are supporting strong, healthy fish.



Concentration of Pollution in the Creek System

We examined pollution levels in the upper creek, lower creek, and on the beach in Fautleroy Cove using data about macroinvertebrates, water chemistry, and sediment quality. We tested all samples for pH, hardness, hydrogen sulfide, iron, copper, lead, manganese, chloride, mercury, nitrate, nitrite, sulfate, zinc, fluoride, sodium chloride, and total alkalinity.

We found higher concentrations of hydrogen sulfate, iron, nitrate, and sulfate, and a lower pH in water in the upper creek and surmised that it is filtered as it moves downstream. We also found that, between September and February, sulfate and sodium chloride in the upper creek increased and that hydrogen sulfide, nitrate, and pH decreased.

We concluded that, throughout the year, chemical levels in the water were acceptable. Data from the lower creek was mostly consistent. Water hardness increased and total alkalinity decreased over the year. While data from the upper creek were more variable, chemical levels were still safe.

Additional Topics Related to Salmon Habitat

Investigating Water Level Variation In Fautleroy Creek
Impact of Japanese Knotweed in the Ecosystem
Invasive Factors in the Creek System
Health of the Creek for Juvenile and Adult Coho Salmon
Human Impacts on Water Quality
Most Common Native Plants in the Ecosystem
Effects of Human Littering on Salmon Health
How Roadway Pollution Affects Salmon Longevity
How Healthy Is the Watershed Right Now
Effects of Degraded Water Quality on Coho Spawning
How Climate and the Environment Affect Invasive Plants
How Natural Debris and Litter Affect Salmon Spawning
Improving Passage for Salmon Spawners
Impact of Urban Runoff on Water Quality
What Are Tire Companies Doing to Reduce Pollution
Bird Species in Fautleroy Park
The Food Chain for Coho in Fautleroy Creek
How Trees Affect the Aquatic Ecosystem