OUR DUWAMISH

King County

Source Control Study: Air Deposition of Chemicals in the Green/Duwamish Basin

King County is committed to cleaning up the Duwamish River and preventing its recontamination. To that end, the County is working to better understand about how the river becomes polluted, so we can do the right things to prevent it.

Recently, King County investigated "air deposition" in the Duwamish Valley. Air deposition is the process by which pollution in the air settles onto or into nearby land and water. Rain then washes some of the pollution into the Duwamish. Local, regional and global pollution sources all contribute to an area's air deposition. Common contributors are cars, ships, trains, industrial smokestacks, and airplanes.

Pollution can move from air to land or water when it rains or snows, dust and dry particles fall downward, or gases are absorbed by water or objects on land. Many different pollution sources contribute to air deposition, making it a bigger problem in urban areas.

Air deposition is a water quality concern for many urban areas. It is one way pollution reaches the Duwamish.

From 2011-2013, King County collected air deposition samples at different locations in Seattle, the Duwamish Valley and South King County to compare air deposition rates. The studies allowed for comparison across distance, development intensity and different land use mixes.

Air deposition measures air's contribution to contamination of nearby water and land. It helps us understand what comes into contact with our skin, water bodies and local food sources from the air. It is different than air concentration, which measures pollution in the air to give us information about what we breathe. This study does not provide information about what we breathe.

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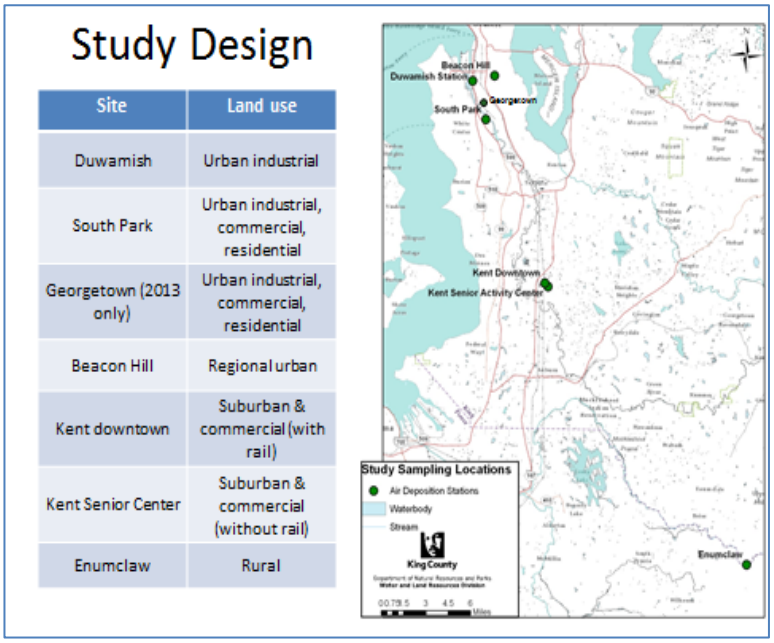
The County report found that:

- Air deposition for most chemicals was higher at locations in the Duwamish Valley.
- Similar to other Puget Sound studies, air deposition tended to be lower in less urban areas.
- Results varied widely from neighborhood to neighborhood and week to week. For example, air deposition at two locations only 1/3 of a mile apart was very different for some chemicals.
- The chemicals found to be higher in the Duwamish Valley include those targeted for removal by the Lower Duwamish Waterway Superfund Cleanup: arsenic, dioxins/furans and polychlorinated biphenyls (PCBs).
- Air deposition of several chemicals, including PCBs, was higher at the one Georgetown study area than any other area. Because air deposition varies greatly by location, samples from more sites in Georgetown would be necessary before we could make conclusions about the entire neighborhood.
- King County is already working to control air deposition in the following ways:
  - The County's **"Green Grants"** supports community projects that improve air and water quality in the Lower Duwamish Watershed.
  - King County is partnering with City of Seattle on the **Green/ Duwamish Watershed Strategy** to coordinate activities on air, land, and water improvements in the watershed.
  - Seattle & King County Public Health permits and inspects seven solid waste facilities in the Duwamish Valley. Facilities must suppress dust emissions and vehicle track in and out of soil or dust.



From 2011-2013, King County measured air deposition in Duwamish Valley neighborhoods, Beacon Hill, downtown Kent and a rural area in Enumclaw. Studying different locations allowed for comparison across distance, development intensity and different land use mixes.

To read the report or learn more about King County's work to clean up the Duwamish River, visit **kingcounty.gov/ourduwamish.**