

Clean Sewers, Clean Thea Foss Waterway

LOCAL STORY

Located in the heart of downtown Tacoma, the Thea Foss Waterway was once characterized by dilapidated buildings, oil sheens, coal tar deposits, and contaminated bottom sediments which led the Environmental Protection Agency to declare the waterway a Superfund site in 1983. For more than 100 years, the Thea Foss Waterway had been a sink for waste from industrial dischargers and runoff from the upland drainages.

Today, it's a very different picture. The Thea Foss Waterway is the centerpiece of bustling marinas, internationally renowned museums, restaurants, grass esplanades, luxury apartments, and a variety of business and industry.

Even before the City of Tacoma and its partners finished the \$105 million remediation of the Thea Foss Waterway in 2006, they knew it was imperative to find ways to protect the quality of the sediment and receiving water in the waterway.

While significant efforts were made by the City to reduce or eliminate ongoing sources of contamination to the storm drainage system, it was found that elevated levels of PAHs, PCBs, and mercury remained in sediment and debris collected from Tacoma's 100-year-old storm sewer lines. This legacy pollution was being washed into the Thea Foss by stormwater, threatening to degrade the quality of the newly remediated marine sediment.



Photo Credit: mash187@flickr

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In response, Tacoma launched two new enhanced maintenance programs to prevent new and legacy contaminants from reaching the waterway.

- Storm Line Cleaning - completed in four entire drainages and part of a fifth between 2006 and 2011. This program was intended to remove legacy contaminants from storm pipe.
- Street sweeping - expanded to a more aggressive city-wide street sweeping program in 2007. This program was intended to remove more street contaminants preventing them from entering the storm system.

These two maintenance efforts, storm cleaning and street sweeping, were above and beyond Tacoma's NPDES permit requirements. This enhanced maintenance resulted in dramatic reductions in contaminant levels:

- PAH¹ concentrations showed 59-92% reductions in four drainages tested.
- DEHP² concentrations showed 26-68% reductions in three of the four drainages tested.
- TSS³ concentrations showed 17- 44% reductions in three of the four drainages tested.
- Lead and zinc concentrations showed 11- 36% reductions in three drainages.

These programs were so successful that they are now part of Tacoma's city-wide operating procedures. The work is not over. The City of Tacoma's team of innovative stormwater professionals will continue to use every tool at its disposal—science, investigation, education, enforcement and even intuition – to do its part to protect the investment in the Thea Foss Waterway. Their mission is to create an asset for future generations by making sure stormwater discharges do not harm the health of the water and sediments in the Foss.

¹ PAH = Polycyclic aromatic hydrocarbons, PCB = polychlorinated biphenyl

² DEHP = Di-(2-Ethylhexyl) phthalate

³ TSS = Total suspended solids