

BEST MANAGEMENT PRACTICES & ENVIRONMENTAL UPDATES 2023

Kimberlie Webber, environmental specialist



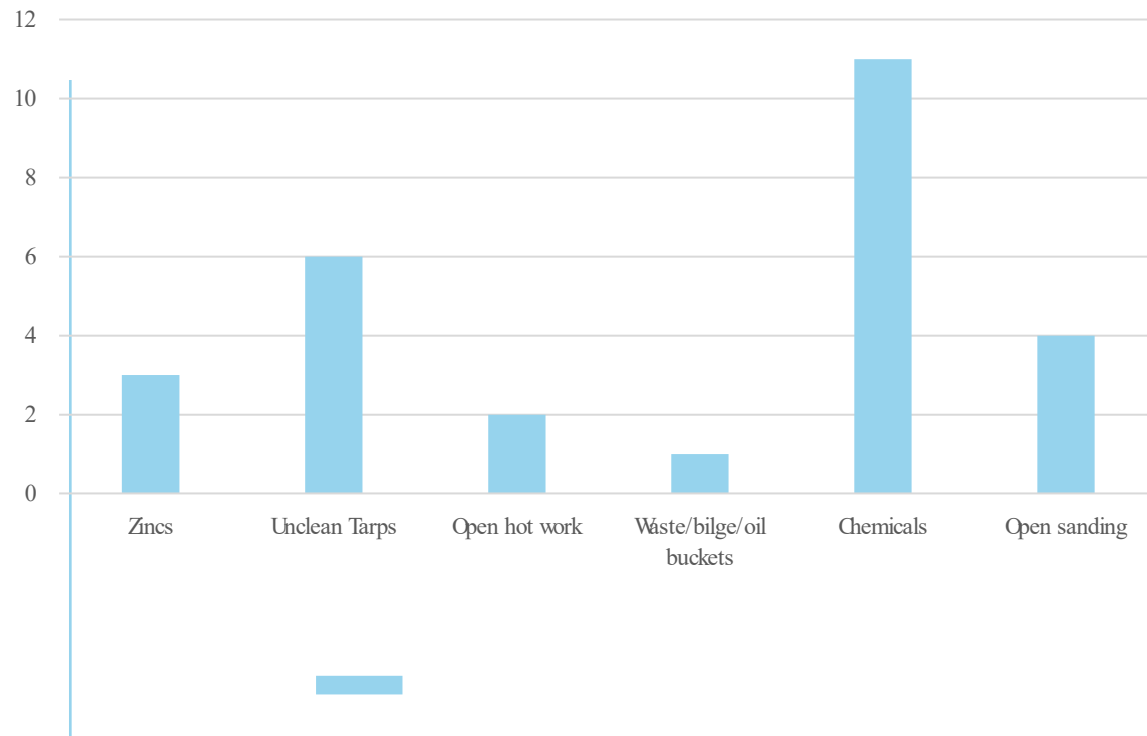
BOATYARD BMP WARNINGS ISSUED

January 22, 2022 – May 18, 2022 (4 months)	May 19, 2022 – September 24, 2022 and January 3, 2023 - April 19 th , 2023 (8 months)
27	19

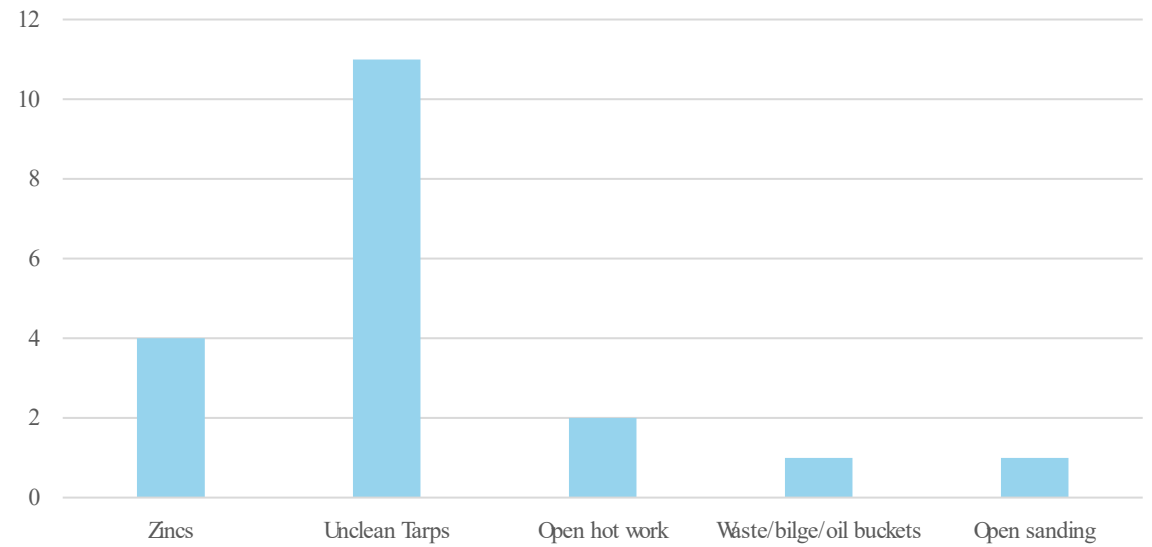
* I was on maternity leave from
September 26, 2022 until January
3, 2023.



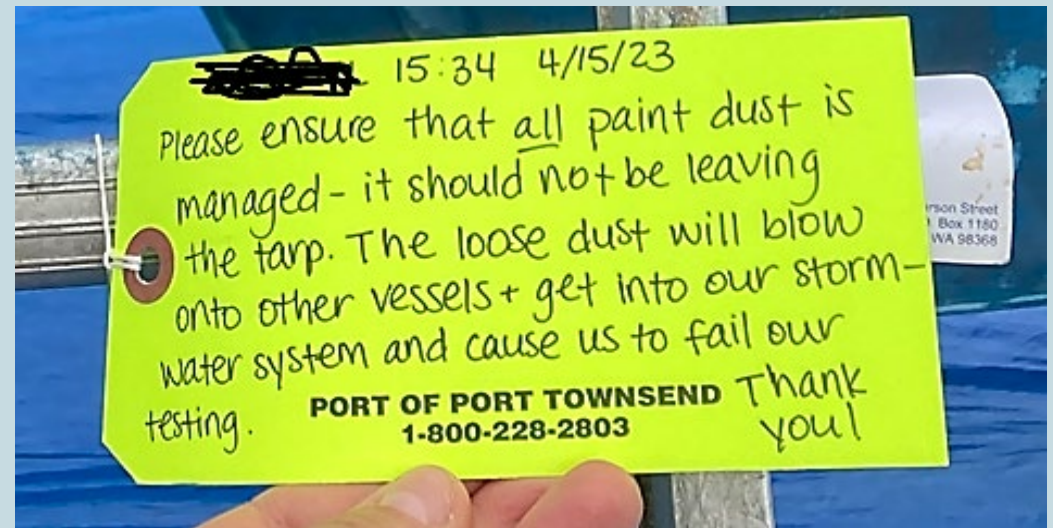
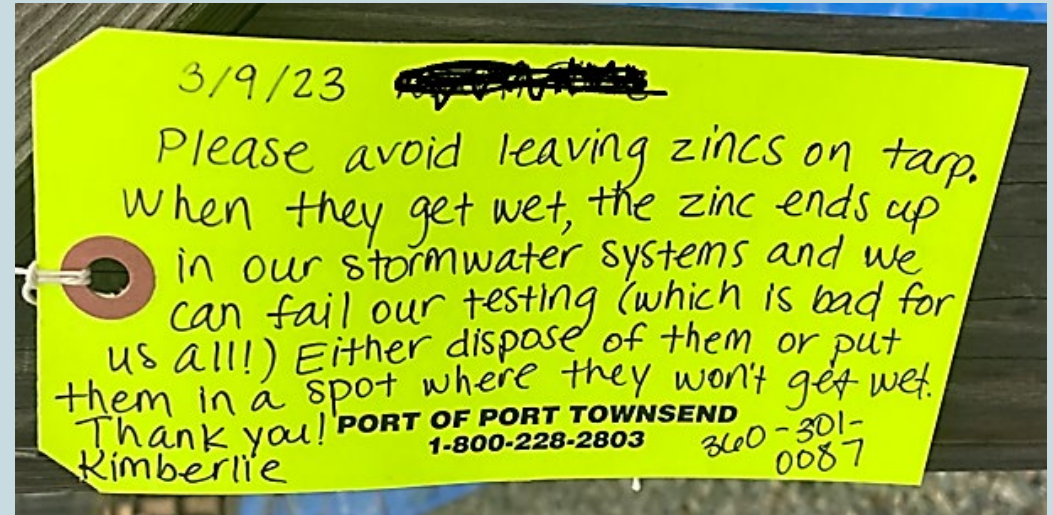
Boatyard BMP Warnings 2022



Boatyard BMP Warnings for 2023



EXAMPLES



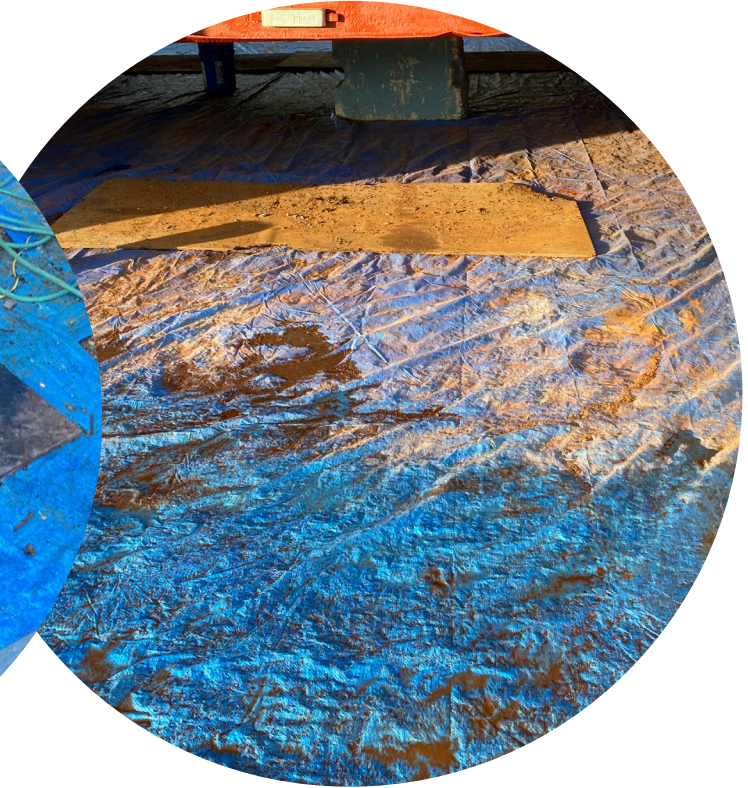
EXAMPLES



Buckets of bilge and galley
water



Burning through tarp



Rust



Waste oil



Paint dust from sanding

Most common BMP violations:

- ❖ Unclean tarps
- ❖ Spent zincs left on tarp
- ❖ Uncovered chemicals
- ❖ Open hot work
- ❖ Open sanding
- ❖ Buckets of waste/oil/bilge

STORMWATER SAMPLING



WHAT HAS CHANGED

2022	2023
5 sampling months	6 sampling months
Seasonal avg. benchmarks ¹	No seasonal avg. benchmarks
4 exceedances (i.e., failures) including daily and seasonal for any one parameter = Level 2 Source Control Report	3 exceedances (i.e., failures) of any one parameter = Level 2 Source Control Report
6 exceedances (i.e., failures) including daily and seasonal for any one parameter = Level 3 Engineering Report	4 exceedances (i.e., failures) of any one parameter = Level 3 Engineering Report

¹ “seasonal average” is calculated using the arithmetic average of all the daily discharge concentrations for October through May.

WHAT HAS CHANGED (CONT.)

LAST YEAR'S SAMPLING BENCHMARKS VERSUS THIS YEAR'S

Sampling Parameter	2022	2023	Highest Levels 2022	Last sampling results for 2023 (MARCH)
Copper (µg/L)	<147	<44	118	31
Zinc (µg/L)	<90	<90	83	34
Turbidity (NTU)		<25		4.9
pH		6<9		7.3
Diesel (mg/L)		<10		Not detected
Oil Sheen		No visible sheen		No

SAMPLING EXAMPLE

TURBIDITY BENCHMARK <25 NTU



0.13 NTU



22.76 NTU



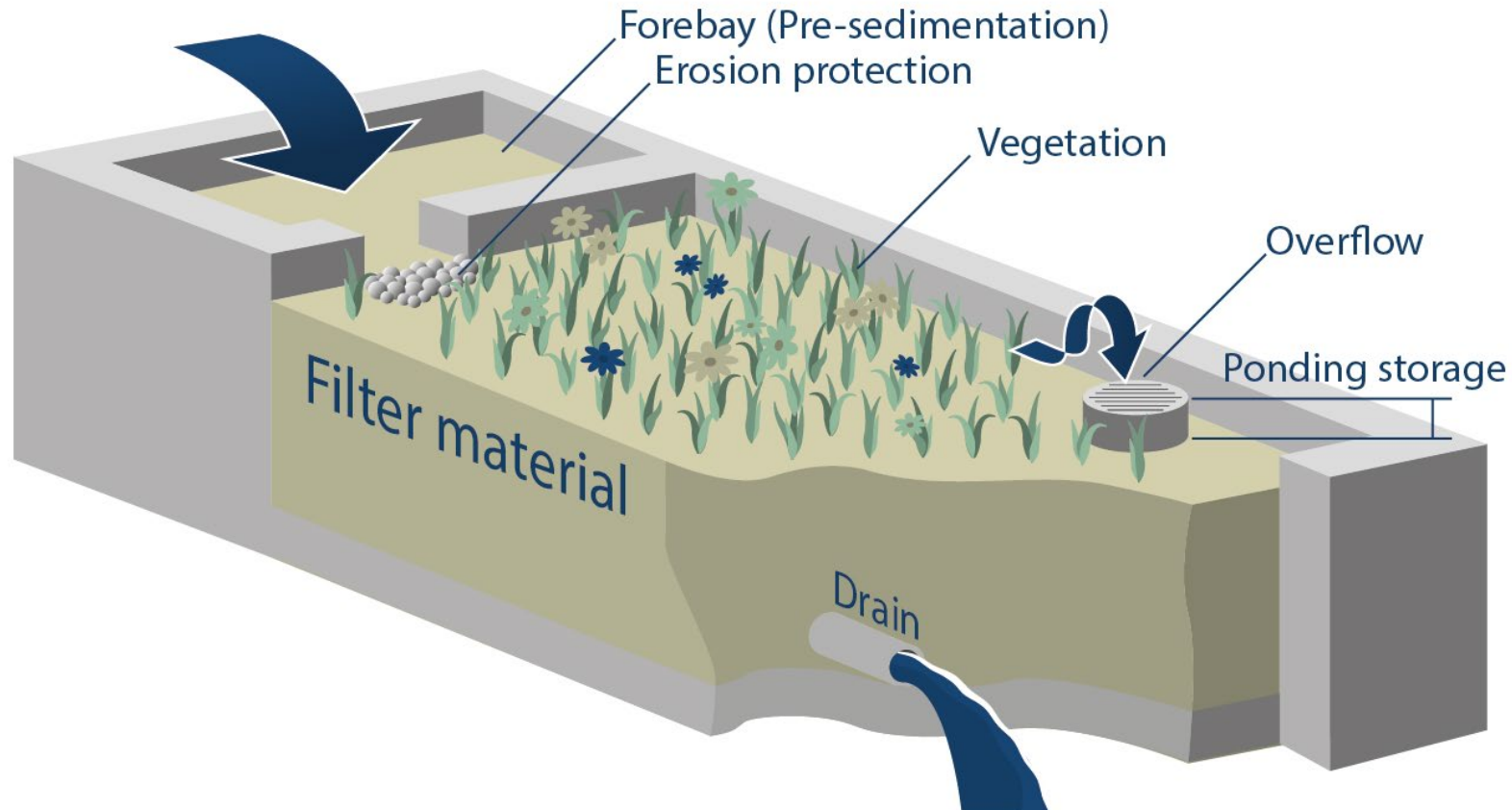
101 NTU



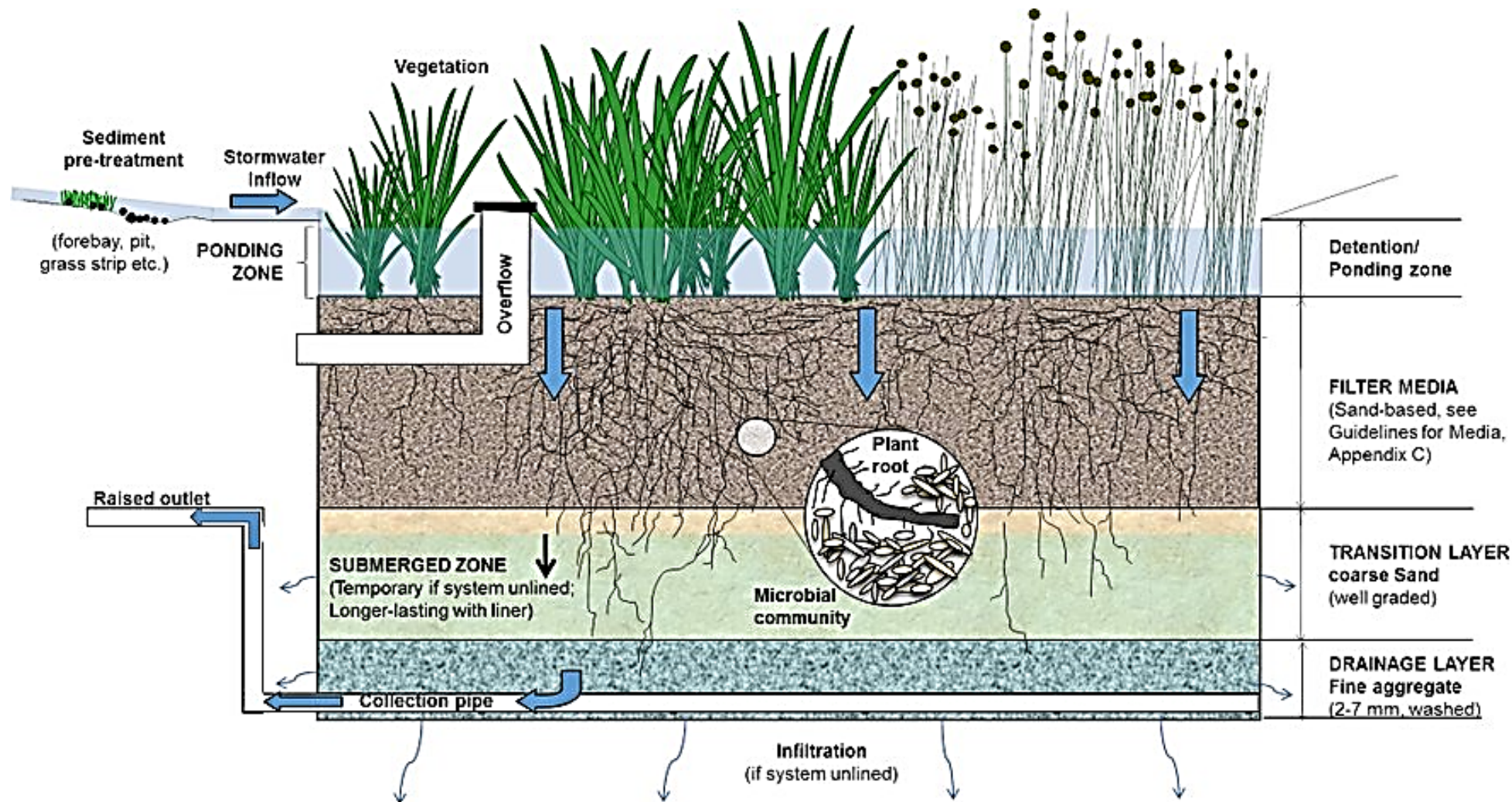
447 NTU

HOW ARE WE ADDRESSING THIS?

Our stormwater project, set to begin in 2024-2025, uses a more natural filtration process, called “biofiltration”, to rid our wastewater of contaminants. It relies on the natural uptake of metals and sediment by vegetation, resulting in cleaner water.

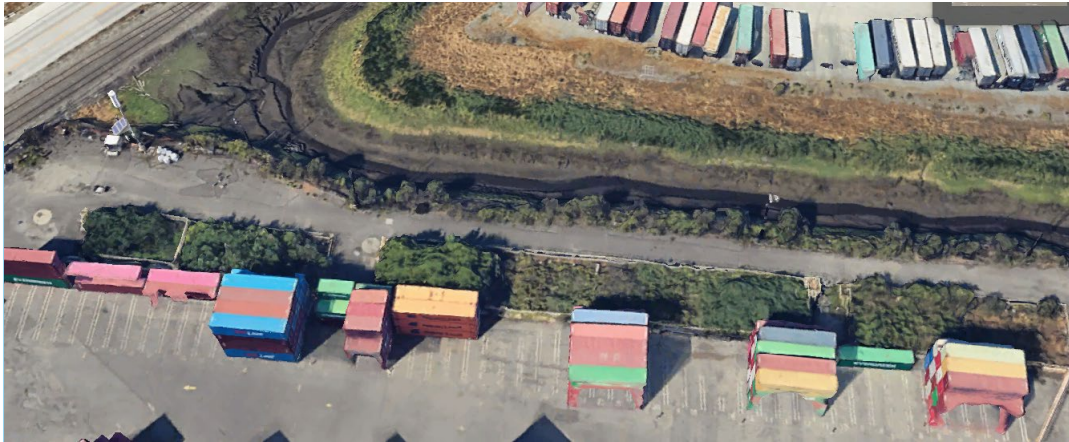
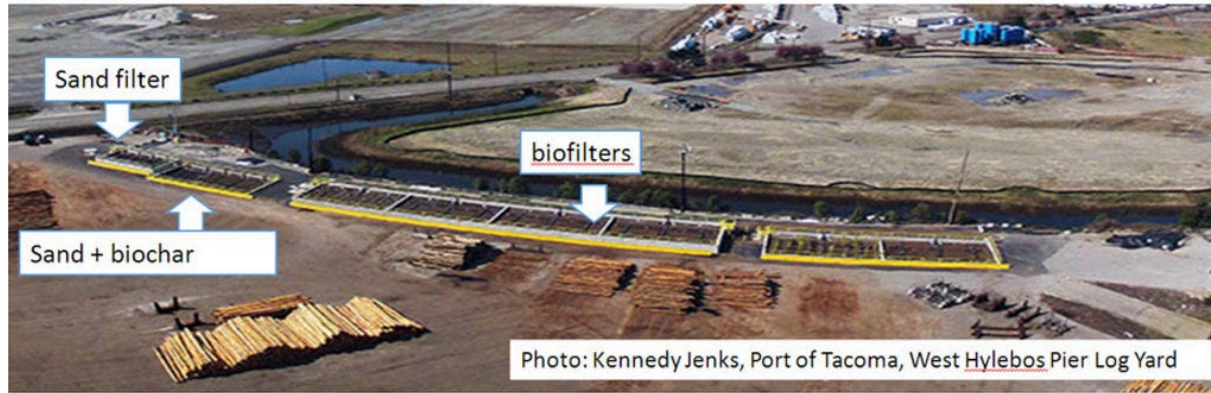


A CLOSER LOOK





Biofiltration system in Port Angeles, designed by Kennedy Jenks



Biofiltration system for Port of Tacoma, designed by Kennedy Jenks

POTENTIAL PLACEMENT



- $\sim 20,000^2$ ft.



SAN JUAN GROCERY

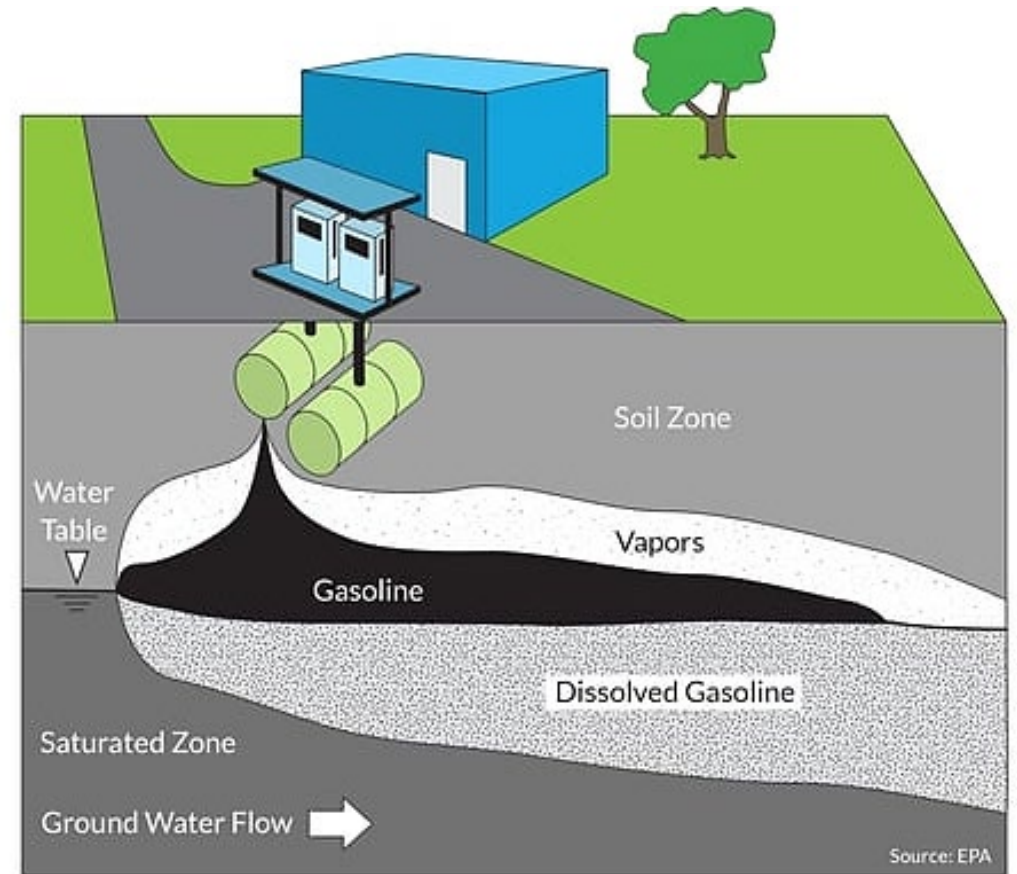


BROWNFIELD

What is it?: A site that is very likely to be contaminated with hazardous materials due to past use

Why does this classification matter?: Sites classified as Brownfields can qualify for funding for remediation

Who funds it?: Bipartisan Infrastructure Law through the EPA, facilitated by Department of Ecology



WELL MONITORING



WHAT WE ARE LOOKING FOR—

Diesel and gas:

Petroleum Hydrocarbons

Benzene, toluene, ethylbenzene, xylene (BTEX)

Volatile Organic Compounds (VOCs)

Lead

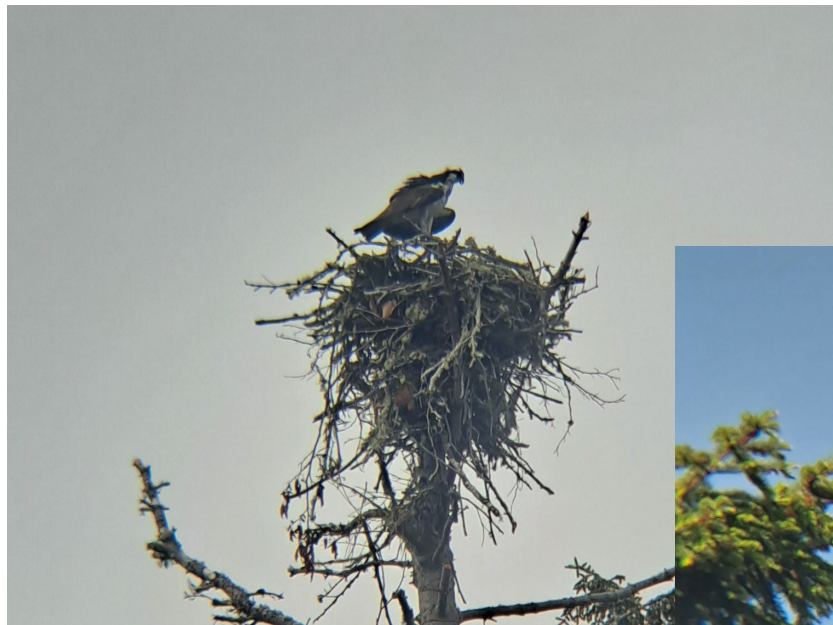
Carcinogenic polycyclic aromatic hydrocarbons (cPAHs)



THE END GOAL



WILDLIFE PROTECTION





THANK YOU!

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