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Pollution Tracker: Long-term Monitoring of Priority Contaminants in Coastal British Columbia

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Pollution Tracker: Long-term Monitoring of Priority Contaminants in Coastal British Columbia

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Background

Pollution Tracker is the only coast-wide pollution monitoring program in British Columbia and is the first of its kind in Canada. Pollution Tracker is an initiative of Ocean Wise, established in 2015.

Objectives

- Measure priority contaminants in sub-tidal surface sediment and mussels using high resolution analysis
- Establish baselines and create an early warning platform for new contaminants
- Track pollution trends over space and time
- Partner with Indigenous communities, community groups, government agencies, port authorities, and industry to conduct sampling and report results
- Use data collected for conservation research & policy development



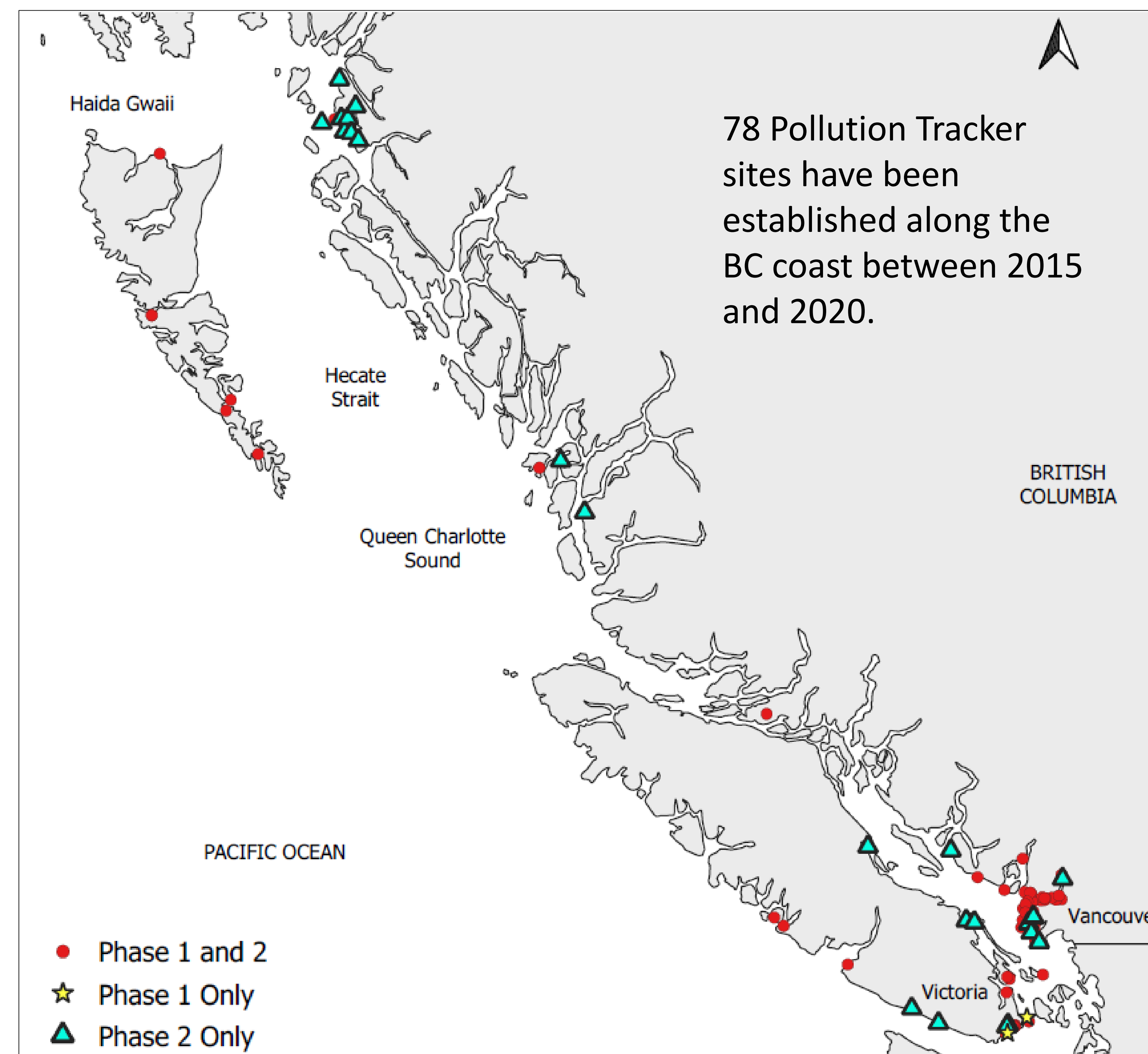
Methods

Mussels and subtidal sediment samples are collected at each site every 3 to 4 years during the winter months (to avoid the mussel spawn).

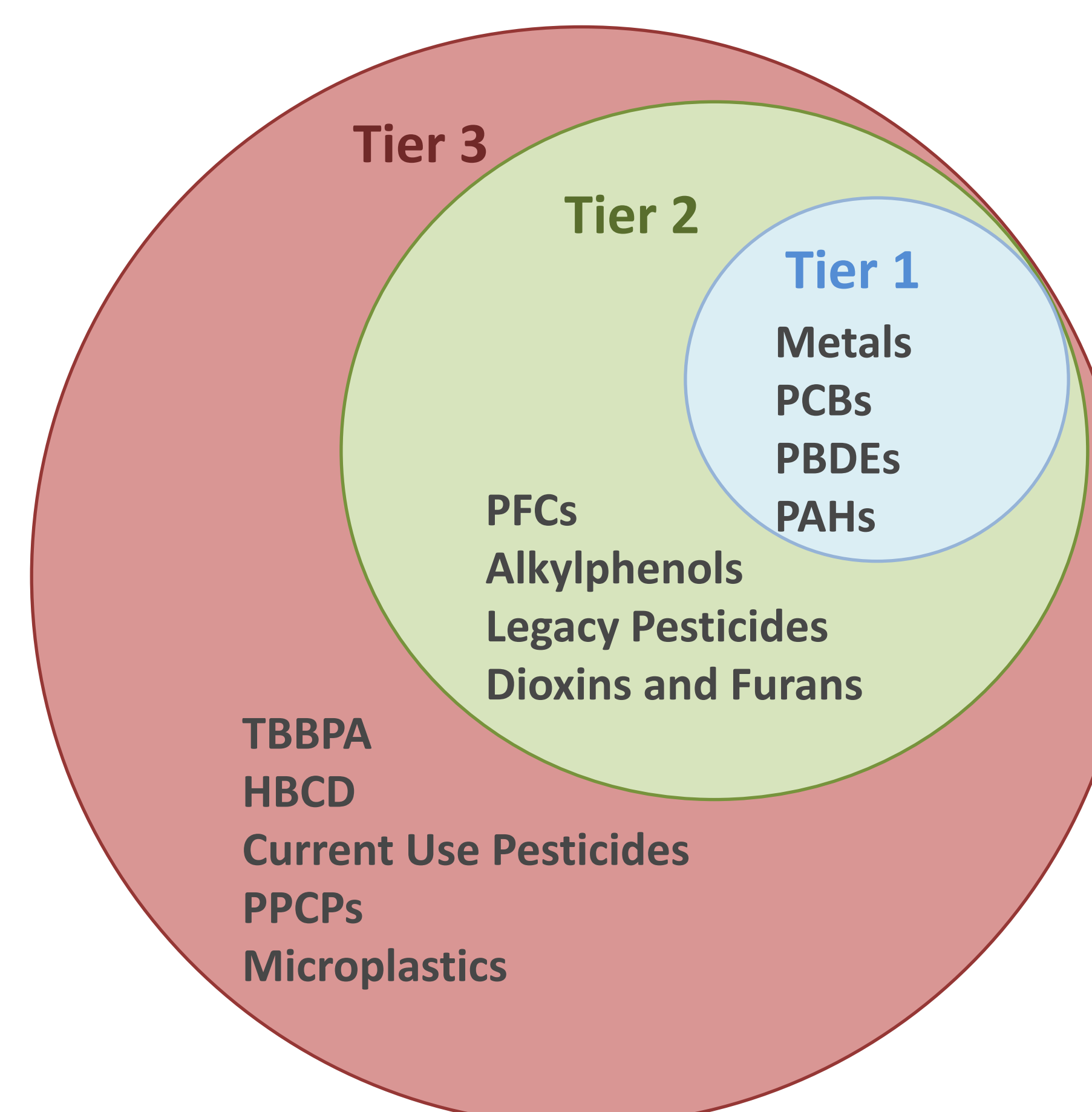
Sediment is used to evaluate contaminant inputs, as it is both a 'sink' and 'source' of contaminants for adjacent food webs.

Mussels (*Mytilus sp.*) are useful for pollution monitoring because they:

- Are immobile, allowing for reproducible point measurements of local contaminants
- Do not readily metabolize contaminants (i.e., chemicals remain unchanged when taken up into their tissues)
- They take in contaminants found in the surrounding water during filter-feeding



Over 550 individual analytes from 14 contaminant groups are being measured in Pollution Tracker samples.



Results

The Pollution Tracker website provides:

- General project information and methods
- An interactive map to view site-specific information
- Coast-wide results for each contaminant class (rankings and total levels)
- Contaminant fact sheets

www.pollutiontracker.org

Conservation Impact

- Sediment data are being used to evaluate resident killer whale habitat quality with respect to PCBs, PBDEs, and metals (see Poster: J. Kim. *Characterization and Interpolation of PCB and PBDE Levels in Sediment...Resident Killer Whale Habitat...*)
- Sediment data are being used to model food web transfer of contaminants from sediment to salmon to killer whales (collaboration with DFO)
- Data have been input to the Tseil-Waututh Nation's initiative to update the Burrard Inlet Water Quality Objectives
- Collaboration with Indigenous and coastal communities to better understand local marine health



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