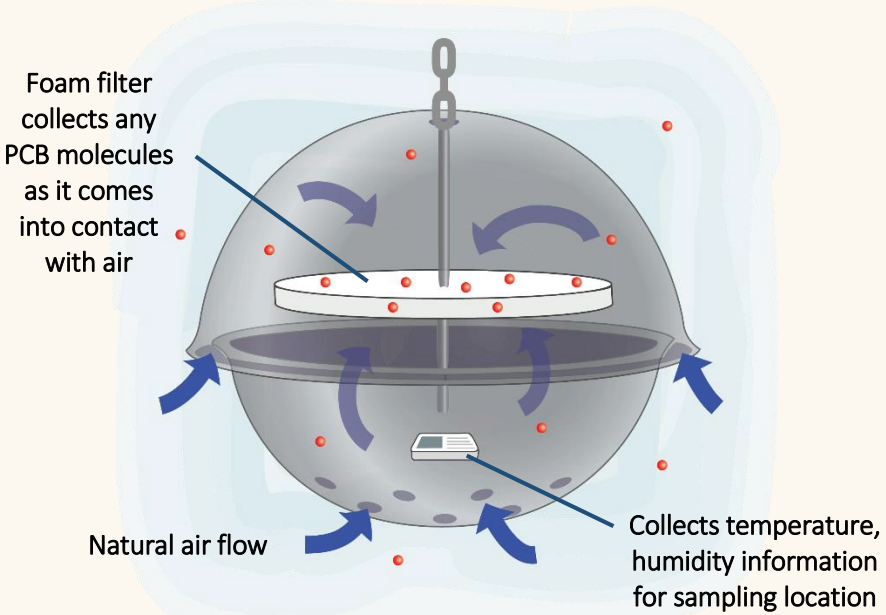
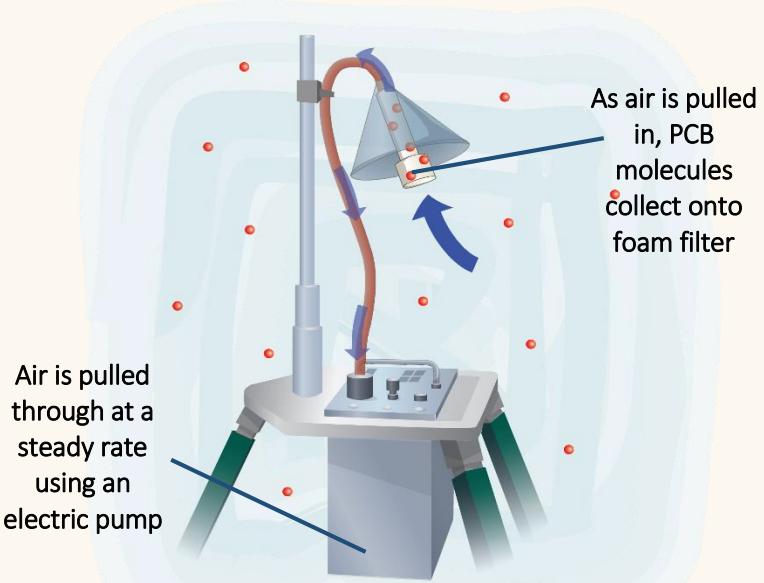
Comparing New Bedford Harbor PCB Air Monitoring Methods from EPA and SRP

New Bedford Air Monitoring Project sampling method

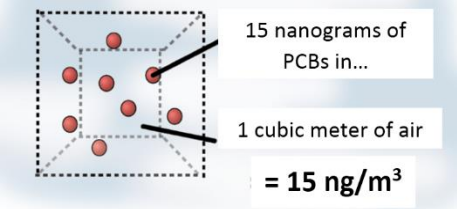


- **Passive sampling**: Air enters through openings in the chamber and circulates within, depending on the **natural air flow** in the surrounding environment. PCBs in that air are collected on the foam.
- Samplers hung at 4-6 ft height (typical breathing height)
- To find the **concentrations of PCBs**, the amount of collected PCBs (nanograms) are divided by the *estimated* amount of air that passed through the samplers (cubic meter), over the course of the 6 week sampling period (42 days).

EPA sampling method



- **Active sampling:** Using an electric pump, air is pulled through the sampler at a **constant and measured** rate. PCBs stick to the same foam filter material as in the passive sampling method.
- Samplers mounted at 4-6 ft height (typical breathing height)
- To find the **concentrations of PCBs**, the amount of collected PCBs (nanograms) are divided by the *known* volume of air (cubic meter) that was pulled through the sampler, over the course of the 24-hour sampling period (1 day).



In both cases, the PCBs collected onto the foam get sent to a lab, where the amounts and types of PCB molecules, called congeners, are measured using techniques including gas chromatography and mass spectrometry.

Note: 1 nanogram is a very small unit of measure. 1 nanogram = 1 billionth of a gram.