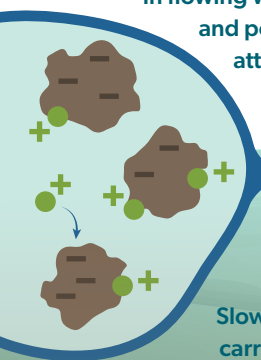


Beaver dams: A natural pollution solution

Beaver dams improve water quality by using physical, chemical, and biological methods in two lines of defence. Initially, pollutants are removed as **(1) water entering the pond slows down** and again as **(2) water is filtered through the dam**.

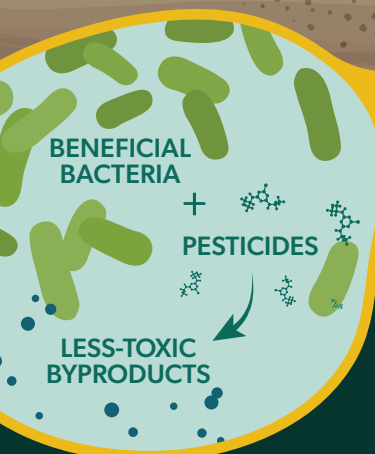
As rainwater flows across the landscape it can pick up a variety of pollutants from urban, industrial, and agricultural sources. Pollutants accumulate in streams where they threaten the health of ecosystems and humans. For instance, the residue left on roads by car tires is responsible for a toxic chemical capable of killing coho salmon. Although many human-engineered facilities exist to improve water quality, promoting nature-based solutions can save time, energy, and money while preserving the function and beauty of natural landscapes.

In flowing water, negatively charged soil particles and positively charged pollutants are attracted to each other like magnets.

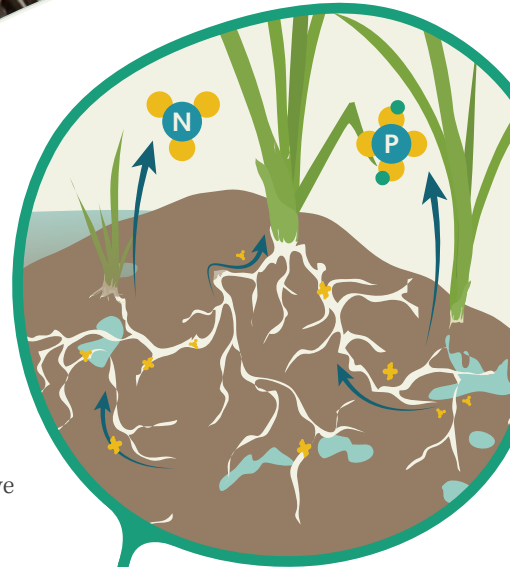


① WATER SLOWS AS IT ENTERS THE POND

Slow water no longer has enough energy to carry sediment and it settles to the bottom, taking pollutants with it.



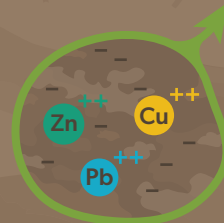
The sediment behind the dam does not become toxic thanks to microbes that consume and transform pollutants like pesticides into forms that are less harmful.



The plant roots and microbes in the dam take up and trap chemicals. Wetland plants also remove excess nutrients.

② WATER IS FILTERED AS IT CROSSES THE DAM

Large pollutants are trapped within the sticks, roots, and soil pores of the dam.



The negatively charged soil in the dam traps positively charged pollutants like copper, zinc, and lead as the water flows through.

Can dams be used without beavers?

A beaver dam without any beavers will not clean the water for long. With each heavy rainfall, flows can erode sediments, wash away wood, and find new paths around or through the dam. Beavers work continuously to maintain and repair their dams. Fortunately, there are many coexistence tools that make it easier to accommodate both beavers and their dams.

For more information and references visit: projectbeaver.org

