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Tookany/Tacony Frankford Watershed Partnership
Challenge Introduction

Before there were houses and roads, factories, playgrounds and parking lots, the rain that fell onto the earth soaked into the ground to be taken up by the roots of plants and trees. Most of the water that trees absorb is "breathed" back into the air through a process called transpiration. The water vapor rises, forms clouds, and eventually returns to the earth as rain. In this water cycle, the plants actually filter the water they absorb, retaining the pollutants in their cells and breathing cleaner water into the air.

The large impervious surfaces of an urban environment prevent rain from seeping into the ground. Instead this stormwater runs off the hard surfaces, picking up pollution such as motor oil, trash, salt from road treatment, fertilizers, pesticides and animal wastes. The pollution-laden stormwater enters storm drains and travels through underground storm sewers until it spills into local streams, destroying habitats by scouring and widening streambed channels, toppling streamside trees and dropping sediments and pollution that change the character of the stream.

In some cities, the stormwater problem is further complicated because sanitary sewers and stormwater sewers make use of the same underground pipes. In these areas when the weather is dry, the sewage flows to a treatment plant. However, when rain or snow melt enter the system, it can become overloaded, allowing a combination of sewage and stormwater to flow untreated into local streams, including those eventually used for drinking water. Even in cities where sewage and stormwater run through separate pipes, stormwater is discharged into streams without first being filtered or cleaned.

So how can the amount of stormwater entering a sewer system be reduced? Can urban streams and their habitats be repaired without massive and expensive construction projects?