

Rain gardens touted as pollution removers

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University of Connecticut scientists say properly designed "rain gardens" can trap and retain up to 99 percent of common pollutants in urban storm runoff.

The researchers said the affordable and easy-to-design gardens could potentially improve water quality and promote the conversion of some pollutants into less harmful compounds.

Study authors Michael Dietz and John Clausen say more than half of the rainwater that falls on a typical city block will leave as runoff that includes metals, oils, fertilizers and other particulate matter.

Dietz and Clausen say rain gardens -- shallow depressions in the earth landscaped with hardy shrubs and plants and surrounded by bark mulch -- offer a simple remedy to the problem.

In a two-year study of roof-water runoff, the researchers found rain gardens significantly reduced concentrations of nitrates, ammonias, phosphorous and other pollutants reaching storm drains. In addition, design tweaks permitted bacteria in the soil to convert harmful nitrates into nitrogen gas, preventing them from entering the groundwater.

The research is to be detailed in the Feb. 15 issue of the American Chemical Society journal, Environmental Science and Technology.

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