

Green Infrastructure is Cheaper and Better for Stormwater Control: Study

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(PhysOrg.com) -- A research team led by the University of Illinois at Chicago has advised the Illinois Environmental Protection Agency to phase in green infrastructure requirements for better and cheaper control of stormwater in all new development and redevelopment.

Green infrastructure uses natural systems to reduce pollutants in urban stormwater and to reduce the flow of stormwater into lakes and streams, says Martin Jaffe, UIC associate professor of urban planning and policy.

The research team analyzed permeable pavement, [green roofs](#), constructed wetlands, on-site stormwater filtration systems and other green means of controlling stormwater.

"Impervious surfaces like roofs and pavements keep rain from recharging our groundwater," Jaffe said. "The stormwater becomes runoff, which causes erosion, sewer overflow, sedimentation and pollution, and threatens both human and ecosystem health.

"Our conventional stormwater systems -- structures such as curbs and gutters, detention ponds and storm sewers -- are inadequate to handle the stormwater that will result from future development. In some places, those systems are inadequate for our current needs."

Green infrastructure recharges groundwater, improves air quality, moderates temperatures, saves energy, and increases open space for recreation and wildlife habitat, according to the report. It can be 25

percent less costly than conventional stormwater management over its life cycle, and is more adaptable to changing conditions.

The researchers recommended:

- A statewide minimum standard for urban runoff, which could be adjusted to address site conditions
- Phasing in green infrastructure practices over a number of years, as the state has done for renewable energy
- Requiring green practices in new development, redevelopment, and major maintenance, repair and replacement projects by public and private parties
- Earmarking funds for green infrastructure projects in revolving loan funds, and developing a transparent method to prioritize these projects
- Encouraging county and municipal agencies to charge fees for managing and maintaining stormwater facilities, crediting the use of green infrastructure practices against such fees.

The Illinois EPA has posted the report at www.epa.state.il.us/green-infr...structure/index.html , under "draft final report," for comment prior to submitting its own report and recommendations to the Illinois General Assembly by June 30.

Provided by University of Illinois at Chicago

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