

Environmental Benefits of Green Infrastructure in Parks

Human health is intricately linked to the health of the surrounding environment. Improvements to the natural world are one of the main ways that green infrastructure features benefit surrounding communities.

What's the "urban heat island" effect?

Urban spaces that lack tree cover and greenery can create hot spots in cities up to ten degrees warmer than surrounding areas. The increased heat is dangerous for vulnerable populations such as children and the elderly. Most urban heat islands are concentrated in low-income neighborhoods.¹

Cooler Air

Trees help mitigate the urban heat island effect, lowering ground temperatures to make spaces more comfortable and safe for at-risk populations.²

Cleaner Water

Almost all green infrastructure features can filter out harmful pollutants such as heavy metals and fertilizers, keeping these hazardous chemicals out of our waterways.⁴

Green infrastructure is good for plants and animals, too! Certain features, such as engineered wetlands, provide increased habitat space for wildlife in addition to recreational space for people.⁶

Reduced Flooding

Green infrastructure features such as rain gardens can decrease the likelihood of localized flooding, protecting sports fields and other assets from water damage.³

Healthier Air

Green infrastructure elements such as permeable pavement and trees help reduce pollutants in the air, making it safer to breathe and recreate.⁵

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[2] Young-Jae, K., Lee, C., and Jun-Hyun, K. (2018). "Sidewalk Landscape Structure and Thermal Conditions for Child and Adult Pedestrians." *International Journal of Environmental Research and Public Health*, Basel, 15(1), 148.

[3] Morsy, M., Goodall, J., Shatnawi, F. and Meadows, M. (2016). "Distributed Stormwater Controls for Flood Mitigation in Urbanized Watersheds: Case Study of Rocky Branch Watershed in Columbia, South Carolina." *Journal of Hydrologic Engineering*, 21(11).

[4] Pennino, M. J., McDonald, R. I., and Jaffe, P.R. (2016). "Watershed-scale impacts of stormwater green infrastructure on hydrology, nutrient fluxes, and combined sewer overflows in the mid-Atlantic region." *Science of the Total Environment*, 565, 1044-1053.

[5] Liu, C.-M., Chen, J.-W., Tsai, J.-H., Lin, W.-S., Yen, M.-T., and Chen, T.-H. (2012). "Experimental studies of the dilution of vehicle exhaust pollutants by environment-protecting pervious pavement." *Journal of the Air & Waste Management Association*, 62(1), 92-102.

[6] Semeraro, T., Aretano, R., and Pomes, A. (2017). "Green infrastructure to improve ecosystem services in the landscape urban region." *IOP Conference Series: Materials Science and Engineering*, 245, 082044.