



PROMOTING GREEN INFRASTRUCTURE

How Parks Advance Sustainability and Resilience

Green infrastructure harnesses the power of nature to naturally absorb, capture, and filter polluted stormwater runoff. Unlike traditional “gray” infrastructure, which is designed to divert stormwater away from the built environment, green infrastructure uses natural systems to capture and clean rainwater where it falls.

Most parks provide green space and landscaped areas that absorb and filter stormwater. In addition, manufactured elements, such as rain gardens, bioswales, permeable pavement, and cisterns can be implemented almost anywhere to enhance stormwater management capacity while delivering a host of environmental, social, and economic benefits to communities.

Health and Equity Considerations

Green infrastructure can provide wide-ranging benefits, especially to low-income areas and communities of color, which are more likely to lack resources to prepare for and recover from the effects of climate hazards, and which have historically had less access to parks and nature.

Green infrastructure projects also have the potential to increase the property values of surrounding parcels, so it is essential for investments to be coupled with robust community engagement and antidisplacement strategies.

When communities are engaged as coplanners and cobuilders, green infrastructure can empower residents to shape their own futures and advance equitable, sustainable, and resilient outcomes.

Potential benefits of green infrastructure include the following:

- Improved water quality
- Reduced flood risk
- Reduced urban heat island effect
- Increased wildlife habitat
- Reduced air pollution
- Improved social and environmental equity
- Opportunities for community engagement, education, and stewardship
- Improved public health
- Reduced maintenance costs
- Enhanced community resilience
- Avoided costs from flood damage

Types of Green Infrastructure in Parks

Naturally occurring:

- Forested areas
- Wetlands
- Shorelines (riparian areas)
- Meadows
- Soil

Manufactured or enhanced:

- **Bioswales:** linear channels that facilitate the natural collection, absorption, and filtration of stormwater through soil and plants
- **Cisterns and rain barrels:** large containers for holding and storing rainwater, often used in conjunction with other systems that collect rainwater runoff from roofs and other structures
- **Constructed wetlands:** a system of shallow ponds created to artificially mimic the functions of a natural wetland, including water absorption and filtration
- **Green roofs:** rooftops planted with vegetation to absorb rainwater and enhance biodiversity
- **Permeable pavement:** pavement that allows rainwater to naturally absorb into the soil
- **Rain gardens:** gardens constructed to facilitate rainwater absorption

Additional Resources

- [*Harvesting the Value of Water*](#) (ULI)
- [EPA Green Infrastructure resources](#)
- [Greener Parks for Health toolkit](#) (NRPA)
- [Greening without Gentrification](#) (UCLA)

Project Examples



Aurora Bioswales, Seattle, Washington

Seattle-area real estate development company Hess Callahan Grey Group and key nonprofit partners integrated a series of terraced bioswales into the rights-of-way for two commercial office projects located under the hulking structure of the Aurora Bridge. The bioswales, which feature native plants and landscapes, capture and filter polluted runoff from the overhead bridge, reducing local flood risk and improving water quality for the region's threatened salmon populations. Read more about the Aurora Bioswales at <https://developingresilience.uli.org/case/aurorabioswales/>.

Cook Park, Atlanta, Georgia

Cook Park's network of green infrastructure is uniquely designed to alleviate flood risk in Vine City, a historically Black neighborhood located northwest of downtown Atlanta. Combined, the park's two-acre pond, wetlands, bioretention areas, and native plantings can capture and store up to 10 million gallons of stormwater and protect nearby residential areas from flood waters. The park also features recreational amenities, including sport courts, a splash pad, walking trails, and a playground. Read more about Cook Park at <https://developingresilience.uli.org/case/cook-park/>.