

Green Stormwater Infrastructure: An Urban and Community Forestry Call to Action

Prepared by the Urban and Community Forestry Green Stormwater Infrastructure Committee

May 2018

This document serves as a call to action about the benefits of Green Stormwater Infrastructure (GSI) as it relates to Urban and Community Forestry. Two companion resources, “Urban Forests and Stormwater Briefing Paper” and the “Green Stormwater Infrastructure List of Resources,” have been developed and posted on the [Northeastern Area Association of State Foresters Urban and Community Forestry Committee website](#).

The intention of these three documents is for this information to serve as a tool for blending urban forestry practices and stormwater management practices in hopes of cultivating new relationships among stormwater managers, civil engineers, and community decisionmakers tasked with managing stormwater. It also seeks to broaden awareness of using trees as an integral component of stormwater management practices.

Green Stormwater Infrastructure (GSI) promotes the natural movement of stormwater runoff from developed lands, streets, parking lots, and roof tops by directing it into natural and designed systems. These systems use soil, stone, and vegetation to slow stormwater volumes. Planting trees in urban areas, strategically expanding tree canopy, re-establishing forests, and creating green space are integral components of GSI that can be carried out at a very low cost and with benefits that increase over time.

GSI practices that include trees, increase canopy cover, and promote reforestation are being used effectively in many areas across the country to address regulatory requirements associated with Consent Degrees, TMDLs, and MS4 permits. There is also a great deal of nonregulatory guidance associated with using GSI practices that include trees to reduce stormwater flow into water bodies and natural areas. This work is recognized as valid and credited in planning, engineering, and construction.

Urban and Community Forestry programs have been able to successfully validate quantifiable benefits provided by trees using tools that did not exist a decade ago. The [i-Tree National Tree Benefits Calculator](#) is being used across the country to calculate the amount of stormwater an urban tree can intercept and how this interception increases dramatically as the tree grows. Tools like [i-Tree Hydro](#) can model stormwater flows within a watershed using changing scenarios of forest cover. These tools, and many new and innovative models and calculators, confirm that increasing tree canopy cover is a cost-effective way to protect water quality.

The GSI List of Resources topics include:

- Case Studies (Success Stories)
- Calculators to determine tree planting credit per TMDLs
- Updated Stormwater Management Manuals that include tree planting
- Funding for Tree Planting as a Component of Green Infrastructure
- Outreach
- Guides and Educational Resources

There are many successful examples of efforts (both urban and rural) that blend urban forestry and stormwater management practices. In the Northeastern Area and Region 9, great strides have been made in how urban foresters are building productive working relationships with stormwater managers, engineers, and community decisionmakers responsible for managing stormwater.

GSI gains will not have the desired impacts without continued efforts to keep forests as forests, minimize tree loss, and maximize forest canopy cover in places where trees can have the greatest impact. The ecological connectedness between the built and natural environment must be balanced and functioning before watershed-scale successes are achieved. GSI is a means to help make this possible in places and on scales that impact people where they live.

Credits:

The development of this series of documents was made possible by the NAASF Urban and Community Forestry State Coordinators Advisory Committee. In 2017, a separate Green Stormwater Infrastructure Subcommittee was convened to specifically address this issue. Chair: Marian Honecny (MD). Members: Ken Holman (MN), Danielle Fitzko (VT), Mary Kramarchyk (NY), Carrie Sargeant (NJ), Julie Mawhorter (USFS), and Donna Marie Foster (USFS). This work builds on previous work of the 2016 NAASF UCF Green Stormwater Infrastructure Subcommittee survey findings and resources. 2016 Chair: Mark Hockley (PA). Members: Danielle Fitzko (VT), Ken Holman (VT), Marian Honecny (MD), and Donna Marie Foster (USFS).