

# Urban Watershed Forestry

Urban watershed management has traditionally focused on managing the effects of runoff and associated pollutants from roads, buildings, parking lots and other hard surfaces. The extent of these 'impervious surfaces' collectively have been viewed as important indicators of the health of a watershed. More recently, researchers and managers have turned their attention to the role of trees and forests as indicators of watershed health based on their ability to moderate the impacts of urbanization. This spurred creation of a 'new' field called 'urban watershed forestry,' which tracks and manages forest cover at the watershed scale and acknowledges the importance of trees and forests in protecting water resources.

Forests, particularly healthy ones, contribute greatly to the health of a watershed by reducing runoff, improving air quality, reducing erosion, removing pollutants, providing habitat, and moderating temperature. More research is needed, but it appears that watershed forest cover, particularly streamside forest cover, may be able to minimize the impacts of land development up to a certain point. Some landmark studies that illustrate the link between watershed forest cover and stream health include:

- Booth (2000) found that at least 65% watershed forest cover is needed for the presence of a healthy aquatic insect community in a Puget Sound, Washington study (Booth, 2000).
- In a Montgomery County, Maryland study, Goetz and others (2003) found that, in order for streams to have a health rating of Excellent required at least 65% of the stream network in the watershed to be forested. At least 45% streamside forest cover was required for streams to have a health rating of Good.

The intersection of forestry and watershed management has coincided with a renewed interest in the use of trees and forests as "best management practices" to reduce runoff and remove pollutants. Scientists and regulators are in need of data to quantify these benefits and give proper 'credit' to those who use them. As with most natural systems, this is difficult to do given their inherent variability.

A related field that has exploded recently with the interest in forests' ability to sequester carbon is economic valuation of ecosystem services. These studies, which place a value on the free products and services provided by natural systems, can help to put them on a level playing field with end-of-pipe solutions. When factoring in the numerous societal benefits provided by forests (e.g. improved health and well-being, increased property values), trees may actually come out on top.

The Center has been working with the USDA Forest Service over the past several years to develop, apply and communicate the urban watershed forestry management approach. We promote conservation of healthy forests, enhancement of degraded forests, and reforestation of open lands to protect the quality of our waters. Urban watershed forestry has become increasingly relevant as a way to help manage forest losses associated with urban and suburban growth, and to protect our drinking water supplies in the face of a changing climate. The 3-part Urban Watershed Forestry Manual series is available on our [Free Downloads](#) page. A comprehensive one-stop-shop for all things related to forests and watersheds is provided in the Watershed Forestry Resource Guide at [www.forestsforwatersheds.org](http://www.forestsforwatersheds.org)