



## *Trees as Stormwater Management Tools*



### *Like them or not, trees are here to stay*

Ahhh, trees. We curse their leaves in autumn, retrieve their branches broken by winter snow and ice, rejoice at the sight of new buds in spring, and retreat beneath their canopy of shade in the summer. They're so much more than the living jungle gyms we played on as children. Trees provide numerous stormwater management benefits to urban dwellers and are an integral part of a healthy urban landscape. Individual homeowners and the local community benefit when trees are planted or are simply allowed to exist.

### *Cashing in*

Trees are an investment with dividends paid out immediately and over time. In urban centers trees help to sequester air pollutants caused largely by industry and automobile use. Specifically, sequestration of carbon dioxide, ground level ozone, and particulates helps to prohibit such pollutants from entering the local watershed via air deposition. According to a University of Georgia study, trees sequester up to 60% of street level particulates in an urban area. These particulates would otherwise run off into storm drains, and eventually the Chesapeake Bay.



### *All Streams Lead to the Chesapeake Bay*

Every neighborhood stream and underground stormwater drain eventually dumps its pollutant load into the Bay. Land development leads to increasing amounts of soil erosion as trees are removed from the landscape to make way for buildings. In DC and other urban and suburban areas, trees play an integral part in lessening the pollutant load that eventually enters the Bay. Their vast root systems anchor soils in place,



GSFC environmental bulletin



help to stabilize streambanks, and slow the flow of stormwater runoff. Tree canopy also helps to lessen the impact of rainfall by tempering the velocity of rain before it hits the ground. Slowing the velocity of water will facilitate infiltration into the ground and reduce downstream flooding. It is estimated that for every 5% of tree cover added to a community, stormwater runoff is reduced by up to 2%. Reducing stormwater runoff amounts decreases the amount of pollutants transported to our waterways.



Now that we are clear on the stormwater benefits of trees, what types should we plant or keep? Selecting a tree depends on the characteristics of the site and the available space you have to **grow** trees.

### *A little nudge*



Need a little incentive to help you get started? Maryland has an ongoing program to assist with the purchase of trees at local nurseries. Coupons offering \$25 off the value of a tree with a retail value of \$50 or more are available through the Marylander's Plants Trees Initiative started in 2009. Eligible trees include everything from crabapples, to dogwoods, to eastern hemlocks and must be on a recommended list of trees to be planted. Keep in mind your soil type and availability of light when considering which trees to plant, as each of these plays an important factor in keeping your trees disease free and healthy for decades to come.

### *Happy Planting!*

*Please consult websites below for information on how to grow healthy trees in your area and to print your coupon.*

<http://www.trees.maryland.gov/>

<http://www.trees.maryland.gov/pickatree.asp>

[http://warnell.forestry.uga.edu/service/library/index.php3?docID=124&docHistory\[ \]=2](http://warnell.forestry.uga.edu/service/library/index.php3?docID=124&docHistory[ ]=2)