

"Federation Corner" column  
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### **How trees enhance our lives**

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Everyone knows that trees grace our lives with beauty. "No town can fail of beauty, though its walks were gutters and its houses hovels, if venerable trees make magnificent colonnades along its streets." - Henry Ward Beecher, *Proverbs*, 1887.

We admire the transformation from winter's pared down sculptural forms to the lush abundance of summer shade. We look forward to the glad rags of autumn and the somber elegance of evergreens in winter. If we take the time to get to know individual trees, we begin to appreciate their idiosyncratic beauty: a zigzagged trunk that tells of a deadly, slow-motion battle for sunshine; or a lacework wrought by generations of woodpeckers. Like laugh lines on a beloved face, they simply deepen our definition of beauty.

But trees also enhance our lives in very practical ways. They provide a wealth of ecosystem services. While it's impossible to put a price tag on services such as good health, clean air, and clean water, one can estimate the dollar value of some services such as: pounds of pollution removed; reduced heating and cooling costs, amount of carbon sequestration, and so on.

According to Tree Baltimore, when you add these benefits together, it is not unreasonable to conclude that \$57,000 in economic and environmental benefits is provided over the life of a single tree. You can estimate the economic value of a tree in your yard or on your street for yourself with the tree calculator at <http://www.trees.maryland.gov/calculator.asp>.

These services also include some you may not have considered. You may not associate trees with stormwater management, but it turns out that one large tree can eliminate 5,000 gallons of stormwater runoff each year. And while you may know that the net cooling effect of a healthy young tree equals ten room-sized air conditioners operating twenty hours a day, you may not know that the shade can also significantly prolong paving life, thus lengthening the time between road repairs.

Of course we all know that trees are important for wildlife, providing nesting space for birds and nectar, fruits, seeds and nuts to feed many animals. But did you know that Hackberry, Cottonwood, Hawthorn, Wild Cherry, Willow, Ash, Linden, River Birch, Eastern Red Cedar, Chokecherry, Flowering Dogwood, Holly, Musclewood, Locust, Sweetbay Magnolia, Maple, Pawpaw, Wild Plum, Redbud, Shadbush, Black Walnut, and Sassafras trees are all host plants for butterfly larvae? Did you know that the first hummingbirds to arrive each spring depend on tree sap rather than flower nectar?

Trees also support wildlife that doesn't live in or on the tree. Without the carpet of fallen leaves, salamanders would have no winter home. Without streamside trees, there is no woody debris to form instream habitat, no shade to protect stream life, and no food for the base of the fishes' food chain. Research in the Northwest has documented an additional link between forests and fish. As expected, there are more salmon in well-forested streams. Interestingly, forests also grow better where there are more salmon, because they get nutrients from the salmon coming upstream to spawn.

Like the relationship of trees and salmon, trees have provided special benefits to humans since time immemorial. Farmers and watermen relied on practical phenology: (the study of periodic biological phenomena, such as flowering, breeding, and migration, in relation to climatic conditions) to correctly schedule their work. No matter how weather patterns shifted from year to year, the farmer knew it was time

to plant corn when the leaves of the dogwood tree were the size of squirrel ears, and watermen knew the shad were running up the river whenever the shadbush tree was in blossom.

Today, we pay more attention to how trees provide other economic benefits. According to appraisers, trees add 7 to 25% of the total value of a particular property. Homes adjacent to forests are priced 8 to 20 percent higher. Commercial rents increase 7 percent. Shoppers are even willing to pay 9 to 12 percent more to shop in areas with trees.

Surprisingly, trees also contribute to crime prevention. “Kuo and partners (2003) have found that the presence of trees within high density neighborhoods lowers levels of fear, contributes to less violent and aggressive behavior, and encourages better neighbor relationships and better coping skills” A recent study in Portland, Oregon associated large trees with a reduction in crime. Among the tree variables analyzed, canopy size of both street and yard trees and the number of trees growing on a lot had the most effect on crime occurrence. The researchers reason that large trees signal to potential criminals that a neighborhood is better cared for, and would therefore increase the likelihood they will be caught.

And finally, scientists are beginning to document how trees and nature in general impact our mental and physical health. School children with ADHD show fewer symptoms, and girls show more academic self-discipline, if they have access to natural settings (Faber Taylor et al. 2001). Hospital patients recover more quickly and require fewer pain-killing medications when having a view of nature, and passive views of nature are associated with reduced physiological stress response (Ulrich 1986). Office workers with a view of nature are more productive, report fewer illnesses, and have higher job satisfaction (Kaplan 1993).

When you take all these benefits together, it seems clear that we should place much greater emphasis on planting and preserving trees.

*The views expressed in this column do not necessarily reflect formal positions adopted by the Federation. To submit an 800-1000 word column for consideration, send as an email attachment to [theelms518@earthlink.net](mailto:theelms518@earthlink.net)*