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To Ask and Listen if Planting Trees is Best

Scott A. Sjolander, *Penn State Extension*



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Careful planning before planting ensures trees are placed where they will provide benefit and avoid detriment.

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This traditional residential street is in transition over 100 years with each stakeholder facing decision-making resource tradeoffs. Photo by Scott Sjolander, Penn State Extension

In the United States, municipal community forestry programs are supported in meeting worldwide environmental challenges. However, campaigns broadly considering urban trees for public policy and sustainability require accounting of services and disservices. In a 2020 article, [Beyond 'trees are good': Disservices, management costs, and tradeoffs in urban](#)

[forestry](#), Roman and fellow researchers discuss recent studies about ecosystem services in urban forestry. Here they suggest that stakeholders can better integrate urban forest infrastructure services and disservices into their decision-making by evaluating tradeoffs and synergies. Trees do not make everyone's desired landscape complete. Cultural, aesthetic, and social preferences and beliefs motivate people to make tradeoff decisions within their individual circumstances.

Trees placed and used well can provide many quantified environmental services like energy savings and erosion control. However, negative impacts can and do occur. For example, inappropriately water-hungry green landscapes exaggerate water scarcity in arid and semi-arid cities. Less dramatic, but just as evident are costs of maintaining tree landscape systems among many activities vying for the space they need to survive. Communities across the Pennsylvania commonwealth were built more than a hundred years ago with narrow streets, sidewalk, and building spaces. As large maturing trees become structurally unsound or otherwise fail, the cost of removing them often consumes monies available to replace, develop, or even maintain shade canopies. For individual urban homeowners, the expense of maintaining a tree might negate the ability of repairing the roof after a wind storm. Not all homes are insured, and not all insured homes are covered for full replacement costs.



This tree standing on private property was in declining condition before the wind storm. Now the tree is unsalvageable, and the house is severely damaged. An ash tree killed by Emerald Ash Borer stands in the background at left. Photo by Scott Sjolander, Penn State Extension.

Progressive management goals emphasize using tree landscapes as part of providing environmental, social, and economic benefits. Tradeoffs include situations where management actions improve one situation, such as lack of shade canopy, they but can also increase disservices in a win-lose situation. Stakeholders commonly have more complicated perspectives about trees. Residents of low-income neighborhoods may find that efforts to improve their streets also raise property values and housing costs beyond what they can afford. To them, neighborhood tree planting may be one indication of further changes coming.

The "Beyond 'trees are good'..." article defines negative synergies as lose-lose scenarios where disservices are exacerbated and negative impacts compound. One example of negative synergy would be when recently planted trees die from insufficient maintenance. Management decisions that do not support allocating sufficient resources for young newly planted tree success often cause such trees to die from lack of maintenance.





The newly planted tree in the foreground failed in part due to lack of maintenance, but a volunteer tree thrives on its own in the unexpected location of a chimney in the upper right corner of the photo. Photo by Scott Sjolander, Penn State Extension.

In the photo above, the large-maturing tree in the foreground was placed in a site with too little space, and further suffered maintenance injuries. It will likely die before it reaches a size returning values exceeding its installation expenses. When planted trees die before returning benefits, they represent sunk costs, but they will not provide the long-term benefits management programs seek. Further, such tree mortality may help persuade residents to resist supporting further public planting or investing in planting on their own properties.

In the background of the photo, a wild tree has become established in the chimney of a revitalized school building. While it too is out of place, it thrives. Although the naturally occurring tree is providing services, it will require expensive removal. It may have already caused damage to the stack that compel extensive repair or demolition. Negative synergy abounds.

Understanding people's perceptions of trees and their cost-benefit balance are complex can help green advocates better serve reluctant audiences. Evaluating true services, disservices, and inherent costs begins with asking stakeholder perspectives and heeding their concerns. Preparing integrated systems to serve each audience will become more intricate. However, the solutions will have the potential to yield more well-placed trees to produce sustainably effective outcomes.

Reference

Roman, Lara A.; Conway, Tenley M.; Eisenman, Theodore S.; Koeser, Andrew K.; Ordóñez Barona, Camilo; Locke, Dexter H.; Jenerette, G. Darrel; Östberg, Johan; Vogt, Jess. 2020. [Beyond 'trees are good': Disservices, management costs, and tradeoffs in urban forestry](#). *Ambio* 50: 615–630.

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