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Cover photo by Ana Arreola, South Decatur
Elementary, Greensburg, IN
1st Place Arbor Day Poster Contest winner/Indiana

Bridging the Gap Between Urban Ecology and Urban Forest Management

J.R. Roberts, D.J. Moxley, N. Blumenthal and B.C. Fischer

MSES/MPA Candidates and Clinical Professor Emeritus, IUB School of Public and Environmental Affairs

For our final piece in this three-part series on the relationship between urban ecology and urban forestry, we will reflect on how and why urban ecologists and urban foresters should come together to better the urban forest.

First and foremost, we must recognize that everyone has a vision and purpose in their work with the urban forest. As mentioned in the first article, "Defining Urban Ecology and the Connection to Urban Forestry," the urban forest might be considered "in," "of," or "for" the city. Traditionally, ecologists working at urban universities were looking for the closest thing to a "natural" environment they could find to show students or conduct research. Forested patches across the city were often the closest resource at hand. For many city residents and ecologists, this ecology in the city is the primary mode of thought, even today. Citizens rally to protect the last neighborhood woodlot. Here, the scale is small, and this vision glorifies nature. It seeks to preserve, to the best of the viewer's ability, what was good before humans mucked it all up. Arborists work on trees in much the same way for their clients.

This way of thinking has its purposes, of course, as it allows interested individuals to take immediate action on manageable tasks. A wildlife advocacy group can preserve a singular patch of forest at risk of becoming one more parking lot. A neighborhood association can channel its members' desire for green surroundings into a new patch of trees. But what is the end game? Has "the environment" been preserved if an imperfect replica of an undisturbed forest patch or stream bank stands surrounded by a lifeless cityscape of asphalt and concrete? What if a few older neighborhoods, which have excellent street and yard trees, make for excellent showpieces for the city, but every new development nets lower canopy cover for the city as a whole? Although a citizen may mean well by seeing the city through a black-and-white separation of what is natural and what is man-made, it is not enough to have the best pocket of habitat or the greenest neighborhood while the urban forest slowly disappears around you. Urban patch dynamics dictate that even the best patches are influenced by the least of these patches. Concerned citizens may be trying their best to advance ecology for their city, but, no one or no patch exists in a vacuum.

In the way urban foresters operate, we encounter the opposite problem: Trees are largely seen as infrastructure. Unlike proponents of natural areas, if a tree isn't in an urban forester's jurisdiction, whether that be a street tree, a park tree, or a tree on a client's property, it is effectively invisible. In this way, too, the urban forest degrades. Large

swaths of the urban canopy disappear to development. A lot sandwiched between the back half of a factory and a dilapidated used car lot might contain canopy equivalent to a whole park, but if no one is there to enjoy it, who will notice when it's gone? That one underappreciated property may be where birds and insects that populate the whole neighborhood breed and overwinter. Urban foresters may have an excellent view of ecology of the city but, without taking a hard look at ecology in these less obvious places, how comprehensive is their view, really? Without understanding the relative importance of ecosystem services provided by forest patches on a smaller scale, what do numbers about tree canopy or planting or maintenance tell us?

So, what can we do to bridge this divide? Jim Skiera, ISA Executive Director, wrote a column in *Arborist News* (Time to Step Up, ISA Perspectives, *Arborist News*, April 2014, pp 5-6) that suggests one answer. He recounted how he conducted an informal survey at numerous ISA chapter conferences. He asked all arborists to stand up. Then, he said, "If you planted more trees last year than you removed, please stay standing." Generally, over 90% of the arborists then sat down. The moral of the story is that maintenance is often left to professionals, whom have the skills and the tools to safely remove trees, but those with the expertise to grow the trees that make up the urban forest aren't planting them. Instead, this falls upon non-profits and citizens not best positioned to ensure that the right tree has been planted in the right place, with proper technique and care. We need experts out there working with these tree people, to make sure that their efforts are maximized. So, be out there for your local non-profit's planting day. Identify yourself, and "teach a man to fish," so to speak.

And, while you're at it, reach out to local ecologists and other scientists to join in. We academic types lack understanding of what's actually happening in your day-to-day jobs. We can quantify ecosystem services, model tree growth, and make excellent pitches for biodiversity, but the actual work managing the urban forest may be a mystery. To our eyes, the local non-profit is doing fantastic work planting and encouraging homeowners to do the same. We see twelve different types of trees stabilizing a stream bank and giving habitat for threatened songbird species. Until they're cut down 10 years later because someone planted red oaks and tulip trees under a power line. Conversely, risks such as those posed by emerald ash borer and climate change come much more naturally, since we've been trained to see different aspects of the urban forest.

In summary, if the solutions were easy, we'd have already implemented them. However, a good starting point is communication and breaking down barriers between the various interest groups working with ecology in, of, and, for the city. First, ask yourself what lens you view the urban forest through and which of these lenses are alien to you. There's someone out there working under a completely different worldview, and chances are, they don't even know what they're missing that you have to offer. The health of the urban forest really does depend upon the collaboration of everyone. Plant a tree, talk to an ecologist, and let your community know about your work. You never know who's listening.

From the HA Editor:

As part of this series, I have had a question in the back of my mind. I posted it to some specific people who I know have worked and do work in the urban forest as volunteers who plant or as professionals in the fields of urban foresters, arborists, landscape architects, and MS4 water quality.

The question was:
How do YOU see urban ecology and urban forestry working together to create sustainable, environmental landscapes across the board utilizing all the environmental aspects that may be in a city?

I received two excellent responses and I am quoting each verbatim because they each shared excellent insights and vision. I wish we had more of this in Indiana so that urban and rural environmental insights and visions could be implemented through groups and individuals connecting ecology across the board. I say this because a city near me just opened a new park. We watched as concrete became the main portion of this park with nature put in little strips via trees and other vegetation. It is a sorry sight to those of us who value green and want to see nature connected in all ways---not just a tree here and a tree there for no real purpose except to say, "Yes. Trees were planted in this park."

I agree they were planted amid the concrete, but, not planned for longevity. The main consideration was to generate economic revenue from farmers

market to concerts. This is too often the case for any municipal improvements including all the environmental tokens resulting in the planting of a tree in an oval or a strip along with a "pretty for now perennial planting". It makes one, who has been around for many years looking at 'environmental projects' here and there, want to tear her hair out with the lack of progress in this arena. I end my tirade with a cartoon which says it all for the natural disconnect that is present all too often these days.

off the mark.com by Mark Parisi



Permission for #2Trees to use cartoon in print electronic.

Please read the comments of Tamera Doty 'aka' Tammy and Ashley Mulis 'aka Ash' and a big thank you to them for taking time out to voice their thoughts.

Tamera Doty, Landscape Architect Consultant, and past urban forester for the City of Anderson, had this response to the question.

Well I have always seen these occupations working together! Science and design are integral in the urban environments. There are so many different factors at play in today's world, so being aware of current and historical environmental issues, knowing how to assess urban environments properly, and being able to apply proper plant solutions are important in having a healthy urban landscape. I just know that using the wrong plants or installation procedures can be very costly and ineffective in improving any environment especially an urban one.