Florida-Friendly Landscapes; Wild Bees Peak Later in Cities; Seacoast Plants of the Carolinas

News and commentary for emerging green infrastructure markets

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newTERRAIN

Functional Plants. Functional Landscapes.

COMING UP THIS WEEK:

Florida-Friendly Landscaping Saves Water

Examples of “good” Florida-Friendly Landscapes. Good Florida-Friendly Landscapes used 76% less irrigation water than their high-quality turf comparison landscapes. Photo credit: University of Florida Center for Landscape Conservation and Ecology.

The concept is a bit like xeriscaping, but developed specifically for the water-rich climate of Florida. In a nutshell, **Florida-Friendly Landscape** principles are to include more plants, which tend to take fewer resources and care once established, and less lawn. While there are no specific plant prohibitions, the principles are to create a landscape that uses less water and inputs like fertilizers and pesticides, but can handle stormwater runoff, utilize more yard waste composting and accommodate wildlife.

Does it save irrigation water? Absolutely and it’s been documented by the folks at the University of Florida Center for Landscape Conservation and Ecology in Gainesville. To determine the positive effect, a team from the University of Florida looked at 12 years of water bills for Florida-Friendly Landscape customers compared to other landscapes. Across all Florida-Friendly Landscapes, irrigation water use was 50% less. But “good” Florida-Friendly Landscapes used 76% less irrigation water than their high-quality turf comparison landscapes.

“Before becoming Florida-Friendly Landscape-recognized, the FFL homes already used less irrigation than the comparison homes did, meaning that those most concerned with water use were more likely to choose a Florida-Friendly Landscape. Even though they tended to already be low water users, Florida Friendly-Landscape homes reduced their irrigation use by 28% after their landscapes became recognized,” wrote Mackenzie Boyer in a University of Florida blog post about the study.

Nine principles drive the Florida-Friendly Landscape:

- Right Plant, Right Place
- Water Efficiently
- Fertilize Appropriately
- Mulch
- Attract Wildlife
- Manage Yard Pests Responsibly
- Recycle Yard Waste
- Reduce Stormwater Runoff
- Protect the Waterfront

Irrigation Conservation of Florida-Friendly Landscaping Based on Water Billing Data by Mackenzie Boyer, Michael Dukes, Linda Young and Shu Want in the *Journal of Irrigation and Drainage Engineering* by the American Society of Civil Engineers.

Mark Hostetler on bird landscapes … continued

We need demonstrations. We need success stories. That's my takeaway message from listening to Dr. Mark Hostetler, University of Florida, Gainesville, recently at a meeting in Raleigh, North Carolina. When questioned about success stories based on a study of green building policies around the U.S. that he was involved in, Mark says getting demonstration projects installed and publicized is important to show the industry what can be done. He mentioned a Gainesville, Florida, area developer that used LID, maintained tree canopy and incorporated other green ideas. When conventional developers were brought in for a tour they asked, "'Where's the landscaping?' and shook their heads." The very next question, he said, was about cost and they learned it was $20 more per sq. ft. But then, they learned that when it was all added up, the per lot landscaping cost was $1,900 less because there was no irrigation, they used permeable pavers, and incorporated other lower impact options. The homes sold very quickly, so they made more money. These kind of interactions get their attention. But, Mark said, it's not business as usual.

Another lesson learned from study of national green building policies: When seeking to promote green development and green policies, he says it's vitally important to include affected communities, businesses, non-profits, etc. in planning. He also says operating trials and tests before becoming finalized allows time to work through operational issues and to ease public acceptance. Finally, he says, "There's a lot of good, incentive-based policy that no one knows about." It's been developed and never marketed, he said. So rather than starting from a blank slate, there are approaches that can be adapted for new situations.

Public acceptance to new landscape approaches is a barrier. Mark admits he's got a thing about "cues to care," an area he'd like to see better studied. "Cues to care" is the idea that the public will allow for some level of casual/natural landscape as long as there are signs that the landscape is being cared for. Often you'll see a meadow with a mowed strip around it to cue the public that the plants are tall in the meadow purposely, and that it's not neglected. The concept was pioneered with a 1995 article "Messy ecosystems, orderly frames," by Joan Iverson Nassauer in *Landscape Journal*.

Mark would like to see a more structured approach to studying the issue to better define it. How far can you push and how far can you pull?

At some point, ecologists and landscape design need to merge. Landscape design reflects changes in culture, the frame of an individual's childhood, and different backgrounds, Mark said. Look for his views in *Landscape Architecture* next year.

I publicized Mark's Building for Birds in the last issue. If you're using it, or have feedback, let Mark know.

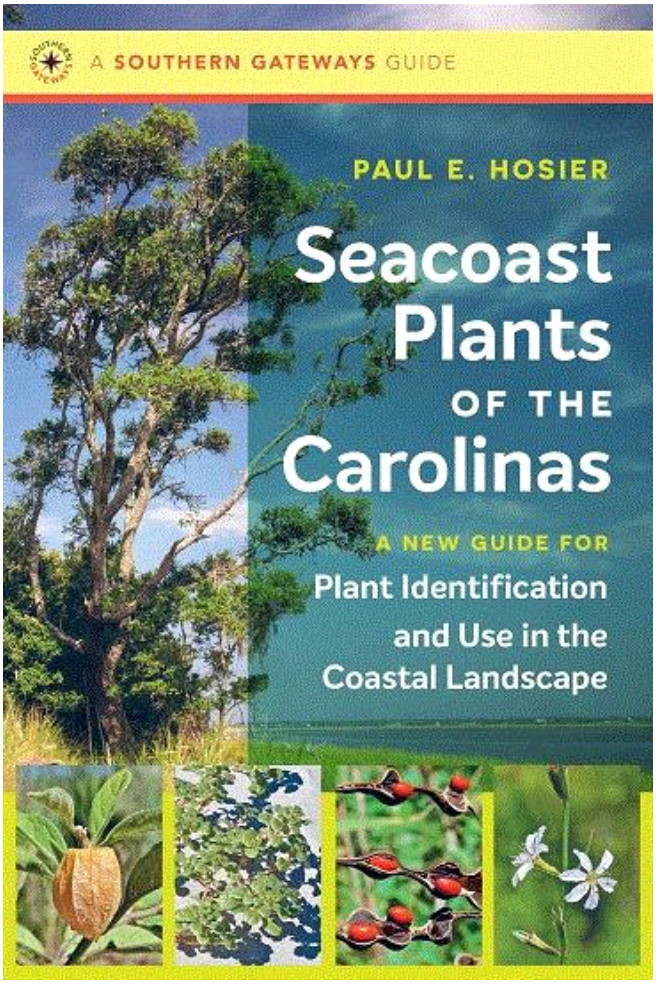
Wild bees Peak Later in Urban Fragments

Biodiversity of wild bees is important. James Hung, who received NSF funding as a doctoral student and who worked in David Holway's lab at the University of California, San Diego, investigated the effects of urbanization on changes in wild bee diversity over time. Man-made disturbances to habitats are creating problems for pollinator communities, including significant biodiversity loss.

His research revealed that habitat fragmentation due to human activity reduces bee diversity and creates a shift in natural seasonal changes that influences the number and types of bees present, affecting pollination services. Though the total number of bees was similar, that number peaked later in the year in fragmented habitats compared to undisturbed ones. Hung also found that bees living in urban scrub fragments possess relatively less variation in behaviors and physical characteristics (for example, food preferences), meaning they might not be able

to render the range and quality of pollination services that bee communities in undisturbed habitats can provide. The loss of diversity and changes to seasonal turnover of bee species may threaten plant pollination in the community and potentially even crops that rely on wild bee species for pollination.—from **Pollinator Biodiversity** by the National Science Foundation.

Seacoast Plants of the Carolinas



An important new reference book, "**Seacoast Plants of the Carolinas A New Guide for Plant Identification and Use in the Coastal Landscape**" by Paul E. Hosier is now available. The guide includes more than 200 plants, with color photographs and information about identification, value to wildlife, relationship to natural communities, propagation, and landscape use. The background on coastal plant communities, including the effects of invasive species and the benefits of using native plants in landscaping is presented. An entire section discusses the effects of climate change on the coast and its plants. Special emphasis is put on the benefits of conserving and landscaping with native plants. Published in association with North Carolina Sea Grant.

Worth reading

Stormwater's new look--Innovative projects beautify large areas while mitigating stormwater damage and educating the public by Jason Axelrod in *American City and County*.

Tick-harboring Japanese barberry could be banned in Pennsylvania by Marcus Schneck on *PennLive*.

'Pollinator corridor' aims for 37 miles of bee-friendly plants by T.J. Pignataro in *The Buffalo News*.

For the Birds: Importance of native plants to attract birds by Sharon Sorenson in the *Courier Press*.

Video: Life cycle of the firefly by the University of Connecticut on *Phys.org*.

TV coverage of cycling races can help document the effects of climate change by Sabrina Weiss for the *British Ecological Society*.

Changing ecosystems in Bavaria by Julius-Maximilians, Universität Würzburg on *Phys.org*.

Can a Tiny Fern Help Fight Climate Change and Cut Fertilizer Use? on *Yale E360.*

Prevent Toxic Rainwater Runoffs with Green Infrastructures by Shawn Fitzerald and A.D. Ali. in *Total Landscape Care*.

Interview with Robert Gibbs: Trees Cause You to Spend More by Jared Green on ASLA's *The Dirt*.

Water Authority offers incentive to replace grass by Allison Horn for *KGTV San Diego.*

Pennsylvania considers banning Japanese barberry, a popular but invasive landscaping plant by Alan Yu for *WHYY Philadelphia*.

Applying Simple Techniques to Develop Smarter Green Roof Substrates by Tyson Jennett for *Science Trends*.

Heat Is Killing More People Than Ever — What Phoenix Is Trying To Do About It by Will Stone for *KJZZ*.

How to control flooding in Pittsburgh? Green stormwater management projects like this one will help. by Amanda Waltz for *NextPittsburgh.com*.

Forest ecology shapes Lyme disease risk in the eastern US: Predators, acorns, & fragmentation regulate numbers of infected ticks by Cary Institute of Ecosystem Studies for *Science Daily*.

Insectivorous birds consume annually as much energy as the city of New York from the University of Basel on *Phys.org*.

Boulder group working to make bees more at home in urban settings by Michael Grady on Boulder KUSA *9news.com*.

Is Fixing the Climate Incompatible with American Ideals? Inalienable rights in the age of carbon dioxide. by Mark L. Hineline on *Nautilis*.

Best,

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