

Volume 30: Number 2 > Spring 2013

The Quarterly Journal of the Florida Native Plant Society



# Palmetto



Bartram's Ixia ● FLOR500 Project ● Butterflies in Northeast Florida



# Principles of Ecological Landscape Design

Travis Beck

Published by Island Press, February 2013.

296 pages. Available as hardcover \$60, paperback \$40, or Kindle \$22.

## Review by Ginny Stibolt

I jumped at the chance to read this text because I was curious about how a landscape architect would incorporate ecological science with design. The premise of Travis Beck's book is impressive: "From now on, the ecological function of our planet can only come from a network of preserved, restored, managed and constructed landscapes. To maintain the function of this network and the quality of life that it offers, we will have to change the way we think about landscape design." His mission is to integrate ecology into landscape design projects, which in turn, addresses the environmental crises that are assumed to have been caused by human activities.

Beck assumes that readers will have enough background in design to apply the science into their projects. While there is plenty of science that is useful for any gardener, it's obvious that he is speaking to designers. Instead of supplying step-by-step instructions on how to complete a design, he provides the scientific background so the designers can create landscapes that are more sustainable. He points out that a well-planned landscape will change over the years, as it becomes a dynamic ecosystem in its own right. When gardeners and landscape managers know to expect this change, they can better plan for the future.

In each of the ten chapters, Beck addresses one ecological topic including biogeography, plant communities, the struggle for coexistence, soils, wildlife, disturbance and succession, and global changes. He provides background, covers research for each topic, and then finishes off with specific examples of how incorporating the science works. Each of the chapters is dense enough to require at least a couple of readings to absorb the topic fully.

For example in Chapter 9: "An Ever-Shifting Mosaic: Landscape Ecology Applied," Beck states that landscapes are filled with a huge variety of populations. He calls them patches – large or small, they are shaped by any number of conditions including differences in the physical environment, neighboring plant communities, herbivory, or human interventions such as mowing, tilling, or livestock use. He states that while the designer needs to consider the whole environment, the edges between patches need special consideration in planned landscapes. Various examples of edge patterns are evaluated for

their effectiveness in supporting the largest number of species populations.

Later in the chapter, Beck covers the ecological distortions of plant and animal populations in isolated patches, called islands, in relationship to their sizes. He covers research on island biogeography and how to manage metapopulations or regional populations. Designers will want to increase populations of some organisms like threatened butterflies or rare native plants, but at the same time reduce populations of invasive plants and animals.

In the section of Chapter 9 called "Strive for Connectivity," Beck uses Florida's Wildlife Corridor (citing Tom Hoctor's 2000 article in *Conservation Biology*) as the example of how to create connectivity where none existed. Beck states, "Connectivity offers the means to knit together remnant natural ecosystems, restored areas, and constructed landscapes into an ecological whole whose sum is greater than its parts."

He ends the chapter with this: "The landscapes we design are also landscapes in the ecological sense, mosaics of heterogeneous patches at any chosen scale. Good landscape design is always about creating forms that support intended functions, about the relationships of different elements, and about the context in which they are situated."

As much as I like this book, I was disappointed that all the photos were black and white. This may be fine for simple images, but I would like to have seen color for the sweeping landscape shots. The price of the book is hefty enough to have justified at least some color photos.

Even so, I'd recommend it to anyone serious about incorporating better science into landscaping projects from large restorations to small urban plantings. Armed with the collective knowledge in this book, your native landscapes are bound to be more successful and sustainable.

Travis Beck is Landscape and Gardens Project Manager at the New York Botanical Garden. He is a registered landscape architect with a master's degree in horticulture, a certified permaculture designer and a LEED Accredited Professional.

## About the Author

Ginny Stibolt earned her MS in botany at the University of Maryland and has written *Sustainable Gardening for Florida* and *Organic Methods for Vegetable Gardening in Florida* – both published by University Press of Florida. In addition Ginny has been a lead blogger for FNPS since 2010.



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#### **Editorial Content**

We welcome articles on native plant species and related conservation topics, as well as high-quality botanical illustrations and photographs. Contact the editor for guidelines, deadlines and other information.

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**The purpose of the Florida Native Plant Society** is to conserve, preserve, and restore the native plants and native plant communities of Florida.

#### **Official definition of native plant:**

For most purposes, the phrase Florida native plant refers to those species occurring within the state boundaries prior to European contact, according to the best available scientific and historical documentation. More specifically, it includes those species understood as indigenous, occurring in natural associations in habitats that existed prior to significant human impacts and alterations of the landscape.

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