

## Growing Greener Production Opportunities for Nurseries

Steve Castorani

North Creek Nurseries, Inc., 388 North Creek Road, Landenberg, Pennsylvania 19350, USA

[steve@northcreeknurseries.com](mailto:steve@northcreeknurseries.com)

*Keywords:* Ecosystem services and green infrastructure, green industry, native perennial plants, plant mitigation, sustainable landscapes, urban sprawl

### Summary

Our current development model of urban sprawl and uncontrolled development is recognized as unsustainable by planners, architects and environmentalists. There are opportunities for nurseries in the Ecosystem Services and Green Infrastructure. Man-made, designed landscapes must evolve by reducing energy inputs while increasing biodiversity and plant density. These methods will also reduce the threats posed by invasive species. Additional opportunities present themselves

to landscape contractors that are willing to remove invasive species and revegetate land using native plants. Perennials selected have the ability to help slow runoff, accelerate infiltration and enhance the evaporation of stormwater runoff. The inclusion of plants in these engineered systems also creates an opportunity for increased biodiversity by increasing the variety of plants that support pollinator species.

---

### INTRODUCTION

North Creek Nurseries is a wholesale propagation nursery located in Southeastern Pennsylvania. Our product lines are perennials, grasses, ferns, vines, and a few shrubs. Our primary focus is the production of native

plants and their cultivars. We focus on varieties that are native to the eastern region of the US with a strong emphasis on plants native to the Mid-Atlantic.

Contrary to many commonly held opinions of the economic health of the green

Industry, I am here today to tell you that I believe that there are great growth opportunities for nurseries today, and well into the future. Now let's take hemp for an example. There is a lot of "buzz" surrounding this emerging industry. We can dedicate a whole lecture about this market, but I am not going to talk about that today. There is certainly a lot of chatter about the revival of the houseplant industry, especially among millennials, but I am not going to talk about that either. Likewise, there has been a strong market and renewed interest in edible plants recently. Some people refer to this as the new gateway to gardening. Well, I am not going to speak about this trend either.

I am here to speak about opportunities for nurseries in ecosystem services and green infrastructure. This is not a talk about the "Green New Deal!" Our current development model of suburban sprawl and uncontrolled development is recognized as unsustainable by planners, architects and environmentalists. Man-made, designed landscapes must evolve by reducing energy inputs while increasing biodiversity and plant density (Table 1). These methods will also reduce the threats posed by invasive species. Additional opportunities present themselves to landscape contractors who are willing to remove invasive species and revegetate land using native plants. It will take a concerted effort by government and the private sector along with a robust sales and marketing initiative. State governments are beginning to demand this level of ecological planning. Public awareness is evolving, and expectations are on the rise!

These opportunities will be focused primarily on the following three areas of development and redevelopment sites:

1. the reduction of stormwater runoff
2. the infiltration of that water using engineered systems
3. mitigation techniques that include plants

### **Table 1. Opportunities for the Green Industry**

- Suburban sprawl and uncontrolled development are not sustainable. Landscape practices have to evolve to reduce inputs, add biodiversity and increase plant density.
- Opportunities abound for landscape contractors to remove invasive species and re-vegetate land using native plants. It will take marketing and sales efforts.
- This would be a worthwhile and be a benefit to nurseries as well as landscape contractors.
- Reduction of stormwater runoff and infiltration mitigation is a key driver
- Increasing biodiversity - regeneration of plants that support pollinator species - Larval food source, nectar, and pollen.
- Use of green mulches to reduce overall maintenance cost and increase plant sales
- Plants have numerous health and wellness benefits. They aid us in achieving a healthy lifestyle.
- Trees will be planted to reduce the effects of CO2 plus provide shade to cool our environment.
- Habitat restoration is happening throughout the country.
- All these will drive plant sales and add perceived value to our products.

Installing plants, especially native perennial plants is the preferred method of mitigating storm water runoff. Perennials are being specified as having the ability to help slow runoff, accelerate infiltration and enhance the evaporation of stormwater runoff. The inclusion of plants in these engineered systems also creates an opportunity for increased biodiversity by increasing the variety of plants that support pollinator species. These plants offer larval food sources, nectar, and pollen to birds and insects (Fig. 1).



**Figure 1.** Wildlife corridors connect ecosystems.

### *Who is driving this demand?*

The following is a list of influencers that are specifying these systems. It's imperative that nurseries, as well landscape contractors align themselves with these groups and individuals in order to take advantage of these opportunities (Table 2).

#### **Table 2. Who is Driving Demand?**

- Landscape Architects, Engineers
- Public Water and Sewer Authorities
- State Department of Plant Industries through Department of Agriculture
- Highway Departments
- City Planners
- NGO's
- Public Gardens, Arboreta & Nature Conservancies

Landscape architects, engineers, public water and sewer authorities, state departments of plant industries through departments of agriculture, highway departments, city planners, non-governmental organizations, public gardens, arboreta & nature conservancies to name a few. At North Creek we

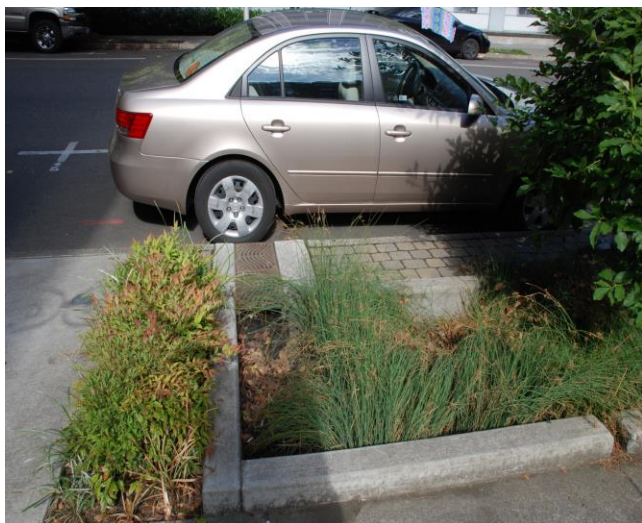
market directly to these groups and make personal connections with influencers by inviting them to visit our nursery. We also support, sponsor and attend many of their trade meetings. We offer "Lunch & Learns" at their home office as well.

As an example of this potential, the city of Philadelphia is slated to spend upward of \$10 billion over the next 10-15 years (Fig. 2). This proposal, which several experts called the nation's most ambitious, reimagines the city as an oasis of rain gardens and green roofs with thousands of additional trees and porous pavement. The vision now is to "peel back" the city's concrete and asphalt and replace them with plants – via rain gardens, green roofs, heavily planted curb extensions, vegetated swales in parking lots, and mini-wetlands (Fig. 3).

Similarly, the city of Lancaster, Pennsylvania is in the midst of a surge in spending to add green infrastructure to its city streets. Chicago, Illinois incentivizes developers to add green infrastructure and green roofs on



their buildings. By designing with these systems, they are assured an expedited process to move their project forward.



**Figure 2.** Philadelphia is slated to spend upward of \$10 billion over the next 10 -15 years. This proposal, which several experts called the nation's most ambitious, reimagines the city as an oasis of rain gardens and green roofs with thousands of additional trees and porous pavement.

Many customers that are specifying plants for green infrastructure projects do not have a plant or ecology background, so it is important that you provide resources for them to gain the knowledge needed to be successful in establishing these landscapes.



**Figure 3.** The idea is to "peel back" the city's concrete and asphalt and replace it with plants – via rain gardens, green roofs, heavily planted curb extensions, vegetated "swales" in parking lots, and mini-wetlands.



***Make the connection: create learning laboratories and offer garden tours.***

Over the years we have invested into extensive green infrastructure at our facilities. We lead customers on tours through our “Learning Laboratory”. The following engineered systems hold countless opportunities for nurseries and landscape contractors to sell

more plants and obtain lucrative contracts. At North Creek we can show our clients examples of green infrastructure such as: Riparian Buffers, Constructed Wetlands, Detention Basins, Rain Gardens, Bioswales, Green Roofs, Wetlands and Stormwater Management systems (Figs. 4, 5, 6).



**Figure 4.** Establishing a green roof in Landenberg, Pennsylvania.



**Figure 5.** Layered landscapes (left) and green mulch (right).





**Figure 6.** Constructed wetlands.

***The use of Landscape Plugs™ in green infrastructure***

In recent years and as more green infrastructure projects have been completed, the use of Landscape Plugs™ is preferred over larger container plants (Fig. 7). Landscape architects, designers and contractors are specifying plugs on larger projects due to their ease of use, rapid establishment and economy. Landscape Plugs™ have these advantages: quick root establishment, suitable for challenging sites, easy to transport and install, available native species, cost effectiveness. In addition, plugs establish more reliably and faster than seed mixes.

***Layered Landscapes, or the use of plugs as green mulch (ground covers)***

Here is yet an additional opportunity for nurseries to grow and sell more plants. Installing plants more closely in a matrix design allows them to knit together, reducing weed seed germination and eliminating open ground. Green mulch is significantly more sustainable as it eliminates the need for wood mulches. Planting green mulches is a great technique often used for covering ground in detention basins (Fig. 5). The use of perennial groundcovers with evergreen basil foliage reduces weed penetration and aids in infiltrating storm water.



- Cost Effective
- Quick Root Establishment
- Suitable for Challenging Sites
- Easy to Transport and Install
- Eastern US Native
- Species and Cultivars
- Establish Faster than
- Seed Mixes

**Figure 7.** Landscape plugs 5.1 x 12.7 cm (2 x 5-in.).



- Native perennial plants preferred
- Local ecotypes – increases biodiversity
- Pollen and nectar sources
- Variety of bloom times
- Variety of shapes and colors
- No doubles or pollen-less varieties
- Succession planning

**Figure 8.** General criteria for selecting preferred native perennial plants.





**Figure 9.** Plants are not a luxury. They are a vital part of what keeps our world in balance.

### ***Biodiversity sells more native plants***

Increasing your nurseries offerings of native plant species will add additional sales opportunities and expand your customer base. Understanding the ecology and connection between plants, insects and animals, especially birds will position your firm as the experts in this growing market (Fig. 8). Plan your production so there are plants available all year for this market. When supplying plant species, remember to include plants that provide nectar and pollen throughout the growing season, early spring through fall.

An additional concern is the importance of growing your plants with pollinator friendly practices (Fig. 9). Plant nectar/pollen bearing species may not be treated with chemicals that will affect feeding pollinators. Do your research and commit to producing plants that are truly free of harmful chemicals that could translocate into pollen and nectar.

For those of you who are landscape architects and designers, it is important to establish habitats in rough borders, hedgerows

and shelter beds. Develop corridors that expand and connect important pollinator habitat patches. Focusing on native plants and cultivars will increase the season long forage capacity for honey bees and native bees. Provide nesting sites for native bees. Provide nectar resources and habitat for butterflies which will then provide butterfly larvae for birds. Eliminate pesticides and reduce/stagger mowing practices.

Plants offer numerous health and wellness benefits for us as well. They aid in achieving a healthy life style. Trees will continue to be planted to reduce the effects of CO<sub>2</sub> (carbon sequestration) while providing shade to cool our environment. Habitat restoration is happening throughout the country. These combined efforts will drive plant sales and add perceived value for our products.

In conclusion, I want to remind you that plants are not a luxury, they are a vital part of what keeps our world in balance. There is a world of opportunity out there for the entrepreneur who continues to seek out new opportunities.