Livable Delaware Landscapes

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Biodiversity = ecosystem services
Ecosystem Services

- Clean water/water management
- Air quality/biodiversity
- Pollination services/wildlife habitat
- Human engagement
“Probably the advantages of civilization can be found illustrated and demonstrated under no other circumstances so completely as in some suburban neighborhoods where each family abode stands 50 or 100 feet or more apart from all others, and at some distance from the public road.”

“A separate home surrounded by a yard is the ideal kind of home.”
Bird Species Richness

2013
Benefits?
Benefits?

- Better water management
- Support more wildlife
- Save time and energy
- Looks attractive
Change design paradigm
Applecross project
Not lawn – other options

• Landscape beds
• Forest
• Meadow
Clean water/water management
Air quality/biodiversity
Meadows

Meadow Benefits:

- Increased wildlife habitat
- Reduced carbon emissions from mowing
- Greater biodiversity in the landscape
- Ornamental interest
- Decreased use of fertilizers and pesticides

Combining long grass meadow and short grass lawn creates a functional and productive landscape.

Rethinking Laird's Landscape
Pollination services/ wildlife habitat
Cues of Care:
Mowed paths
Mowed edges
Perennial enhancements
Artwork
Explanatory signs
Pollination services/ wildlife habitat
A MEADOW – WHY?

A meadow is a gift to the earth. It provides habitat and food for many species. For example, birds find shelter, seeds, and insects in a meadow. Birds need insects, to provide protein, when feeding their young. Most native insects can only feed on native plants. The survival of humans is dependent on the vital work done by insects for pollination. A healthy ecosystem depends on these kinds of relationships and connections. We hope that you can connect with the function and beauty of the meadow.
Clean water/water management

Human engagement
When you create landscapes like this, you add surprise, anticipation, and entertainment to your yard.
This University Visitors Center landscape demonstrates sustainable practices by:

- Utilizing well-adapted plants that thrive with minimal input.
- Directing rainwater to an area populated by moisture-loving plants.
- Using compost to enrich soil.
- Incorporating plants to provide seeds, berries, nectar and edible foliage for local wildlife.
- Employing plants that will cover the ground, suppress weeds, and reduce mulching.
- Presenting diverse spaces where visitors can engage with nature.

Look for other sustainable landscapes throughout campus and at the University of Delaware Botanic Gardens.

www.udel.edu/sustainability  www.ag.udel.edu/udbg/sl/
Traditional management - repetitive maintenance routines

Progressive management - accommodate changing conditions
• Project Participants
  Susan Barton - University of Delaware
  Gary Schwetz - Delaware Center for Horticulture
  John Harrod & Jen Gochenaur – Delaware Nature Society
  Valann Budischak - University of Delaware
    Delaware Nursery and Landscape Assoc.
  Faith Kuehn – Delaware Department of Agric.
    Delaware Invasive Species Coun.

Project Support
National Fish and Wildlife Foundation
National Urban and Community Forestry Advisory Council
Hedera helix: ENGLISH IVY

English ivy is best suited for shady urban settings, away from trees. It may be inappropriate for your garden if you live near a park or natural area.

Please take a free brochure that lists our suggestions for alternatives for these potentially invasive plants.
• Possess adaptable characteristics to landscape situations
• Pose no potential threat as an invasive plant
• Have no serious disease or insect problems
• Be hardy to Delaware
A Livable Delaware Plant must:

- Pose no potential threat as an invasive plant
- Have no serious disease or insect problems
- Be hardy to Delaware
- Possess adaptable characteristics to landscape situations (i.e. drought resistant, tolerant of poor soils, etc.)

See Plants for a Livable Delaware brochure for more recommendations and details.
Compact Inkberry Holly

- Many-branched, upright evergreen shrub. Shade and wet soil tolerant.
- Creamy white spring flowers are followed by berry-like fruits.
- Ideal hedge, massing, or accent plant. Grows 4-6 T x 4-6 W.
- Performs best in full sun.

Plants for a Livable Delaware
Livable DE series
Help save Delaware's rivers and bays one lawn at a time!

The goal of the Delaware Livable Lawns initiative is simple – reduce fertilizer and pesticide runoff from lawns.

Become a Livable Lawns Certified Company Today!

The Livable Lawns Program certifies lawn care companies that follow environmentally-friendly practices in fertilizer application while educating property owners.

- Download the Brochure (PDF)
- Download the Application (PDF)
- Download the Reporting and Tracking Form (PDF)

Latest News

- Maryland pushes "greener" lawn care to help Bay. Read Article
- Scotts drops phosphorus from lawn fertilizer Read Article
- Keeping your Lawn on Drugs Read Article
- Green Business Certification in Montgomery Co., MD Read Article
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How-To Videos:
Aerial view of Independence Hall on Laird Campus.

Research Site
Rethinking Laird’s Landscape

Meadows
- Emit less carbon with less mowing

Native Plants
- Provide food and shelter for local wildlife

Reforestation
- Provide cooling shade and absorb carbon from the air

Rain Gardens
- Reduce storm water runoff and protect water quality

This landscaping results in stable and productive ecosystems...
...and more places to enjoy!

Interpretive sign.

Meadows
Reduced Mowing = Reduced Carbon Emissions

Interpretive poster.

Interpretation Campaign

Environmental interpretation materials were developed to communicate the environmental benefits of sustainable features on Laird Campus including:

- Five outdoor signs installed in the landscape.
- Posters hung on dormitory walls inside Independence Hall.
- An informational e-mail sent directly to students.
Interpretive sign installed in the landscape.

Interpretive posters hung in Independence Hall.

Online survey instrument.
Post-interpretation

- Survey respondents were significantly more likely to report they had heard of sustainable landscaping on Laird Campus after the interpretation campaign.
- The majority of students still considered the landscaping to be attractive, sustainable, well maintained, and functional.
- Post-interpretation respondents were more likely to consider sustainable landscaping practices acceptable on Laird Campus after the interpretation campaign. This result is consistent with other research that has shown that interpretive programs increase knowledge and shifts in attitudes (Marynowski and Jacobson, 1999; Madin and Fenton, 2004).

![Awareness of Sustainable Landscaping on Laird Campus](image)

Pre and post-interpretation survey respondents' awareness of sustainable landscaping on Laird Campus ($p < 0.0001$).
Post-interpretation respondents’ acceptance of reforestation on Laird Campus as compared to their level of interpretation engagement (p=0.000).
Post-interpretation respondents’ description of the landscape as “messy” as compared to their level of interpretation engagement (p = 0.031).

- Students were somewhat more likely to consider the landscape messy and less likely to consider the landscape attractive after the interpretation campaign.

- This result may be related to respondents’ increased awareness of sustainable landscaping on Laird Campus since past research has demonstrated that sustainable landscaping practices can be perceived as messy or less attractive than traditional landscaping practices (Parsons, 1995).

- This conflicting relationship between acceptance of sustainable landscaping and desired aesthetics has been recognized by many researchers (Parsons, 1995; Öztürk and Kendle, 2006; Gobster, 1999) suggesting that still further work is needed to define appropriate methods of addressing aesthetic issues when pursuing sustainable landscaping.
Groups hard at work considering the best use of the space at Bloom generated two conceptual ideas that were combined into one design by the facilitators.
Combined landscape design concept for Bloom Energy.