How Does Our Garden Grow?

A History of the BCSE Gardens

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Have you ever taken a stroll through Fraternity Row on Bucknell University’s campus, and noticed that there’s one building that is not quite like the rest? So many plants and trees seem to conceal this building, that, to the average person, it may not even be noticed. But, in the midst of your stroll, if you follow the pathway towards this mysterious place, you will eventually see that it is actually Bucknell’s Center for Sustainability and the Environment (BCSE), formerly known as the Environmental Center. If you take an even closer look on the outskirts of the house, you may also notice that there are gardens that contain several different components which are, unlike most of campus, a little less clean-cut. That is not by accident, and that is precisely one of many elements that is so alluring about this unfamiliar area on Bucknell’s campus--its gardens.

As you pause from your stroll, and look out into the meadowy backyard, there is a lot to see. On one side of the path, you may notice a pond with several species of native plants surrounding it. On the other side of the pathway you may notice more trees that surround a rain garden. As you continue along the curved pathway however, you will come across several plots of fruits and vegetables growing organically in a food garden. All of these components encompass BCSE’s garden projects and are all connected in some way, and if you take a step back on your stroll, you will see that there is much more depth to these gardens than meets the eye at first glance.

Before the BCSE moved to its current location, Ben Marsh, Professor in Geography and Environmental Science, founded what is now the organic food garden in 2005. At this point in time, Bucknell’s campus master plan had not yet been established, so most of the Northeastern campus was “farmland and cornfield,” as Marsh describes.
His vision for the organic food garden was purely instructional, as he has been teaching his Food and the Environment class for nearly 20 years. Marsh believes this component of an organic food garden “breaks down the classroom wall” and can be “very effective” for students. It changes the way students look at what they eat, how much work actually goes into making what they eat, and allows for labs that gives students the chance to work with vegetables and fruits hands-on. It also establishes a newfound appreciation for the environment for many students, according to Marsh.

The added components of the gardens began as a communal effort of many faculty, staff, and students. In an attempt to educate, inform, and inspire the campus, Saskia Madlener ’08, proposed the native plants garden model in 2007. Her vision for the garden projects were that they “would influence campus practices around lawn maintenance, and that lawns would eventually be replaced by native grasses and wildflowers,” she says. She also believed that the gardens would be a demonstration for the surrounding area for an alternative way of landscaping, that they could change and expand people’s ways of thinking about plants, and that it was less resource-intensive. Many others who were involved with the original development of the native plants gardens had varying hopes. Dina El-Mogazi, Director of the Sustainable Design Program (SDP), who also supervised the native plants garden design and implementation, saw the garden as an educational opportunity, similar to Professor Marsh. Peter Wilshusen, current Executive Director of BCSE and Professor of Environmental Studies, envisioned the garden as a “demonstration to show a different type of landscape.” This “different type of landscape” Wilshusen mentions, is essentially the premise of the native plants garden today.
Part of the initial landscaping plan was that the front yard would be a "woodland habitat" and the back yard would be a "meadow habitat." According to El-Mogazi, “these broadly-defined areas were designated according to the environmental conditions of the site, with the front yard being on the north side of the building and considerably shadier, and the back yard being on the south side of the building and considerably sunnier.” In the backyard, there is a water feature, or pond that many of the native plants surround. From the outset, the pond was somewhat controversial. Although the pond does consume some energy and sometimes needs added water, the purpose of the ponds is to attract many water-loving insects and birds to the garden to manifest a dynamic ecosystem.

But, why native plants? Native plants are plants that are indigenous to a certain region, ideally suited to the local environment geologically and geographically. These plants have evolved in a specific region over many years and adapt to the different components of that region as well (soils, hydrology, and climate, for example). These plants create self-sustaining communities that allow an interdependent relationship to happen among themselves and wildlife. Katie Kramer ’13, former SDP research intern who designed the rain garden, says, “Native plants are beautiful and a lower maintenance option for gardens. They require less upkeep and naturally support the wildlife of the area.” This is surely true, according to Madlener’s research on native plant species, as native plants such as Dogwood, Goldenrod, and New England Aster, attract many birds and insects, that helps to pollinate the plants and spread the seeds and encourage biodiversity.
As you continue your stroll through the gardens you can see that there are a great variety of native plants that have been established. Those who have been active with the Center and its gardens have their favorites. For Madlener, the Magnolia tree out front is her favorite, as it boasts bright pink flowers when they blossom. El-Mogazi enjoys the sight of the dwarf crested iris, which has a beautiful lavender color, and is native to the temperate regions of the U.S.. The perennial Monarda, or more commonly known as bee baun, is among the favorites of several people, as it presents a very robust pink or red hue in the gardens. There's no wonder that more people should come and see this colorful place!

Because the garden is intended to demonstrate sustainable practices, pesticides and fertilizers are not used. Native plants don't require these chemical enhancements because of the richness in the biodiversity in these native communities. Pesticides are often used to enhance and create a highly controlled and manicured aesthetic. Since the Center does not use pesticides or fertilizers, much ground maintenance must take place constantly, to ensure that there is still structure and control of the plants, mostly native perennials. For this purpose, the Center hired Sarajane Snyder, the current Garden Education Coordinator. Tending the plants, thinking about the grounds as a whole, and helping maintain the compost and mulch piles are a few of Snyder’s roles in this position. Keeping weeds down is one of the biggest challenges, since no pesticides are used, so it takes a little longer to keep some invasive plants out. All in all, native plants were the primary focus of the gardens, and what has come of that since its installment has shaped how the garden is today.
In addition to tending the plants, Snyder also conducts several tours of the gardens, to bring more awareness of native plants, and to show the intended purposes of the gardens as whole. During the summer, Snyder has provided information to faculty teach-ins, and for anyone who chooses to stroll through the garden on their own. Since the Center is not gated, anyone may walk through from the front or back to see what is offered, and what can potentially be learned. There are also opportunities for those on campus during the summer months to come and harvest herbs and other plants, according to Snyder. She gives weekly volunteering opportunities for anyone who wants to harvest crops, which also helps her out since she is one of very few people who maintain the gardens in the summer. As the educational coordinator of an organic garden, she also creates creative methods to protect the gardens from unwanted critters. Using Japanese beetle traps and hand picking bugs are just a couple methods to eradicate unwanted pests.

There were many initial doubts and concerns regarding the garden projects. To change the landscape of a generally “conservative” looking campus is pretty difficult, and maybe even unrealistic, according to Madlener. As a student, she was not sure if the intention of the Center would permeate throughout campus, despite her work. For many involved with the Center, bringing people to come see the gardens was also a concern. Jamie Piperberg, Technology Support Specialist inside the Library & Information Technology, has volunteered in the organic food garden since 2008. She says that she would like to see more people involved at the Center, because the number of volunteers could impact the garden in a positive way. She even brings in her family to help as much as they feasibly can. But despite the initial doubts, the gardens
remain forthcoming, as people still try to do what they can to help in the gardens, and to make sure that it’s not as clean-cut as people believe gardens are supposed to be.

Today, the gardens still function as an instructional force, and as a demonstration to those who may wish to bring native plants to their homes; and as such there has been much progress since the garden’s inception. The gardens have expanded, and there are additional features that were previously not there; for example, the solar panels, berry bushes, and the rain garden, are now installed, to name a few. As the designer and student who oversaw its development, Katie Kramer ‘13, describes the significance of a rain garden:

*The importance of a rain garden is to utilize water as a valuable resource and not as a negative consequence of weather. We need water to survive and should treat water responsibly. By using the water for biological processes that occur in the rain garden, we are able to add water to the ground water supply, grow plants, and support different life forms. My rain garden was an attempt to show this to Bucknell.*

The amazing thing about the rain garden is that many courses at Bucknell focus on stormwater management, and can utilize this demonstration garden as a resource for students to give them a first-hand look at how the rain garden works.

Since the establishment of the organic food garden as a teaching tool for Marsh’s Food and the Environment class, several other Bucknell Professors have utilized the food garden in their curriculum, including the Environmental Residential College Faculty Fellows. In addition, the amount of food plots have increased, which allows a more diverse array of food to be planted, harvested, and enjoyed by members of the campus community. Several other professors also regularly bring their classes to the Center’s
grounds for the solar array: Peter Jansson (Electrical Engineering) and Nate Siegel (Mechanical Engineering), for example

However, one of the concerns about the gardens, is that there are not enough people to help maintain the plants, as maintenance and harvesting tend to be challenging issues. In addition, the BCSE gardens’ connection to courses and research could be expanded, and the gardens could be used more consistently by students and faculty, according to Carol High, Operations Manager for BCSE. These are just a few concerns, but several attempts to improve the state of the gardens and interactions with the Bucknell community are currently underway.

For one, many colleges and universities across America have implemented horticultural and native plants gardens that have been successful on their campuses. Garden-based learning is at the core of each of their programs. Under the Cornell Cooperative Extension, there are four core themes of positive youth development that ties into the research-based knowledge of their garden: mastery, belonging, generosity, and power. Another Northeastern college, Colgate, has a “Green Thumbs” garden that promotes local, sustainable agriculture. Santa Clara University started an organic garden in 2008 in which dozens of academic courses utilize the grounds for—whether it’s for “labs, tours, lectures, and observation.” Looking at these and other institutions, it is clear that with more support and assistance, the BCSE gardens have the potential to have a larger presence on campus.

The future of the gardens remains ambiguous, but promising. While the previous challenges have limited what the Center could do in the past, the native plants gardens and organic food garden have still been maintained. For the most part, there seems to
be an interest in getting more people involved with the gardens. The question now is how? How does the Center create a more welcoming environment so that more of the Bucknell and outside community are aware of the gardens; and how does the Center provide a better way to communicate the educational component of the gardens? Currently, BCSE is conducting various research strategies to determine how the garden can be more conducive as an educational resource for the rest of the community. For example, in a recently conducted survey, various Bucknell faculty members from a wide range of different departments have already expressed teaching and research interests in the gardens. Furthermore, it may be worth it to create a new strategic or comprehensive plan for the trees, plants, gardens, or lawn on the BCSE grounds. It is also worth to note that with the recently added buildings on the back side of campus, more students can visually see the gardens throughout the year now, so perhaps more involvement can come in that way.

As nearly a decade has gone by since the original food garden was established, BCSE is surely learning from its gains, but also learning from its mistakes. Not every garden is perfect, but every garden can always be improved. Many are hopeful that the BCSE gardens will thrive in the long run, which is why action is being taken to understand the purpose of what the gardens are now. As you finish your stroll through the gardens, hopefully you can see that the purpose can have an even greater meaning to the surrounding community in the future.