



aashe

The Association for the Advancement
of Sustainability in Higher Education

How-To Guide

PROMOTING
SUSTAINABLE
CAMPUS
LANDSCAPES



Arbor Day Foundation®

Acknowledgements

Many people graciously assisted in the development of this guide, from providing resources to reviewing drafts. We would like to recognize the contributions of the following individuals:

Reviewers

- ❖ Sean Barry – Public Relations Director, Arbor Day Foundation
- ❖ John Burns – Landscape Services Manager, University of Texas at Austin
- ❖ Seth Charde – Environmental Planner, University of Maryland (also Technical Advisor for AASHE's STARS Program, Grounds Section)
- ❖ Liz Guthrie – Manager, Professional Practice Programs, American Society of Landscape Architects
- ❖ Joe Jackson – Past President, Professional Grounds Management Society
- ❖ Matthew R. James – Assistant Professor of Landscape Architecture, South Dakota State University (also Technical Advisor for AASHE's STARS Program, Grounds Section)
- ❖ Karla Jensen – Professor of Communications, Nebraska Wesleyan University
- ❖ Phyllis V. Larsen – College of Journalism Faculty, University of Nebraska, Lincoln
- ❖ Woody Nelson – Vice President of Marketing, Arbor Day Foundation
- ❖ Paul Rowland – Former AASHE Executive Director
- ❖ Nathan Shuler – Student at Centre College (also Member, AASHE Advisory Council)
- ❖ Heather Spalding – Sustainability Leadership and Outreach Coordinator, Portland State University (also Member, AASHE Advisory Council)
- ❖ Bill Sprengnether – Principal, Cardinal Direction Landscape Architecture
- ❖ Debbie Steinberg – Professional Practice Coordinator, American Society of Landscape Architects

Other Contributors

- ❖ Bonny Bentzin – Greener U
- ❖ Denny Cochrane – Virginia Tech
- ❖ Steve Glazner – APPA
- ❖ Jacek Ghosh – Virginia Commonwealth University
- ❖ Mark Feist – American University
- ❖ Burney Fischer – Indiana University
- ❖ Nicole Halmus – Florida Gulf Coast University
- ❖ Jeremy King – Denison University
- ❖ Tom LaMuraglia – Warren Wilson College
- ❖ Raelynne Lee – St. John's University
- ❖ Tommy Parker – University of Louisville



How-To Guide

Promoting Sustainable Campus Landscapes



WRITTEN AND EDITED BY:

Judy Walton, former Chief Publications Officer
Mary Sweeney, Program Manager, Arbor Day Foundation

WITH ASSISTANCE FROM:

James R. Fazio, Arbor Day Foundation

DESIGN AND LAY-OUT:

Fry Graphics

About this Publication and Collaboration with the Arbor Day Foundation

This “how-to” guide to promoting sustainable campus landscapes is designed to help you help others understand and support sustainable landscaping practices on your campus. It presents ideas for engaging others and effectively communicating the importance of outdoor spaces in order to build awareness and ensure broad support from the campus and surrounding community. Without such support, knowledge of the technical aspects of implementing and maintaining sustainable landscapes may have a limited impact at best. The guide takes into account the different institutional contexts involved, whether in implementing landscape projects or conducting awareness and education campaigns.

In 2012, the Arbor Day Foundation approached AASHE with the idea of a guide for sustainable campus landscapes. AASHE and the Arbor Day Foundation have had a long partnership in promoting sustainable outdoor spaces on campus, including co-sponsoring tree-plantings and summer retreats for sustainability professionals. The Foundation has also provided valuable input on landscape-related credits in AASHE’s STARS program. AASHE is grateful to the Arbor Day Foundation for their close collaboration and financial support in the production of this publication.



Thanks to our Publication Sponsor

Toyota has shown leadership in higher education sustainability through its support and collaboration with the Arbor Day Foundation in the creation of the Tree Campus USA program. We would like to thank Toyota for its investment in this “how-to” guide.

TOYOTA

PUBLISHED APRIL 2013

© 2013 Association for the Advancement of Sustainability in Higher Education
1536 Wynkoop St., Denver, CO 80202 • (303) 395-1331 • www.aashe.org • info@asashe.org

Table of Contents

1. INTRODUCTION	page 1
1.1 Landscape as a Vital Part of Campus Life	
1.2 Purpose of this Guide	
2. WHY SUSTAINABLE CAMPUS LANDSCAPES?	page 2
2.1 What is a Sustainable Campus Landscape?	
2.2 Benefits of a Sustainable Landscape	
Air Quality and Climate Benefits	
Economic Benefits	
Health & Social Benefits	
Water Conservation and Quality Benefits	
Habitat Benefits	
3. HOW TO INCREASE CAMPUS AND COMMUNITY ENGAGEMENT	page 5
3.1 Engaging Others in Your Vision	
Creating Your Vision	
Communicating Your Vision with Diverse Audiences	
3.2 Engaging Others in Planning and Implementation	
Understanding Stakeholder Motivations	
Sustainable Landscape Considerations in All Campus Planning	
Tap into Student Energy	
Train Grounds Staff and Empower Them to Practice Sustainability	
Partner with Groups and Organizations	
4. HOW TO SPOTLIGHT SUSTAINABLE LANDSCAPE EFFORTS	page 10
4.1 Develop a Communications Plan	
4.2 Work With Your Public Relations Office	
4.3 Use Social Media and Campus Newspapers	
4.4 Take Advantage of Website Promotion	
4.5 Organize Events and Celebrations	
4.6 Make Effective Use of Signs and Banners	
5. HOW TO EARN RECOGNITION FOR YOUR EFFORTS	page 14
5.1 Recognition Programs	
Tree Campus USA®	
Sustainability Tracking, Assessment & Rating System (STARS®)	
Green Star Awards	
Sustainable Sites Initiative™ (SITES™)	
International Society for Landcare Emissions	
SCUP's Excellence Awards	
ASLA Awards Program	
5.2 Gaining Local and Regional Recognition	
6. CONCLUSION	page 17
APPENDICES	page 18
Appendix A: Technical Resources	
Appendix B: Ecosystem Services	
Appendix C: Ideas for Engaging Students in Landscape Projects	
Appendix D: Elements of Sustainable Campus Landscapes	

1 Introduction

1.1 Landscape as a Vital Part of Campus Life


The campus landscape, like its buildings, can be seen as the physical embodiment of a college's values. It is a vital part of the life of a campus, providing space for study, play, outdoor events, aesthetic appreciation, and even food production, while serving as a "living lab" for research on sustainable landscapes and delivering valuable ecosystem services (see [Appendix B](#) for a list of ecosystem services). The campus landscape is also often seen as a factor in student recruitment. A [survey](#) by APPA, published in Facilities Manager magazine (March/April 2006), found that outdoor spaces and an "attractive campus" were important criteria in student decisions to attend or stay at an institution.

Because campus landscapes are so visible and accessible, landscape initiatives are a great way to build awareness and promote learning among the entire campus community as well as the surrounding community. Both can benefit from sustainable landscape initiatives.

1.2 Purpose of this Guide

This guide shows readers how to take advantage of the high visibility of campus outdoor spaces to gain broad support for sustainable landscapes. According to Bill Sprengnether of Cardinal Direction Landscape Architecture, such promotion is "a major missing piece in the effort to build the market for sustainable landscapes." He describes a "cultural shift" that must happen in how landscapes are valued, so that the urgency and importance of implementing sustainable landscapes is widely understood.

The guide identifies ways to build awareness of the benefits of sustainable practices, engage others in projects, garner external recognition, and effectively communicate the institutional value of sustainable campus landscapes in order to achieve a lasting impact. An important rationale behind this focus is that ultimately, long-term support from administrators, faculty, staff, students, and the community will be essential to the success of sustainable campus landscapes for generations to come.

It is important to keep all this in mind as you read the guide. Rather than focusing on how to implement sustainable landscape initiatives (see [Appendix A](#) for technical guides and resources), this guide shows you how to build awareness and develop support for such programs, and how to communicate their benefits. 

NOTE TO READERS Throughout this document, we have provided many resources to assist you. Helpful sidebars and links can be found in each section. The appendices also offer excellent guidance, from a list of elements of sustainable landscapes (with campus examples), ideas for projects that engage students, and additional technical resources. Be sure to take advantage of these support materials.

[back to table of contents](#)



Walkway at the University of Louisville.
PHOTO COURTESY OF ARBOR DAY FOUNDATION

Outdoor sustainability initiatives like bioswales, tree plantings, and sustainable landscaping allow members of the campus community to see and touch sustainability in a way that can't be done with building operations or curriculum modifications. These outdoor initiatives can (and do) serve as a springboard that builds momentum towards other, larger sustainability endeavors.

~ Jeremy King, Sustainability
Coordinator, Denison University

2 Why Sustainable Campus Landscapes?

Implementing sustainable campus landscapes can — and should — be done for a variety of reasons: education of students, employees, and the community; making a positive impression on alumni and donors; serving as a testing grounds for innovative practices and a demonstration area for the public; fostering responsible natural resource management; cost savings, in many cases; or simply because it is the right thing to do. It represents the leadership that society expects from institutions of higher education. In an era of enormous global environmental challenges, this leadership is ever more important.

Before discussing the many ways to promote and build support for sustainable landscaping on campus, it is important to take a few minutes to answer the question: what exactly is a sustainable campus landscape?



Xeriscape project at the University of Nevada, Las Vegas.

PHOTO COURTESY OF ARBOR DAY FOUNDATION

2.1 What is a Sustainable Campus Landscape?

The term “sustainability” as applied to the campus landscape means incorporating the efficiency and complexity of nature into the landscape, restoring damaged ecologies, increasing biodiversity, promoting human health, and providing secure livelihoods (while also managing expectations of the “campus aesthetic”). Importantly, this means that a campus landscape must be sustainable not only ecologically, but socially and economically as well if it is to contribute to an institution’s resiliency and health in both the short and long term.

Specific applications of sustainable landscape practices range from designs that encourage walking to methods that reduce water usage, and from planting shade trees to eliminating the use of harmful chemicals and fertilizers, to creating “no-mow” zones or using sheep or goats to maintain landscapes without machinery. Even less ambitious mowing reduction plans can help convert lawn areas to meadow or forested areas, and institutional-scale composting strategies can provide the campus with fertilizers and mulch, saving money by reducing purchases of these inputs. In fact, applications are limited only by the imagination and the will of any campus community. See [Appendix D](#) for detailed descriptions of various elements and design principles of sustainable landscapes, along with campus examples and resources.

2.2 Benefits of a Sustainable Landscape

Sustainable landscapes provide many important benefits to a campus. These descriptions are designed to serve as “talking points” for incorporating into your awareness campaigns, plans, and publicity efforts, as described in later sections.

THE BENEFITS OF TREES Adapted for almost any environment, trees are an essential part of a sustainable campus landscape. While shade and aesthetics are the traditional reasons to plant trees, it is now widely acknowledged that trees also provide numerous “ecosystem services,” ranging from retaining storm water runoff to suppressing noise, providing oxygen, and sequestering carbon dioxide (see [Appendix B](#)). Not only can trees add a healthy biodiversity of plant material, but they can beneficially impact the microclimate surrounding buildings, mitigate HVAC needs, and minimize heat sink occurrence in parking lots. As the most visible and sometimes most contentious plants in a campus landscape, trees often need champions and defenders. [Appendix A](#) (Technical Resources) provides a number of resources to help you make the case for planting and preserving trees.

[back to table of contents](#)

AIR QUALITY AND CLIMATE BENEFITS

By their nature, sustainably planted and managed landscapes contain plants, grasses and trees that:

- Provide the oxygen upon which all life depends.
- Sequester carbon in the form of CO₂ (trees can be used in carbon offset projects).
- Improve air quality by absorbing particulate matter and various chemicals. According to the U.S. Department of Agriculture, one acre of forest annually absorbs six tons of carbon dioxide and puts out four tons of oxygen.
- Help reduce hot temperatures that may contribute to smog as well as human discomfort.

ECONOMIC BENEFITS

As mentioned earlier, sustainable landscape practices can save money and even produce revenue in a variety of ways.

Here are just a few examples of the economic benefits of sustainable landscape practices:

- Sustainable landscapes can frequently be accomplished with little capital expenditure since in many cases sustainable practices are more a matter of changing how maintenance occurs rather than building and installing new and costly features.
- Composting and chipping wood and other plant matter into mulch or pathway material reduces the costs of waste disposal and recycles nutrients back into the soil, improving soil structure.
- Integrating fruit and nut trees and other edibles into campus landscapes can provide low-cost food for campus dining halls, as well as for students and community members. A campus can earn revenue from sales of herbs, nuts, and produce grown on campus.
- Shade provided by trees cools buildings during summer and reduces energy demand, which can provide significant cost savings. (See [The Benefits of Trees](#) sidebar on page 2.) A reduction in energy demand due to the shade benefit of trees or green roofs also means less air pollution from power generators and reduced need for additional generators.



Composting at St. John's University, Queens Campus.

PHOTO COURTESY OF RAELEENNE LEE

HEALTH & SOCIAL BENEFITS

The campus is intended as a place of growth and learning. Sustainable campus landscapes can enhance learning and contribute to mental and physical health in the following ways:

- Physical benefits can accrue through opportunities for active engagement with gardens and sustainable landscapes. Many sustainable landscapes make walking more appealing, and encourage outdoor leisure activities.
- Health ailments like asthma and stress-related diseases have been known to decrease with improved air quality and increased access to natural landscapes.
- Facilities staff can experience improved work satisfaction and increased value in their work after they are trained in sustainable landscape skills and have played an active role in developing and implementing a sustainability plan.
- Sustainable landscapes can serve as "living labs" for collaborative research by students, faculty, and staff, leading to innovations and improvements in the field.
- Surrounding communities can benefit from a sustainably landscaped greenway through a campus or edible landscapes on the institution's perimeter, which can help build broad support for further initiatives.

[back to table of contents](#)

WATER CONSERVATION AND QUALITY BENEFITS

Sustainable landscapes have the capacity to retain immense quantities of rain water, providing numerous benefits for precious water resources:

- Canopies of native trees and shrubs, rain gardens, green roofs, and naturalized catchment basins can significantly reduce storm water runoff.
- Buffer strips of native vegetation around water stabilize soil and prevent erosion and resulting sediment in ponds and waterways; they can also absorb excess fertilizer and other chemicals, helping to improve the quality of water in natural habitats.
- Using non-potable water for irrigation and permeable surfaces such as mulch beds and porous pavers that allow rainwater to seep into the soil naturally can help conserve the amount of water a campus uses each year.


HABITAT BENEFITS

Natural areas provide living space for a variety of animal species. Implementing sustainable landscape practices helps to ensure that the natural habitat of the many animals that make their home on campus is around for generations to come:

- Careful selection of ornamental trees, shrubs and native pollinator plants can help increase the number of domestic and wild bees, and other insects currently in decline, that are essential to pollinating fruit trees and other crops.
- A campus arboretum can serve both as a living “museum of trees” and as habitat for wildlife. (See [The Benefits of Trees](#) sidebar on page 2 and [Appendix D](#), section D7 on trees and arboreturns.)
- Old snags provide perching places for birds of prey, and dense conifers are ideal for owls. (See sidebar below on The Value of Old and Dead Trees as Habitat)
- Shaded waterways help cool water in summer and improve riparian habitat.

THE VALUE OF OLD AND DEAD TREES AS HABITAT Dr. Burnell (Burney) Fischer, Professor of Urban Forestry at Indiana University – Bloomington, calls his university fortunate to have 10-acre [Dunn's Woods](#) right in the midst of its campus.

This wooded parcel is a sanctuary for Cooper's hawks, box turtles, squirrels and other animals, many of which depend on old or dead trees for habitat. The woods are left as natural as possible, except for a few cases. "If over-mature or dead trees are near walkways, people get nervous, and the trees have to be moved," explained Dr. Fischer. Even the logs of downed trees are left in place to benefit wildlife as they slowly decay and recycle into the soil. The relationship between animals and dead or old trees is explained in an educational program of the U.S. Forest Service called [Animal Inns](#).

Now that you have a general idea of the benefits of sustainable landscapes (and don't forget [Appendix D](#) on the elements of sustainable landscape, with many campus examples), let's take a look at strategies for promoting them and getting more people involved as advocates. 

3 How to Increase Campus and Community Engagement

In this section we focus on the challenging work of educating others about sustainable landscape practices, building awareness, altering attitudes and expectations, and ultimately, gaining the understanding and support that are essential to enjoying the benefits of a fully implemented sustainable landscape plan on campus. That, after all, is the goal.



Tree-planting event at the University of Louisiana-Lafayette.

PHOTO COURTESY OF ARBOR DAY FOUNDATION

The following guidelines and strategies will help you to increase the involvement and support of campus and community members, no matter where you are in the process – whether in the initial visioning stage of campus landscape improvements, the development stage of project plans (at any scale), or the “next steps” phase after having implemented a number of sustainable landscape initiatives.

3.1 Engaging Others in Your Vision

CREATING YOUR VISION

It almost goes without saying, but having a vision of a desirable outcome is an important early step; and the visioning process itself provides an excellent opportunity to engage diverse individuals from on and off campus. At one end of the spectrum, your vision may simply be more shade trees in strategic areas, or a green roof on a new building. At the other end, it may be a major paradigm shift in landscaping practices on campus. If your institution or team is in the visioning stage, no matter what the scale, consider the following questions to help enlist a diverse team in the process:

- ❖ **Who are the key stakeholders to involve in creating the vision?** Think outside the box of typical participants and find ways to engage different groups of students, key senior administrators, grounds maintenance personnel, and potentially supportive faculty and community members.
- ❖ **What might motivate each group of stakeholders to engage in the visioning process?** Perhaps one group is interested in the environmental benefits of sustainable practices, while another group is interested in the health benefits, or the potential for sustainable campus landscapes to boost student recruitment and retention. Understand the motivations and goals of each of your stakeholders.

Developing a vision collaboratively with a diverse group of stakeholders is essential, and part of every true sustainable process. Get people excited by the opportunity to develop a bold vision for the institution’s outdoor spaces, whether envisioning a fully organic campus landscape, a large-scale ecological restoration of the existing landscape, or a creatively designed edible landscape on campus.

COMMUNICATING YOUR VISION WITH DIVERSE AUDIENCES

During the visioning stage – and really at any stage of an initiative – it’s important to communicate your project to many different audiences and solicit their feedback and insights. This is a key component in any sustainability effort, but it requires an understanding of varied viewpoints. Considering the needs and motivations of target audiences is also essential for effective communication.

[back to table of contents](#)

FIVE FILTERS OF IMPACT: A TOOL TO DEVELOP HIGH-IMPACT PROGRAMS

Whether in the visioning phase or the planning and implementation phases, it's important to think about the degree of impact your initiative (or event) will have on the campus. Oftentimes visions are created or events planned that excite large numbers of people, but once they are completed the excitement wears off and people forget about what took place. Dan Lambe, Vice President of Programs and Partnerships at the Arbor Day Foundation, calls this the 'shooting star effect,' and recommends five 'filters of impact' to avoid such situations.

1. Genuine Sustainability – make certain that your efforts are truly sustainable (economically, socially, and environmentally) so that they have a lasting and meaningful impact.

2. Changed Behavior – catalyze sustainable behaviors, be it planting trees or working to change policy. Such activities can be gateways to deeper involvement.

3. Significant Scale – seek out major opportunities beyond the quick or easy. Aim high, and operate on a scale that will truly make a difference for others.

4. Measurable Results – track what works and what doesn't, and learn from this to continually improve. Surveys are one way to measure impacts. Ongoing evaluation is often challenging, but necessary.

5. Partnerships – partnerships are key to success; they should be engaged early on in the visioning and planning process, but can also be brought in later to help communicate the benefits of a project and build lasting support.

Keep these filters in mind as you develop sustainable landscape initiatives.

According to Bonny Bentzin, Director of Sustainability at GreenerU:

"A sustainability officer, landscape designer, student, and grounds manager may all want to plant a tree on campus but may have completely different motives behind it. It's important to realize this when tailoring your message to ensure your project reflects the needs and values of the institution, and is fully embraced by all."

An important strategy when inviting individuals to participate in initiatives and events is to identify who should be contacted before others. Give this careful thought or it can undermine your entire effort. A general rule of thumb is that the person or stakeholder with the most power should be contacted first. If the president or chancellor is onboard with your idea and provides you with positive feedback, it will help persuade the grounds chief. Likewise, student leaders and maintenance/grounds personnel should know about your visioning session or project before reading about it in the school paper, and should have the opportunity to provide input and advice early on. Grounds staff, as the people with their "hands in the dirt," will have many insightful ideas about maintenance practices and sustainability. Key people in grounds maintenance and in the community should be personally invited to be part of the discussion, and even contacted in person when possible.

Beyond this important consideration, make a list of others who need to be involved at each stage of an initiative or project, beyond the visioning. Inviting ideas, as opposed to just presenting them, will help build broad ownership and assure success. Again, it is important to understand what motivates and drives your stakeholders, from their perspective, and how that can support your project. Building a collaborative understanding of what needs to be done is critical in the early stages of any sustainability program.

3.2 Engaging Others in Planning and Implementation

UNDERSTANDING STAKEHOLDER MOTIVATIONS

Once you have your vision established it's time to start planning how to engage the campus and surrounding community in helping to make that vision a reality. Planning and implementation stages offer many opportunities to engage others, whether at the scale of a tree-planting ceremony or a campus master plan. It's important to get individuals from key sectors on board and engaged – from students and administrators to members of the local community. Even entire classes on relevant topics can be enlisted to help draft a plan or implement it.

[back to table of contents](#)

INCLUSIVE MASTER PLANNING

At the largest scale, consider engaging a diverse group of stakeholders to incorporate a sustainable landscape plan into your campus's master plan. Since master plans are typically not revised very frequently, you might instead create a separate – and perhaps even more detailed – sustainable campus landscape master plan, which can supplement the campus master plan. Here are two examples of campus sustainable landscape master plans that were developed through very inclusive engagement processes. Using these as models, you can become the catalyst on your campus for involving others to create a plan for your own institution:

❖ [Sustainable Landscape Master Plan – Macalester College](#)

The entire academic community was engaged in the creation of this document.

❖ [Sustainable Landscape Plan – Purdue University, West Lafayette Campus](#)

Developed in partnership with the Indiana Wildlife Federation (through its [Landscaping the Sustainable Campus program](#)), the plan was a collaborative effort from departments as diverse as athletics and agronomy.



Student volunteer at the University of Maryland.

PHOTO COURTESY OF ARBOR DAY FOUNDATION

Motivations will vary depending on the audience. A major motivation for instituting a sustainable landscape management plan could simply be the ability to earn credits toward a larger sustainability initiative without having to invest in expensive infrastructure or building retro-fits.

SUSTAINABLE LANDSCAPE CONSIDERATIONS IN ALL CAMPUS PLANNING

Whenever a campus improvement, expansion, or event is planned that affects the landscape, sustainable landscape advocates should be involved in creating or reviewing the plan early in the process. This includes sustainability staff, interested faculty or students, and, ideally, grounds staff with experience in sustainability principles, such as campus arborists, grounds managers, landscape architects, and maintenance staff. The results can save money, avoid conflicts, and reduce any negative impacts on the institution's community.

In a shared governance model, institutions should have a campus landscape and grounds committee. If one exists, buy-in for projects can be gathered via the committee. Also, the support of a campus sustainability committee or council can be leveraged with respect to landscape projects.

Mark Feist, Assistant Director of Facilities Management at American University, and Green Star Awards Committee Chair for the Professional Grounds Management Society (PGMS), suggests approaching landscape sustainability through an "integrated design approach." At American this approach is evident in the close partnership between landscape design, the office of sustainability, and operations. Explains Feist:

"We pride ourselves in working through requirements and standards in a manner that makes sense operationally. For example storm water management features (green roof bio-filters, rain gardens) were designed with the forethought of ongoing maintenance through the selection of plants, engineered soil mix, and infrastructure after discussion with the stakeholders, in-house landscape architects, office of sustainability staff and grounds staff."

Whatever stage you're at in planning or implementation, don't forget the invaluable resources that students as well as facilities and grounds staff can bring to help your vision become a reality.

TAP INTO STUDENT ENERGY

Students know and understand their contemporaries, have good ideas, are full of energy, and are the leaders of tomorrow who can take sustainable principles to a wider community. For these reasons, they should be members of sustainability committees and advisory boards, and be part of planning efforts so they can learn from experts in the field right on their own campus. In fact, a requirement for [Tree Campus USA](#) recognition is that at least one member of the school's campus tree advisory committee be a student. This provides students a chance to better understand the goals and responsibilities of grounds and landscape staff as it relates to trees while giving them an opportunity to share appropriate ideas and help with communication efforts to peers across campus. It also helps avoid the perception of students as "pie-in-the-sky" idealists with suggestions that are not

[back to table of contents](#)

attainable. Serving on committees helps acculturate students to the organizational norms and realities specific to each institution.

Experience has shown that an enthusiastic group of students or staff can often get a campus launched toward sustainable landscape practices, but when a key student graduates, the effort falters.

There are several methods that should be built into the program right from the start to assure that the effort will live on from semester to semester. These include:

- In clubs or campus organizations, have a slate of officers that extends beyond seniors or graduate students.
- Have at least two staff or faculty advisors, not just one.
- Share the master plans of the campus with students to ensure that their projects tie in with long term goals and construction projects.
- Have debriefing sessions after each event or project and maintain a log of outcomes that can be passed from one leader to the next when changes occur.
- Where possible, get student sustainability workers budgeted into programs.
- Take advantage of AASHE support resources, including [discussion forums](#) and [blogs](#).

Students are valuable assets to any landscape project.

Make sure your campus sustainability website has a prominent page for student involvement, and that landscape-related opportunities and contacts are linked on that page. For a list of creative ideas for student-led or student-involved projects, see [Appendix C](#).

TRAIN GROUNDS STAFF AND EMPOWER THEM TO PRACTICE SUSTAINABILITY

Develop a strategy to arrange for and deliver training for grounds personnel in the strategies of sustainability. These individuals are the primary work force that will be tasked with implementing new grounds care and maintenance practices. They need to be trained in new skills such as compost management, organic lawn care, fruit tree management, meadow establishment, and green infrastructure maintenance. Without this training the best design and intentions will simply be mowed over by improper care.

Training grounds and facilities staff on the skills to implement the sustainable landscape management plan will show them that their employer wants to engage their knowledge as staff. They will gain new skills that will translate to a greater sense of value in their jobs. Additionally, as the people who will be most responsible for implementing and maintaining the sustainable landscape, they may be able to offer practical insight into sustainable design and maintenance.

Areas of potential training include:

- Arborist or grounds management certification
- Meadow establishment and care
- Compost management, compost tee production and application
- Organic lawn care and integrated pest management (IPM)
- Green infrastructure maintenance
- Redesign for low maintenance

Trainings could come from other horticultural research professionals involved in sustainable turf or landscape management, who might be housed on the campus itself. Most states have a university that offers agricultural and horticultural outreach.

ENGAGING STUDENTS IN PROJECTS

Here are two good examples of campus sustainable landscape projects that have effectively engaged students:

❖ “Get Rooted” Program – University of Idaho

Annually engages as many as 1,000 students in restoring native habitats on campus, as well as in the surrounding community.

❖ Living Laboratory Program – University of Minnesota

Students are important participants in “campus-as-living-lab” projects. These projects have research and learning components, and require collaboration among faculty, staff, and students (and ideally members of the surrounding community).

Campus outdoor spaces offer the ideal setting for such projects at all scales. UM’s program funds landscape projects that engage students and faculty, recognizing that “the campus grounds are not only a backdrop of campus life, but an integral component of teaching, research, and outreach.”

[back to table of contents](#)


There are also a number of national and local organizations that provide training opportunities. Below are links to a few national organizations' education websites:

- [International Society of Arboriculture](#)
- [American Society of Landscape Architects](#)
- [Professional Grounds Management Society](#)
- [AASHE](#)
- [Arbor Day Foundation](#)

PARTNER WITH GROUPS AND ORGANIZATIONS

Partnerships with different organizations are the key to success in most campus projects. Try to partner with departments, offices, and organizations from diverse sectors of campus as well as non-profits, businesses, and government agencies in the community that make sense to engage in your sustainable landscaping initiative. Partners not only broaden your base of support, but fill specific needs, allowing you to play to your strengths while relying on others to play to theirs. Partnerships allow everyone to share credit and recognition, and offer the many rewards of 'win-win' opportunities where everyone benefits.

Draft a list of potential partners across campus and in the community early in the planning stage and identify what would motivate them to offer support. Include the likelihood of their collaboration and their potential responsibilities. Think outside of your normal partners. For example, if you work in a sustainability office, think about partnering with a class. There are many examples of classes working on sustainability projects in partnership with campus sustainability offices. Or think about partnering with a national organization such as the Arbor Day Foundation or the American Society of Landscape Architects. Partnerships help a project achieve a lasting impact, which is of course the goal of sustainability. (See sidebar on [Five Filters of Impact](#) on page 6.)

Once you have your stakeholders, partners, students, and grounds team engaged and you've decided on the details of your project, it's now time to share it with the public! 

4 How to Spotlight Sustainable Landscape Efforts

"Public sentiment is everything. With public sentiment nothing can fail; without it, nothing can succeed."

~ Abraham Lincoln

Old Abe pretty well summed up the reason why publicity and visibility are essential if the transition to sustainable landscapes is to be successful on campus. An important early step toward influencing public sentiment is building awareness. People on and off campus must hear about your initiative, why you are doing it, and what you hope to accomplish.

4.1 Develop a Communications Plan

Having a communications or public relations plan – especially for major events and ceremonies – is essential to success. Working with your partners identified in Section 3, you can develop a communications plan for most projects or events rather quickly. It should include at minimum:

- Purpose, target audiences, and timetable.
- Ways to best reach each audience – through what media? (See next section on working with your PR office).
- Who will take the lead on each step? Create a schedule with names and dates.
- What is needed for each communication effort – press release, website pages, blog posts, photos, brochures, etc.
- A communications budget, including available funds and necessary expenses.
- A list of quantifiable goals or methods of evaluation to help focus your efforts and lead to results that will illustrate the success of your campaign

What is not needed is a lengthy, time-consuming document or process of development. The elements above can easily be designed as a chart or matrix using Excel or similar program.... or just make a notepad list, calendar notations, or whatever. This section provides tips for spotlighting your sustainable landscaping efforts, with examples of methods that have been used successfully.

As part of the communications or public relations plan, you'll need to identify what resources you'll need to best educate your target audience(s). See [Benefits of Sustainable Landscaping](#) on page 2 and [Appendix B](#) (Ecosystem Services) for help in preparing educational materials for your marketing and outreach efforts.

4.2 Work With Your Public Relations Office

Virtually all campuses have a media or public relations office. It goes by different names, but in all cases these people are the pros. Not only can they help write effective news releases and feature stories, they also have contact lists for mass mailings or inviting specific local media coverage.

Begin by making certain they fully understand your program and the concepts of sustainability and then involve them early and often as part of your team as you plan publicity. Here's an example of a [professional media clip](#) produced by Duke University's PR office spotlighting a new "smart" garden on campus.

Jacek Ghosh, Director of Sustainability at Virginia Commonwealth University, describes the "excellent working relationship" his sustainability committee has with the Division of University Relations. "At VCU," he explained, "a public relations specialist has been a member of our Sustainability Committee since its inception." The result has been over 90 stories produced about VCU's sustainability efforts over the past four years.



Drought-tolerant, native species in courtyard landscape at UCLA.

PHOTO COURTESY OF NURIT KATZ

[back to table of contents](#)



Rain garden project at Virginia Commonwealth University.

PHOTO COURTESY OF JACEK GHOSH

Another good way to improve your media skills is to invite representatives from your local media outlets to make presentations to your club, committee or class. They are usually quite candid and helpful.

There is much more to media relations that can help you get your story to large numbers of people. Journalism professors can be a big help with this, and many tips are available online. You can also learn a lot from working with your own media relations office.

4.3 Use Social Media and Campus Newspapers

Social media is key to communicating with students, and is growing in popularity with faculty, staff, and the general public. Social media is second nature to most students, so let them use their imaginations in finding ways to promote landscape sustainability via the various networks. Well written and well maintained blogs present a great opportunity. Stories in the campus newspaper are also an excellent way to help build awareness among the campus community.

Here are a few examples of how campuses are using social media and campus newspapers:

- ❖ [New York University's sustainability initiative](#) has gained a Twitter following
- ❖ [Portland State University's Institute for Sustainable Solutions](#) maintains an "eco-wiki" that allows self-submission of events.
- ❖ At the University of Texas at Austin, stories on sustainable landscaping efforts appear regularly in the campus newspaper, such as this article on a [xeriscape initiative](#).
- ❖ [Virginia Commonwealth University's Rain Garden](#), planted in 2011 through a collaborative effort, was well publicized, including a [campus calendar listing](#), and a [YouTube video](#).

MASS MEDIA PUBLICITY

Local newspaper and television/radio coverage can help spotlight campus sustainability projects, but getting column space or air time is not easy. Your campus communications or PR office can be a great help with this. One tip is to think in terms of working *with* the media. Learn what types of stories the media is looking for and help get them the information needed from your projects to generate those stories.

Here are a few key things to consider if you are requesting coverage (your PR office will appreciate you having a general understanding of the process and how mass media works):

- ❖ News is what media are after, not an opportunity to help your cause. News means your story must be timely, have a human interest element, or portray conflict, suspense, an unusual feat, or similar "news" elements. A big event like a campus clean-up day involving large numbers of students and staff meets the criteria, or the installation of rain gardens, or converting campus lawns to native habitat. Be sure to point out any "firsts" in your press releases and interviews.
- ❖ A potential action or prominent individual will appeal to local news media, even something as timeworn as a dignitary planting a tree or cutting a ribbon. Campuses for example typically get local coverage for earning Tree Campus USA recognition, especially if an Arbor Day Foundation official comes to campus to present the award at a special ceremony.
- ❖ Allow several days to a week before an event or announcement to present the key details, preferably in writing, to a managing or news editor (newspapers) or news director (TV or radio). Include complete contact information. You want to be accurate and make their job as easy as possible.
- ❖ After coverage, remember to send a thank you note; and try to help your communications office cultivate relationships with the media via informal contacts throughout the year rather than only when you are asking for coverage.

[back to table of contents](#)

DEVELOPING PROMOTIONAL MATERIALS

Brevity is usually at the heart of effective communication and is one of communication's essential A,B,C's (the other two being "Attractive" and "Clear"). Since the term "sustainable landscapes" is not quite a household word, it helps to create short, clear explanatory messages. These are sometimes called 'elevator speeches' – i.e., the necessary essentials you can provide to someone riding between floors in an elevator.

You may want to start with a set of brief definitions followed by examples. Sometimes the information is best framed in a set of Frequently Answered Questions (FAQs). See a fairly comprehensive list of the [benefits of sustainable landscaping](#) on page 2 that you can draw on for your promotional materials.

Once created, the messages can be used on websites, social media, campus media, and in hand-outs (brochures, FAQs, and fact sheets) – but to save paper, use print materials judiciously and avoid printing too many at once. Good places to hand them out are at new student or staff orientations, visitor information desks, and kiosks where applicable. Campus tours may also be a good activity to present the sustainable landscape message to prospective students and parents.

4.4 Take Advantage of Website Promotion

Here are two example campus websites that make it clear to the uninitiated what sustainable landscapes entail and what is being done on campus, and present easy-to-understand descriptions of sustainable landscapes and the goals and strategies for implementation on campus.

- [What is Sustainable Landscaping?](#) (Harford Community College)
- [Sustainable Landscapes](#) (University of Delaware)

And here's an example of a campus that uses its website to promote its own sustainable landscaping experts:

- [Sustainable Landscaping Experts at Wisconsin's Technical Colleges](#)

4.5 Organize Events and Celebrations

Nothing provides opportunities for promotion as much as a special event. Among the many benefits of holding an event or celebration are:

- The chance to involve students, staff, the community – everyone, in most cases!
- A great news story that can attract mass media coverage and provide an opportunity to tell your story to a wider audience.
- An opportunity for elected officials and campus administrators to receive favorable publicity and photos. It not only puts them in the spotlight, it is a chance for them to meet your people, better understand sustainability, and lend support to your program.
- Something tangible can be accomplished, from litter clean-up to adding new trees to a campus.
- It builds cohesiveness within your organization and provides a chance for work to be recognized and appreciated.

While there are plenty of benefits from staging events, a poorly planned event is worse than none at all. Remember the [Five Filters of Impact](#) on page 6? Those principles apply here as well. Make sure that whatever you plan will be sustainable, have a significant scale, provide opportunities for changed behavior, engage diverse partners and have measurable results so you can track if your event was a success or not.

Arbor Day Celebration

Said to be the nation's "oldest continuous environmental event," Arbor Day offers a useful way to help promote sustainable campus landscapes. Begun in 1872 in Nebraska, this 'tree-planting holiday' has expanded to campuses as part of the [Arbor Day Foundation's Tree Campus USA program](#). Tree Campus USA was launched in 2008 through a partnership with Toyota. Celebrating Arbor Day is one of the requirements for your campus to be designated with Tree Campus USA status. Arbor Day is also one of the easiest campus events to plan and conduct, with [support materials](#) available from the Arbor Day Foundation.

[back to table of contents](#)



Signage at Delta College.

PHOTO COURTESY OF DELTA COLLEGE

4.6 Make Effective Use of Signs and Banners

Don't overlook the relatively inexpensive and continuous communication that signs, banners, and posters offer – especially when made and sourced sustainably. These may be permanent, such as an interpretive sign next to a campus walkway that explains a particular sustainable practice, or a banner that is temporarily displayed to help promote a celebration or other event. The incorporation of such educational components in outdoor spaces can accelerate the process of building support for sustainable landscapes by broadening knowledge about them and enhancing appreciation.

Signage in the landscape might include botanical names, herbal remedies, or hand-created signs by students. Signage can also provide information about concepts such as permaculture, companion planting, and how trees absorb CO₂. Entire art classes can be engaged to produce signs, with each student adopting a plant in a certain garden for instance.

Here are two good examples of campuses that make effective use of signs, posters, and banners:

- Kent State University at Stark – does an exemplary job making announcements stand out on bulletin boards and have an impact. Here is an [example flyer](#).
- Cornell University – places signs around campus denoting “[Campus Naturalization Zones](#),” which explain how these spaces reduce the need for irrigation, fertilization, mowing, and pest control and help meet Cornell's sustainability goals. Cornell also promotes these naturalization zones on its [website](#).

Consider engaging your campus graphic arts and communication departments to have students create signs, banners, and posters for upcoming events. Many campuses have had great success in holding design contests to engage students and create awareness about outdoor sustainability events such as tree plantings or campus beautification days. 🌱

SUSTAINABILITY WEEK TREE-PLANTING EVENT AT VIRGINIA TECH

Virginia Tech provides a good example of not only campus-wide but community-wide awareness made possible through a key event: Campus Sustainability Week, which has happened each fall since 2007 – and is tied into the national Campus Sustainability Day. According to Denny Cochrane, manager of the university's sustainability program:

“Sustainability Week always features a tree planting event. We cannot have Sustainability Week without a tree planting event. Faculty and students from the Department of Urban Forestry in the College of Natural Resources and Environment teach campus and community volunteers how to plant a tree, and then supervise the planting of a dozen or more trees. It is one of our most popular events.”



Tree Campus USA event at Virginia Tech as a part of Campus Sustainability Week

PHOTO COURTESY OF MATT GART

[back to table of contents](#)

5 How to Earn Recognition for your Efforts

Humility is a virtue, but not when it comes to building support for a program. Public recognition through awards or meeting national criteria is a sure way to create publicity with an impact. It brings focus to your program on campus and in the community, enhances opportunities for partnerships, and helps make a program or project less vulnerable to budget cuts or the axe of a new administration.

5.1 Recognition Programs

In landscape sustainability, there are numerous ways to strengthen your campus program through external recognition. Here are a few national programs that recognize achievements in sustainable campus landscapes with awards, ratings, honors, and plaques:



TREE CAMPUS USA® ([website](#))

A program of the Arbor Day Foundation sponsored by Toyota, Tree Campus USA provides national recognition for campuses that demonstrate excellence in campus tree management as well as student and community involvement. [Five standards](#) guide the way to this award.

Across the U.S., nearly [200 colleges and universities](#) have earned Tree Campus USA recognition. Becoming a Tree Campus and re-certifying annually provides an excellent means to engage students and faculty, and gain the kind of positive publicity that garners support. Tree Campus USA colleges receive recognition materials that can be showcased throughout the campus, as well as press releases to be distributed on campus and in the community.

Examples of model Tree Campus USA institutions include:

❖ Florida Gulf Coast University

A Tree Campus USA school for several years in a row, FGCU exemplifies the kind of ongoing program resulting from participation in Tree Campus USA. "Tree Campus USA really helped lay the foundation for the nucleus of our campus," said Keishla Negron, former student government sustainability director at FGCU, who was especially vital to the program's success.

A [video](#) of Florida Gulf Coast University's 2012 tree planting captures the energy and excitement of a Tree Campus USA event.

❖ Georgia Tech

Georgia Tech is especially noteworthy for their comprehensive [Tree Campus USA application and Tree Care Plan](#).

Georgia Tech has received Tree Campus USA recognition every year since the program's launch in 2008, and serves as a good model for other schools. The university involves nearly 100 students a year in campus beautification, planting and management of Tech's trees, and ensures that students are invited to participate and provide input at Campus Tree Advisory Committee meetings.



Tree-planting team at Florida Gulf Coast University

PHOTO COURTESY OF NICOLE HALMOS

[back to table of contents](#)



SUSTAINABILITY TRACKING, ASSESSMENT & RATING SYSTEM (STARS®) ([website](#))

STARS is managed by the Association for the Advancement of Sustainability in Higher Education (AASHE). It's a transparent, self-reporting framework that measures an institution's sustainability performance. Colleges and universities may participate regardless of size, and regardless of level of sustainability achievement. Ratings are based on points and ascend in order from bronze to silver, gold, and platinum.

STARS 1.0 contains credits for sustainable landscaping practices, and STARS 2.0 (targeted for release in fall 2013) will contain even more landscaping credits. Getting your campus involved in a STARS assessment is a great way to bring campus-wide focus to sustainable landscaping practices. You can work toward existing credits as well as potential innovation credits. A STARS rating also makes all of your institution's sustainability efforts public, so more people can learn about your landscaping efforts.

GREEN STAR AWARDS ([website](#))

The Professional Grounds Management Society (PGMS) offers Green Star Awards for excellence in grounds management in a number of categories, including "University and College Grounds." Although the emphasis is on maintained and manicured landscapes, sustainable practices are a major factor in award selection. For example, St. Mary's College of Maryland won the 2012 Grand Award in the "University and College Grounds" category for its commitment to a "sustainable approach to caring for the campus landscape," with techniques like reducing pesticide and fertilizer usage, bioretention areas to slow or capture rain water runoff, and drought tolerant annuals to conserve water. See the complete list of [2012 award winners](#) for other examples of colleges that incorporated sustainable practices in their award-winning projects (note in particular University of North Carolina Greensboro and Southern Methodist University).

SUSTAINABLE SITES INITIATIVE™ (SITES™) ([website](#))

SITES is a joint project of the American Society of Landscape Architects, the Lady Bird Johnson Wildflower Center at The University of Texas at Austin and the United States Botanic Garden to create voluntary national guidelines and performance benchmarks for sustainable landscape design, construction, and maintenance practices. The goal is to encourage and recognize sustainable site practices through a certification system. SITES can be seen as a landscape corollary to USGBC's LEED rating system and can be applied to sites with or without buildings. Points are awarded for an institution's sustainable landscape practices, leading to one of four levels of certification. A two-year Pilot Program (June 2010 - June 2012) tested and revised the Guidelines and Performance Benchmarks (2009) prior to open enrollment in 2013.

Four campus projects were among the SITES certified pilot-phase projects:

- [Student Recreation Fields – Grand Valley State University](#)
- [Green at College Park – University of Texas at Arlington](#) (See also [AASHE case study](#).)
- [Mann Library Entrance – Cornell University](#)
- [Charlotte Brody Discovery Garden at Sarah P. Duke Gardens – Duke University](#)

INTERNATIONAL SOCIETY FOR LANDCARE EMISSIONS ([website](#))

The International Society for Landcare Emissions (ISLE) works with public and private organizations to measure and reduce their environmental and social impact on the urban landscape. ISLE certifies organizations with grounds keeping programs, professionals, and land care service providers. There are three levels of certification: "Transition," "Evolution," and "Next Generation" (the highest level). ISLE's software program TurfView measures the carbon footprint of urban landscapes ranging from irrigation, equipment, and exterior lighting to fertilizer and pesticides.

SCUP'S EXCELLENCE AWARDS ([website](#))

The Society for College and University Planning (SCUP) offers an "Excellence in Landscape Architecture" award. Winning projects often include an emphasis on sustainable practices. Here's an [example award winner](#) – from 2011, and [another winner](#) from 2012.

[back to table of contents](#)

ASLA AWARDS PROGRAM ([website](#))

Awards programs of the American Society of Landscape Architects highlights sustainable design and planning best practices. Judging criteria requires that jurors consider sustainability when making awards decisions. Even some well-designed projects deemed unsustainable by jurors do not receive recognition. Arizona State University, a 2012 Honor Award winner in the General Design category, provides a good example of a [winning project](#).

5.2 Gaining Local and Regional Recognition

In addition to national and international recognition, there are various local, state and regional awards for sustainable landscapes and practices. Seek them out and be sure to apply. Some schools may even have internal, campus-specific recognition programs for sustainability initiatives. These should be searched out as well. Leverage this recognition when seeking national and international honors.

Here are two good examples of a regional sustainable landscape recognition program:

- [Salmon Safe](#) (Pacific Northwest)

A certification system for campus landscapes. Any campus (corporate or educational) can qualify for certification by following practices that help assure clean water. Salmon Safe certification also helps toward achieving LEED credits for campus building projects.


- [Landscaping the Sustainable Campus](#) (Indiana)

A program of the Indiana Wildlife Federation that encourages sustainable and ecologically friendly practices at colleges and universities around Indiana. The IWF coordinates projects, provides technical assistance, and awards certification at three different levels.

Hosting a regional conference or workshop is also a great way to profile and gain recognition for your campus initiatives. In 2013, for example, Vassar College used grant funding to host a [Green Campus Infrastructure conference](#) to discuss the challenges of and strategies for implementing green infrastructure on campuses (see Appendix D, [Section D9](#) for more information on green infrastructure).

Remember, publicity is key when it comes to developing awareness and gaining widespread support and broad adoption of sustainable landscape practices on college campuses. Don't be afraid to tell your story. Use recognition programs like those mentioned in this section and the publicity tools mentioned in earlier sections to celebrate your successes and bring attention and support to your sustainable landscape projects on campus.

U.S. EPA'S CAMPUS RAINWORKS CHALLENGE ([website](#))

This program was launched in May 2012 to inspire the future generation of landscape architects, engineers, and planners to develop innovative "green infrastructure" systems that mitigate the impacts of urban stormwater while supporting sustainable communities. Student teams create an innovative green infrastructure design for a site on their campus showing how managing stormwater at its source can benefit the campus community and the environment. Winning teams earn a cash prize, as well as research funds for their faculty advisor to conduct research on green infrastructure. See the [2012 winners](#). (For more on green infrastructure, see Appendix D, [Section D9](#)) 

6 Conclusion

The campus landscape is an institution's showcase. It is the front door, and the welcome page. It often reveals more about a college or university than all the pamphlets, banners or speeches by recruiters and administrators.

The iconic campus has long been a place of trees, lawns, and as many playing fields as space might allow. But today, the campus landscape has to be more than that; it must tell the world that here is a place of leadership that not only teaches, but demonstrates how to ensure that future generations will continue to enjoy ecologically healthy and sustainable environments.

The institution's grounds must convey a sense of enlightened stewardship. This is a responsibility that campuses owe to society. Putting into practice the theories and principles of sustainable landscape is a start. Gaining public awareness is the next step, and one that will ultimately lead to the support necessary for widespread acceptance, funding, and further implementation of sustainable landscape practices on campus and throughout the community. Using this guide, you can help your campus become a leader in the principles and practices of sustainable landscapes. You can help to foster that sense of enlightened stewardship, so that students and employees for years to come can learn about, enjoy, and care for our beautiful planet.

After all... there is only one Earth. 🌍



Student volunteers at Georgia Tech.
PHOTO COURTESY OF ARBOR DAY FOUNDATION

[back to table of contents](#)

8 Appendices

Appendix A: Technical Resources

TECHNICAL GUIDES TO SUSTAINABLE CAMPUS LANDSCAPES

While this guide has not focused on the technical details of implementing and maintaining sustainable campus landscapes, there are a number of excellent guides for that purpose. The following two are written specifically for higher education institutions:

- ❖ [Sustainable Landscaping](#) (2010, IFMA Foundation)

A bible for sustainable campus landscaping practices, with thorough and detailed guidelines on design, implementation, and maintenance of landscapes.

- ❖ [APPA's Operational Guidelines for Educational Facilities: Grounds](#) (2011, APPA)

Covers all of sustainable grounds from operations and maintenance to benchmarking, inventory & measurement, staffing guidelines, contracting options, and even position descriptions.

GENERAL SUSTAINABLE LANDSCAPE GUIDANCE

In addition to the campus-focused technical guides above, here are some more general technical resources:

- ❖ [Sustainable Landscape Management: Design, Construction and Maintenance](#) (2011)

A general guide to sustainable landscaping that is highly applicable to campuses. Includes a thorough treatment of sustainable landscape management from history to design, retrofitting, and all aspects of management.

- ❖ [The Sustainable Sites Initiative™ \(SITES™\)](#) (described in [Section 5.1](#)), provides technical guidance through the [SITES 2013 Reference Guide](#), which covers design, construction, maintenance, and monitoring. (Note: Campuses can use their SITES performance to earn credit in AASHE's STARS program – see [STARS 1.2 Technical Manual](#)).

OTHER RESOURCES ON SUSTAINABLE LANDSCAPES

- ❖ [Animations and case studies – American Society of Landscape Architects \(ASLA\)](#)

Offers guidance on sustainable landscapes in a series of videos and examples.

- ❖ [Resources on Campus Grounds – AASHE](#)

Contains a public database of sustainable campus landscaping initiatives that institutions can draw on for inspiration and guidance. Also contains databases of integrated pest management policies and campus case studies on sustainable grounds management (member resources).

- ❖ [LEED Rating System – U.S. Green Building Council](#)

Several sustainable site credits can be earned, similar to AASHE's STARS program. Working toward these credits provides multiple benefits. For example, restoring natural habitat or creating water efficient landscaping can contribute points toward certification of a building while also providing environmental benefits, saving money, and better integrating landscape practices with planning across campus.

TREE-SPECIFIC RESOURCES

Here are some resources to help you make the case for planting and preserving trees:

- ❖ [National Tree Benefits Calculator](#)

Makes it easy to estimate the benefits of individual trees along streets or avenues. Input location, species and size and the program tells you the environmental and economic value provided on an annual basis.

- ❖ [i-Tree](#)

A software program developed by the U.S. Forest Service in partnership with Davey Tree company, i-Tree is useful for assessing the eco-services of trees. It calculates the carbon sequestration potential of each tree planted and the economic benefits of air pollution reduction. New Mexico State University is using [this tool](#) to map the more than 65 species and 6,000 trees on campus in an effort to understand their characteristics and whether they are sustainable for the region.

[back to table of contents](#)

❖ [The Value of Trees to a Community](#)

A list of the many benefits trees have for communities, published by Arbor Day Foundation.

❖ [Tree Campus USA Program – Arbor Day Foundation](#)

❖ [Tree City USA Bulletins – Arbor Day Foundation](#)

These 8-page bulletins condense technical information on tree care and selection into concise, easy-to-understand articles that encourage tree planting and maintenance. While designed largely for municipalities, they're easily adaptable for educating campus communities.

Appendix B: Ecosystem Services

Ecosystem services are goods and services of benefit to humans that are produced by the interaction of living elements, such as vegetation and soil organisms, and non-living elements, such as bedrock, water, and air. A sustainable site strives to protect or regenerate these services.

The [2009 SITES Guidelines and Performance Benchmarks \(pdf\)](#) provides this list of ecosystem services:

- ❖ **Global climate regulation**

Maintaining balance of atmospheric gases at historic levels, creating breathable air, and sequestering greenhouse gases

- ❖ **Local climate regulation**

Regulating local temperature, precipitation, and humidity through shading, evapotranspiration, and windbreaks

- ❖ **Air and water cleansing**

Removing and reducing pollutants in air and water

- ❖ **Water supply and regulation**

Storing and providing water within watersheds and aquifers

- ❖ **Erosion and sediment control**

Retaining soil within an ecosystem, preventing damage from erosion and siltation

- ❖ **Hazard mitigation**

Reducing vulnerability to damage from flooding, storm surge, wildfire, and drought

- ❖ **Pollination**

Providing pollinator species for reproduction of crops or other plants

- ❖ **Habitat functions**

Providing refuge and reproduction habitat to plants and animals, thereby contributing to conservation of biological and genetic diversity and evolutionary processes

- ❖ **Waste decomposition and treatment**

Breaking down waste and cycling nutrients

- ❖ **Human health and well-being benefits**

Enhancing physical, mental, and social well-being as a result of interaction with nature

- ❖ **Food and renewable non-food products**

Producing food, fuel, energy, medicine, or other products for human use

- ❖ **Cultural benefits**

Enhancing cultural, educational, aesthetic, and spiritual experiences as a result of interaction with nature

Appendix C: Ideas for Engaging Students in Landscape Projects

Special thanks to the staff at Portland State University's Sustainability Leadership Center for their help in compiling this list.

- ❖ Plan a day of landscape service projects with student affairs or service organizations
- ❖ Students or an art class can collect pieces of wood and make hand-painted signs sharing plant names and landscape concepts.
- ❖ Work with grounds staff to design plant and flower arrangements for commencement with landscape goals in mind; donate the arrangements to the grounds department afterward. Set up a service project to help grounds staff plant them around campus.
- ❖ Plant sedums or groundcovers on campus that spell out the school's initials
- ❖ Connect with indigenous student groups for culturally relevant programming, including both ecological and cultural restorative aspects of landscapes.
- ❖ Create an [outdoor classroom](#) and advertise.
- ❖ Bring in a wild food expert to show students some of the edible plants on or around your campus.
- ❖ Start a community orchard, and plant a tree for each graduating class. Make sure to add a [sign](#)!
- ❖ Sell food from campus gardens (or farms and edible landscapes) at a farmers' market, student co-op, or cafe. The revenue can support interns as well as purchases of equipment and supplies.
- ❖ Host events in a campus garden or elsewhere, such as:
 - A potluck, tea time, or fair trade chocolate-tasting. Here's an example [potluck](#) in a community garden during new student week.
 - Workshops on pruning, companion planting, and homemade/non-toxic insect remedies.
 - A cooking event or series of events using foods from your gardens.
 - A talk about sustainable gardening. Here's an example [TED talk](#).
 - Work with classes or student groups to design place-based art for campus landscapes.
- ❖ What to do with leftover dirt from construction? Build a native garden instead of paying to have it hauled away. See [this example](#) of a multi-partnered project engaging students, from California State University Northridge.

Appendix D: Elements of Sustainable Campus Landscapes

This appendix does not claim to be comprehensive. It simply lists a few elements and examples of sustainable campus landscapes in hopes that readers can find ideas to further their own efforts and to better understand the scope of sustainable landscape practices.

CONTENTS:

D1. Sustainable Design and Permaculture

[D2. Social Dimensions](#)

[D3. Going Local](#)

[D4. Going Organic](#)

[D5. Drought-Tolerant Landscapes](#)

[D6. Native \(or Naturalized\) Landscapes](#)

[D7. Trees and Arboreta](#)

[D8. Edible Landscapes](#)

[D9. Green Infrastructure and Storm Water Management](#)

D1. SUSTAINABLE DESIGN AND PERMACULTURE

Permaculture is an ecological design science that uses natural plant associations and patterns to provide lasting benefits such as food and shade with minimal inputs. It can be applied at any scale, from a large farm to a campus garden. A regenerative strategy, applied to a campus it can restore ecosystem health while supplying dining services with a local and organic food source. Best seen as a guiding philosophy and design strategy rather than a practice (as other elements listed in this appendix) it provides a set of principles and “how to” guidance to help transition communities and campuses to become truly sustainable. The word itself originally meant “permanent agriculture,” but has been expanded to mean “permanent culture” in recognition of the fact that social aspects such as gathering spots are integral to a truly sustainable landscape. A good resource on permaculture is the [Permaculture Institute](#).

Here are a few examples of permaculture design and instruction at campuses:

- [B Street Permaculture Project – Pacific University](#)

Engages students and city residents in community building, research, and demonstration projects to encourage sustainable practices in accordance with permaculture principles and ethics.

- [Permaculture Garden – University of Massachusetts Amherst](#)

What began as a class project in 2009 has transformed a 12,000-square-foot patch of lawn into a productive garden for students, staff and faculty to appreciate. UMass Amherst also hosts an annual “Permaculture Your Campus” conference (see [2013 conference description](#)). Learn more about the [UMass Permaculture Initiative](#).

- [Permaculture Design Program – Oregon State University](#)

Provides site-based classes, online courses, and workshops for students and the general public.

The idea of using permaculture philosophy and sustainable design principles to guide the many elements of campus landscaping should be part of a broad, participatory discussion of design at your campus. One topic to address is design standards themselves. Most colleges and universities have design standards for installation of site furnishings, construction of sidewalks, installing plantings, etc. There are a number of ideas for how to change these standards to more sustainable practices. For example, changing a standard sidewalk brick paving detail to a permeable paving detail, or providing approved sustainable plant selections (native, non-invasive, site appropriate), or even using compost tea instead of fossil fuel-based synthetic fertilizers. According to Seth Charde, environmental planner at the University of Maryland, opportunities to change these standards are few and far between at most campuses. Developing a sustainable landscape master plan can help in this process (see sidebar on [Inclusive Master Planning](#) on page 7), but an often overlooked step is incorporating components from the master plan into new, sustainable design and maintenance standards so that they become everyday practice.

One campus pushing the envelope on sustainable landscape design is the University of Washington. Its [Biodiversity Green Wall and Edible Green Screen](#) aims to show the capacity of building skins to ecologically contribute to the urban environment. A collaborative, student-led project within the College of Built Environments’ Green Futures Lab (GFL), the wall serves as a highly visible billboard for new sustainable practices, while demonstrating to what extent green walls and

[back to table of contents](#)

screens can help promote biodiversity, produce food, and reduce energy use. For example, by harvesting water to irrigate the green wall, the project will reduce potable consumption and may lessen storm water impacts. [Click here for more details.](#)

D2. SOCIAL DIMENSIONS

While social well-being should be part of all sustainable landscape initiatives, we thought it important enough to draw explicit attention to this dimension, and reinforce the inclusion of social well-being and equity in sustainable landscape planning and practice. For example:

- ❖ Making the campus landscape accessible to diverse individuals should be a sustainability priority at all stages of an initiative – visioning, planning, decision-making, and practice.
- ❖ Thoughtful, sustainable land use development can lead to more walkable and bicycle-friendly campuses that promote human health and avoid unnecessary car trips.
- ❖ Multicultural and heritage gardens provide ways to recognize early inhabitants of landscapes and diverse cultures in the campus community. A useful e-book on student farms and gardens, [Fields of Learning](#) (2011), addresses cultural aspects in several places, including a chapter on the University of Oregon's Urban Farm describing how it pays tribute to the cultural heritage of the Willamette Valley and serves as an outdoor classroom and living lab.

D3. GOING LOCAL

An important element of a sustainable landscape is locally sourced and produced inputs. Campus examples include on-site waste processing such as composting leading to input production such as mulch, or creating your own compost tea. Local sourcing and repurposing of construction and plant materials in landscape projects is also vitally important as a way to conserve resources while providing cost savings and other benefits.

Related to re-use of local resources, using non-potable water for irrigation is probably a necessary move toward true sustainable landscaping. While it remains an aspirational goal for many institutions, they could reap tremendous benefits, including cost savings. While most irrigation today uses potable water, this practice may be seen as tremendously wasteful of a precious resource in the near future.

D4. GOING ORGANIC

One objective in sustainable campus landscape practice is to eliminate, or at least reduce to the greatest extent possible, the use of synthetic pesticides and herbicides. This may mean the release of beneficial insects that help control pests, or switching to natural, non-toxic compounds such as 'compost tea.' Organic landscapes are also beneficial to the health of workers as well as anyone who engages with the landscape physically. College campuses span the spectrum of best management practices when it comes to avoiding toxic chemicals, from "integrated pest management" to fully organic campuses. Setting aside areas for organic campus gardens and farms can also enrich and promote a sustainable campus landscape. Gardens and farms can be run by students and/or shared with the surrounding community.

SEATTLE UNIVERSITY – AN ORGANIC CAMPUS LANDSCAPE

Seattle University is the model of an organic campus landscape. Its grounds have been successfully maintained with organic, pesticide- and herbicide-free methods since 1998. All outdoor areas of the campus are maintained without the use of chemical pesticides, and all landscapes except the athletic fields are completely organic. The shift to sustainable landscape practices at Seattle U began in 1979 with the adoption of an Integrated Pest Management program. Seattle U does not see pesticide application as a "viable" last resort, and has avoided its use by adopting a combination of practices that focus on total plant health, particularly at the soil level. [Click here for details.](#)

D5. DROUGHT-TOLERANT LANDSCAPES

Since campuses are traditionally associated with large lawns, water-conserving plantings are very important, especially when the removal of turf grass may not be an option. There are many ways to achieve low- or no-irrigation landscapes. Xeriscaping is one such landscaping philosophy that seeks to minimize irrigation. It emphasizes native and drought-resistant plants, which generally do not require supplemental irrigation. While often associated with desert regions, its techniques can be applied widely. They include: careful plant selection and design, mulching in planting beds and around trees to retain moisture in the soil, and using alternatives to turf or using low-input turf-grass species. The term itself is a combination of two words: xeros (Greek for "dry") and "landscaping." More information about xeriscaping can be found at [The National Xeriscape Council, Inc.](#)

[back to table of contents](#)

UNIVERSITY OF NEVADA, LAS VEGAS – LARGE-SCALE XERISCAPING

Results of implementing xeriscaping techniques can be striking. For example, at the University of Nevada, Las Vegas, nearly one million square feet of turf were converted to water-smart landscaping between 1995 and 2009, saving as much as 45 million gallons of water each year. Despite campus growth during this period, water use was reduced by 45 percent per square foot. [Click here for details.](#)

D6. NATIVE (OR NATURALIZED) LANDSCAPES

Besides saving money and resources, there are a number of [other sustainability benefits](#) from “going native.” Some experts use the word “naturalized” instead of “native,” explaining that only the original landscape is native, and when we try to restore to native, we are really “naturalizing” the landscape. They and others emphasize that “locally appropriate” and “adapted” plantings are just as beneficial as so-called “native” plantings in terms of ecosystem services and sustainability goals. Either way, thoughtful and strategic selection of different areas of campus that can be converted to native, naturalized, locally appropriate or adapted plants is a rewarding experience, and can lead to even more areas to convert in the future. Breaking the tradition of decorative and manicured landscaping is not easy, but can be richly rewarding.

Additional examples:

- [Campus Prairie Project](#) – Maharishi University of Management
- [Mead Meadow](#) – Drew University
- [“Going Native”](#) – National Wildlife Federation, Campus Ecology Program

WARREN WILSON COLLEGE – CONVERTING TURF TO MEADOWS

At Warren Wilson, efforts since 1999 have focused on growing native and wildflower seeds and converting turf to natural meadows (in cooperation with the North Carolina Division of Forest Services). According to landscaping Supervisor Tom LaMuraglia:

Our managed meadows reduce mowing by at least six hours per week. That has significant benefits in terms of greenhouse gas emissions reduction, fuel costs, and local air and noise pollution. And we’re just getting started. We won’t rest until all unused campus turf grass is transitioned into low-input, biologically-diverse, wildlife-friendly native grasses. We’re out to change people’s perception and help them see the holistic value of a wild and native landscape. [Click here for details.](#)

D7. TREES AND ARBORETA

Trees have long been an important part of the campus landscape (see sidebar on [The Benefits of Trees](#), page 2). Several campuses maintain an arboretum, which is essentially a “living museum” for the long-term collection of trees and other woody plants. Arboreta help showcase a college’s commitment to a meaningful and aesthetically enriching educational environment. They serve as outdoor classrooms, provide opportunities for experiential learning, and can help educate the community about sustainable landscaping practices. Two example arboreta are:

- [University of Wisconsin – Madison’s Arboretum](#)
- [University of Arizona’s Campus Arboretum](#)

Documenting the Value of Trees

University of Louisville offers a good example of how a campus can document the benefits and value of trees. Aided by graduate students in his urban wildlife research lab and students in his environmental biology classes, Tommy Parker catalogued over 2,500 trees on campus and determined that they sequester over 20 metric tons (45,000 pounds) of carbon dioxide per year – putting the value of UofL’s trees at over \$7,000,000. [Click here for details.](#) Also see [UofL’s grounds website](#) for more information.

Transplanting Trees

Protecting existing trees from being destroyed by development can be a challenge. [Stanford University’s tree-transplant program](#), in operation since 1996, has saved over 1,050 trees that would have been destroyed. These include oaks, olives, redwoods, pines, and cedars that now provide shade for people and buildings and habitats for birds and squirrels.

[back to table of contents](#)

D8. EDIBLE LANDSCAPES

"Edible landscapes," or food-producing landscapes, incorporate plants that are also edible as part of the landscape design. The term is generally applied to landscapes outside of gardens (though the two sometimes merge, particularly when gardens are small). The idea is to enhance ornamental landscaping with food gardening, recognizing that many food plants are quite attractive and can be used as a benefit to the landscape. The edible landscape movement has recently gained new vigor as part of the sustainable landscape movement in general. There are many obvious benefits to providing easy access to free fruit, nuts, berries and other foods planted around campus, and there is growing interest in edible landscapes among staff and students alike. The labor of maintaining these landscapes is often readily shared by students. Fruit trees and edible annuals like red cabbage and hot peppers provide an aesthetic feature, and can be used for food production in campus kitchens. While food plants are a focus of permaculture as well, edible landscapes are not necessarily part of a permaculture design.

Additional Resources and Examples:

- [What is Edible Landscaping?](#)
- [Growing Veggies in Central Campus: Edible Landscaping at Luther College](#) – AASHE 2011 Conference Presentation.
- [Edible Landscaping at Humboldt State University](#) – a class project continuing previous work to increase awareness of and improve edible landscapes on campus. Focused on maintaining existing sites, repairing infrastructure, and creating informational signs. Good documentation, with discussion of native vs. invasive plant species.
- [Edible Campus Project](#) – McGill University. The project won a [national award](#) in 2008. See also [2012 update](#).

EDUCATING THE CAMPUS ABOUT EDIBLE LANDSCAPES

Here are a few examples of how to turn edible landscapes into educational tools:

- The University of Arizona offers [Edible Landscape Tours](#)
- The Evergreen State University has created [this video](#) about its "edible forest gardens."
- Loyola University Chicago's edible [landscaping website](#) provides a map of edible plants around campus
- At Kansas State University, [edible landscape solutions](#) are part of coursework
- University of Minnesota Duluth's [Edible Landscape Project](#) enables students and campus groups to learn about edible landscape practices through publicity and tours. Over a dozen campus gardens are overseen by a paid edible gardens coordinator, with most produce being grown for educational purposes. Materials, plants, and support are provided by facilities.

D9. GREEN INFRASTRUCTURE AND STORM WATER MANAGEMENT

An important element of sustainable landscapes – and an essential aspect of many of the practices above – is storm water management. This includes such practices as pavement reduction, permeable paving, rainwater harvesting, green roofs, rain gardens, bioswales, and other elements of "green infrastructure." Some of these features are quite visible and can serve as iconic examples of sustainability on campus, offering an array of educational and publicity opportunities. Storm water management on campus also helps improve the health of the larger watershed. This [video clip](#) from ASLA uses a college campus example to discuss how to leverage the landscape to manage water. The text on the page contains useful talking points, such as the fact that "green roofs can retain 40-60 percent of storm water hitting rooftops." Engaging in [storm water master planning](#) can provide an institution with a process for optimizing its long-term investments in green infrastructure.

[back to table of contents](#)