
The Environmental Stewardship Toolkit



How to Build, Implement, and Maintain
an Environmental Plan
FOR GROUNDS AND GOLF COURSES

Anthony L. Williams, CGCS, CGM

The Environmental Stewardship Toolkit

How to Build, Implement, and Maintain
an Environmental Plan for Grounds
and Golf Courses

Anthony L. Williams



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*This book is dedicated to everyone who is striving
to become a better environmental steward; from
novice to master, we are all connected.*

Contents

Foreword xi

Acknowledgments xiii

SECTION 1

Environmental Management 1

Chapter 1: Building a Green Team 3

How to Establish an Environmental Committee 3

Where Do You Look to Begin Filling Positions in Your Committee? 4

How Many People Should Be on Your Environmental Committee? 9

Summary 10

Chapter 2: The Environmental Plan: Site Assessment 11

The Site Assessment 12

Site Assessment Features for Golf Courses 16

Summary 17

Chapter 3: The Environmental Plan: Agronomic Programs 19

Soil Structure and Edaphology 19

Essential Elements to “All” Plant Growth 21

Soil Samples and Soil Testing 23

Tissue Samples 25

Cultural Practices for Turf 26

What Is a Carbon Footprint and Why Is It Mentioned Here? 33

Summary 35

Chapter 4: The Environmental Plan: Water Quality and Conservation 37

Water Basics 37

Water Quality Programs and Strategies 38

Summary 53

Chapter 5: The Environmental Plan: Wildlife and Habitat Management 55

Developing a Wildlife Inventory 55

Guidelines for Enhancing and Maintaining Wildlife Habitat 64

Summary 66

Chapter 6: The Environmental Plan: Integrated Pest Management 67

Protecting Agronomic Assets through IPM 67

Summary 82

Section One: Environmental Management Conclusions 82

Action Steps: Green, Greener, Greenest 83

SECTION 2

Resource Management 85

Chapter 7: Accounting and Financial Processes 87

The Accounting Equation 88

Specific Financial Documents 89

Using Comparative Reports 94

Summary 98

Chapter 8: Budget Reduction and Contingency Strategies 99

Environmental Programs That Cut Expenses and Protect Assets 99

Partnerships Increase The Effectiveness of Recycling Programs 104

Summary 114

Chapter 9: Human Resources Management 115

Employee Recruitment and Hiring Practices 116

Achieving More with Less 121

Safety Programs and Resource Management 122

Summary 129

Section Two: Resource Management Conclusions 132

Action Steps: Green, Greener, Greenest 132

SECTION 3

Environomic Community Engagement and Green Public Relations 135

Chapter 10: Environomic Community Engagement 137

The Role of the Green Industry Professional in an Environomic Community Engagement Program 138

Simple Steps for Starting an Environomic Community Engagement Program 139

Summary 144

Chapter 11: Public Relations and the Green Industry Professional 145

- Communicating to and with Target Audiences 145
- Public Relations and the Green Industry Professional 148
- Creating a “Beyond the Property” Program 150
- Crafting Your Story 152
- Ten Steps to Creating and Sustaining a Successful Beyond the Property Public Relations Program 155
- Summary 156

Chapter 12: Photography’s Role in Green Public Relations 157

- Digital Camera Facts for the Green Industry Professional 160
- Learning Another Language (or Two) 171
- The Future of Community Engagement 173
- Summary 174

Section Three: Environomic Community Engagement And Green Public Relations Conclusions 174

Action Steps: Green, Greener, Greenest 174

SECTION 4

Documentation Management

177

Chapter 13: Essential Green Industry Documentation 179

- How Do I Begin to Create a Personal Documentation List? 180
- Transforming Your Personal Documentation List into a Personal Documentation Program 182
- Documentation: Tools of the Trade 184
- The Daily Work Log 185
- Weather Reports 188
- Agronomic Reports and Documentation 191
- Water Quality Tests 193
- Disease and Nematode Sampling 195
- Chemical Application Records 195
- The Right to Know Center and Safety Training Documents 198
- Licenses and Miscellaneous Documents 202
- Summary 202

Chapter 14: Case Study Documentation and Uses 203

What Exactly Does a Case Study Look Like? 204

Environmentally Focused Documentation: the Building Blocks
of Case Studies 216

Water Use and Irrigation Documents 219

Summary 221

Section Four: Documentation Management Conclusions 221

Action Steps: Green, Greener, Greenest 222

SECTION 5

Putting It All Together: Synergy and the Green Industry Professional

223

Chapter 15: Career Focus and Professional Image 225

Time Horizons, Career Focus and the Green Industry Professional 231

Stretch Goals and Link Goals 238

Summary 244

Chapter 16: Professional Associations and Networking 245

American Nursery and Landscape Association 246

American Society of Golf Course Architects 246

American Society of Landscape Architects 247

Golf Course Builders Association of America 247

Golf Course Superintendents Association of America 248

Irrigation Association 248

International Society of Arboriculture 249

Professional Grounds Management Society 249

Professional Landcare Network (PLANET) 250

Sports Turf Managers Association 251

The Green Industry Ambassador 251

Summary 255

Chapter 17: Roadmaps for Success—Personal Success Stories from the Green Industry 257

Delany, Tom 258

Dinelli, F. Dan 260

Farren, Bob 265

Finney, Shelia 267

Hiers, Tim 269

Higgins, Monica	272
Jackson, Joseph B.	275
Maples, Palmer Jr.	277
Mangum, Ken	279
Mongeon, Roger	281
Newell, Ellen	282
O'Donnell, Kevin	284
Phipps, David	285
Pinson, Bob	288
Scott, Bob	289
Toma, George P.	291
Van Etten, John	292
Van Haasteren, George	294
Williams, Bruce R.	296
Summary	298

Section Five: Synergy and the Green Industry Professional

Conclusions 298

Action Steps: Green, Greener, Greenest 299

Index 301

Foreword

DON'T YOU JUST LOVE WHEN YOU meet someone who is living their life's purpose to the fullest? They exude energy. They work to master a subject or skill on a seemingly daily basis, but do so with ease. Their curiosity is insatiable. And they commit to educating and sharing their experience with others, so their work can have greater, lasting impact. Turn the page, then, and you will meet Anthony Williams, who is living his life's purpose. He invites you to accompany him in the pursuit of sustainability.

We at Marriott International—in order to serve our guests, communities, business partners, and employees whom we call associates—are united in our purpose and core values, one of which is “serve our world.” Through the Environmental Stewardship Toolkit, author Anthony Williams, who has a career spanning more than 25 years with Marriott, shows how he “serves our world” through our company's quest to conserve precious natural resources and achieve greater environmental sustainability.

Anthony has served as Director of Grounds at two Marriott hotel resorts. His stewardship and service have earned many accolades; Anthony was twice named Marriott Golf Grounds Manager of the Year, National Public Course and Overall winner of the Environmental Leaders in Golf Contest. In 2010, he was honored with the Golf Course Superintendents Association of America's highest environmental honor, the President's Award for Environmental Stewardship. He was also selected as the 2011 Environmental Communicator of the Year for the Turf and Ornamental Communicators Association.

Anthony treasures the J.W. Marriott Award of Excellence he earned in 2008; it is Marriott's highest honor, and it is presented by our Chairman and CEO, J.W. “Bill” Marriott, Jr. I was in the audience the night of that event, when Anthony received his Award of Excellence and quoted a Native American proverb, “we do not inherit the Earth from our parents, we borrow it from our children.”

Anthony has been a life-long environmental advocate and teacher. His intention is that he, through this book, will accompany you throughout *your* journey of environmental stewardship – whether you are a novice or a seasoned practitioner. The novice will gather a strong foundation of concepts and skills that will provide the insights that will launch their careers in the green industry. Critical core skills examined include

Water Conservation, Integrated Pest Management, Documentation Management and Career Planning. The seasoned practitioner will find career-boosting tools ranging from Environmental Planning, Advanced-Environomic Theory, Green Public Relations, Goal Setting and Time Management presented in an easy to implement style to guide them from practitioner to innovator. The book also features Green, Greener and Greenest action steps in each section to allow the reader at any level of stewardship to immediately have a positive impact their world.

And now, I welcome you to join Anthony, a true energy source, on his path toward greater sustainability. May you enjoy all your travels to wonderful destinations.

MARI L. SNYDER

Vice President, Corporate Social Responsibility &

Member, Marriott's Global Green Council

Marriott International, Inc.

Acknowledgments

I WOULD LIKE TO THANK MY DAD (Byron) and my Granddad (Ira) for teaching me the core values that have guided my life. To live a strong Christian faith and cultivate a deep understanding that, if you take care of the land, then the land will take care of you. Environmental Stewardship has been an heirloom in our family for generations.

My heartfelt thanks go to my many mentors for their support and guidance in this and so many projects. Thank you all for showing me the way, Hanshi Lou Angel, the associates of Marriott International, Marriott Golf and, of course, our leader J. W. Marriott Jr., the staff at Audubon International, Greg Lyman, Mark Johnson and the visionaries at the Environmental Institute for Golf, everyone at the Golf Course Superintendents Association of America and the Professional Grounds Management Society, my “green” family at the Georgia GCSA, Seth Jones for carving a writer from a pair of weathered boots, and Dr. Eddie Seagle and Abraham Baldwin Agricultural College for supporting my life-long education.

I also owe a debt of gratitude to the staff at Evergreen Marriott Conference Resort, Stone Mountain Golf Club by Marriott, Stone Mountain Inn, Stone Mountain Park, and the Stouffer/Renaissance Pinelsle Resort. Together we have helped shape the green industry.


I must extend a heartfelt thank you to my family especially my wife, Phyllis, and my son, Luke, who continue to inspire me to undertake epic causes through everyday actions. To my friends Max and Miko, who never got tired of watching the book take shape, thank you.

Finally, I extend an epic thank you to the “Dream Team” at Wiley. Margaret, Mike, and company; you are simply the best. Your time, talents, and vision made the dream of this book a reality.

ANTHONY L. WILLIAMS

SECTION 1

Environmental Management



ONE OF THE MOST PROMINENT ROLES OF A GREEN INDUSTRY PROFESSIONAL is to be an environmental steward. This role by definition requires the green industry professional to identify, quantify, protect, and oversee a variety of interconnected living organisms and physical assets. *Environmental management* refers to the skills and programs that make up the core activities used by environmental stewards in the course of managing their respective green space(s). This section will introduce many concepts, but there are three terms that collectively will affect the green industry professional's ability to apply the information successfully. They are **sustainability**, **environomics**, and **transparency**.

Environmental programs must be sustainable and practical in order to be successful. **Sustainability** is a key term within the environmental movement and has become complex in the many ways different organizations use this term. In this chapter, we will define sustainability simply as the ability to renew, perpetuate, and replicate environmental processes such as shoreline buffers to protect water quality, nest boxes, feeders and bird baths to enhance wildlife habitat, and Integrated pest management programs to reduce chemical use. Now, let's move into the most asked question when it comes to environmental management programs.

One of the core concepts of this book is environomics. **Environomics** is the synergy created by blending

cutting-edge environmental stewardship within a progressive business plan. The environomic management philosophy is a powerful business model within the green industry because it protects the environment and agronomic assets, creates a series of detailed documents that can guide business decisions, and builds relationships that focus on win-win outcomes. In simple terms, environomics refers to the combination of strong economics and environmental stewardship that allows the sum of the parts to be greater than their individual value, $1 + 1 = 3$.

Transparency, as it relates to environmental management, is the open communication of your environomic programs. This often entails the use of various media or third party validation. The old saying, “we have nothing to hide” applies here. The role transparency plays in environmental management is one of full disclosure, making every reasonable attempt to provide proof of the value of your programs to a variety of interested parties and stakeholders such as regulatory agencies, corporate management, owners/shareholders, local residents, industry associations, and environmental organizations.

This section marks the process of establishment of an environmental management program. It is organized to flow in sequence from the first small steps of organized stewardship to the more complex blending of science and art that often result from a comprehensive environomic plan. The end of this section features a detailed list of projects and programs that are separated into three categories: green, greener, and greenest. The green lists represent basic environomic projects that are generally less expensive and relatively easy to initiate. The greener lists include intermediate-level environomic projects. The greenest lists comprise more complex environomic programs that reflect a deeper ongoing set of goals and objectives.

Chapter 1

Building a Green Team

The most important thing to do when developing or evaluating an environmental management program is to embrace learning and organize the order of action early and often by involving experts and local stakeholders as early as possible in the process. This is best accomplished by establishing an **environmental committee** or **"green team"** for your operation as your first priority. This first step will allow you to maximize the collaboration aspect of your environmental program. Through collaboration you will generate ideas and synergy that you could never accomplish on your own. The flow of the environmental management planning process should start with you and then go to your green team, then to your staff and other stakeholders to identify programs that will in turn lead to projects. This process is often referred to as the **four P's of environmental stewardship**. They are **People, Planning, Programs, and Projects** in that order. Using the four P's can keep you focused during the early stages of developing your environmental management program and help you gather valuable resources from each area.

How to Establish an Environmental Committee

The first order of business when establishing your environmental committee is to choose a chairman. If you are the senior green industry professional or driving force for environmental excellence at your operation, congratulations; you have just selected yourself as chairman! After all, you are the best and most logical choice to be chairman. You are the local expert, and as the person of contact, you will be the center of this group. Do not let any lack of title, credentials, or accolades be a deterrent to assuming the role as chairman and recruiter for your environmental committee.

At this moment you are a committee of one, and some important questions will naturally arise. Some of these questions include the following.

How many people will serve on your environmental committee? What skills and experience should they have? Are there any political issues that will affect the committee and its work? How often will the committee meet? Where will the committee meet? Who will track the committee's progress? What are the committee goals and expectations? These questions and many others must be clarified and answered, and it takes time and effort to do this well. Perhaps it is the time required for this step that causes many green industry professionals to leap ahead impatiently and start implementing projects before they have adequately developed any comprehensive information or program guidelines. Do not make this mistake. Refer to the four P's of environmental stewardship and be a courageous chairman. Let's take a look at the processes involved in selecting and developing members of an environmental committee.

Where Do You Look to Begin Filling Positions in Your Committee?

As chairman of the environmental committee, you are responsible for identifying and recruiting all of the members of the environmental committee. You must find committee members who can bring a variety of skills to your environmental efforts now and in the future. These people are out there, but where? First, look inside your operation for committee members. These people will bring property and operational knowledge and require very little orientation or additional training. Often, to gather specialized environmental skills for your environmental committee, you will need to expand your search to include community and industry leaders. There are two types of environmental committee members, categorized according to their affiliation to the property(s). The first type is staff members or **internal environmental committee members**. These people will be from within your operation and will likely all be paid for their time and talents utilized by the environmental committee. The second type of environmental committee members will be **external environmental committee members**. These people will come from a variety of backgrounds outside your business operation and will likely be volunteers. There are no strict rules in this situation, so it will fall to you, taking into consideration any budget guidelines, to establish the ratio between internal and external committee members. It is also a good time to point out that you may need to reciprocate with other green industry professionals in your area by agreeing to serve on their green team or similar group in return for their service on yours. This is a great form of environmental collaboration and creates a win-win situation for all involved.

Selecting Internal Environmental Committee Members

It is a good idea to send out a **call for service** or post a formal **sign-up sheet** to gauge interest in serving on the committee prior to forming any preconceived notions on your part. These two documents work well together, with one posted in the office and the other sent by e-mail. This is a very comprehensive way to identify all interested parties without any guesswork. When you have the lists of potential committee members, you will need to evaluate each person's qualifications. Try to identify key staff members with versatile skill sets and a strong commitment to the property and the environment.

Perhaps the hardest choice when forming your environmental committee is reviewing your operation's staff and deciding who should be included on your environmental committee. There is no doubt that there are no easy choices here. You should definitely focus on qualifications but there may also be some office politics that may have an impact. For example, leaving your controller off of your environmental committee and then asking him for additional funding later in the year can be problematic, as can assuming that the general manager is too busy to serve on the committee and then finding out that he or she took it personally not being included as part of an award-winning environmental program. Be mindful of friendships and work ethic because this will be a working committee and sometimes more can actually be less. You cannot always be sure that adding another member to your environmental committee will result in accomplishing more work. Here is a list of potentially good choices to serve as internal committee members.

Possible internal environmental committee members

- General manager
- Administrative assistant
- Mechanic (lead)
- Controller/accounting manager
- Building maintenance manager/supervisor
- Director of golf
- Landscape manager/supervisor
- Architect/designer
- Assistant managers
- Human resources manager/specialist
- Corporate/division manager (if part of a larger company or corporation)
- Horticulturalist
- Arborist
- Greenskeeper/groundskeeper

The importance of using all of the resources within your operation cannot be overstated. These individuals understand many intangibles that range from company culture to property expectations and will require very little orientation to you or your property. While these traits are very useful and positive it is sometimes necessary to reach outside your operation to access a certain skills set or perhaps simply to gain a different perspective. This is a necessity for smaller operations that have a limited number of staff. To accomplish this, you will need to select external environmental committee members.

Selecting External Environmental Committee Members

It is sometimes difficult for a green industry professional to admit that he or she needs help. The industry is famous for independent problem solvers. However, there are many examples of green industry professionals that are not willing to accept help or involve external experts in critical programs. This is often the case when an environmental management program stalls or fails to meet its intended goals. Always seek excellence and try to fill your external committee with members who have different skill sets than you have. This will ensure synergy and an atmosphere of edification within your environmental committee.

There many great sources available to choose from when you are looking for external environmental committee members. Try to focus on filling these selections with people that add strengths and experiences that are not represented within your internal committee selections. Here is a list of great sources to serve on your green team.

Possible External Environmental Committee Members

- Local green industry professionals
- County extension agents
- University professors/researchers
- Local school teachers/administrators
- Local/state officials (EPA inspectors, agriculture commissioner or representative, water shed official)
- Community members
- Garden clubs
- Environmental groups
- Bird-watching clubs
- Green industry association leaders (local, regional, or national)
- Water authorities
- Regulatory authorities/inspectors
- Local business owners/mangers
- Homeowner association representative

The role of the external environmental committee member is to add certain skill sets or offer a unique view that perhaps does not exist in the internal environmental committee. For example, you may ask the president of the local bird watching club to serve on your green team to bring his expertise on nest boxes and bird habitat. You may also consider asking a local arborist to serve on the committee if you have large arboricultural assets within your green space. Local universities are also full of great minds and hands that can add a lift to the quality of your green team. You may also consider joining an organization such as Audubon International. Audubon International offers a series of certifications and environmental support for a set fee. Memberships are usually very affordable and can gain you access to the latest environmental innovations.

The chemistry of your green team is very important. Your goal is to encourage collaboration and synergy, so you want to ensure that the internal and external environmental committee members all can work well together and will follow your leadership. You can make the environmental committee selection and service process very formal. You can require letters of acceptance and establish officers and enforce detailed parliamentary procedures. This certainly has worked in some situations. This approach may even be mandated under certain highly sensitive environmental situations that deal with endangered species, protected waterways or other sensitive environmental issues. However, I have found that a less formal, but still organized, approach works best. Creating forms to document some basic information about your committee members can be very helpful. See Table 1.1 for a checklist of the basics requirements for members of your environmental committee.

Table 1.1 Checklist for Environmental Committee Service

Name: _____

Title: _____

Contact Information: _____

☐ Internal Candidate

☐ External Candidate

Primary Skill Set

☐ Financial/Business

☐ Management/Operations

Table 1.1 Continued

- ☐ Environmental/Specific Discipline: Water, Habitat, Resource Management, etc.
- ☐ Equipment/Technical
- ☐ Documentation/Research
- ☐ Public Relations
- ☐ Agronomic
- ☐ Horticulture/Arboriculture/Forestry/Green Industry
- ☐ Teaching/Presentations
- ☐ Safety
- ☐ Other
- ☐ Length of Committee Service (From xx/xx to xx/xx)
- ☐ One Year (most common)
- ☐ Two Year (alternating so that the committee rotates every two years)
- ☐ Three Years (may coincide with environmental certification cycles)
- ☐ Other

Previous Environmental Committee Service Affiliations

- ☐ Audubon International
- ☐ Master Gardeners Association
- ☐ Golf Course Superintendents Association of America
- ☐ Metro Landscape Contractors Association
- ☐ Professional Grounds Management Association
- ☐ Michigan State University
- ☐ Environmental Protection Agency
- ☐ Upper Chattahoochee River Keepers
- ☐ Newton County High School
- ☐ Environmental Educators Association
- ☐ Other
- ☐ Notes of Interest

Acceptance/ date of committee service

How Many People Should Be on Your Environmental Committee?

The size of your environmental committee is a matter of personal preference and experience. See Figure 1.1 for an actual environmental committee meeting in progress. Environmental committees will usually range from three members for small sites and up to fifteen (or more) for larger very complex green spaces. I believe that a smaller group can often be very effective and be more flexible in relation to meetings and establishing program goals. However, a larger group will have an advantage when it comes to dividing projects and workload. The important thing to focus on is the effectiveness of the committee and each individual's role within the committee. Do not be afraid to replace or eliminate a committee member if necessary. You can expect the size and of your green team and the involvement of the members to ebb and flow as major environmental milestones come and go. This is natural just like the changing of the seasons. Your role as chairman is to keep the program alive and sustainable. Here is a list of your duties as chairman of the environmental committee.



Figure 1.1 An environmental committee meeting is being conducted with the four members of the committee. Note that the committee is using a flip chart, periodicals, and notebooks/pads and that the location of the meeting is comfortable and private to facilitate an efficient meeting.

Environmental Committee Chairman's Checklist

- ☐ Select the members of the committee
- ☐ Determine length of service for committee members
- ☐ Establish meeting schedules and locations
- ☐ Lead discussions
- ☐ Establish goals with and for the committee
- ☐ Record minutes of meetings/recommendations
- ☐ Evaluate committee effectiveness
- ☐ Provide resources as needed
- ☐ Develop documentation/dissemination processes
- ☐ Record evidence of sustainability

Summary

The environmental committee will be involved in much of the planning and program establishment within your environmental program. The entire environmental committee will look to you to lead the effort but will offer you their help and support. Utilize your committee wisely and delegate many things to these highly skilled stakeholders. They will assist you in identifying worthy projects and case studies. They will gather statistics, measurements, and photos. They will provide ideas and best management practices all aimed at a greener operation. They will offer feedback on what is working and what is not, and they will keep you grounded as you lead the environmental efforts as committee chairman. The collaboration within the committee itself will be a great asset, but perhaps the biggest advantage to forming your environmental committee as your first step of your environmental management program is the accountability between the environmental committee chairman and the committee members. This accountability will be tested as you develop more detailed programs, and you will quickly learn the value of each member of your committee and why it takes teamwork to achieve sustainability, environmental excellence, and transparency.

Chapter 2

The Environmental Plan: Site Assessment

The environmental committee has been established. You are comfortable in your role as chairman of the committee. You are ready to move your focus from people to planning and really make some progress toward building a world-class environmental program. Now it's time to create your environmental plan. The environmental plan will document a variety of assets and provide a blueprint that will allow you to move from planning into programs and projects. The environmental plan consists of detailed information from the following areas:

- Site Assessment
- Water Quality and Conservation
- Wildlife and Habitat Management
- Integrated Pest Management
- Resource Conservation and Maximization
- Public Relations and Outreach
- Continuing Education/Training
- Goal Setting and Tracking

The information gathered by the environmental committee for the environmental plan should be kept in a large three-ring binder and labeled according to the preceding areas of focus. It is also a good idea to record critical data digitally to allow for electronic storage and transfer of information. We will break down each of these areas and provide examples to help you design your own environmental plan. Each property will have unique areas of focus within its environmental plan, but this section will detail the must have data to be successful. In this chapter, we will focus on the site assessment.

The Site Assessment

The site assessment is the beginning of every effective environmental plan. It takes a physical inventory of assets and their location and function within the property. The first step of the site assessment process is to gather all of the blueprints, construction as builds, survey documents, and any maps or photos of the property. These documents will allow you to confirm property boundaries, measurements of buildings, and features of the property. If you cannot verify property borders, you will need to hire a professional survey crew to establish these benchmarks. If you have confirmed the borders of your property but need to mark interior buildings, hardscapes or other specific objects you can use a hand held Global Positioning System (GPS) device to accurately mark the location and size of these features. You will need to carefully add this information to your property map, blueprint or environmental as built document. Confirm the size, function, and location of all buildings and structures as your first priority, then extend your assessment to include all man-made features such as roadways, sidewalks, cart paths, retaining walls, and utilities.

The next area of focus within the site assessment is documenting forest and plant communities. A small property may be able to document each plant or tree on the property. Larger, more complex properties will likely estimate trees in groups measured in acres and include individual species found in the property plant list. These large plant/forest communities will be divided into six categories for use in the site assessment. See Table 2.1 for examples of large forest communities.

The term **evergreen** refers to any plant or tree that has green leaves the entire year, whereas the term **deciduous** refers to any plant or tree that sheds its leaves annually. The term **understory** refers to the presence of smaller plants growing under the canopy of larger trees. See Figure 2.1 for a mixed forest with understory, and Figure 2.2. for one without it.

Table 2.1 Large Plant/Forest Community Types

1. Evergreen Forest with Understory
2. Evergreen Forest without Understory
3. Deciduous Forest with Understory
4. Deciduous Forest without Understory
5. Mixed Forest with Understory
6. Mixed Forest without Understory



Figure 2.1 This mixed forest with understory has many types of evergreen and deciduous plants, ranging from seedlings to mature trees. This natural area also demonstrates the value of fallen trees in providing natural erosion control and enhance habitat.



Figure 2.2 This evergreen forest without understory consists of mature loblolly and short leaf pines. Although the understory has been removed, a dense layer of pine needles is maintained to control erosion and conserve water.

The **property plant list** includes all of the plants found on the site. This list is usually separated into native plants and ornamental plants. Older green spaces with longstanding environmental programs may also maintain a historical plant list. Table 2.2 shows an example of an ornamental plant list.

Table 2.2 Property Plant Inventory, Ornamentals

Common Name	Scientific Name
American barberry	<i>Berberis canadensis</i>
Azalea	<i>Azalea obtusum</i>
Begonia	<i>Begonia spp.</i>
Bristly locust	<i>Robina hispida</i>
Caladium	<i>Caladium spp.</i>
Carolina silverbell	<i>Halesia carolina</i>
Cleyera	<i>Cleyera japonica</i>
Crape myrtle	<i>Lagerstomia indica</i>
Day lilly	<i>Hemerozalls hybrida</i>
Dwarf yaupon	<i>Ilex vomitoria "nana"</i>
Elaegnus	<i>Elaegnus pungens</i>
Elderberry	<i>Sambucus canadensis</i>
English ivy	<i>Hedera helix</i>
Flame azalea	<i>Rhododendron calendulaceum</i>
Forsithia	<i>Forsithia intermedia</i>
Fushia	<i>Fushia spp.</i>
Hawthorn	<i>Crataegus spp.</i>
Holly	<i>Ilex cornuta spp.</i>
Hosta	<i>Hosta lancifolia</i>
Jonquills	<i>Narcissus spp.</i>
Juniper	<i>Juniperus Horizontalis</i>
Mountain holly	<i>Ilex ambigua</i>
Mountain laurel	<i>Kalmia latifolia</i>
Pampas grass	<i>Cortaderia selloana</i>
Smooth sumac	<i>Rhus glabra</i>
Southern arrowwood	<i>Viburnum dentatum</i>
Trumpet creeper	<i>Campsis radicans</i>
Trumpet Honeysuckle	<i>Lonicera sempervirens</i>
Vinca	<i>Vinca minor</i>
Wild hydrangea	<i>Hydrangea arborescens</i>
Winged sumac	<i>Rhus copallina</i>
Witch hazel	<i>Hamamelis virginiana</i>
Yaupon	<i>Ilex vomitoria</i>
Yucca	<i>Yucca spp.</i>
Zinnia	<i>Zinnia elegans</i>

The accuracy of your plant lists is very important. You may consider hiring a certified arborist or forester to help with this process. These are also great individuals to have on your environmental committee. Working with these individuals may also inspire you to return to the class room to gain these credentials, and improve your environmental skill set and complement your other green industry talents.

The site assessment will also document any special features that may exist on your property. Special features include things such as state record trees and other living landmarks, historical sites, water features, soil types, wetlands (fresh and salt water), prairie, desert, rock outcrops, and endangered species that require special consideration.

Path trees, like the one shown in Figure 2.3, qualify as both endangered specimen trees and living landmarks. Path trees are known by many names such as thong trees or Cherokee mile markers. They are still fairly common in the United States on forested lands that were once the home of tribal nations. In the southeastern United States, tribes such as the Cherokee and the Creek often used these unique trees to mark borders and features. These trees were bent with 90° bends in the main trunk just a few feet above the ground and often pointed toward tribal boundaries or landmarks. The bends were created using leather thongs to hold the young sapling in place until it eventually turned back to a vertical



Figure 2.3 This path tree is located in northeast Georgia and points due west, marking a bend in the Chattahoochee River that was once part of the Cherokee nation.

growth pattern, leaving the classic angled shape. These special trees are now being cataloged by arborists and historical groups to protect these unique living landmarks. The role of environmental steward takes on an even deeper meaning when one is charged with the care of this type of tree or endangered green space. There are several groups that are focused on the documentation and the preservation of these trees.

Site Assessment Features for Golf Courses

Special features differ considerably as the use of the green space changes. The golf course provides many distinctly unique features that are all interconnected living organisms that function within the game of golf. See Table 2.3 for a complete list of golf course assets that must be quantified as part of any property or site assessment.

The golf course may also feature a variety of waterways and ponds within the property. These must all be included in the site assessment. Ponds and lakes will be measured in surface acres, whereas streams and rivers are measured in total length and average width on the site. It is also important to document whether the shoreline of these water features has a vegetative buffer or not. Table 2.4 shows a sample site assessment water features list.

Table 2.3 Sample Golf Course Site Assessment Features

Area Use/type	Type of Turf/sand/Plants	Acres per 18-Hole Equivalent
Greens	Creeping Bentgrass	3.67
Tees	Zeon Zoysia	3.28
Fairways	419 Hybrid Bermuda	47
Rough	Common/419 Bermuda	23
Bunkers	Pro angle select	2.4
Native Grass/Wild Flower	Broom straw/yellow daisy	5.3

Table 2.4 Sample Site Assessments for Water Features

Pond/Stream identification number	% of Turfgrass Shoreline	% of Natural Shoreline	% with Aquatic Plants	Total Surface Acres
# 001 Pond	35	65	14	5.45
# 002 Pond	40	60	20	3.25
# 003 Creek, Tusahaw creek	50	50	25	Average width 9' × 3975' long
# 004 Lake, Big Sky Lake	15	85	8	423