

# **Green Landscaping Audiences, Outreach, and Training Needs**

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A Summary Report of Training Needs Surveys conducted with participants at the symposium

*Landscapes for Healthy Ecosystems: Green Landscape Practices in the Hudson River Watershed* held November 15, 2005 at the Institute of Ecosystem Studies, Millbrook, NY

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Symposium attendees cheerfully completed a pre-workshop survey and a follow-up survey during the workshop. Key informants took time from their busy schedules to discuss audiences and outreach techniques important to raising awareness about green landscaping. The participation of both groups is appreciated.

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## **Executive Summary**

Green landscaping refers to the use of land management practices that preserve natural resources and prevent waste and pollution. It implies environmentally sensitive land use, ecological restoration, and involves the use of native vegetation. Green landscaping leads to resource conservation, including water and energy savings and biodiversity protection, and reduces negative impacts of some conventional landscaping practices. The symposium *Landscapes for Healthy Ecosystems: Green Landscape Practices in the Hudson River Watershed* provided opportunities to survey professionals and consumers interested in green landscaping to better understand their level of knowledge, determine important target audiences for this type of information, and outline the best methods to use to reach those audiences. Based on the results of participant surveys, several recommendations can be made for designing outreach and education programs.

- Increase the availability of green landscaping inputs (e.g., plants, organic fertilizers) to promote the adoption of these practices.
- Focus initial efforts on easily implemented practices (e.g., low maintenance plants, mulching), and gradually increase practitioners' knowledge of other practices over time.
- Promote green landscaping practices that are fairly well known and moderately adoptable (e.g. water conserving irrigation, drought resistant plants, and water body buffers).
- Target education efforts of less widely known and potentially adoptable practices (e.g. permeable surfaces and integrated pest management), at specialty audiences who request the information.
- Target public and private owners of land bordering water bodies as important recipients of green landscaping practices information.
- Target training and outreach activities at landscape professionals and developers.
- Establish green landscaping demonstration sites as an effective method to reach a variety of target audiences.
- Recognize businesses and private properties that adopt green landscaping practices through certification programs as an incentive to encourage continued implementation.

## **Introduction**

Green landscaping refers to the use of land management practices that preserve natural resources and prevent waste and pollution. It implies environmentally sensitive land use, ecological restoration, and the use of native vegetation. Green landscaping leads to resource conservation, including water and energy savings and biodiversity protection, and reduces negative impacts of some conventional landscaping practices. Interest exists among public and private environmental protection organizations to raise awareness about the principles and practices that make up green landscaping.

To that end, the Institute of Ecosystem Studies (IES) and its partners sponsored a one-day symposium entitled *Landscapes for Healthy Ecosystems: Green Landscape Practices in the Hudson River Watershed* in November 2005. Symposium attendees included a self-selected group of individuals interested in learning more about green landscaping. In order to gain insight into individuals and groups interested in green landscaping and what methods might best be used to reach them, IES and the Hudson River National Estuarine Research Reserve (HRNERR) contracted with Engaging People to conduct a series of surveys with symposium attendees.

This report presents the results of this effort. An explanation of the sequential surveys used is provided, followed by a discussion of the methods and results of each survey. Specific recommendations on how this information could be used to increase the adoption of green landscaping methods and develop an outreach program are presented. It is our hope that this information will be used by others providing outreach on green landscaping, including Cornell Cooperative Extensions, Soil and Water Conservation Districts, government and volunteer environmental management agencies, local watershed groups, and landscape industry associations.

## **Survey Methodology and Results**

In order to gain a useful understanding of symposium participants' familiarity with green landscaping practices, their interest in learning more, and their opinions about what groups would benefit from green landscaping information, a series of three surveys were conducted. The first survey was conducted with symposium participants once they registered for the symposium. The survey covered respondents' familiarity with principles of green landscaping, and their familiarity with, and use of, specific green landscaping practices.

Next, key informant interviews were carried out to 1) compile a list of potential target audiences to be addressed concerning green landscaping and 2) brainstorm methods and techniques that could be used to raise knowledge and awareness about green landscaping practices. The results of the key informant interviews were used to frame the questions for a final survey instrument administered to attendees during the symposium. This survey focused on

identifying the most important target audiences for green landscaping methods, and the best ways to reach different audiences.

### Pre-Symposium Survey

Individuals registering for the symposium were asked to complete a survey prior to the symposium. The survey was posted at SurveyMonkey.com, an online survey software site, and made available in hard copy format to registrants. Questionnaires filled out by hand were entered into SurveyMonkey. Compilation and analysis of results was done in SurveyMonkey and Microsoft Excel.

Seventy-five people responded to the survey, though not all respondents answered each question. Of those who responded 17.3% were landscape or nursery professionals; 22.7% were homeowners or condominium owners; 17.3% were educators, and the remainder were IES landscaping students or public land managers. The vast majority of respondents (93.1%) were at least somewhat knowledgeable about green landscaping. Seven people (9.7%) identified themselves as well versed in the topic.

Respondents were asked if they were familiar with specific green landscaping practices, and if so, whether they used those practices (Table 1). The most familiar practices were composting and using native plants; the least familiar were rain gardens and water conserving irrigation systems. Familiarity with a practice did not necessarily mean it was employed. Use of practices ranged from a low of 12% use by those familiar with rain gardens, to a high of 85% use by people familiar with low maintenance plants.

**Table 1. Familiarity and use of specific green landscaping practices (N=71)**

<b>Green landscaping practice</b>	<b>Percent familiar with practice (%)</b>	<b>Percent of those familiar with the practice that use it (%)</b>
Compost yard waste	99	81
Native plants	93	79
Organic fertilizers	90	70
Integrated pest management or non-chemical (organic) pesticides	87	66
Low maintenance plants	84	85
Drought resistant plants (xeriscaping)	77	58
Protective buffers around water bodies	77	40
Leaf litter build-up	76	65
Water conserving mulches*	72	73
Lawn/turf alternatives	68	42
Permeable walk/patio surfaces	66	45
Rainwater harvesting	62	20
Water conserving irrigation systems	51	36
Rain gardens	48	12

\* There was some confusion with this term; symposium attendees were more familiar with the simpler term "mulch."

Other green landscaping practices mentioned by respondents included:

- Hedgerows for biodiversity and as windbreaks
- Trees for house protection and shade
- Trees for erosion control
- Green manure
- Compost tea
- Garden orientation
- Passive solar green house
- Proper soil grading to conserve water
- Alternative mowing practices/schedules to protect songbirds
- Eliminating invasive species
- Permaculture

Respondents were asked to rate how easy it would be to convince others to adopt specific green landscaping practices. The degree of ease was rated on a scale of 1 to 4, from very easy to very difficult (Table 2). The most adoptable practices were low maintenance plants and water conserving mulches. The most difficult practices to adopt were lawn/turf alternatives and rainwater harvesting.

**Table 2. Adoptability of green landscaping practices; rated on a scale of 1 (very easy) to 4 (very difficult) (N varies for each practice)**

Green landscaping practice	Ease of adoptability index * lower numbers suggest practices are more easily adopted
Low maintenance plants	1.78
Water conserving mulches	1.82
Compost yard waste	2.02
Native plants	2.06
Organic fertilizers	2.13
Drought resistant plants (xeriscaping)	2.17
Water conserving irrigation systems	2.26
Protective buffers around water bodies	2.42
Integrated pest management or non-chemical (organic) pesticides	2.43
Permeable walk/patio surfaces	2.49
Leaf litter build-up	2.53
Rain gardens	2.59
Rainwater harvesting	2.65
Lawn/turf alternatives	2.90

\*the ease of adoptability index is a weighted average of the number of respondents ranking each practice on a scale of 1 (very easy to adopt) to 4 (very difficult to adopt)

Respondents were asked whether specific incentives would increase their use of green landscaping practices (Table 3). Protecting the environment and the availability of plant materials and other inputs to the system were deemed the most important incentives. Increased profits were not a major factor in increased use of green landscaping practices; only 31% of respondents who sell landscaping

services or products noted that increased profits would make them more likely to use green landscaping practices.

**Table 3. Percent of respondents identifying an incentive as one that would make them more likely to employ green landscaping practices**

Incentive	Percent
To know that I am protecting the environment	65.2
More readily available plant materials	62.3
More readily available organic fertilizers, pesticides, etc.	60.9
Clients requesting these practices	43.5
Higher profit margin	21.7

Respondents were also asked to identify barriers to the use of green landscaping practices. This was an open-ended question that provided an opportunity for respondents to brainstorm answers. Some of the barriers are related to changing present habits (e.g. ease of purchasing traditional products and using traditional methods) while other barriers are related to a lack of understanding of green landscaping practices and the perceived lack of availability of inputs.

**Barriers to adoption of green landscaping practices**

- aesthetics
- commercial promotion of traditional practices
- cost (or perceived cost)
- ease of purchasing “traditional” landscaping products
- fashion/habit/cultural acceptance
- fear of insects and vermin
- heavy traffic and necessity to maintain green lawns (e.g., golf course)
- lack of availability of appropriate plant material
- lack of awareness of green landscaping practices
- lack of knowledge about implementing green landscaping practices
- lack of promotion by landscape professionals
- perceived difficulty in implementing
- resistance to change

**Key Informant Interviews**

Key informants were identified by the IES Youth and Continuing Education Program Manager and the HRNERR Estuary Training Program Coordinator. Informants had varied backgrounds including state and local government, extension, landowners, land managers, and others; many were also symposium attendees. Twelve interviews were conducted by phone and lasted from 5 to 20 minutes.

The twelve key informants identified twenty-two potential target audiences (see Table 5), but were not asked to prioritize these audiences. The key informants also suggested sixteen different methods for raising awareness about green landscaping techniques; these methods formed the basis for the final symposium survey question.

1. Contact with an educator/extensionist (e.g., cooperative extension, master gardener, Soil and Water Conservation Districts)
2. 1-2 hour classes
3. Day-long workshops or seminars
4. Certification programs for professionals
5. Demonstration sites
6. Booths at fairs or community events
7. Green landscaping-specific community event
8. Informational brochures
9. Newsletters
10. Media (newspaper, radio, TV)
11. Professional associations
12. Trade or professional journals
13. Listserv/electronic newsletters
14. Websites
15. Recognition of businesses/properties voluntarily adopting green landscaping practices
16. K-12 curriculum enhancement activities

### Symposium Survey

A total of 103 symposium participants completed surveys near the end of the day. Each survey was entered into a SurveyMonkey database, and analysis was done using Survey Monkey and Microsoft Excel.

Each respondent selected the category which best described the capacity in which they were attending the symposium. As indicated in Table 4, thirty-five individuals represented nursery, gardening, and landscaping businesses. There were seventeen master gardeners and other educators, fourteen landscape architects and engineers, and twelve interested homeowners. Using the list of methods compiled through the key informant interviews, individuals were asked to rate the effectiveness of those methods in getting information to them. The effectiveness of different methods did vary by group (Table 4). Overall, the most effective methods were day-long workshops or seminars and demonstration sites.

**Table 4. Most effective outreach methods for reaching different groups, represented at the symposium, about green landscaping practices**

<b>Group*</b>	<b>N</b>	<b>Most effective methods**</b> (listed in descending order)
Landscaping or nursery business owner or worker, horticulturist, IES certificate student, lawn/yard maintenance business owner, professional gardener	35	<ul style="list-style-type: none"> <li>• day-long workshops or seminars</li> <li>• demonstration sites</li> <li>• certification program for professionals</li> <li>• green landscaping-specific community event</li> <li>• contact with an educator/extensionist</li> </ul>
Master gardener or other horticultural educator	17	<ul style="list-style-type: none"> <li>• day-long workshops or seminars</li> <li>• contact with an educator/extensionist</li> <li>• demonstration sites</li> <li>• 1-2 hour classes</li> <li>• green landscaping-specific community event</li> <li>• newsletters</li> <li>• websites</li> </ul>
Landscape architects and engineers	14	<ul style="list-style-type: none"> <li>• day-long workshops or seminars</li> <li>• certification program for professionals</li> <li>• demonstration sites</li> <li>• recognition of businesses/properties adopting green landscaping practices</li> <li>• 1-2 hour classes</li> </ul>
Homeowners (including condominium owners)	12	<ul style="list-style-type: none"> <li>• demonstration sites</li> <li>• day-long workshops or seminars</li> <li>• 1-2 hour classes</li> <li>• green landscaping-specific community event</li> <li>• contact with an educator/extensionist</li> </ul>
Private property manager, public land manager, land trust or conservancy member	8	<ul style="list-style-type: none"> <li>• day-long workshops or seminars</li> <li>• recognition of businesses/properties adopting green landscaping practices</li> <li>• 1-2 hour classes</li> <li>• certification program for professionals</li> <li>• demonstration sites</li> <li>• professional associations</li> </ul>
Volunteer group member, such as CAC EMC, or watershed group	7	<ul style="list-style-type: none"> <li>• green landscaping-specific community event</li> <li>• K-12 curriculum enhancement activities</li> <li>• contact with an educator/extensionist</li> <li>• demonstration sites</li> <li>• day-long workshops or seminars</li> <li>• recognition of businesses/properties adopting green landscaping practices</li> </ul>
Civil servant or public official	6	<ul style="list-style-type: none"> <li>• demonstration sites</li> <li>• day-long workshops or seminars</li> <li>• 1-2 hour classes</li> <li>• trade or professional journals</li> <li>• websites</li> </ul>

\* Four "other" respondents' answers are not reflected here

\*\* The top five most effective methods are listed; in some cases, multiple methods received the same rating, and all are included

Using the list of target audiences developed through the key informant interviews, symposium attendees were asked to rank the importance of addressing each group on a scale from 1 (not important) to 3 (very important). A weighted index provides a relative scale of the importance of each audience (Table 5). While owners of land bordering waterbodies were ranked the most important, the next six ranked groups were professionals who would normally assist private landowners or manage public land. In addition, several respondents mentioned that real estate agents could be an important target audience as they could supply important information to new homebuyers.

**Table 5. Importance of addressing specific target audiences. A higher importance index indicates a more important target audience.**

<b>Target Audience</b>	<b>Importance index</b>
All owners of land bordering waterbodies (wetlands, ponds, streams, lakes)	2.86
Landscape architects and other professional landscape designers	2.80
Developers and builders	2.78
Public property managers (e.g., parks, recreation, building and grounds, historic mansions, athletic fields, golf courses)	2.78
Landscaping business owners & professionals	2.78
Town and county boards; planning boards	2.77
Planners	2.73
Homeowners	2.70
Private property managers (e.g., college or business campus, condos, golf course)	2.66
Large residential lot (>5 acres) owners	2.58
Lawn/yard maintenance companies	2.58
Nursery owners and staff	2.58
Adult educators (e.g., master gardeners, extension agents)	2.56
Watershed council or group members	2.53
School children/teachers	2.53
Engineers	2.49
General public	2.42
Land trust & conservancy staff	2.38
Municipal workers (e.g., highway dept., building inspectors)	2.29
Nonprofit environmental organization staff	2.28
Volunteer group members (e.g., CAC, EMC)	2.23
Garden club members	2.19

Respondents were asked to select any two target audiences and rate the effectiveness of each of the outreach methods suggested by key informants in reaching those target groups. Only responses for the most highly rated groups are reported here (Table 6). Demonstration sites and some type of recognition for people adopting green landscaping practices were important outreach methods across groups. While not quite as important, day-long seminars were also a highly rated method.

Five respondents noted that appropriate legislation could be an important method for encouraging adoption of green landscaping practices. Particularly

noted were imposing penalties on people selling or planting known invasive species. Another audience/method mentioned was to target larger retail home stores and their shoppers through education campaigns.

**Table 6. Rank of most effective outreach methods by important target group. Number of responses represents the number of people providing information for each target audience. Roman numbers represent the top five ranking methods for each group; with I the highest. In some cases, methods shared the same rank for an audience, and all are noted.**

<b>Method \ Audience</b>	<b>Owners of land bordering waterways</b>	<b>Landscape architects &amp; other professional landscape designers</b>	<b>Developers and builders</b>	<b>Public property managers</b>	<b>Landscaping business owners and professionals</b>	<b>Town &amp; county boards; planning boards</b>	<b>Homeowners</b>	<b>Private property managers</b>
Number of responses	10	7	17	10	15	49	32	7
<b>Contact with an educator/extensionist</b>	II					V	III	III
<b>1-2 hour classes</b>	IV					IV		III
<b>Day-long workshops or seminars</b>	V	II	IV	IV	IV			I
<b>Certification program for professionals</b>		I		III	I			I
<b>Demonstration sites</b>	I	III	II	II	II	II	I	III
<b>Booths at fairs or community events</b>							V	
<b>Green landscaping community event</b>						III	II	
<b>Informational brochures</b>								IV
<b>Newsletters</b>								V
<b>Media (newspaper, radio, TV)</b>	V						IV	
<b>Professional associations</b>		II	V		V			III
<b>Trade or professional journals</b>		II	III	V				III
<b>Listserv/electronic newsletter</b>		V						
<b>Websites</b>								
<b>Recognition for adopting practices</b>	III	IV	I	I	II	I		II
<b>K-12 curriculum enhancement</b>								

N.B. Even though planners ranked in the top five for important target audiences, only two people provided information on the best way to reach planners. Thus, there were too few data points to be meaningful and that group is not included here.

## Discussion & Recommendations

The results of these surveys provide information on green landscaping methods currently being utilized by professionals and landowners. Moreover, these results also offer insights into what green landscaping practices may be the most adoptable, which audiences are most important to address, and what methods to use to reach those audiences. Incentives for increasing the rate of adoption of green landscaping practices were also identified. Specific recommendations related to these findings are outlined below.

- *Increase the availability of green landscaping inputs (e.g., plants, organic fertilizers) to promote the adoption of these practices.*

The barriers to the adoption of green landscaping practices identified in this study may be overcome through awareness raising, education, and provision of necessary inputs. Just by increasing the availability of appropriate plants and organic fertilizers, the rate of adoption of these practices could be increased. For example, though 90% of respondents were familiar with organic fertilizers, only 70% of those people use them. Yet the use of organic fertilizers is one of the more easily adopted practices. Increasing the availability of these inputs may be sufficient to increase adoption. Specifically, providing lists of suppliers of the inputs to businesses and landowners or using signs in stores that direct customers to the inputs could help.

- *Focus initial efforts on easily adopted practices (e.g., low maintenance plants, mulching), and gradually increase practitioners' knowledge of other practices over time.*

Widespread promotion of more “adoptable” practices will help to spread the principles and practices of green landscaping. Low maintenance plants, composting yard waste, native plants, and mulching are all green landscaping methods that are well known and widely employed by professionals and landowners alike, and are also considered the most easily adopted. As landowners become comfortable with those practices, they may be more willing to implement some of the lesser known or less adoptable practices. For example, a large percentage of people familiar with low maintenance plants use them and their use is seen as an example of an easily adopted method. Promoting their adoption may gradually lead landowners to try drought resistant plants or lawn/turf alternatives.

- *Promote green landscaping practices that are fairly well known and moderately adoptable (e.g. water conserving irrigation, drought resistant plants, and water body buffers).*
- *Target education efforts of less widely known and potentially adoptable practices (e.g. use of permeable surfaces and integrated pest management), at specialty audiences who request the information.*

Certain practices, including xeriscaping and protective water body buffers, are acknowledged but not widely implemented. These techniques may provide an opportunity for practical training and outreach activities to promote their increased implementation especially by individuals already employing other green alternatives. Information on some of the lesser known and utilized methods, such as integrated pest management and the use of permeable surfaces, are probably best targeted at specialty audiences that have expressed an interest in learning about them.

- *Target public and private owners of land bordering water bodies as important recipients of green landscaping practices information.*
- *Target training and outreach activities at landscape professionals and developers.*

Several important target audiences were identified through this study. Landowners whose properties border waterbodies are the most important subset of landowners/homeowners and special attention should be placed on reaching this group. There is clearly a need to address groups of professionals, such as landscape architects and developers, who provide services to landowners. Working with these groups will have a cascading effect on homeowners and other landowners. Town and county boards that make land use decisions are also an important target audience.

- *Establish green landscaping demonstration sites as an effective method to reach a variety of target audiences.*
- *Recognize businesses and private properties that adopt green landscaping practices through certification programs as an incentive to encourage continued implementation.*

While effective outreach methods vary by target audience, it was clear that survey respondents felt that demonstration sites and recognition programs would be among the best methods for a variety of audiences. Well-advertised demonstration sites could be established on public or private land, allowing the general public or groups to visit. The value of seeing these practices in use is important. Nearly as important for many groups would be the establishment of certification programs. Programs could be set up to acknowledge nurseries and landscaping companies, as well as professional service providers employing green landscaping practices. For landowners, examples of similar recognition programs could be modeled after Tree Farms or Smart Wood, or Florida Yards and Neighborhoods that honors model landscapes as certified Florida-Friendly Yards.

It is interesting to note that symposium attendees largely felt that daylong workshops and seminars were one of the best methods to reach them, yet they did not rate that method as highly when providing insight into how to reach others (including groups that included their fellow symposium attendees).

## **Conclusion**

The symposium *Landscapes for Healthy Ecosystems: Green Landscape Practices in the Hudson River Watershed* provided an opportunity to survey professionals and consumers interested in green landscaping to better understand their level of knowledge, determine important target audiences for this type of information, and outline the best methods to use to reach those audiences. Targeted, purposeful outreach and education will help to increase the adoption of these practices that contribute to a better environment. Increasing the availability and marketing of materials needed to implement these measures goes hand in hand with their promotion.