



aceti Associates

Evaluating the Effectiveness of the Greenscapes Program: Phone Survey Research Results



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Table of Contents

	Page
Executive Summary	4
Introduction.....	9
Phone Survey Methodology.....	9
General Sample Characteristics.....	10
Current Landscaping Practices.....	12
Familiarity with the Greenscapes Program.....	13
Outreach Avenues.....	16
Changes in Landscaping Practices.....	20
Benefits and Barriers Associated with Greenscaping Practices.....	25
Willingness to Pay for Greenscapes Information.....	26
Reliability of Findings.....	27
Appendix A: Phone Survey Questionnaire.....	29
Appendix B: Composite Aggregate Data.....	35

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- ◆ Dr. Timothy Edgar, Graduate Program Director for the Health Communication Program and Associate Professor at Emerson College.

Executive Summary

This report summarizes the results of a phone survey conducted to evaluate the effectiveness of the Greenscapes program in changing landscaping behaviors among homeowners in twelve South Shore communities.

Current Landscaping Practices

The survey explored the prevalence of several common landscaping practices and asked respondents whether they perform these tasks themselves or hire someone to do so. Lawn mowing is ubiquitous among respondents. Those who mow their own lawn outnumber those who hire someone to mow by about 73% to 22%. Use of fertilizer, pre-emergents, pesticides or weed and feed is very common, with 82% of respondents reporting that one or more is applied on their property. Do-it-yourselfers comprise about 72% of those who use these products, while about 28% hire someone to do the applications. Watering is also a very common landscaping practice, with 85% reporting that it is done on their property. Watering is almost always a do-it-yourself activity. Fifty percent of respondents use a traditional sprinkler for watering, 47% use a hand-held hose, 17% use an in-ground irrigation system, 5% use a drip hose and 3% use a rain barrel. Some respondents use more than one watering device.

Familiarity with the Greenscapes Program

When asked if they were familiar with the Greenscapes program, 16% of respondents said that they were. However, 20% of those who reported being familiar with the program did not know how to describe it when asked, or mistakenly described it as a lawn and garden care service. It can be expected in survey research that there will be a percentage of respondents who will claim they've heard of something even if they have not. The result obtained here is consistent with that finding, and indicates that the **actual** recognition rate for the Greenscapes program is less than 16%. Given the extent of the promotional effort among South Shore homeowners over a number of years, a recognition rate of less than 16% indicates that the Greenscapes outreach strategy could be improved.

Outreach Avenues

Those who reported being familiar with the Greenscapes program were asked how they had heard about it. Thirty-six percent had heard of it through the Greenscapes Reference Guide, which is mailed to homeowners annually. Twenty percent had heard of it through the press, and 9% via word of mouth. Eleven percent did not know how they had heard about it. The sources for the remaining 25% of respondents were divided fairly evenly among television, Greenscapes workshops, the Greenscapes website, advertising and "Other."

Respondents who were not familiar with the Greenscapes program were asked to specify which of several distribution avenues would be the best way to get information about the program to them. Fifty-two percent said through the mail, 16% said through a website, 9% said through newspaper stories and 5% said through their garden center. Of the remaining 18%, 7% did not know. Small percentages of respondents chose radio, utility bill inserts, "through people I know" and email.

The mail emerged as the means by which the greatest percentage of respondents had heard about Greenscapes and the means preferred by the greatest percentage of those who had not heard about it. Since the program's primary outreach vehicle, the

Greenscapes Reference Guide, is distributed through the mail, it seems incongruous that familiarity with the program is not greater. While the survey responses indicate that the mail is an important means of reaching the Greenscapes audience, the low recognition rate suggests that the program needs to utilize this distribution mechanism more effectively than in the past.

As part of the effort to interpret the phone survey results, particularly the low level of familiarity with the Greenscapes program, two marketing experts reviewed the Greenscapes Reference Guide. Both described it as “overwhelming” in the amount of information that it was trying to convey, and lacking a simple message that audiences could connect with. For these reasons, it is likely that the Guide is not keeping people’s attention.

Based on this assessment, the Greenscapes program should seriously consider restructuring the information that it sends through the mail. For example, a more effective use of the mail might consist of one or more oversize postcards that each targets a **single** behavior change, linked with a simple message or “hook” about something that matters to people. Local watering bans could be used to draw attention to the idea of watering at dawn. Another possibility would be to send out postcards with seasonal hooks that refer to lawn/garden care tasks that people are likely to be thinking about at a particular time of year. The goal of each postcard would be to capture people’s attention and motivate them to go to the Greenscapes website or make a phone call to get more information. In order to keep people’s attention once they reach the Greenscapes website, the home page would feature the same behavior change as the postcard. For those seeking comprehensive information, the Reference Guide could continue to be available as a download from the website or mailed upon request.

In order to further explore potential outreach avenues, all survey respondents were asked where they get information on how to care for their lawn or gardens. Respondents utilize a diverse array of information sources on lawn and garden care, and no one source predominates. The six sources mentioned most often were lawn care or landscaping contractor (15%), internet (15%), magazines (14%), books (14%), nursery or garden center staff (12%) and friends (11%).

The diversity of lawn and garden care information sources that people utilize, the variety of avenues through which they have heard about the Greenscapes program and the range of ways they say that they would best be reached with that information suggest that, in addition to using the mail more effectively, the Greenscapes program continue to use other outreach avenues as well. Lawn care contractors and the internet, two of the more commonly mentioned sources of lawn and garden care information, should be considered for greater emphasis in communicating with people about greenscaping. Further, “website” was the second most common means by which those unfamiliar with Greenscapes suggested that it be brought to their attention. This finding reinforces the importance of bringing the Greenscapes website to the attention of those seeking information on lawn and garden care.

The fifteen respondents who had heard about the Greenscapes program via the Reference Guide rated the Guide highly on ease of understanding, slightly below average on information value and above average on practicality of the Greenscapes recommendations for them. All three ratings, however, are the result of responses from only 15 people. It is difficult to make much of research results when such a small

sample is involved. However, it is recommended that in the future, the Greenscapes Coalition pre-test informational pieces with a small group of target audience members as part of the writing and design process. Pre-testing provides an opportunity to learn how target audience members perceive the information in terms of characteristics such as understandability, value and practicality. The feedback can then be used to make the piece more effective before it is distributed.

Changes in Landscaping Practices

All survey respondents, whether familiar with the Greenscapes program or not, were asked if they had adopted selected greenscaping practices. The adoption rates among all respondents were 74% for mowing with a sharp mower blade, 65% for mowing high, 62% for leaving grass clippings on the lawn, 43% for replacing lawn area with drought tolerant plantings, and 43% for reducing treatments with non-organic pesticides and fertilizers. Among those who had reduced chemical treatments, about 2/3 indicated that they had cut their use by one half or more. Further, 38% of respondents said that they had made changes in their watering practices. When asked what they are doing differently, virtually all gave unprompted responses that were consistent with Greenscapes recommendations.

These rates of adoption are substantial, and may mean that while most residents don't recognize the Greenscapes name, they have absorbed the information disseminated by the Greenscapes program (and potentially other sources) and have acted upon it. It may also indicate that while these practices are becoming more mainstream, their adoption is not related to the Greenscapes program in particular. Finally, survey respondents may be portraying their activities in a favorable light in order to appear socially responsible.

In an attempt to assess the validity of the various interpretations listed above, the rates of adoption reported by those familiar with the Greenscapes program were compared to the rates reported by those not familiar with the program. The comparison indicated that in no case were respondents who reported being familiar with Greenscapes statistically more likely to have adopted the practice than those who were not familiar with the program. If more evidence existed that familiarity with the Greenscapes program was statistically linked to the likelihood of behavior change, it would be more reasonable to conclude that while many residents don't recognize the Greenscapes name, they have absorbed the information provided and have acted upon the recommendations. It may be that these practices have become more mainstream over the years, without the influence of the Greenscapes program itself having a particularly noticeable effect. However, it would also seem wise to take the absolute percentages of those reporting a behavior change with a grain of salt, due to potential social desirability bias.

Unfortunately, a clear interpretation of the survey results on behavior change is seriously hampered by a lack of baseline data about the prevalence of these practices *before* the Greenscapes program was implemented. Be that as it may, the phone survey results themselves do not provide evidence that the Greenscapes program has been effective in changing lawn/garden care behavior among homeowners on the South Shore.

Benefits and Barriers Associated with Greenscaping Practices

All survey respondents were read a list of the benefits of greenscaping, and asked to indicate which two would be most important to them. The top four priorities among the nine choices offered were: "maintaining good water quality in our ponds, rivers and bays"

(32%), “protecting the quality of our drinking water” (29%), “saving money on my water bills” (26%), and “having a yard that is healthy and safe for my family to spend time in (20%). There is reason to view the results for this question with some caution. Monitoring of the initial survey calls revealed that some survey respondents were having difficulty keeping the list of nine items in their head while choosing their priorities.

The 44 respondents who reported being familiar with the Greenscapes program were asked what they have found to be the biggest barrier to adopting Greenscapes practices. Twenty-seven percent of those who reported being familiar with Greenscapes didn’t know what was stopping them from adopting the recommended practices. This may be another sign that some of those who reported being familiar with Greenscapes are not clear on its purpose or have not considered its recommendations seriously. The most commonly articulated reasons for failing to adopt Greenscapes practices were perceived lack of time (18%) and money (18%). The Greenscapes program may be able to modify the information it provides in order to reassure people that they are capable of adopting Greenscapes practices with the time and money they have. However, for particularly time and money intensive practices, mechanisms may have to be found to help people overcome these external barriers, if widespread implementation is to be expected.

Willingness to Pay

All survey respondents were asked if they would be willing to pay to receive Greenscapes program materials. Ten percent of respondents said that they would be willing to do so, 79% said that they would not, and 10% did not know or refused to answer.

Reliability of Findings

Interpreting the phone survey results involved judging the degree to which the responses to each survey question are likely to be reliable as a representation of what the Greenscapes audience actually does or thinks. A number of factors were weighed in gauging the reliability of the findings. They include:

- ◆ The uncertainty (margin of error) associated with a particular result. The smaller the number of responses to a particular question, the greater the margin of error.
- ◆ The likelihood that respondents were susceptible to social desirability bias when answering a particular question.
- ◆ Whether the responses to a question were prompted or unprompted. In some cases, unprompted responses may provide a more authentic picture of people’s views.
- ◆ Indications that the way a question was administered compromised the quality of the results.
- ◆ The possibility that respondents interpreted a question differently than it was meant.

Several other factors affected the usefulness of the survey results in evaluating the Greenscapes program. The interpretation was limited by the lack of baseline data about the prevalence of greenscaping practices before the Greenscapes program was implemented. On the other hand, the interpretation was aided by a finding from other survey research that some respondents will claim they have heard of something even when they have not.

Based on the factors affecting reliability and usefulness, the following measures are more valuable in evaluating the Greenscapes program or serving as a basis for developing strategies for improvement.

- ◆ General sample characteristics;
- ◆ Current landscaping practices;
- ◆ Familiarity with the Greenscapes program;
- ◆ Outreach avenues, with the exception of the ratings of the Guide on understandability, information value and practicality;
- ◆ Lack of statistically significant difference between adoption rates for selected greenscaping practices by those familiar with the Greenscapes program and by those unfamiliar with the program;
- ◆ Statistically significant correlations between adoption of specific greenscaping practices and likelihood of contracting for performance of certain common landscaping tasks;
- ◆ Lack of statistically significant correlation between having children at home and reducing treatments with lawn chemicals;
- ◆ Barriers to greenscaping;
- ◆ Willingness to pay for Greenscapes program materials.

These measures are of low value for use in evaluating the Greenscapes program or serving as a basis for future strategy development.

- ◆ Ratings of the Guide on understandability, information value and practicality;
- ◆ The absolute rates of adoption of selected greenscaping practices: mowing with a sharp blade, leaving clippings on the lawn, replacing lawn area with drought tolerant plantings, reducing chemical treatments and changing watering practices;
- ◆ Percentage who noticed a reduction in water use after changing watering practices;
- ◆ Benefits associated with greenscaping.

Introduction

In 2007, with funding from the Massachusetts Environmental Trust, The Ipswich River Watershed Association (IRWA), in collaboration with the multi-partner Greenscapes Coalition, undertook an effort to significantly expand the reach and effectiveness of the Greenscapes program.

Greenscapes is a public education program focused on protecting Massachusetts rivers, streams, and bays by reducing the use of water and chemicals on lawns and landscapes. The program aims to change household landscaping practices through a suite of educational materials and programming, including a 20-page “Greenscapes Reference Guide,” website, email newsletter, workshop series, targeted publicity, and discounts on environmentally friendly landscaping goods and services.

Greenscapes was originally created in the spring of 2003 on the South Shore by the North and South Rivers Watershed Association (NSRWA) and the Massachusetts Bays Program. IRWA has partnered with Salem Sound Coastwatch, Eight Towns and the Bay Committee, and the Massachusetts Bays Estuary Association to launch Greenscapes North Shore in 2007, with an initial target audience of approximately 60,000 households in 15 communities.

The effort to enhance the effectiveness of the Greenscapes program began with an evaluation of its success in changing landscaping behaviors among homeowners on the South Shore. The IRWA contracted with Aceti Associates, a local social marketing firm, to conduct the evaluation. This report summarizes the results of a telephone survey conducted among residents of twelve South Shore communities,¹ in which Greenscapes educational materials and programming have been delivered for three years. The Greenscapes Reference Guide, the centerpiece of the campaign, has been mailed to homeowners annually. The phone survey examined the following areas:

- the prevalence of certain landscaping behaviors;
- the tendency of homeowners to carry out particular landscaping tasks themselves vs. hiring contractors to perform them;
- familiarity with the Greenscapes program;
- changes in landscaping behaviors and links between behavior change and familiarity with Greenscapes;
- benefits and barriers perceived to be associated with Greenscaping practices by homeowners;
- preferred means of receiving Greenscapes information; and
- willingness to pay for Greenscapes information.

Phone Survey Methodology

The phone survey was carried out between November 28 and December 3, 2007 by Opinion Dynamics Corporation (ODC), under contract to Aceti Associates. The target population of the study was adults 18 years of age or older residing in the twelve Massachusetts municipalities that are served by the South Shore Greenscapes Program. The sampling frame for the study was designed in relative proportion to the population distribution for the twelve-community region. The population distribution was determined by using the 2004 U.S. Census Estimate of Populations for each of the

¹ Cohasset, Duxbury, Hanover, Hingham, Hull, Kingston, Marshfield, Norwell, Pembroke, Plymouth, Scituate and Weymouth.

Greenscapes municipalities. ODC purchased a list of randomly selected phone numbers based on the telephone exchanges within the region and age distribution within each community. Two hundred seventy-two respondents completed the full survey. Interviewers asked to speak with the person in the household who makes most of the decisions about lawn or garden care.

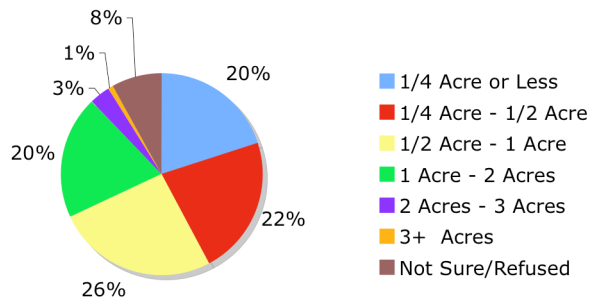
Care was taken to ensure that the sample of respondents was representative of the South Shore Greenscapes population by matching the age distribution of respondents as closely as possible to the average age distribution in the region, based on 2000 US Census data.

The margin of error for the survey of 272 residents is +/- 5.9% at the 95% confidence level, and is higher for questions where the response was less than 272. In theory, the survey sample would differ no more than +/- 5.9% in the percentage responding a certain way, than the percentage of the entire South Shore Greenscapes population that would have responded in the same way, if they had all been included in the survey. Further, if the survey were to be replicated, the aggregate responses would fall within the margin of error 95 out of 100 times.

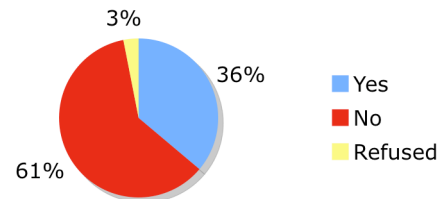
General Sample Characteristics

The survey results indicate that the general characteristics of the survey sample are as follows:

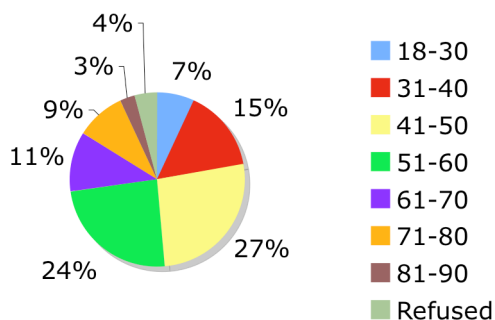
**Property Size
(Sample Size = 272)**



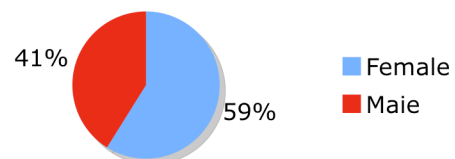
**Households with
Children at Home
(Sample Size = 272)**



**Age
(Sample Size = 272)**



**Gender of Respondents
(Sample Size = 272)**



Sixty-eight percent of respondents live on properties of one acre in size or less, with relatively equal fractions occupying properties less than ¼ acre, ¼ to ½ acre and ½ to 1 acre. Does it appear, based on income levels in the area, that the survey queried a representative sample of property owners? Information on respondents' household income was not collected through the phone survey due to budget limitations constraining the survey length. U.S. Census data indicates that a number of South Shore Greenscapes communities are relatively affluent. However, residents in many South Shore Greenscapes communities, including the largest ones, are of comparatively modest means. Median household incomes and populations for each community are as follows:²

Table 1.
Median Household Income and Population

Community	2000 Median Household Income	2000 Population
Weymouth	\$ 51,665	53,988
Hull	\$ 52,377	11,050
Plymouth	\$ 54,677	51,701
Pembroke	\$ 65,050	16,927
Kingston	\$ 65,101	11,780
Marshfield	\$ 66,508	24,324
Scituate	\$ 70,868	17,863
Hanover	\$ 73,838	13,164
Hingham	\$ 83,018	19,882
Cohasset	\$ 84,156	7,261
Norwell	\$ 87,397	9,765
Duxbury	\$ 97,124	14,248
Total		251,953

In 2000, the weighted average median income for the twelve-community region was \$65,161. While this was about 29% higher than the statewide median income of \$50,502 at that time, it is still fairly modest. Forty-six percent of the population resides in the three communities with the lowest median household incomes. The predominance of smaller property holdings would appear to be consistent with the income levels displayed above.

The gender of the survey respondents is worth noting. Interviewers asked to speak with the person in the household who makes most of the decisions about lawn *or* garden care. Women responded to the survey in greater numbers than men. A pattern emerges across prior studies indicating that male heads of household are primarily responsible for care and maintenance of the *lawn*.³ It is possible that women are more likely to be primarily responsible for *garden* care. It is also possible that female

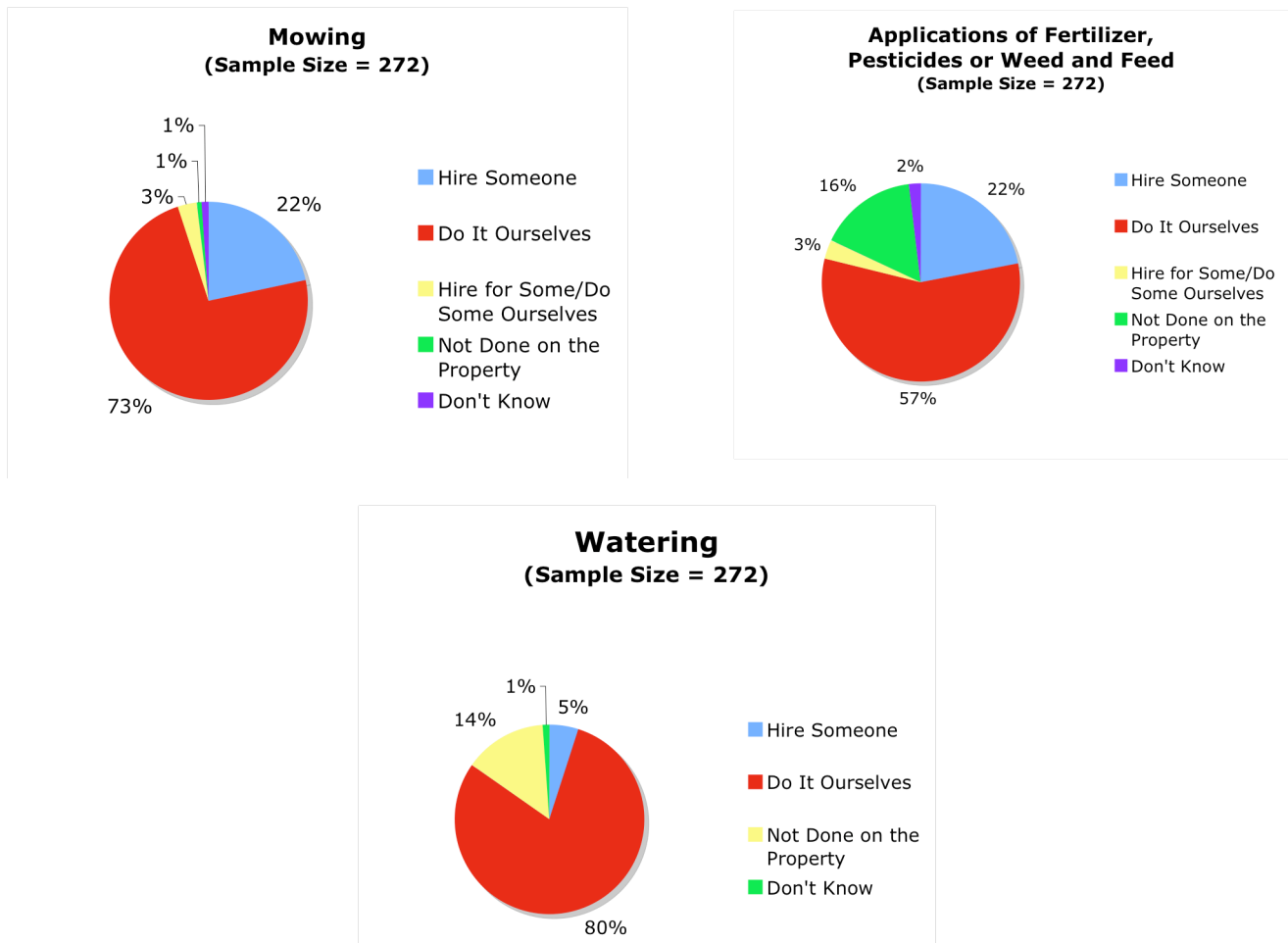
² www.census.gov

³ Aceti, J. (2002, November). *Reducing Pesticide Use in Lawn Care: Barriers and Opportunities*. Report prepared for the Massachusetts Department of Environmental Protection.

lawn/garden care decision makers were more willing to respond to the survey request than were male lawn/garden care decision makers.

Current Landscaping Practices

The survey explored the prevalence of several common landscaping practices and asked respondents whether they perform these tasks themselves or hire someone to do so.⁴

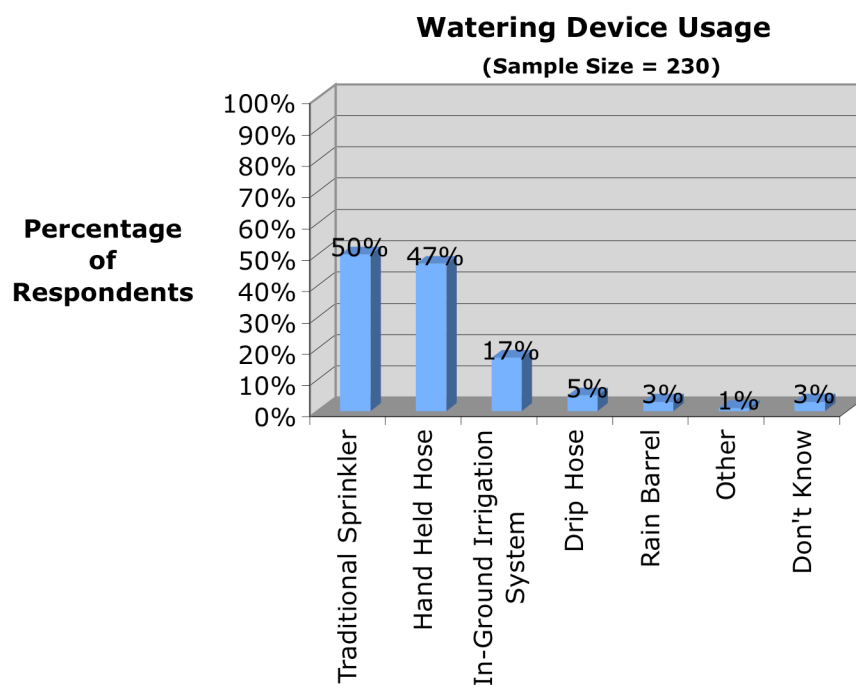


The survey results indicate that lawn mowing is ubiquitous among respondents. Among the survey sample, those who mow their own lawn outnumber those who hire someone to mow by about 73% to 22%.

⁴ Note that some percentages shown in the pie charts in both the General Sample Characteristics section and the Current Landscaping Practices section do not precisely agree with the percentages shown in the composite aggregate data in Appendix B. Due to rounding, the percentages in the composite aggregate data do not always add up to 100% in each case. In these cases, the Excel software used to create the pie charts will modify one of the percentages slightly so that the total for a particular pie chart adds up to 100%.

Survey respondents were asked about “treatments or applications of fertilizer, pre-emergents, pesticides or weed and feed” on their property. Use of these products is very common among the population examined, with 82% of respondents reporting that one or more is applied on their property. Do-it-yourselfers comprise about 72% of those who use these products, while about 28% hire someone to do the applications.

Watering is also a very common landscaping practice, with 85% reporting that it is done on their property. Watering is almost always a do-it-yourself activity. Only 5% of properties are watered by someone who is hired to do so. The figure below shows the percentages of respondents who use particular watering devices. Multiple responses to this question were permitted, and it is clear that some people use more than one type of watering equipment.



Familiarity with the Greenscapes Program

Survey respondents were asked if they were familiar with the Greenscapes program.

Table 2.

Question: Are you familiar with the Greenscapes program?

Response	Percent Responding (n=272)
Yes	16%
No	82%
Don't Know	2%

Sixteen percent of survey respondents indicated that they were familiar with the Greenscapes program. Identifying comparable campaigns against which to measure this recognition rate is difficult. The South Shore Greenscapes campaign has used an annual mailing as its primary mode of outreach for three years. However, it has conducted a variety of other outreach activities as well. Finding other campaigns that have carried out similar outreach efforts is challenging. Further, the way in which such campaigns are evaluated can vary. For example, aided awareness is measured by providing the name of the campaign to survey respondents and simply asking the respondents if they are aware of it. Unaided awareness measures respondents' ability to come up with the name of the campaign without being prompted. The recognition rate measured in the Greenscapes phone survey represents aided awareness.

Because of the difficulty of identifying comparable campaigns against which to measure the Greenscapes recognition rate, two individuals with extensive experience in commercial and social marketing were asked to assess the level of success represented by the aided awareness measured in the Greenscapes phone survey. Steve Halling is the former Director of Brand Strategy for IBM's Lotus, Workplace and Portal software business and is currently a principal at Keynote Communications, a marketing communications company. Dr. Timothy Edgar is Graduate Program Director for the Health Communication Program and Associate Professor at Emerson College. Given the activities that the Greenscapes program has undertaken, both experts suggested that a 16% recognition rate would have indicated a successful effort during the first year or so that the full scale initiative (including distribution of the Guide) was in place. However, three years on, a 16% aided awareness level suggests that the Greenscapes outreach strategy could be improved. Further, there is always a percentage of survey respondents who will claim they've heard of something even if they haven't. This number can *typically* be expected to range between 5% and 15%.⁵ Therefore, the actual recognition rate for the Greenscapes program is likely to be less than 16%.

Cross tabulations of the survey responses indicated that eighteen to forty years old respondents were statistically more likely to say that they were **not** familiar with the Greenscapes program than were older age groups. The survey responses for various age groups are displayed below.

Question: Are you familiar with the Greenscapes program?

Age Group (Years)	Percent Responding "No"
18-40	95%
41-50	81%
51-60	82%
61-70	71%
71-90	76%

Those who were familiar with the Greenscapes program were also asked to describe what the program is about. The responses were unprompted (respondents were not

⁵ Edgar, Timothy, Graduate Program Director for the Health Communication Program and Associate Professor at Emerson College. Email message to author, January 7, 2008.

given options from which to choose) and multiple responses were allowed. The sum of the percentages of respondents giving each of the following answers is 131%, indicating that that some respondents did describe more than one aspect of the Greenscapes program.

Table 3.

Question: How would you describe what the Greenscapes program is about?

Description	Percent Responding (n=44)
How to take care of your lawn/gardens with less water	27%
How to take care of your lawn and gardens	25%
Taking care of your lawn/gardens in a way that protects the environment	18%
How to take care of your lawn/gardens with fewer pesticides	16%
How to take care of your lawn/gardens with less fertilizer	9%
Sustainable landscaping	9%
How to take care of your lawn/gardens with fewer chemicals	5%
Full service lawn and garden care	2%
Other: "Conserving water and helping the environment"	2%
Don't know	18%

Eighteen percent of those who indicated that they were familiar with Greenscapes did not know how to describe it. This result is consistent with the idea that some people will claim they have heard of something even if they have not. Two percent mistakenly described Greenscapes as a lawn and garden care service. However, the responses shown in Table 3 indicate that the remaining 80% of those who are familiar with Greenscapes correctly perceive that it provides information about how to take care of lawns and gardens. The 25% of respondents who gave the second response listed in Table 3 do not describe any aspects of Greenscapes beyond that concept. Since most of the other responses overlap with this one, it is unlikely that those who mentioned only lawn and garden care would have also given another response listed in the table. Therefore, it seems safe to conclude that a quarter of those who report being familiar with Greenscapes are not aware of aspects of the program that are relevant to its goal of protecting water resources. In the final analysis, about 55%⁶ of those who reported being familiar with Greenscapes mentioned characteristics of the program that are relevant to its mission of reducing water and chemical use in landscape care in order to protect the environment.

While they **are** presented in the context of good lawn and garden care, the goals of reducing water, pesticide and fertilizer use are prominent themes in the Greenscapes Reference Guide, website and presumably other publicity as well. A lack of knowledge about these aspects of the Greenscapes program may indicate that some of those who report being familiar with Greenscapes have not absorbed the information provided by the program.

⁶ 18% (did not know how to describe Greenscapes) + 2% (described Greenscapes as a lawn and garden care service) + 25% (described Greenscapes only as being about how to care for lawns and gardens) = 45%. By deduction, the remaining 55% of respondents mentioned characteristics of the Greenscapes program that are relevant to its ultimate goal.

Outreach Avenues

All survey respondents were asked where they get information on how to care for their lawn or gardens. The responses were unprompted and multiple responses were permitted. The sum of the percentages of respondents giving each of the answers in Table 4 is 114%, indicating that some respondents get their information from more than one source. Overall, respondents utilize a diverse array of information sources on lawn and garden care.

Table 4.

Question: Where do you get information on how to care for your lawn or garden?

Information Source	Percent Responding (n=272)
Lawn care or landscaping contractor	15%
Internet	15%
Magazines	14%
Books	14%
Nursery or garden center staff	12%
Friends	11%
Neighbors	6%
My own experience/I just know	6%
Television	5%
Family	4%
Product Labels	3%
Stores (Home Depot, Lowes, Agway	3%
Newspaper, radio	2%
Other: From the Scotts Forsett program; A member of the garden club; No one; Company takes care of this (3); I get it from Greenscapes; Northeast Farmers Association; Department of Agriculture; From a newsletter I received in the mail; Through my previous employment working with pesticides.	4%
Don't know	12%

No one source predominates here, suggesting that the Greenscapes program would be wise to disseminate its information through a variety of avenues.

The 44 respondents who were familiar with the Greenscapes program were asked how they had heard about it. Although multiple responses were permitted, the percentages of respondents mentioning each source totals 105%, suggesting that most of the respondents mentioned only one source. The unprompted responses to this survey question are displayed in Table 5.

Table 5.**Question: How did you hear about it?**

Source of Information about the Greenscapes Program	Percent Responding (n=44)
Guide (booklet, brochure, pamphlet that came in the mail)	36%
Press	20%
Word of Mouth	9%
Television	5%
Greenscapes Workshop/Seminar	5%
Website	5%
Advertising	5%
Other: Town selectman; I work for Pine Hills and they distribute some collateral that we send out to the new residents; I read something about it in a magazine article; Flier.	9%
Don't Know How I Heard About It	11%

The diversity of sources through which respondents had heard about the Greenscapes program supports the conclusion above, which is that multiple distribution avenues are needed to reach a broad audience. However, the Greenscapes Reference Guide, which is distributed through the mail, does emerge as the most common way that people have heard about Greenscapes.

Respondents who were not familiar with the Greenscapes program were given a brief description of it, and asked which of the following distribution avenues would be the best way to get information about this program to them.

Table 6.**Question: Which of the following would be the best way to get information about this program to you?**

Distribution Avenue	Percent Responding (n=228)
Through the mail	52%
Website	16%
Newspaper stories	9%
Garden center	5%
Radio	4%
Utility bill insert	3%
Through people you know	2%
Email	1%
Other: Television advertisement; I don't really want any information; Garden Club or magazines; All; Calling me on the phone.	2%
Don't know	7%

It is interesting to note that the greatest number of people, by a sizeable margin, identified the mail as the best way to provide them with information about the Greenscapes program. Why didn't respondents identify the mail as a way in which they get information about lawn and garden care, in response to the question addressed in

Table 4? Presumably, when asked which sources of information *they pursue*, the mail would not be mentioned, since people often don't control what others choose to send them. However, when asked to choose among a set of delivery options that *others might initiate*, many respondents selected the mail as the best way to get information to them. It is true that several unprompted answers from Table 4 about how people get lawn and garden care information – such as lawn care contractors, magazines and books -- were not included in the response choices people were given when asked about the best way to get Greenscapes information to them. Perhaps the distribution would have been somewhat different if those choices had been included as options.

Since the Greenscapes Reference Guide *is* distributed through the mail, it seems incongruous that familiarity with the program is not greater. However, it is probable that the program needs to utilize this distribution mechanism more intensively to increase recognition, or utilize it more effectively than in the past.

In the process of assessing the program recognition rate measured by the survey, both Mr. Halling and Dr. Edgar reviewed the Greenscapes Reference Guide. Both described it as “overwhelming” in the amount of information that it was trying to convey, and lacking a simple message that audiences could connect with. For these reasons, it is likely that the Guide is not keeping people's attention. Dr. Edgar suggested that the Greenscapes program needs to completely rethink the way in which it structures information that is sent through the mail. Similarly, Mr. Halling suggested that a more effective series of Greenscapes mailings would consist of oversize postcards that each targeted a **single** behavior change, linked with a community-specific issue or “hook” that matters to people. For example, the issue of a local lake or pond choked with algae could be used to engage people in considering a switch to organic fertilizers. Local watering bans could be used to draw attention to the idea of watering at dawn. Another possibility would be to send out postcards with seasonal hooks. For example, “What type of fertilizer are you going to put on your lawn this spring? There are alternatives to Scotts 4-Step Program, and here's why you should consider them.”

In the case of either postcard series, the goal of each postcard would be to capture people's attention and motivate them to go to the Greenscapes website or make a phone call to get more information. In order to keep people's attention once they reach the Greenscapes website, the home page would feature the same behavior change as the postcard. The funds used to print and mail the Guide once per year could instead be used to print and mail a postcard each year. For those seeking comprehensive information, the Reference Guide could continue to be available as a download from the website or mailed upon request. An added benefit of this approach is that responses to each postcard, in terms of downloads and other requests for more information, could be used as a measure of effectiveness.

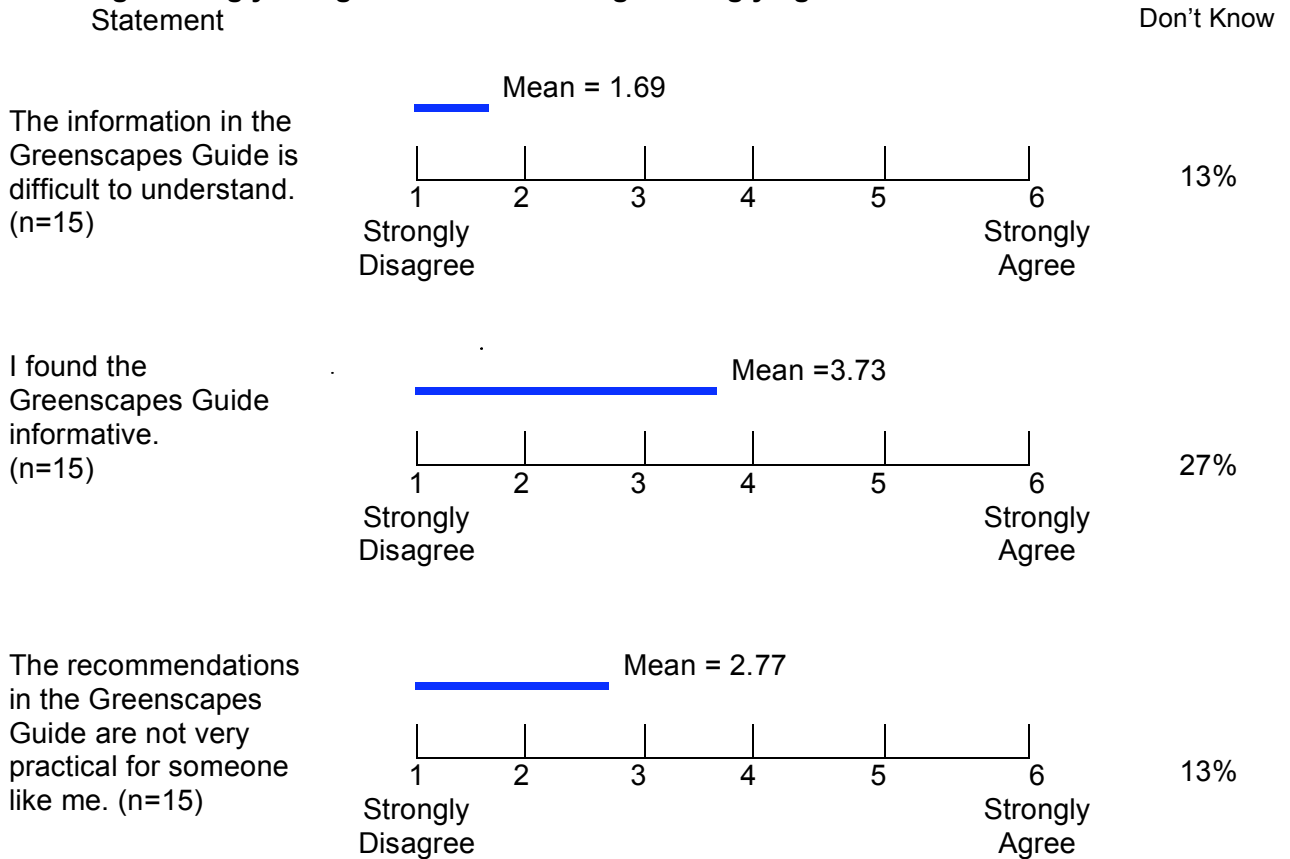
As stated earlier, the results shown in Table 6 also suggest that the program should continue to utilize a variety of avenues for distributing Greenscapes information, perhaps giving additional consideration to sources more commonly cited in Table 4, such as lawn care contractors and the internet. The fact that “website” was the second most common response in Table 6 reinforces the importance of bringing the Greenscapes website to the attention of those seeking information on lawn and garden care.

The fifteen respondents who had heard about the Greenscapes program via the Reference Guide were asked to rate the Guide on three criteria: ease of understanding,

information value and the practicality of the Greenscapes recommendations for them. Their responses are summarized below.

Table 7.

Question: Please rate your agreement with each statement on a scale from “1” meaning “strongly disagree” to “6” meaning “strongly agree.”



The Greenscapes Guide scored very well on understandability, slightly below average on information value and above average on practicality. The percentages of respondents who didn't know how they would rate the Guide on these criteria are well within typical ranges. It is possible that the reason why the Guide received a below average rating on information value is that people who take the time to read the Guide also pay attention to other sources of information on sustainable landscaping. Therefore, they find some of the information in the Guide redundant. All three ratings, however, are the result of responses from only 15 people. It is difficult to make much of research results when such a small sample is involved.

However, in the future, the Greenscapes Coalition should seriously consider pre-testing informational pieces with a small group of target audience members as part of the writing and design process. Pre-testing of this sort, often in a focus group session, provides an opportunity to learn how target audience members perceive recommendations in terms

of characteristics such as understandability, information value and practicality. The feedback can then be used to make the piece more effective before it is distributed.

Changes in Landscaping Practices

Survey respondents were asked if they have adopted specific Greenscaping practices, or directed those they've hired to do so. Those respondents familiar with the Greenscapes program were asked, "*As a result of the Greenscapes information, have you adopted any of the following practices or directed those you've hired to do so?*" Those not familiar with the Greenscapes program were asked, "*In the past three years or so, have you adopted any of the following practices, or directed those you've hired to do so?*" The past three years corresponds to the period during which the Greenscapes Reference Guide has been mailed annually to residents of the twelve South Shore communities that participate in the Greenscapes program. The aggregated answers of all respondents (both those familiar and unfamiliar with Greenscapes) to these questions are displayed in Table 8.

Table 8.

Question: Have you adopted any of the following practices or directed those you've hired to do so?

Behavior	Yes	No	Don't Know	Not Applicable
Mowing with a sharp mower blade (n=258)	74%	14%	10%	2%
Mowing high, to a height of 3" or more (n=258)	65%	24%	10%	1%
Leaving grass clippings on the lawn (n=258)	62%	36%	2%	--
Replacing any of your lawn with drought tolerant shrubs, perennials, ornamental grasses or ground cover (n=263)	43%	53%	2%	2%
Reducing treatments with non-organic chemicals such as pesticides, pre-emergents, weed & feed or fertilizers (n=263)	43%	38%	8%	11%

Table 8 shows that substantial percentages of survey respondents report that they have adopted one or more recommended Greenscaping practices. This may mean that while most residents don't recognize the Greenscapes name, they have absorbed the information disseminated by the Greenscapes program (and potentially other sources) and have acted upon it. Further, it is very possible that people didn't pay much attention to the question prologue (i.e. "*As a result of Greenscapes information.....*" or "*In the past three years or so.....*") and simply indicated whether they adopted these practices at some point in time. This may indicate that while these practices are becoming more mainstream, their adoption is not related to the Greenscapes program in particular. Interpretation of the survey results on behavior change is seriously hampered by a lack of baseline data about the prevalence of these practices *before* the Greenscapes program was implemented.

The results in Table 8 may also mean that survey respondents deduced from the previous survey questions and/or from other information sources that engaging in these practices is the "right thing to do." They may be portraying their activities in a favorable light in order to appear socially responsible. This "social desirability bias" is particularly likely to occur when a person's actions are not easily verifiable, as is the case here. The

survey results for each behavior are examined in more detail to determine if a conclusion can be reached on these possibilities.

Mowing with a sharp mower blade

Cross tabulations of the survey responses indicate that respondents who were familiar with the Greenscapes program were statistically no more likely to report adopting the practice of mowing with a sharp mower blade than those not familiar with the program. Those who mow their own grass are statistically more likely to report that they have adopted this practice than those who contract for mowing.

Mowing high

Respondents who were familiar with the Greenscapes program were statistically no more likely to report adopting the practice of mowing high than those not familiar with the program.

Leaving grass clippings on the lawn

Respondents who were familiar with the Greenscapes program were statistically no more likely to report adopting the practice of leaving grass clippings on their lawn than those not familiar with the program. Those who do applications of fertilizers and/or pesticides themselves are statistically more likely to leave grass clippings on the lawn than those who contract with someone to do the applications.

Replacing lawn with drought tolerant plants

Respondents who were familiar with the Greenscapes program were statistically no more likely to have replaced lawn area with drought tolerant plantings than those not familiar with the program. Those who mow their own lawn were statistically more likely to have replaced lawn area with drought tolerant plantings than those who contract for mowing.

Reducing treatments with non-organic chemicals

Respondents who were familiar with the Greenscapes program were statistically no more likely to have reduced treatments with non-organic chemicals than those not familiar with the program. It has been reported that concerns about their children's health is a motivation for parents to reduce pesticide use on lawns⁷. However, a cross tabulation of the responses does not show that respondents with children under 18 at home are statistically more likely to report reducing lawn chemical use than those without children at home.

The 115 respondents who reported cutting their use of non-organic lawn care products were asked about the degree to which they had reduced their use. Their responses are displayed in Table 9.

⁷ Aceti, J. (2002, November). Reducing Pesticide Use in Lawn Care: Barriers and Opportunities. Report prepared for the Massachusetts Department of Environmental Protection.

Table 9.

Question: How much have you cut your use of these products?
Have you:

Level of Reduction	Percent Responding (n=115)
Stopped using them entirely	16%
Almost stopped using them entirely	21%
Cut use in half	30%
Cut use by about one-quarter	4%
Cut use by just a small amount	14%
Don't know	16%

Watering Practices

Survey respondents who were familiar with Greenscapes were asked if they had made any changes in their watering practices *as a result of the Greenscapes information*. Those unfamiliar with Greenscapes were asked if they had made any changes *in the last three years or so*. The overall response among survey respondents was as follows:

Table 10.

Question: Have you made any changes in your watering practices?

Response	Percent Responding (n=263)
Yes	38%
No	59%
Don't Know	4%

There was no indication that those familiar with the Greenscapes program were statistically more likely to report that they had made changes in their watering practices than those not familiar with the program. This is noteworthy, in part, because those familiar with the Greenscapes program mostly commonly described it as providing people with information on how to care for their lawn and gardens with less water.

Those who had made changes in their watering practices were asked what they were doing differently. Multiple responses were permitted. The fact that the percentages of responses in different categories totals 109% indicates that some respondents have made more than one change in their watering practices. Their unprompted responses can be categorized as follows:

Table 11.
Question: What are you doing differently?

Change in Watering Practices	Percent Responding (n=99)
Water less	27%
Water at evening, night or early morning	26%
Stopped watering	14%
Started using rain barrels or cisterns	11%
Started turning my irrigation system on manually	7%
Started using drip irrigation	5%
Water more	2%
Water lawn in spring only	2%
Other: I water the lawn once a week to give it a good soaking; Cut back on irrigation system; Added another sprinkler zone; I use a bucket to catch water in the shower before it warms up and reuse that water on the lawn.	5%
Don't know	9%

Fifty-five⁸ of the 99 respondents who described how they had changed their watering practices were asked if they had noticed a reduction in their water use. Sixty percent had, 33% had not, and 7% did not know.

Other Greenscapes Practices

The 44 respondents who were familiar with the Greenscapes program were asked if they had adopted any other Greenscapes practices, or directed those they've hired to do so. Fourteen percent replied that they had, and they were asked what they had done, specifically. Two responded that they are trying to make their grass grow at a quicker pace, suggesting a lack of understanding about what the Greenscapes program is about. Similarly, a third mentioned using pesticides, albeit more frequently than he would like to. One respondent generally mentioned breaking old/bad habits. Another said he/she was probably more aware of drought tolerance and using native plant materials. The other three didn't know or refused to say what they had done.

Conclusions on Behavior Change

Survey respondents were asked six initial questions about their adoption of landscaping practices. These questions pertained to: 1) mowing with a sharp mower blade, 2) mowing high, 3) leaving grass clippings on the lawn, 4) replacing lawn with drought resistant plantings, 5) reducing chemical treatments and 5) making changes in their watering practices. In no case were respondents who reported being familiar with Greenscapes statistically more likely to have adopted the practice than those who were not familiar with the program. If more evidence existed that familiarity with the Greenscapes program was statistically linked to the likelihood of behavior change, it would be more reasonable to conclude that while many residents don't recognize the

⁸ Those whose answers fell in the "Other" category and those who didn't know how they had changed their watering practices were not asked if they had noticed a reduction in their water use. Due to an oversight, those who said that they had changed their practices by watering less were categorized as "Other" during the interview process, and they were not asked if they had noticed a reduction in their water use. If those individuals had been asked about their water use, it seems likely that the percentage reporting that they had noticed a reduction would have been higher.

Greenscapes name, they have absorbed the information provided and have acted upon the recommendations.

What, then, can one conclude about the substantial percentages of survey respondents who reported having adopted one of the practices listed above? It may be that these practices have become more mainstream over the years, without the influence of the Greenscapes program itself having a particularly noticeable effect. However, it would also seem wise to take the absolute percentages of those reporting a behavior change with a grain of salt, due to potential social desirability bias.

On the other hand, the *relative* percentages of respondents who have adopted particular behaviors may provide some insights. The five behavior changes listed in Table 6 can be divided into several categories. Leaving grass clippings on the lawn and replacing lawn with other plantings are clearly visible to people, so there were few respondents who didn't know whether or not this had been done on their property. Not surprisingly, replacing lawn with drought-tolerant plantings is much less common than leaving grass clippings on the lawn. This is likely to reflect, in part, the greater time, effort and money that go into replacing lawn with other plantings, compared to leaving grass clippings on the lawn.

Mowing with a sharp mower blade and mowing high are likely to be less discernable to homeowners who hire someone to mow, accounting for the higher percentages of respondents who don't know if these practices have been adopted on their property. The Greenscapes Reference Guide provides a description of what is involved in mowing with a sharp mower blade: "Learn the Thumb Test and whenever your blade is dull, switch to a spare sharpened blade. Be prepared to change your mower blade frequently by keeping the necessary wrench handy as well as a spare blade that is already sharpened." Given the inconvenience that some people may perceive to be associated with this practice, it is a bit surprising that survey respondents report adopting it in greater numbers than mowing high. One explanation might be that respondents interpreted the practice of mowing with a sharp mower blade differently than it is described in the Greenscapes Guide. To many people, adopting this behavior may simply mean taking their mower to a shop at the beginning of the season to have the blade sharpened.

Reducing treatments with lawn chemicals is similar to mowing with a sharp mower blade or mowing high in regards to the percentage of respondents who didn't know if it has been adopted on their property. However, it is unique among the practices listed in Table 6 in that the percentage of those for whom this behavior change was not applicable was considerably higher. Among those for whom this behavior change was applicable, 53% had adopted it and 47% had not, making this a much less common behavior change than mowing with a sharp blade or mowing high. Why? Reducing lawn chemical use may be influenced by a greater degree of concern about negative consequences for lawn appearance, or the perceived difficulty of learning how to control pests and provide nutrients to the lawn using alternatives to chemicals.

The percentage of survey respondents indicating that they had made changes in their watering practices was lower (38%) than the percentages that reported adopting the practices listed in Table 8. It is true that 14% had indicated earlier in the survey that watering was not done on their property, but respondents did not indicate a lack of applicability in response to the question about changed watering practices. On one

hand, it is somewhat surprising that more respondents didn't answer this question affirmatively, since some of the more common practices (e.g. watering less, stopping watering) do not require additional time, effort or money. On the other hand, it is possible that concerns about the effect of less water on lawn appearance influence people's willingness to take these steps. Another possible explanation is that respondents were less likely to recall changes in watering practices because they were not asked about a specific activity. Finally, it is possible that respondents were less likely to present their behavior in a more favorable light because they were not asked about a specific activity. The available data do not provide enough information to determine which interpretation is the correct one.

Benefits and Barriers Associated with Greenscaping Practices

Survey respondents were read a list of the benefits of Greenscapes, and asked to indicate which two would be most important to them. Their priorities are displayed below.

Table 12.

Question: Which Greenscapes benefits would be most important to you?

Benefit	Percent Responding (n=272)
Maintaining good water quality in our ponds, rivers and bays	32%
Protecting the quality of our drinking water	29%
Saving money on my water bills	26%
Having a yard that is healthy and safe for my family to spend time in	20%
Ensuring enough water pressure for fire fighting	17%
Avoiding the cost of my town having to find and develop new water sources	13%
Enjoying more free time by doing less lawn maintenance	12%
Creating more habitat for wildlife	12%
Increasing my property value	10%
Don't know	4%

There is reason to view the results for this question with some caution. Monitoring of the initial survey calls revealed that some survey respondents were having difficulty keeping such a long list of items in their head while choosing their priorities. The order in which the choices were read was changed randomly over the course of administering the survey. This lessens the likelihood that particular benefits were more likely to be chosen because of their position in the list. However, the challenge of keeping nine choices in mind while making a decision may have made it more difficult for respondents to give a well considered answer to this question.

The 44 respondents who reported being familiar with the Greenscapes program were asked what they have found to be the biggest barrier to adopting Greenscapes practices. Their responses were unprompted, and multiple answers were accepted.

Table 13.

Question: What have you found is the biggest barrier to adopting Greenscapes practices?

Barrier	Percent Responding (n=44)
Lack of time	18%
Lack of money	18%
Don't do my own yard work (we hire someone to take care of our lawn/gardens)	11%
Don't know how to do it (don't have enough information to do it)	9%
Don't have the skills to do it	5%
Breaking old/bad habits	5%
Don't think my yard would look as nice	2%
Not interested	2%
Trying to make grass grow at a quicker rate	2%
Not sure it's good advice	2%
Other	7%
Don't know	27%

While the perceived barriers to adopting Greenscapes practices are diverse, the largest segment of those who reported being familiar with Greenscapes didn't know what was stopping them from adopting the recommended practices. This may be another sign that some of those who reported being familiar with Greenscapes are not clear on its purpose or have not considered its recommendations seriously. The most commonly articulated reasons for failing to adopt Greenscapes practices were perceived lack of time and money. The Greenscapes program may be able to modify the information it provides in order to reassure people that they are capable of adopting Greenscapes practices with the time and money they have. However, for particularly time and money intensive practices, mechanisms may have to be found to help people overcome these external barriers, if widespread implementation is to be expected.

Willingness to Pay

All survey respondents were asked if they would be willing to pay to receive Greenscapes program materials. Ten percent of respondents said that they would be willing to do so, 79% said that they would not, and 10% did not know or refused to answer. During monitoring of the initial calls, one respondent answered, "It depends on what the material is. If it is just a flyer, then no." The script for calls subsequent to the initial set was modified to try to capture any comments about the conditions under which respondents would be willing to pay. However, it appears that that information was not included in the survey results. It is likely that anyone who responded, "It depends," was classified as "Don't know." There was no statistically significant difference in willingness to pay for materials between those who were familiar with the Greenscapes program and those who were not.

Reliability of Findings

Interpreting the phone survey results involved judging the degree to which the responses to each survey question are likely to be reliable as a representation of what the Greenscapes audience actually does or thinks. A number of factors were weighed in gauging the reliability of the findings. They include:

- ◆ The uncertainty associated with a particular result. Questions posed to all 272 respondents have a margin of error of 5.9%. Questions posed to 44 respondents (the number who reported being familiar with the Greenscapes program) have a margin of error of about 15%. Questions posed to 15 respondents (the number who had heard about the Greenscapes program through the Greenscapes Reference Guide) have a margin of error of about 25%.
- ◆ The likelihood that respondents were susceptible to social desirability bias when answering a particular question.
- ◆ Whether the responses to a question were prompted or unprompted. In some cases, unprompted responses may provide a more authentic picture of people's views.
- ◆ Indications that the way a question was administered compromised the quality of the results. For example, monitoring of the initial survey calls revealed that some survey respondents were having difficulty keeping the list of nine Greenscapes benefits in their head while choosing their priorities.
- ◆ The possibility that respondents interpreted a question differently than it was meant. For example, it would not be surprising if most respondents understood the practice of mowing with a sharp mower blade differently than it is outlined in the Greenscapes Guide.

Several other factors affected the usefulness of the survey results in evaluating the Greenscapes program. The interpretation was limited by the lack of baseline data about the prevalence of greenscaping practices before the Greenscapes program was implemented. On the other hand, the interpretation was aided by a finding from other survey research that some respondents will claim they have heard of something even when they have not.

Based on the factors affecting reliability and usefulness, the following measures are more valuable in evaluating the Greenscapes program or serving as a basis for developing strategies for improvement.

- ◆ General sample characteristics;
- ◆ Current landscaping practices;
- ◆ Familiarity with the Greenscapes program;
- ◆ Outreach avenues, with the exception of the ratings of the Guide on understandability, information value and practicality;
- ◆ Lack of statistically significant difference between adoption rates for selected greenscaping practices by those familiar with the Greenscapes program and by those unfamiliar with the program;
- ◆ Statistically significant correlations between adoption of specific greenscaping practices and likelihood of contracting for performance of certain common landscaping tasks;
- ◆ Lack of statistically significant correlation between having children at home and reducing treatments with lawn chemicals;
- ◆ Barriers to greenscaping;
- ◆ Willingness to pay for Greenscapes program materials.

These measures are of low value for use in evaluating the Greenscapes program or serving as a basis for future strategy development.

- ◆ Ratings of the Guide on understandability, information value and practicality;
- ◆ The absolute rates of adoption of selected greenscaping practices: mowing with a sharp blade, leaving clippings on the lawn, replacing lawn area with drought tolerant plantings, reducing chemical treatments and changing watering practices;
- ◆ Percentage who noticed a reduction in water use after changing watering practices;
- ◆ Benefits associated with greenscaping.

Appendix A

Greenscapes Phone Survey

Hello. My name is _____. I'm taking a survey for the non-profit South Shore Greenscapes Program, which your town or your water company sponsors. We are not selling anything. Our goal is to get a sense of how South Shore homeowners care for their lawns and gardens. We randomly selected your household to call for the survey, which takes less than 5 minutes to complete. May I please speak with the person in your household who makes most of the decisions about lawn or garden care?

If decision maker answered the phone	CONTINUE
If decision maker comes to the phone	REPEAT INTRODUCTION. IF NONE AVAILABLE, TERMINATE
Don't have a lawn/yard/garden....	TERMINATE

Current Landscaping Practices

I'm going to list several lawn and garden care tasks. For each one, please tell me if it is something you hire someone else to do or something you do yourself. If a task is not done on your property at all, just say so."(SCALE: 1. "Hire someone." 2. "Do it ourselves." 3. Hire for some/do some myself 4. "Not done on the property." 5. Don't know)

1. Mowing
2. Watering
3. Treatments or applications of fertilizer, pre-emergents, pesticides or weed & feed
4. Where do you get information on how to care for your lawn or gardens? **[DO NOT READ. ALLOW MULTIPLE ANSWERS]**
 1. Neighbors
 2. Friends
 3. Lawn care or landscaping contractor
 4. Books
 5. Magazines
 6. Nursery or garden center staff
 7. Internet
 8. Product labels
 9. University extension service
 10. Other (specify)
 11. Don't know
 12. Television

Current Watering Practices

5. **[If Q2=1, 2 OR 3]** Which of the following do you use for watering? **[READ CHOICES. ALLOW MULTIPLE ANSWERS]**
1. Hand held hose
 2. Traditional sprinkler
 3. Automatic, in-ground irrigation system
 4. Rain barrel
 5. Drip hose
 6. Other (specify)
 7. (Don't know)

Recall and Usage of Greenscapes Program

6. Are you familiar with the Greenscapes program? **[BE SURE TO ARTICULATE THE WORD "GREENSCAPES" CLEARLY].**
1. Yes
 2. No
 3. (Don't know)
7. **[If Q6=1]** How did you hear about it? **DO NOT READ RESPONSES. ALLOW MULTIPLE RESPONSES.]**
1. Guide (booklet, brochure, pamphlet that came in the mail)
 2. Press (newspaper)
 3. Web site
 4. Word of mouth
 5. Other (specify)
 6. (Don't know how I heard about it)
8. **[If Q6=1]** How would you describe what the Greenscapes program is about? **[DO NOT READ. ALLOW MULTIPLE RESPONSES]**
1. How to take care of your lawn and gardens
 2. Sustainable landscaping
 3. How to take care of your lawn/gardens with less water
 4. How to take care of your lawn/gardens with fewer pesticides
 5. How to take care of your lawn/gardens with less fertilizer
 6. How to take care of your lawn/gardens with fewer chemicals
 7. Taking care of your lawn/gardens in a way that protects the environment
 8. How to save money on your water bill
 9. How to save money on lawn/garden care
 10. Other (specify)
 11. (Don't know)
9. **[If Q6=2 or 3]** The Greenscapes program educates citizens about ways they can maintain attractive landscapes on their property while protecting our water resources. Which of the following would be the best way to get information about this program to you?

1. through the mail
2. radio
3. web site
4. newspaper stories
5. through people you know
6. garden center
7. school
8. utility bill insert
9. posters
10. tabletop display
11. other **[ASK THEM TO SPECIFY]**
12. (Don't know)

10. I'm going to read a list of the benefits of Greenscapes. Please tell me which two would be most important to you.

(RANDOMIZE)

1. Increasing my property value
2. Saving money on my water bills
3. Having a yard that is healthy and safe for my family to spend time in
4. Enjoying more free time by doing less lawn maintenance
5. Creating more habitat for wildlife
6. Avoiding the cost of my town having to find and develop new water sources
7. Protecting the quality of our drinking water
8. Maintaining good water quality in our ponds, rivers and bays
9. Ensuring enough water pressure for fire fighting
10. (Don't know)

[If Q7=1] I am now going to read you a list of statements. Please rate your agreement with each on a scale from "1" meaning "strongly disagree" to "6" meaning "strongly agree." 7=Don't know.

11. The information in the Greenscapes Guide is difficult to understand
12. I found the Greenscapes Guide informative.
13. The recommendations in the Greenscapes Guide are not very practical for someone like me.

[If Q6=1: As a result of the Greenscapes information],

[If Q6=2 or 3: In the past three years or so],

have you adopted any of the following practices or directed those you've hired to do so?

(Scale: 1. Yes 2. No 3. Don't know 4. Not applicable to us) [RANDOMIZE 14-18]

14. **[If Q1=1, 2 or 3]** Mowing with a sharp mower blade
15. **[If Q1=1, 2 or 3]** Mowing high, to a height of 3 inches or more
16. **[If Q1=1, 2 or 3]** Leaving grass clippings on the lawn

17. Replacing any of your lawn with drought tolerant shrubs, trees, perennials, ornamental grasses or ground cover
18. Reducing treatments with non-organic chemicals such as pesticides, pre-emergents, weed & feed or fertilizers.
19. **[If Q18=1]** How much have you cut your use of these products? Have you:**[READ CHOICES]**
1. Stopped using them entirely
 2. Almost stopped using them entirely
 3. Cut use in half
 4. Cut use by about one-quarter
 5. Cut use by just a small amount
 6. (Don't know)
20. **[If Q6=1: As a result of the Greenscapes information],**
[If Q6=2 or 3: In the past three years or so],
Have you made any changes in your watering practices?
1. Yes
 2. No
 3. (Don't know)
21. **[If Q20=1]** What are you doing differently? **[DO NOT READ. ALLOW MULTIPLE RESPONSES.]**
1. Water 6" deep
 2. Water at evening, night or early morning
 3. Started using rain barrels or cisterns
 4. Started using drip irrigation
 5. Got my irrigation system audited
 6. Started turning my irrigation system on manually
 7. Stopped watering
 8. Other (specify)
 9. (Don't know)
22. **[If Q21=1-7]** Have you noticed a reduction in your water use?
1. Yes
 2. No
 3. (Don't know)
23. **[If Q6=1]** Have you adopted any other Greenscapes practices, or directed those you've hired to do so? **(PROBE FOR ANSWER)**
1. Yes
 2. No
 3. (Don't know)
- 23a. (IF yes Q23) What specifically have you done?

24. [If Q6=1] What have you found is the biggest barrier to adopting Greenscapes practices? [DO NOT READ. ALLOW MULTIPLE RESPONSES]

1. Don't do my own yardwork (we hire someone to take care of our lawn/gardens)
2. Lack of time
3. Lack of money
4. Don't know how to do it (don't have enough information to do it)
5. Don't have the skills to do it
6. Can't find a contractor to do it
7. Don't think they really have an impact
8. Not sure it's good advice
9. Don't think my yard would look as nice
10. Not interested
11. Other (specify)
12. (Don't know)

Willingness to Pay

25. Would you be willing to pay to receive Greenscapes program materials?
1. yes
 2. no
 3. (don't know/refused)
 4. (Other—record verbatim)

Demographic Information

Now, just a few more questions for statistical purposes only.

26. Which of the following age categories applies to you? Please stop me when I reach your category.
1. 18-30
 2. 31-40
 3. 41-50
 4. 51-60
 5. 61-70
 6. 71-80
 7. 81-90
 8. 91-100
 9. (Refused)
27. Do you have children under the age of 18 at home?
1. Yes
 2. No
 3. (Refused)

28. Please stop me when I reach the size range that your property falls into.
**[MEASUREMENTS IN SQUARE FEET ARE LISTED IN CASE
SOMEONE REFERS TO THE SIZE THAT WAY, BUT DON'T HAVE
TO BE READ.]**

1. ¼ acre or less (11,000 sq. ft)
2. ¼ acre (11,000 sq. ft.) – ½ acre (22,000 sq. ft.)
3. ½ acre (22,000 sq. ft.) – 1 acre (33,000 sq. ft.)
4. 1 acre (44,000 sq. ft.) – 2 acre (87,000 sq. ft.)
5. 2 acres (87,000 sq. ft.) - 3 acres (131,000 sq. ft.)
6. 3+ acres (131,000 sq. ft.+)
7. (Not sure/refused)

29. Gender **[DON'T ASK]**

1. Female
2. Male

APPENDIX B COMPOSITE AGGREGATE DATA

**OPINION DYNAMICS
ODC# 6918**

**GREENSCAPES
NOVEMBER 2007**

Interviewing dates: November 28, 2007 – December 3, 2007

Sample size: N=272

Current Landscaping Practices

I'm going to list several lawn and garden care tasks. For each one, please tell me if it is something you hire someone else to do or something you do yourself. If a task is not done on your property at all, just say so."

	<u>Hire someone</u>	<u>Do it ourselves</u>	<u>Hire for some/do some myself</u>	<u>Not done on the property</u>	<u>(Dk)</u>
1. Mowing	22%	74	3	1	1
2. Watering	5%	79	-	14	1
3. Treatments or applications of fertilizer, pre-emergents, pesticides or weed and feed	22%	57	3	16	2

4. Where do you get information on how to care for your lawn or gardens?

(Lawn care or landscaping contractor)	15%
(Internet)	15
(Magazines)	14
(Books)	14
(Nursery or garden center staff)	12
(Friends)	11
(Neighbors)	6
My own experience/I just know	6
(Television)	5
Family	4
(Product labels)	3
Stores (Home Depot, Lowes, Agway)	3
Newspaper/radio	2
(Other)	4
(Don't know)	12

Current Watering Practices**(SKIP IF Q2 IS NOT DONE ON THE PROPERTY OR DK. n=230)**

5. Which of the following do you use for watering?

Traditional sprinkler	50%
Hand held hose	47
Automatic, in-ground irrigation system	17
Drip hose	5
Rain barrel	3
(Other)	1
(Don't know)	3

Recall and Usage of Greenscapes Program

6. Are you familiar with the Greenscapes program?

Yes	16%
No	82
(Don't know)	2

(IF Q6 IS YES. n=44)

7. How did you hear about it?

(Guide (booklet, brochure, pamphlet that came in the mail))	36%
(Press (newspaper))	20
(Word of mouth)	9
Television	5
Greenscapes workshop/seminar	5
(Web site)	5
Advertising	5
(Other)	9
(Don't know how I heard about it)	11

(IF Q6 IS YES. n=44)

8. How would you describe what the Greenscapes program is about?

(How to take care of your lawn/gardens with less water)	27%
(How to take care of your lawn and gardens)	25
(Taking care of your lawn/gardens in a way that protects the environment)	18
(How to take care of your lawn/gardens with fewer pesticides)	16
(How to take care of your lawn/gardens with less fertilizer)	9
(Sustainable landscaping)	9
(How to take care of your lawn/gardens with fewer chemicals)	5
Full service lawn and garden care	2
(Other)	2
(Don't know)	18

(IF Q6 IS NO OR DK. n=228)

9. The Greenscapes program educates citizens about ways they can maintain attractive landscapes on their property while protecting our water resources. Which of the following would be the best way to get information about this program to you?

Through the mail	52%
Web site	16
Newspaper stories	9
Garden center	5
Radio	4
Utility bill insert	3
Through people you know	2
E-mail	1
Other	2
(Don't know)	7

10. I'm going to read a list of the benefits of Greenscapes. Please tell me which two would be most important to you.

Maintaining good water quality in our ponds, rivers and bays	32%
Protecting the quality of our drinking water	29
Saving money on my water bills	26
Having a yard that is healthy and safe for my family to spend time in	20
Ensuring enough water pressure for fire fighting	17
Avoiding the cost of my town having to find and develop new water sources	13
Enjoying more free time by doing less lawn maintenance	12
Creating more habitat for wildlife	12
Increasing my property value	10
(Don't know)	4

(IF Q7 IS GUIDE)

I am now going to read you a list of statements. Please rate your agreement with each on a scale from "1" meaning "strongly disagree" to "6" meaning "strongly agree." 7=Don't know.

	Mean	<u>1</u> Strongly Disagree	<u>2</u>	<u>3</u>	<u>4</u>	<u>5</u>	<u>6</u> Strongly Agree	(DK)
11. The information in the Greenscapes Guide is difficult to understand. (n=15)	1.69	60%	7	13	-	7	-	13
12. I found the Greenscapes Guide informative. (n=15)	3.73	13%	20	-	7	7	27	27
13. The recommendations in the Greenscapes Guide are not very practical for someone like me. (n=15)	2.77	20%	20	27	7	7	7	13

(SKIP Q14-Q16 IF Q1 IS NOT DONE ON THE PROPERTY OR DK. n=258)

Have you adopted any of the following practices or directed those you've hired to do so?

	<u>Yes</u>	<u>No</u>	<u>Don't know</u>	<u>N/A</u>
14. Mowing with a sharp mower blade (n=258)	74%	14	10	2
15. Mowing high, to a height of 3 inches or more (n=258)	65%	24	10	1
16. Leaving grass clippings on the lawn (n=258)	62%	36	2	-
17. Replacing any of your lawn with drought tolerant shrubs, trees, perennials, ornamental grasses or ground cover (n=263)	43%	53	2	2
18. Reducing treatments with non-organic chemicals such as pesticides, pre-emergents, weed & feed or fertilizers (n=263)	43%	38	8	11

(IF Q18 IS YES. n=115)

19. How much have you cut your use of these products? Have you:

Stopped using them entirely	16%
Almost stopped using them entirely	21
Cut use in half	30
Cut use by about one-quarter	4
Cut use by just a small amount	14
(Don't know)	16

20. Have you made any changes in your watering practices? (n=263)

Yes	38%
No	59
(Don't know)	4

(IF Q20 IS YES. n=99)

21. What are you doing differently?

Water less/not as much	27%
(Water at evening, night or early morning)	26
(Stopped watering)	14
(Started using rain barrels or cisterns)	11
(Water 6" deep)	7
(Started turning my irrigation system on manually)	5
(Started using drip irrigation)	2
Water more	2
Water lawn in spring only	1
(Other)	5
(Don't know)	9

(SKIP IF Q21 IS OTHER OR DK. n=55)

22. Have you noticed a reduction in your water use?

Yes	60%
No	33
(Don't know)	7

(IF Q6 IS YES. n=44)

23. Have you adopted any other Greenscapes practices, or directed those you've hired to do so?

Yes	14%
No	75
(Don't know)	11

(IF Q23 IS YES. n=6)

23a. What specifically have you done?

Trying to make grass grow at a quicker rate	33%
Breaking old/bad habits	17
(Other)	17
(Don't know)	33

(IF Q6 IS YES. n=44)

24. What have you found is the biggest barrier to adopting Greenscapes practices?

(Lack of time)	18%
(Lack of money)	18
(Don't know how to do it (don't have enough information to do it))	11
(Don't do my own yard work (we hire someone to take care of our lawn/gardens))	9
(Don't have the skills to do it)	5
Breaking old/bad habits	5
(Don't think my yard would look as nice)	2
(Not interested)	2
Trying to make grass grow at a quicker rate	2
(Not sure it's good advice)	2
(Other)	7
(Don't know)	27

Willingness to Pay

25. Would you be willing to pay to receive Greenscapes program materials?

Yes	10%
No	79
(Don't know/refused)	10

Demographic Information

Now, just a few more questions for statistical purposes only.

26. Which of the following age categories applies to you? Please stop me when I reach your category.

18-30	7%
31-40	15
41-50	26
51-60	24
61-70	11
71-80	9
81-90	3
91-100	-
(Refused)	4

27. Do you have children under the age of 18 at home?

Yes	36%
No	61
(Refused)	3

28. Please stop me when I reach the size range that your property falls into.

¼ acre or less (11,000 sq. ft)	20%
¼ acre (11,000 sq. ft.) – ½ acre (22,000 sq. ft.)	22
½ acre (22,000 sq. ft.) – 1 acre (33,000 sq. ft.)	26
1 acre (44,000 sq. ft.) – 2 acre (87,000 sq. ft.)	20
2 acres (87,000 sq. ft.) - 3 acres (131,000 sq. ft.)	3
3+ acres (131,000 sq. ft.+)	1
(Not sure/refused)	8

27. Gender

Female	59%
Male	41