aceti Associates

Understanding the Greenscapes Audience: Focus Group Research Results

This project is funded by the Massachusetts Environmental Trust.

Prepared for the Greenscapes Coalition

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February 25, 2008

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Study Objective

Aceti Associates was contracted by the Greenscapes Coalition to conduct a focus group with households in the Ipswich River Watershed that are likely to have disproportionate impacts on water quality and quantity. The focus group was conducted on Tuesday, January 22, 2008, and addressed the following issues:

- Perceptions of the barriers and motivations associated with watering at dawn;
- Perceptions of the barriers and motivations associated with using organic fertilizer;
- Perceptions of different messages regarding the benefits of greenscaping;
- Ideas for motivating people to care for their lawns and gardens with less water and fewer chemical fertilizers and pesticides.

The focus group was comprised of eight Town of Hamilton residents. Focus group participants were recruited from the Town of Hamilton because it is almost completely within the Ipswich River Watershed it is convenient to the Ipswich Watershed Association's headquarters where the focus group session was held, and it is relatively affluent, with a median household income of $72,000 in 2000. Recruitment was done in an affluent community on the assumption that more "high impact" households would be present there. Participants were selected based on a set of criteria likely to indicate that a household has a larger than average impact on water quality and quantity. All participants live on properties larger than ½ acre in size, water their lawn/gardens at least once per week and apply both pesticides and fertilizers to their property. In some cases, pesticide treatments are in the form of applications of weed and feed. Five participants do their own applications of pesticides and fertilizers, two hire a contractor to do the applications and one participant does some applications and contracts for some. Four of the participants were women and four were men.

Key Findings

A summary of the responses is provided below. The numbers of participants who engage in particular lawn care practices and hold particular views have been noted. Because of the small number of people typically interviewed in focus group research (eight people, in this case), it is not appropriate to assume that the precise proportions responding in a certain way would be observed among all "high impact" households or among the general population on the North Shore. However, in general, views expressed more frequently should be given more weight when developing behavior change strategies.

Watering at Dawn

- For lawn watering, four focus group participants use an in-ground irrigation system. Three use a traditional sprinkler and one uses a traditional sprinkler on some lawn areas and a hand held hose on other lawn areas.
- Two irrigation system users have their systems set to water beginning at 4:15am and 5am respectively. The other two irrigation systems users turn their systems on manually, as needed, either before 7am or after 5-6pm or 7pm respectively.
- Two of the irrigation system users were clear about the efficiency gains in water usage to be had from avoiding the heat of the day for watering. While the other two were clear about the need to avoid watering in the sun, they were less precise about the benefits they expected to gain by doing so.
- Two of the traditional sprinkler users water their lawns in the evening. The other two water in the morning, between 6 and 7am, or at 7am respectively.
- Three of the four traditional sprinkler users said that they water when they do because it works best with their schedule. Two of the three also said that watering before the sun is high is generally better or specifically, better for the lawn. One attributed rot in her garden to evening watering. The fourth traditional sprinkler user waters in the early morning and/or evening to prevent water evaporation.
- Focus group participants were asked what would make it hard to water at daybreak – around 5am. Those who already do so were asked how they overcame any difficulties. Two of the irrigation system users indicated that they would not go out at 5am to water, but they overcome that obstacle by setting their irrigation system to go on automatically at 4 or 5am. One of the irrigation system users who turns her system on manually is not up early enough to do so at daybreak because of her children's sleep schedule. The other irrigation system user who turns his system on manually does so because he likes to be in control of it – her doesn't want it running all the time. He waters before 7am or after 7pm, but probably not at 5am. Manual irrigation system control, while a recommended Greenscapes practice, appears to be less compatible with watering at dawn.
- Two of the four traditional sprinkler users said that their morning schedule prevents them from getting out as early as 5am to water, or that they simply don't get up that early anymore. A third traditional sprinkler user said that he leaves before 6am for work and could turn the sprinkler on before he left, but when his wife is working, there would be no one at home to turn the sprinkler off again. The fourth traditional sprinkler user doesn't water at dawn because the dew on the grass at that time makes it appear that the lawn doesn't need watering.

- Six of the eight focus group members thought that at least some people would take the necessary steps to begin watering at dawn, although almost all felt that certain conditions would have to be met for this to happen. No strong consensus emerged on either the motivators or the barriers associated with taking the necessary steps to begin watering at dawn. However, four participants mentioned the need for advertising or education. Three participants thought that a daytime watering ban would motivate people to adopt the practice of watering at dawn. Two or three people thought that caring about the environment would be at least one of the reasons why people would take the necessary steps to begin watering at dawn.
- In regards to using sprinkler timers in particular, four of the eight participants mentioned the discounted cost of the sprinkler timer (as offered by the Greenscapes program) as likely to be influential in people's decision about whether to buy one. Two participants felt that convenience was a selling point for sprinkler timers, believing that some people would see a timer as making early morning watering more convenient, and/or would see buying a $30 timer as an easy solution. One participant believed that those who care about how much they spend on water would be more likely to use one.
- In describing why they thought people would not adopt the practice of watering at dawn, one person mentioned a lack of awareness on the part of many about how much water they use, and a sense of entitlement to a green lawn. In regards to using sprinkler timers in particular, two people expressed concern the timers did not solve the problem of how to move the sprinklers around the yard at 5am. Others mentioned barriers such as lack of awareness of sprinkler timers as an option, the effort of filling out a form and sending a check, and the difficulty that some people have programming electronic equipment.

Using Organic Fertilizer

- Two of the eight focus group members said that they use organic fertilizer exclusively or as a part of their lawn fertilization regime. Five participants said that they use Scotts products. Two other participants did not mention a brand name, but the descriptions they provided make it highly probable that they (or their contractor) use synthetic fertilizer.
- When asked what they saw or imagined to be the advantages of using organic fertilizer instead of synthetic fertilizer, the most common response was that it was better for the environment. Several participants also mentioned greater safety for kids and/or pets and less chance of water supply contamination.
- In describing what they perceived to be the disadvantages of organic fertilizer, there was a pervasive belief among participants that organic fertilizer is more costly than synthetic fertilizer. Several participants also expressed concerns that organic fertilizer requires more effort to use, is less readily available, and is not as effective as synthetic fertilizer. Several focus group members also suggested that they prefer the convenience of a synthetic product that combines fertilizer and pesticides.
- Four of the participants said that a list of the pros and cons of synthetic and organic fertilizers presented during the focus group session would not make them more likely to consider using organic fertilizers in place of synthetic ones. Another participant

claimed that she would like to use organic fertilizer, but her conditions for doing so included the elimination of the disadvantages of using organic fertilizer.

- One participant indicated that he was inclined to re-examine the idea of using organic fertilizer, primarily because the list of pros and cons raised the possibility that synthetic fertilizers are used up faster than organic ones. He was also open to the possibility that there have been new product developments in organic fertilizers in the last few years.
- One participant appeared less positive about the idea of using organic fertilizer after reading the pros and cons presented, because of logistics and cost.
- Two participants described groups they thought would be more inclined to use organic fertilizer. One group was parents of school age children. The other group might be described as people interested in lifestyles of health and sustainability.
- Other comments on the list of fertilizer pros and cons indicate that about half of the group had some questions about the accuracy of the information and/or its source. A number of factors may have contributed to this response. However, these responses do point to the importance of explicitly addressing the audiences' beliefs and using a credible messenger.
- Knowing that organic fertilizer is manufactured from waste may be an appealing selling point for people who compost.

Messages about the Benefits of Greenscaping

Participants were asked to rate twelve statements based on how much they liked the statement and how much they believed it. Statements that were perceived as more likeable and believable included:

- Greenscaping will help protect our rivers, streams and ponds;
- Have a healthy lawn that is safe for your family too;
- Greenscaping will help ensure there is enough water for people to drink and for fire protection;
- People are more important than lawns -- we need enough water for people to drink and for fire protection; and
- Health: Lawn chemicals can cause unnecessary harm to your family.

Motivations for Greenscaping

Focus group participants were asked what they believe is most likely to motivate people to take care of their lawns and gardens with less water and fewer chemical fertilizers and pesticides.

- Four participants felt that higher water prices would be a powerful motivator.
- Four participants thought that more effective communication about greenscaping would be important.
- Four participants thought that if children were educated about greenscaping, they could teach their parents and grandparents.
- Two participants thought that regulation of lawn watering activities, with education, warnings, and enforcement, including penalties, would be an important part of the solution.
- Two participants felt that people are motivated by health concerns.

- One participant thought that safety issues, such as fire protection, are also very important to people, and that factors affecting safety are likely to motivate people to change their behavior.
- One participant felt that the prospect of running out of water would be highly motivating for people.
- One participant believed that providing financial incentives would be an effective strategy for motivating people to try out and to maintain new lawn and garden care practices.
- One participant thought that the commercial development of organic fertilizers that work would be the impetus for increased usage.

Detailed Focus Group Findings

A description of the responses to each question is provided below, with observations by the facilitator and note taker where applicable. The numbers of participants who engage in particular lawn care practices and hold particular views have been noted. Because of the small number of people typically interviewed in focus group research (eight people, in this case), it is not appropriate to assume that the precise proportions responding in a certain way would be observed among all "high impact" households or among the general population on the North Shore. However, in general, views expressed more frequently should be given more weight when developing behavior change strategies.

Watering at Dawn

What type of watering devise you primarily use for watering your lawn – or, if you don't do much lawn watering, your gardens?

For lawn watering, four focus group participants use an in-ground irrigation system. Three use a traditional sprinkler and one uses a traditional sprinkler on some lawn areas and a hand held hose on other lawn areas.

Five participants use a different device for watering their gardens than they use on their lawn. Two use soaker hoses on their gardens, one uses a traditional sprinkler and two use hand held hoses.

Two focus group members mentioned devices that they use specifically for watering trees and/or shrubs: a soaker hose, and a rain barrel combined with bucket transport of water.

What time of day is your lawn is typically watered? Why is your lawn watered at that particular time?

<u>Irrigation System Users</u>

Two irrigation system users responded that their systems are set to water beginning at 4:15am and 5am respectively. The other two irrigation systems users said that they run their systems either before 7am or after 5-6pm or 7pm respectively. Two of the irrigation system users who use a different watering device for their gardens indicated that they use a soaker hose (on a timer) between 5 and 7am or a sprinkler between 5 and 6pm, respectively.

The irrigation system users touched on similar themes in their reasons for watering at the times they do:

> *"We use the irrigation system in early morning because we learned that that is the most efficient usage of the water."*
>
> *"I'm hoping I get the best result early in the morning before the sun hits, because I'm in the sun all day long."*

"To save water"

"So that the ground is wet before the sun hits. We understand that watering in the sun is not the best time."

These comments indicate that two of the irrigation system users were clear about the efficiency gains to be had from avoiding the heat of the day for watering. While the other two were clear about the need to avoid watering in the sun, they were less precise about the benefits they expected to gain by doing so.

Traditional Sprinkler Users

Two of the traditional sprinkler users water their lawns in the evening. The other two water in the morning, between 6 and 7am, or at 7am respectively. One of these individuals sometimes waters his lawn in the morning **and** in the evening on given days when it needs it, but then will not water again for several days. Three of the four traditional sprinkler users provided additional information about when they water their gardens. One trys to water her flowers in the morning before going to work, but sometimes ends up watering them in the evening. Another's wife turns the hose on during the morning or mid day while she's doing other things. The third waters his vegetable gardens daily between 6 and 7am **and** just before sunset. Among the traditional sprinkler users then, all report watering their lawns in the early morning or evening. Those who provided additional information about watering their gardens also water in the early morning or evenings, with one exception.

Three of the four traditional sprinkler users said that they water when they do because it works best with their schedule. One of these participants also mentioned specifically that watering before the sun is high is better for the lawn. Another stated more generally that watering in the morning is "better." She sometimes ends ups up watering her garden in the evening and believes that having "a lot of rot" in her garden is attributable to evening watering. When explaining the reason for his early morning and evening watering schedule, the fourth traditional sprinkler user said, "you don't get the evaporation."

Let's talk about the idea of watering around daybreak – let's say 5am to make it simple. We've talked about some of the advantages of that. Is there anything that would make it hard to water around daybreak? If you already do it, how did you overcome any difficulties?

Irrigation System Users

Two of the irrigation system users indicated that they would not go out at 5am to water, but they overcome that obstacle by setting their irrigation system to go on automatically at 4 or 5am. The other two irrigation system users said that they turn their system on manually. One does so because her husband waters their lawn episodically, when he feels it needs it. They are not up early enough to turn their system on at daybreak because of their children's sleep schedule. The other irrigation system user who turns his system on manually does so because he likes to be in control of it – he doesn't want it running all the time. He mentioned earlier that he waters his lawn before 7am or after

7pm, and said that he gets up if he has to do it. However, it was not clear that he would get up at 5am.

One participant also mentioned a problem that can arise from watering early in the morning in communities with hard water. If vehicles are stored outside, and are hit by water spray from sprinklers, the sun hitting mineral-laden water droplets can cause spots on vehicle finishes that are very hard to remove. When asked, the participant did not provide any examples of instances in which people had been deterred from watering in the morning due to this problem. However, as a member of the Town of Hamilton's Board of Public Works, he was aware that people come into the DPW offices to complain about the spots on their vehicles, boat trailers, etc.

This same participant (who waters before 7am or after 7pm) also mentioned that if you water at night, it can create mold problems. Another participant echoed his comment. These two comments, along with an earlier one from a participant who has rot in her garden, were the only times that the danger of promoting fungal infections was mentioned in connection with evening watering.

To sum up, the two irrigation system users whose systems are programmed to run on a set schedule are the two who water at dawn, or before. The other two irrigation system users engage in a different greenscaping practice: leaving their system off until they feel their lawn needs water. This procedure appears to be less compatible with watering at dawn. It is possible that these irrigation system users would adopt the Greenscapes practice of programming their system to run at dawn, but turning their system on the night before their lawn needs water, and turning it off again the next day. However, it is not clear how much of a challenge this level of planning would present for most people.

<u>Traditional Sprinkler Users</u>

Two of the four traditional sprinkler users said that their morning schedule prevents them from getting out as early as 5am to water, or that they simply don't get up that early anymore. A third traditional sprinkler user said that he leaves before 6am for work and could turn the sprinkler on before he left, but when his wife is working, there would be no one at home to turn the sprinkler off again. He continued on to say that they don't have a timer, but supposed that they could invest in one.

These comments indicate that more widespread use of timers may help traditional sprinkler users. However, they would face the same challenge as those who operate their irrigation system manually: planning ahead to turn the system on the night before when their lawn needs watering and remembering to turn it off the following morning.

The fourth traditional sprinkler user indicated that he is up at daybreak and could water at that time. However, he said:

> *"The only reason why I wouldn't water early in the morning if I intended to the night before is if there is a lot of dew on the lawn and it looks like there is a lot of moisture in it. I'd think, 'Why am I watering?'"*

For people who have in-ground irrigation systems, switching to watering at daybreak involves changing the programming on the irrigation system clock or having a contractor change it. For those with traditional sprinklers, switching to watering at daybreak involves buying a programmable sprinkler timer, installing it on your outdoor water faucet and programming it. A sprinkler timer that retails for $62.50 can be purchased from the Greenscapes program for $25 by sending in a form and a check. Do you think it's likely that people who use the same type of watering equipment that you do would take the steps I've just described to begin watering at dawn? Why or why not?

Irrigation System Users

Three of the four irrigation system users thought that most other irrigation system users would take the necessary steps to begin watering at dawn, under certain conditions. Several said that people would need to be educated. One felt that people would do this voluntarily if they were tuned into the water savings and another thought that people would need a push from a ban on daytime watering.

The dissenting irrigation system user, based on his experience as a member of the Hamilton Board of Public Works, felt that most people would not take the necessary steps, because few people have any sense of how much water they are using and people feel entitled to a green lawn if they live in Hamilton or Wenham.

Traditional Sprinkler Users

The four traditional sprinkler users were more mixed in their opinions. Several of the irrigation system users also weighed in on the question of whether traditional sprinkler users would be likely to use a timer, and they, too, were divided on this question.

One traditional sprinkler user thought that people would buy a timer, because there are still people who do care about the environment. One irrigation system user felt that "if they advertise the 'green' with the savings, I think most people would do that. If you have a $60 timer for $25, I think most people would." Another participant concurred with this statement.

One traditional sprinkler user thought that people would like to buy a sprinkler timer in theory, but in practice they probably wouldn't do so. One of the irrigation system users was concerned that a lot of people have trouble programming their VCRs, let alone one of these timers.

The two remaining traditional sprinkler users felt that some people would use a timer and some people wouldn't. One felt that the decision to purchase a timer was "mostly an education thing." However, he also strongly implied that he thought the decision depended on whether people cared how much they spent on water. When asked what would influence people's decision to buy a timer, the other remaining traditional sprinkler user thought that some people wouldn't because they don't know about it. (Two traditional sprinkler users hadn't known the timers existed.) She believed that some

people would buy one because it would make it more convenient for them to water early in the morning. However, the notion of increased convenience came with a caveat: although the timer could be set to water at 5am, you still have the problem of how to move the sprinklers around the yard at that time of day. (One of the irrigation system users saw the same problem with the sprinkler timer idea.) Finally, this participant said that she would love to have a sprinkler timer, because she is not a wasteful person when it comes to water.

One irrigation system user thought that the adoption of sprinkler timer use would depend on how well it was advertised, how well it was explained and how affordable it was made for people. She guessed that people would think that $25 for a $65 timer was worth it. She went on to say:

> *"If you got the word out there, hopefully people would adopt it, knowing it was better for the environment. I think we've come a long way from 10 years ago in terms of awareness. Children go to school now and they are 'all about recycling' and prompting parents to do things maybe they wouldn't do before. So I think it needs to be advertised."*

However, she also felt that buying a timer would be too much effort for some people.

> *"Some people just aren't interested in filling out forms and writing a check and putting a stamp on the envelope. And some people don't care. They are going to do what they want to do."*

One of the traditional sprinkler users declared that he was going to go out and buy himself a timer. He described himself as someone who doesn't want to pay to use a lot of water, and as a consequence, waters only a small part of his very large lawn. He said that while he knew the timers existed (he had seen them at "green" outlets), it had just never occurred to him to purchase one before. When asked what convinced him that he should go out and buy a sprinkler timer, he said it was the realization that "how stupid am I? To buy a timer for $30, that's easy."

<u>Regulations and Enforcement</u>

In expressing their opinions about watering at dawn, participants were prodded to describe whether or not they thought people would take action in the absence of bans or other regulations. However, regulations and enforcement did come up. As mentioned above, one irrigation system user thought that people would need a push, in the form of a daytime watering ban, to take the steps necessary to water at dawn. A traditional sprinkler user thought there should be a permanent regulation prohibiting watering between 9am and 5pm. Another thought that most of his neighbors would adhere to a regulation that limited watering to early in the morning.

Two participants described neighbors with private wells, whom they perceive as particularly wasteful in their lawn watering practices. Another participant stated that when a watering ban goes into effect, it covers watering from wells. This statement

triggered comments from others about the lack of enforcement of local water bans. Differences of opinion arose about the amount of municipal staff time that would be necessary to enforce water bans. One participant stated that her husband had recently been a houseguest of a new resident of Henderson, Nevada, near Las Vegas. Her husband's host had received a "Henderson Water Watcher's Courtesy Notice."

> *"They have people who drive around and they check off the violation – watering on the wrong day, water running off the property or leak in sprinkler system. If they come back, and you haven't fixed it, you can have a fine on your utility bill. So, they do have people who are driving around and monitoring."*

This participant did not perceive water shortage problems on the North Shore to be to be severe as in the Las Vegas area, and several other focus group members seemed to agree with her on this.

In sum, six of the eight focus group members thought that at least some people would take the necessary steps to begin watering at dawn, although almost all felt that certain conditions would have to be met for this to happen. No strong consensus emerged on either the motivators or the barriers associated with taking the necessary steps to begin watering at dawn. However, four participants mentioned the need for advertising or education. Three participants thought that a daytime watering ban would motivate people to adopt the practice of watering at dawn. Two or three people thought that caring about the environment would be at least one of the reasons why people would take the necessary steps to begin watering at dawn.

In regards to using sprinkler timers in particular, four of the eight participants mentioned the discounted cost of the sprinkler timer as likely to be influential in people's decision about whether to buy one. Two participants felt that convenience was a selling point for sprinkler timers, believing that some people would see a timer as making early morning watering more convenient, and/or would see buying a $30 timer as an easy solution. One participant believed that those who care about how much they spend on water would be more likely to use one.

In describing why they thought people would not adopt the practice of watering at dawn, one person mentioned a lack of awareness on the part of many about how much water they use, and a sense of entitlement to a green lawn. In regards to using sprinkler timers in particular, two people expressed concern the timers did not solve the problem of how to move the sprinklers around the yard at 5am. Others mentioned barriers such as lack of awareness of sprinkler timers as an option, the effort of filling out a form and sending a check, and the difficulty that some people have programming electronic equipment.

Using Organic Fertilizer

Please describe, as best you can, the fertilizer that you or your contractor uses on your lawn now.

Most participants knew what they or their contractor used on their lawn. Some mentioned pesticides or herbicides in addition to fertilizers, and some offered information about how frequently they did applications. Some information about application frequency was also obtained when participants' responses to the screening criteria were verified upon their arrival at the focus group session.

The most frequent lawn chemical user in the group does five applications per year using Scotts Five Step product. He was of the opinion that he can mitigate the effects of using less water by using more fertilizer. This participant mentioned allowing his lawn to go dormant from the end of July into August. He also mentioned that he tries to time the fourth application to coincide with the arrival of fall rains.

The next most frequent user applies a fertilizer with pre-emergent in the spring, sometimes "a fertilizer with a weed and feed in late summer" and a winterizer in October/early November. He uses a broad leaf weed killer once in while. This participant did not mention brand names for the products he uses. He also mentioned trying to time his late summer or early fall application to coincide with rainfall.

Two participants do applications twice per year. One applies a Scotts product for fertilizing and crab grass. One has a Hamilton company, Corlis, apply an organic fertilizer in the spring and applies a Scotts product in the fall. This participant said that her husband makes it a point to apply the Scotts product while it is raining.

Two participants do an application of a Scotts product (one thought it was "probably" Scotts) once per year.

The final two participants have vendors do applications. One uses TruGreen Chemlawn, which, to her knowledge, applies lime, grub control, crab grass and weed control and winterizer. The other participant uses a vendor to apply an organic fertilizer called Merit. Neither of these two participants volunteered information about the frequency of application.

Some of you use Scott's and other products, which are synthetic or chemical fertilizers. Have you heard of organic fertilizers? Whether you had heard of them before tonight or not, what would you see as, or what would you imagine to be, the pros and cons of replacing your synthetic fertilizer with an organic fertilizer? For those of you who already use an organic fertilizer, what do you see as the pros and cons of using it? If you have a contractor, what do you see as the pros and cons of directing them to use an organic fertilizer instead of a chemical fertilizer?

All of the focus group participants said that they had heard of organic fertilizer.

In describing their perceptions of the advantages of organic fertilizer, there was no strong consensus among the focus group members. However, four participants referred to it as better for the environment. Three described it as safer for kids and/or pets. Two said that it "wouldn't contaminate the water," or it's "safer in the water system." One person said that it recycles/reuses something and that it provides a warm fuzzy feeling or a personal payback.

In describing the disadvantages of organic fertilizer, there was a pervasive belief among participants that organic fertilizer is more costly. The focus group member whose contractor uses the Merit organic fertilizer was the only one who did not mention cost as a drawback. Two participants thought that it would take more effort to use, and a third said that comments from others in the room suggested that it would be a lot more work to use organic fertilizer. Two participants had questions about how readily available organic fertilizer is. Two questioned how effective it is. Two participants said or implied that it is more convenient to use a product that combines fertilizer and pesticides. One person thought that organic fertilizer would need to be used on a more regular basis, whereas synthetic fertilizer could be used intermittently. He also thought that it likely that one would need to use a greater quantity of organic fertilizer overall. Finally, one participant believed that if you began to use organic fertilizer, it would take 2 to 3 years before you would have a nice lawn. Another participant had volunteered earlier in the focus group session that she once had organic fertilizer applied to her lawn and that was the worst that it had ever looked.

Here is a list of some commonly understood pros and cons of using organic and synthetic fertilizers (see Appendix A). Do you think that reading this list would make it more or less likely that people would switch to using organic fertilizer, or direct their contractor to do so? Why?

Four of the focus group participants said that the information presented would not make them more likely to consider using organic fertilizers in place of synthetic ones. Comments included:

> *"It would not convert me."*
>
> *"I think it needs to be more persuasive."*
>
> *"I don't think it would sway someone one way or another."*
>
> *"Nothing is convincing me or would sway me to put much more time into investigating organics versus synthetic. Nothing compelling here."*

Interestingly, this last verbal comment was somewhat different than the participant's written response. He wrote:

"Reading the pro-con sheet on organic fertilizer would not induce me to make a change. I'd be more open, however, to learning more – having read the sheet."

A fifth participant said that people who are not into "the organic and the health food and all that stuff" are not going to worry about using organic fertilizer. She went on to say that if organic fertilizer were changed so that it was user friendly and cost effective, and if she could train her husband to use it, she would do so.

As a result of reading the information, one focus group member indicated that he was inclined to re-examine the idea of using organic fertilizer. He said that the statements that triggered this reaction were the following: "Synthetic fertilizers tend to be more water soluble than organic fertilizers, leaching out of the soil faster and potentially polluting water resources," and "Organic fertilizers have longer lasting benefits than synthetic fertilizers because they release nutrients gradually." He did question what benefits were being referred to in the document. "Are they talking about adding nutrients to the soil?" He went on to say:

"I look at these things, and it goes against what I've known in the past. It says synthetic fertilizers are used up faster than organic. To my knowledge, organic fertilizers don't have the oomph, they don't have the nitrogen part, which turns everything green, so, if you lower nitrogen, you have to apply it more often, but I look at this and I'm going to maybe rethink what I buy. I'll have to look into it. Things may have happened in the last few years or something like that about organic fertilizers that I don't know anything about. You know, there is more and more organic stuff coming online and coming into the marketplace so there might be stuff out there that is just as good or almost as good."

He tended to discount the drawbacks of using organic fertilizer that were included in the list shown to the focus group participants.

I don't want to make work for myself, but, it only takes you about an hour to an hour and a half to put on the fertilizer anyway. So, I don't look at it as being anything that is going to be overbearing or anything like that.

One participant implied that she would be less likely to consider using organic fertilizer after reading the information presented. The heaviness of a 50 lb bag was a concern for her, and she didn't like the idea of paying twice as much for organic fertilizer.

One participant declined to say whether he thought that the information presented would make people more or less likely to consider using organic fertilizer. He appeared to feel strongly that adoption of organic fertilizer use was more directly tied to age than to a particular set of advantages and disadvantages. Parents of school age children, he said, would be more open to adopting this practice than the general public, because they are less set in their ways than older householders. He also seemed to feel that distributing

information to school students to take home would be an effective delivery mechanism. However, another participant disagreed, saying that kids don't bring literature home anymore. Communication with parents is done via automated phone messages.

Participants also reacted to specific aspects of the information presented. Four focus group members expressed skepticism about the accuracy of the information presented and/or wanted to know the source for the information. The list of pros and cons was not presented to focus group members in the context of the Greenscapes Guide or website. Had it been, it is possible that there would not have been as much skepticism. It is also possible that one focus group member, who is on the Hamilton Board of Public Works, influenced the others' thinking on the accuracy of the information to some extent. He voiced strong skepticism about the accuracy of the information as the others were reviewing it and recording their thoughts about it. He also relayed an anecdote that undercut the credibility of a state agency. However, the concerns about accuracy also point to the importance of explicitly addressing common beliefs about specific greenscaping practices. Finally, the participants' responses are a reminder that the perceived credibility of the person or organization that presents a message can have a dramatic impact on how it is received.[1]

One participant reacted positively to the fact that organic fertilizers are recycled from waste. This statement resonated with her because her family composts.

To sum up, two of the eight focus group members said that they use organic fertilizer exclusively or as a part of their lawn fertilization regime. Five said that they use Scotts products. Two participants did not mention a brand name, but the descriptions they provided make it highly probable that they (or their contractor) use synthetic fertilizer.

When asked what they saw or imagined to be the advantages of using organic fertilizer instead of synthetic fertilizer, the most common response was that it was better for the environment. Several participants also mentioned greater safety for kids and/or pets and less chance of water supply contamination. In describing what they perceived to be the disadvantages of organic fertilizer, there was a pervasive belief among participants that organic fertilizer is more costly. Several participants also expressed concerns that organic fertilizer requires more effort to use, is less readily available, and is not as effective as synthetic fertilizer. Several focus group members also suggested that they prefer the convenience of a product that combines fertilizer and pesticides.

When presented with a list of commonly understood pros and cons of using organic and synthetic fertilizers, four of the focus group participants said that the information would not make them more likely to consider using organic fertilizers in place of synthetic ones. Another participant claimed that she would like to use organic fertilizer, but her

[1] McKenzie-Mohr, D. (1999). Fostering Sustainable Behavior: An Introduction to Community-Based Social Marketing. New Society Publishers: Gabriola Island: British Columbia.

conditions for doing so included the elimination of the disadvantages of using organic fertilizer.

One participant indicated that he was inclined to re-examine the idea of using organic fertilizer, primarily because the list of pros and cons raised the possibility that synthetic fertilizers are used up faster than organic ones. He was also open to the possibility that there have been new product developments in organic fertilizers in the last few years.

One participant appeared less positive about the idea of using organic fertilizer after reading the pros and cons presented, because of logistics and cost.

Two participants described groups they thought would be more inclined to use organic fertilizer. One group was parents of school age children. The other group might be described as people interested in lifestyles of health and sustainability.

Other comments on the list of fertilizer pros and cons indicate that about half of the group had some questions about the accuracy of the information and/or its source. A number of factors may have contributed to this response. However, these responses do point to the importance of explicitly addressing the audiences' beliefs and using a credible messenger.

Finally, knowing that organic fertilizer is manufactured from waste may be an appealing selling point for people who compost.

Messages About the Benefits of Greenscaping

The Greenscapes Coalition mailed out a Reference Guide to North Shore homeowners this year about many practices they can adopt to maintain attractive landscapes while protecting our water resources.[2] Here is a list of messages that could be placed on the front cover of the Guide.[3] Please rank each statement from 1-10 depending on how much you like the statement and then again on how much you believe the statement. "1" is the best rating you could give a statement. Also, please note your thoughts about why some statements were more likeable or believable then others.

The sum of the rating given by each focus group member for each statement is shown in the tables below. The participants were provided with a verbal definition of the term "Greenscaping," before they began the process of ranking the statements.

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[2] Several participants mentioned that they did not remember receiving anything in the mail about greenscaping. When asked, no one could remember receiving such a mailing.

[3] Each participant was given a stapled packet of pages with one statement to a page. On each page there were two 1 to 10 scales upon which to rank their response to the questions: "Do you <u>like</u> this statement?" and "Do you <u>believe</u> this statement?" Each packet presented the statements in a different order to prevent bias due to positioning.

Table 1: Likeability

Statement	Sum of Individual Likeability Ratings (Lower is More Favorable)
Greenscaping will help protect our rivers, streams and ponds.	16
Have a healthy lawn that is safe for your family too.	16
Greenscaping will help ensure there is enough water for people to drink and for fire protection	22
People are more important than lawns -- we need enough water for people to drink and for fire protection	23
Health: Lawn chemicals can cause unnecessary harm to your family.	24
Don't waste money on chemicals and water that your lawn doesn't need.	27
Don't waste time being a slave to your lawn.	30
Your lawn doesn't have to suffer during the drought	30
Greenscaping will free up time you can spend doing other things you enjoy.	32
Our rivers are running dry from lawn overwatering.	36
Greenscaping will keep your landscape and wallet green.	36
Your beautiful landscape will make your neighbors green with envy	38

Table 2: Believability

Statement	Sum of Individual Believability Ratings (Lower is More Favorable)
People are more important than lawns -- we need enough water for people to drink and for fire protection	13
Greenscaping will help protect our rivers, streams and ponds.	19
Have a healthy lawn that is safe for your family too.	23
Greenscaping will help ensure there is enough water for people to drink and for fire protection	23
Health: Lawn chemicals can cause unnecessary harm to your family.	26
Don't waste money on chemicals and water that your lawn doesn't need.	28
Our rivers are running dry from lawn overwatering.	30
Don't waste time being a slave to your lawn.	35
Your lawn doesn't have to suffer during the drought	38
Your beautiful landscape will make your neighbors green with envy	40
Greenscaping will free up time you can spend doing other things you enjoy.	49
Greenscaping will keep your landscape and wallet green.	54

The same four statements occupied the four top spots on both the likeability and believability scales, although their order differed on the two scales. It is possible that

likeability and believability interacted in people's minds. People's ratings for likeability and believability were often close or identical on any given statement. Given the limited amount of time they had during the focus group session to evaluate the twelve statements, participants may not have distinguished clearly between how much they liked a statement and how much they believed it.

With rankings from only eight people, the **specific** differences between the perceptions of each statement are not likely to be very reliable as indicators of people's reactions. The rankings should be viewed qualitatively rather than quantitatively. From that perspective, the statements in the top half of each chart are likely to be more appealing and believable than those in the bottom half of each chart. The fact that both the positively framed and negatively framed versions of some statements were ranked among the more likeable and believable reinforces their potential. These include: "Have a healthy lawn that is safe for your family, too," and "Health: Lawn chemicals can cause unnecessary harm to your family." Also, "Greenscaping will help ensure there is enough water for people to drink and for fire protection," and "People are more important than lawns -- we need enough water for people to drink and for fire protection."

It is possible that one focus group member influenced the perceptions of the other members regarding the statement, "Our rivers are running dry from overwatering." Earlier in the session, this participant, who is on the Town of Hamilton Board of Public Works, brought up the Ipswich River Watershed Association's assertion that the Town of Hamilton's drinking water comes from the Ipswich River. He voiced strong disagreement with this claim, based on a study that he said had been done in the past.

Participants were asked to share the two statements they liked the most and the two that they found most believable and to explain why. Some also mentioned statements they found unlikable or unbelievable. Verbal and written comments that shed light on the reasons for choosing particular statements are noted below.

"Greenscaping will help ensure there is enough water for people to drink and for fire protection"
(Most likeable and most believable) *"I thought that would capture people's attention because I'm not sure that most people connect watering their lawns with depleting the Fire Department -- with the water source to put out fires."*

"People are more important than lawns -- we need enough water for people to drink and for fire protection."
(Most likable and most believeable) *"Now for the people that like to water at night after 5:00. You water at night in the summer and the reservoir goes down and it gives us less water if we have a fire. So, you're using water on your lawn, you're lowering the amount of water that is in the reservoir at the college and it is causing problems. It gets to be such a problem that both towns ... Hamilton is Tuesday night, the first two Tuesdays of the month and Wenham is the first two Wednesdays of the month that when we have a drill we can't use the water at the fire hydrants. We'll lower the reservoir too much. So, if anything we have to go to bug infested canal that feeds Wenham Lake or we have to go*

up to the college, Gordon College, and draft out of their areas because we can't put the pressure on there. So, if you water at night your sort of adding to the fire problem. Most of the fires we have are at night." (This focus group participant is involved with Hamilton Fire Department, apparently in a training capacity.)

"Have a healthy lawn that is safe for your family too."
(Most likeable and most believable) *"I have little ones running around again so, it is important to have kind of a safe lawn because they are putting everything in their mouth anyway now."*

"Lawn chemicals can cause unnecessary harm to your family."
(Most believable) *"Especially young children running around on the grass when there has been fertilizer spread and that sort of stuff. You know, stuff that kills the weeds. Dog, pets, etc."*

(Low believability) *"Uncomfortable with choices/questions. Many are not either/or choices."*

(High likeability and believability*)* "*I like the connection with family."*

"Your lawn doesn't have to suffer during the drought."
(Most likeable) "*I think if you're trying to come up with something to attract people's attention, you would have captured their attention and now you can educate them."*

(Most believable) *"I believe that probably the most because I live it every summer."*

(Low believability rating) *"I need to learn how."*

(Medium likeability and believability rating) *"Why not?"*

"Greenscaping will keep you landscape and wallet green."
(Low believability) *"May cost more money."*

"Don't waste money on chemicals and water that your lawn doesn't need."
(Most likable) *"Like everything else Scott's is the marketer for products and you don't need what they say you need. ... you just don't need to do all they say you need to do."*

(High Likeability) "*I think this is a compelling statement that people will hear and want to learn more about."*

(Moderate likeability and Believability) *"I think the lawn needs something."*

"Our rivers are running dry from lawn overwatering. "
(Low believability) *"I'm not a scientist and I'm as much a conservationist as anybody, but there is part of me that says when I'm watering my lawn that's going to end up on the water table and eventually back up in the Ipswich River at some point."*

(Low believability) *"The Putnumville Reservoir, I've seen it halfway down and in three weeks they fill it from the Ipswich River. When there's plenty of water."*

(Two other participants also voiced skepticism about this statement.)

(Low likeability) *"Not sure if people will regard this as too "Greenpeace" preaching."*

(High likeability and believability) *"I like the clarity of this statement."*

"Don't waste time being a slave to your lawn."
(High Likeability) *"Applies to everyone – catches their attention."*

One participant noted several generic reasons that influenced whether he liked or believed the statements. They were:

"Our use of chemicals is a problem. Waste and harmful."

"Water use needs to be prioritized."

While participants were asked which statements they found most likeable and most believable, they were not explicitly asked which statements were most effective at capturing their attention. One participant did identify several statements that she thought would catch people's attention. One person's views are not a lot to go on. However, for the purpose of designing attention-getting mailings, the Greenscapes Coalition may wish to choose statements that were perceived as likeable, believable **and** captivating. Some additional message testing with audience members may be warranted to gain a broader perspective on the potential of various statements to capture attention.

Statements linking lawn watering (or greenscaping) with fire protection capacity were considered highly likeable and believable. The anecdote told by the Hamilton Fire Department trainer[4] about the impact of lawn watering on fire drills suggests that it may be worth considering the inclusion of a quote from a credible spokesperson on fire protection in a Greenscapes communication. Such a quote would make the link between lawn watering and fire protection more vivid and concrete. Messages with these characteristics are more likely to capture attention.[5] Finally, a comment from a local fire department official, for example, would further enhance the believability of the link between lawn watering and fire protection capability.

Motivations for Greenscaping

What do you believe is most likely to motivate people to take care of their lawns and gardens with less water and fewer chemical fertilizers and pesticides?

There was no overwhelming consensus on what would work and most participants had more than one idea about what would make a difference.

[4] The anecdote was told after focus group participants had privately ranked the twelve statements on likeability and believability. Therefore, it would not have influenced people's rankings.

[5] McKenzie-Mohr, D. (1999). Fostering Sustainable Behavior: An Introduction to Community-Based Social Marketing. New Society Publishers: Gabriola Island: British Columbia. P. 84.

Four participants felt that higher water prices would be a powerful motivator. One of them wondered if towns could charge peak and off-peak rates, as utilities do. There was some discussion about whether municipal water suppliers can raise water rates above levels that allow them to recoup their operating costs.

Four participants thought that more effective communication would be important.

> *"I don't particularly think I'm aware of anything, but it doesn't seem like there is much around about greenscaping, so I'm not sure how many people would do things, but if you're not aware, you don't even have the first step to implementation."*

> *"People will be motivated to use less water/fertilizer with better education about options.*

Four participants thought that if children were educated about greenscaping, they could teach their parents and grandparents.

> *"So if we could have an environmental safety school subject or something, teach the kids…"*

> *"That would be wonderful to have it put into the curriculum that some have because then you're educating the kids and they're coming home and they're taking to their parents and it becomes sort of a community approach."*

Two participants thought that regulation of lawn watering activities, with education, warnings, and enforcement, including penalties, would be an important part of the solution.

Two participants felt that people are motivated by health concerns.

> *"You know, the town sends out an alert saying they had chloroform in the water and everything like that and people don't know what that means, but they know it is not good. They are very aware of health issues."*

> *"….I'm kind of going for a little bit of a scare tactic about more information on the negative health effects of the chemicals and the fertilizers and maybe that could be an impetus for people to change if they have the information that it is very harmful…."*

One participant thought that safety issues, such as fire protection, are also very important to people, and that factors affecting safety are likely to motivate people to change their behavior.

In thinking about where she might move upon retirement, one participant expressed concern about otherwise desirable locales that experience severe water shortages or are likely to in the future. Accordingly, she felt that the prospect of running out of water would be highly motivating for people.

One participant believed that providing financial incentives would be an effective strategy. She suggested two different types of incentives. One would be a rebate or reward for trying a new practice for a period of a year. The other type would be an ongoing incentive, similar to municipal Pay-As-You-Throw programs that make a household's trash disposal costs dependent on how much trash they throw out, while recycling is free. This creates an incentive to recycle as much as possible to cut down on household trash disposal costs.

Regarding the use of organic fertilizers, one participant thought that the solution is going to be market driven.

> *"Some company or entrepreneur is going to have to develop organic or earth friendly fertilizers that work."*

Appendix A

The Pros and Cons of Synthetic and Organic Fertilizers[6]

Using Synthetic Fertilizer

Con: Synthetic fertilizers are more concentrated than organic fertilizers, which makes it easier to overfertilize, burning the plant, and potentially harming soil organisms.

Pro: Synthetic fertilizers are available in small quantities, which can make them easier to handle.

Con: Synthetic fertilizers tend to be more water soluble than organic fertilizers, leaching out of the soil faster and potentially polluting water resources.

Pro: Synthetic fertilizers are generally easier to apply than organic fertilizers, since they are more likely to come in a container that is also designed to be used as an applicator.

Using Organic Fertilizer

Con: Organic fertilizers can be up to twice as expensive as synthetic fertilizers, depending on the quantity purchased.

Pro: Organic fertilizers have longer lasting benefits than synthetic fertilizers because they release nutrients gradually.

Con: Organic fertilizers are generally only available in large quantities, such as 50 lb bags, which may be difficult to handle.

Pro: Organic fertilizer improves soil health by adding microorganisms to the soil. In other words, it feeds the soil as well as the plants.

Con: Applying organic fertilizer requires the use of a mechanical spreader, whereas synthetic fertilizers are more likely to come in a container that is also designed to be used as an applicator.

Pro: Organic fertilizers are recycled from wastes (for example: animal manures, yard waste or food waste),that must otherwise be disposed of, and when disposed, can contribute to pollution.

Con: Organic fertilizers may be perceived as smellier and messier to use than synthetic fertilizers

[6] For the purpose of the focus group, the pros and cons were interspersed for each type of fertilizer in order to try to prevent the "primacy effect," in which, other things being equal, information presented first usually has the most influence.