



**Developing a Social Marketing Strategy
to Prevent the Spread of *Hydrilla*
in the Northeast**

A Pilot Project of the
Northeast Aquatic Nuisance Species Panel

Notes from the November 15, 2006
Social Marketing Workshop

Meeting Agenda

8:00 – 8:30	Registration
8:30 – 8:45am	Welcome and Overview of Workshop
8:45 – 8:50pm	Participant Introductions
8:45 – 9:45am	Orientation to Social Marketing
9:45 – 10:30am	Barrier and Motivation Information <ul style="list-style-type: none"> ● Presentation of Information ● Discussion of/Adding to Information
10:30 – 10:45am	Break
10:45 – 11:00am	Introduction to Small Group Brainstorming
11:00 – 12:30pm	Small Group Brainstorming <ul style="list-style-type: none"> ● Strategy for Overcoming Barriers and Strengthening Motivations
12:30 – 1:30pm	Lunch (on your own or order in)
1:30 – 2:00pm	Small Group Brainstorming (con't) <ul style="list-style-type: none"> ● Strategy for Overcoming Barriers and Strengthening Motivations
2:00 – 2:40pm	Report Back from Small Groups and Brief Discussion
2:40 – 2:50pm	Tips for Effective Communication
2:50 – 2:55pm	Introduction to Message Brainstorming Session
2:50 – 3:30pm	Small Group Brainstorming <ul style="list-style-type: none"> ● Messages
3:30 – 3:45pm	Break
3:45 – 4:15	Small Group Brainstorming (con't) <ul style="list-style-type: none"> ● Messages
4:15 – 4:55pm	Report Back from Small Groups and Brief Discussion
4:55 – 5:00pm	Wrap-Up

WORKSHOP BACKGROUND

The goal of the NEANS Social Marketing Workshop is to develop a regional approach to prevent the spread of Hydrilla (*Hydrilla verticillata*), and consequently, slow the spread of other non-native aquatic species. (see appendix A) The NEANS panel received a social marketing grant from the Gulf of Maine to host a social marketing workshop.

There are many potential audiences that could have been targeted, including boaters, commercial fisherman, divers, and canoe/kayak clubs. However, during the May 2005 NEANS panel meeting, the Educations & Outreach committee met with folks from Maine who had social marketing experience, and they recommended that we focus our efforts on two main audiences. After careful consideration, it was determined that recreational boaters and pet stores were a priority, and therefore we needed to develop social marketing strategies for these two groups. During this meeting, one key objective (behavior change) for each target audience was defined. The objective for recreational boaters is for them to consistently inspect boats, trailers, live wells and other recreational gear before and after launching. The objective for the pet stores is for managers and owners to sell native (or "safe") plants, rather than non-native invasive plants.

In most situations, we are guided primarily by our own intuition when deciding how to accomplish things. However, Social Marketing has an enormous body of information on how to successfully elicit desired behavior changes. Utilizing this wealth of social marketing knowledge when designing behavior changing programs, rather than relying solely on intuition, is likely to result in a more realized change. With Social Marketing there is a strong emphasis on developing an understanding of the target audience, including their awareness of the issue, current behaviors, and existing opinions. It is useful to understand what barriers, motivators and personal experiences come into play for people participating in certain initiatives, and market research or focus groups can be used to gather this information. In preparation for the workshop, pet stores and recreational boaters from Maine, Massachusetts and Rhode Island were surveyed to identify the current behaviors, awareness level and existing barriers and/or motivators. (See appendices B & C)

FACILITATOR BACKGROUND

Jan Aceti has fourteen years of experience overcoming barriers to participation in recycling and waste reduction programs. Since 2001, as president of Aceti Associates, Jan has been using social marketing to build healthy, sustainable communities. She has conducted market research and/or designed and piloted social marketing strategies to promote recycling, water efficiency, energy efficiency, green buying, pesticide use reduction and radon mitigation. Jan has delivered workshops and talks on social marketing for over 1,000 program managers and activists. Jan is also a lecturer in social marketing in Tufts University's Department of Urban and Environmental Policy and Planning.

SOCIAL MARKETING WORKSHOP

INTRODUCTION

As scientists, many of us feel that knowledge is all that is necessary to elicit behavior changes. It is assumed that if a person understands the issue, then they will modify their behavior to “do the right thing”. However, often knowledge is simply not enough to prompt the desired behavior change.

To demonstrate this concept, the workshop participants were asked to participate in an attitude survey, comprised of questions on conceptual items. (*Ex. Do you feel it is healthy to exercise 3 times a week? Do feel that it is important to vote? Do you think it is important to help the homeless?*) Next, the group was asked to answer a set of questions on whether they actually do the conceptual items. (*Ex. Do you exercise 3 times a week? Do you vote at every election? Do you help the homeless?*) When asked if there were any discrepancies between attitudes and actions, the response was an overwhelming “yes!”. Lastly, the group was asked to list the reasons for not consistently exercising, voting, helping the homeless etc. Some of the reasons voiced included lack of time (busy), or the idea that other people are already doing it (existing programs). Others felt that the lack of an immediate reward was a barrier (ex. physical exercise-results take time). When the motivations are not immediately rewarded, or the action is not comfortable, people are less motivated to engage in that action. Social marketers call all these reasons barriers.

What does this exercise have to do with our topic? This exercise dispelled the assumption that if people have knowledge, they’ll will adopt or change a behavior. Simply knowing (or strongly believing) that an action is beneficial, is often not sufficient. Although handing out brochures to boaters to make them aware of invasive species and the fact that they are frequently spread by boats, is important, it may not be sufficient to illicit the desired behavior change (consistently inspect/wash their boats). Social marketers emphasize the importance of identifying disconnects between attitudes and behavior. It is important to identify the reasons that even aware/concerned boaters do not consistently check their boats, and then remove those barriers.

SOCIAL MARKETING PRIMER

Attitude and Behavior Disconnects

Circumstances we face in life can lead to a disconnect between our attitudes and our behaviors. Our life circumstances can prevent us from acting in ways that are consistent with our desires. In general, when we reach out to people we tend to focus on the lack of awareness and lack of interest as barriers, rather than other issues, like circumstances. Many behaviors have associated activity specific barriers. Providing people with good and useful information is essential to changing their behavior, but it is not the only thing that will motivate people. Many issues are complex and generally the entire message can not be imparted to the audience in a few minutes. People are inundated with information, and as a result they tend to ignore or filter most of it. Therefore, the information that you are trying to impart, must to be very vivid, concrete, easy to remember and as personally relevant as possible. In order to build effective Social Marketing Programs, it is important to identify all barriers and remove most important barriers, as program resources allow. Barriers are considered the roadblocks to participation. Determine what will happen if the benefits of change are not that compelling to people? We need to provide incentives that people would be interested in.

Three examples were used:

a. *The Truth Campaign (anti-smoking campaign)*

One of the messages of the original campaign was to inform teens that down the road, smoking can result in serious health complications. Surveys showed that many teens feel indestructible and are more concerned with life at the moment, than what may occur when they are 50. Teens felt that existing anti-smoking campaigns were just one more instance where adults were trying to control them and tell them what to do. Therefore, this new campaign took an unusual twist and, drawing on teen's inherent rebellious spirit, encouraged them to stand up and fight against big corporations. They emphasized that the large tobacco corporations were trying to manipulate them and they should rebel against these conglomerations. Between 1998 and 2000, in Florida, where Truth was first launched, the percent of middle schoolers using tobacco declined from 18.5% to 11.1%. Among high schoolers, it declined from 27.4% to 22.6%. This was at a time when national levels of youth tobacco use remained mostly stable.

b. *Save the crabs, then eat them!*

The Chesapeake Bay was suffering from nutrient loading, much of it from over-fertilized lawns. Surveys showed that in general, residents were not sufficiently concerned about the environment to stop fertilizing their lawns. They were, however, passionate about their seafood. This campaign focused on saving the blue crabs so that this favorite dish would still be available at local restaurants. This message resonated with the community and now 30% of those who were exposed to the campaign reported they were not planning to fertilize their lawn at all in 2005. Only 22% of those not exposed to the campaign said that.

c. *Road Crew Program*

In order to reduce drunk driving, a Midwest town decided to offer free rides to bar patrons. However, they found that in order to motivate the intoxicated bar patrons to accept this "safe" ride, the ride had to be more enticing than their alternatives. To accomplish this, they bought several retired limousines and found that patrons were very willing to accept a limo ride home. There was some concern that a backlash may occur, where bar patrons would become motivated not to drink and drive less, but to become inebriated more frequently in order to ride in a luxury vehicle. However, pre and post surveys determined that this was not the case. The limo "safe" ride did not increase overall drinking, but it did achieve its goal of increasing the number of people who accepted a safe ride home instead of driving. When the Road Crew safe ride program was piloted in several rural Wisconsin counties, it reduced alcohol related crashes by 17% compared to several comparison counties where the program was not implemented. The Road Crew program cost \$15,300 per crash avoided. The government's costs of responding to a vehicle accident in these counties in Wisconsin are \$56,000 per alcohol related crash. So, the Road Crew program is very cost effective.

BUILDING EFFECTIVE PROGRAMS

(Four Steps of Community Based Social Marketing)

1. Select a behavior
2. Identify barriers and motivations for that behavior
3. Design a program to overcome those barriers and to strengthen motivations
4. Develop a pilot program to try out program, and modify as necessary.

Selecting a behavior

It is important to clearly define the behavior change, and to be as exact as possible.

Ex. By January 1, 2008 75% of recreational boaters in the northeast will consistently inspect their boat and remove any hitchhiking plants or animals before entering and leaving a water body. Having a measurable goal makes it easier to track progress.

Motivators

We need to add the task of identifying or creating benefits of value to the target audiences.

Get Commitment

People tend to value commitment to an issue, so encouraging a person to make that commitment will increase the likelihood that they will follow through. Therefore one of the most successful behavior change strategies is to ask a person to commit to carry out the task you are promoting. Even more effective, is having someone to commit to something publicly. (The more public it is, the more powerful it is.) Group commitments can be very effective too. Generally, society values consistency so we like to see ourselves, and be seen by others, as a consistent person. Therefore if you promise someone to do something, and you follow through, you are viewed as being a stand up person. Word of mouth is often very effective in spreading this message. Laziness is lack of motivation.

Community Norms

We look at what other people do when deciding what we're going to do. For instance, there is often peer pressure to stay current. If a boater knows that he will be looked down on by other boaters for not cleaning his boat, he might be more inclined to do so. Is therefore often helpful to study the norm of the target group you're working with and find out what matters most to them.

Prompts

Prompts are used to remind us to do something we know we already know we need to do, and can be helpful when people are starting a new habit and are not in a routine yet. They not used to change behavior, just to reinforce or reminded a person of the desired behavior. Using multiple strategies/tools can increase the yield of responses (decals, signs, audio).

Incentives/Penalties

Incentives are ideal if you have one big time change to implement. When the desired action is a repetitive one, it is not always beneficial to use incentives since people may always expect a reward/incentive to act. Also, the desired action or behavior may dwindle when the incentive is no longer offered. On the flip side you can impose penalties to encourage people do the right thing (ex. speeding tickets). However, in some cases penalties tend to take away what might have been a free activity in the past and may illicit a negative response.

Barriers

Forgetting

Prompts can be used to remind people to carry out an activity they already want to do and can also remind people how to carry out that action. This tool is not intended to change an audience's mind, but can be helpful when initiating a new action or behavior that has not yet become the norm or routine.

Lack of an Existing Norm

It helps to make the desired behavior more positive and visible in the community. Lack of participation can be overcome by asking people to make a public commitment to do something. People are unlikely to change behavior if behavior is inconvenient (costly, unpleasant, etc). In this case, you need to find a way to remove that barrier or make it more convenient. Generally, people want to blend in and follow society standards. If people notice everyone else doing a certain activity, they are more likely to participate in that activity.

Lack of Awareness

Lack of awareness can be addressed through effective communication and education. Incorrect information or misconceptions can affect people's behavior. Some barriers can be removed simply by providing people with accurate information.

Inconvenience

Removing barriers and offering incentives would help alleviate the inconvenience of a new behavior. If a town required that residents carry all recycling items to a central location, it may be an inconvenience to busy families or families that are not located near the recycling center. By sending a vehicle around to collect the recycling, and by providing recycling containers, people are more likely to participate. Another way to overcome this barrier is to make the undesired behavior more inconvenient than the desired behavior.

~Case Study: Idling Campaign~

A local community wanted to improve air quality and one of the objectives was to reduce idling. They surveyed drivers at school and train stations to see why they let the cars idle. The responses ranged from laziness, preserving the starter, belief that it uses more fuel to stop and restart, wanting the heat/radio on without draining battery or parking illegally. These are the barriers. They also asked folks who did not let their cars idle, why? The responses included saving gas, reducing emissions and "doing the right thing". These are considered motivators. The campaign designers decided they needed to make it the social norm for people to not idle. They obtained commitments from drivers to shut their cars off. This commitment was also visible to others in the form of a vivid "For *Our Air I Turn Off My Engine*" sticker on the windshield. They placed signs (prompts) in the parking areas as reminders. They also educated the drivers, and provided them with the fact that after 10 seconds, the cost of fuel used while idling outweighs the cost of fuel to restart the engine. As a result of this campaign, at sites where the signs and commitment requests were combined, there were 49% fewer idlers after the strategy was implemented. Furthermore, for those who continued to idle their engines after the strategies were implemented, the duration of idling was 72% less at the schools where signs and commitment requests were used when compared to the control schools.

EFFECTIVE COMUNICATION

You have a better chance of capturing someone's attention if you make info vivid, personally relevant, and concrete. Make your message easy to remember. Use images that hit home, or that people can visualize. Any message we don't remember will not have any impact on our behavior. Create memory aids for people which will help them remember to do things/when to do things/how to do things, etc. Companies are generally risk-adverse, so telling a success story or using examples is helpful. Use a companies own information rather than an industry standard. Abstract instructions or information don't work. Include personal or community goals that they can achieve and see. Help people to realize they are in fact environmentally concerned. Program developers may need to think of ways to more strongly connect people with nature.

1. A person or organization can have an impact on how something is received. This person/organization needs to be a credible and suitable for that specific target audience. Many successful campaigns have used celebrities.
2. Personal contact can go a long way. Face to face contact is more effective than e-mails, brochures, and phone calls.
3. People learn by example so it is important to model or demonstrate the desired behavior. What role models do the target audiences like/relate to?
4. Feedback is good. Information on the impact of their newly adopted behavior helps them maintain that behavior. One of our goals is to prevent the spread of invasive species by having boaters inspect their boats. A successful outcome of this behavior change would be that no new species are introduced to the lakes (they would remain status quo). Therefore, the positive result of the new behavior is not immediately visible to the boaters. Their impact can be made more concrete by concrete by providing feed back on how many invasions were prevented etc.
5. Enhanced social diffusion describes the adoption of behavior by someone introducing us to it (word of mouth technique). Provide opportunities to have participating people share their activities with each other. (Ex. Pet stores-have a newsletter to let people know they have agreed to only supply non-invasive species.) Working with social net workers will enable you to reach a larger network of people.

WORKING GROUP STRATEGIZING

Boater Working Group

I. ON RAMP STRATEGY

- Increase number of staff inspecting boaters. Utilize the existing volunteer staff from lake associations to cover the highest used boat ramps.
 - Aceti's Comments:
I'm not sure if the boater group discussed this and rejected it, but since lack of motivation is a barrier to the behavior change you're seeking from boaters, and since you are planning to have inspectors out there talking to boaters anyway, I would suggest having the inspectors ask boaters for a verbal commitment to check their boats every time they leave the water and launch. As in the anti-idling campaign, the stickers serving as prompts on the boat, trailer, etc. could also make the boater's commitment public, thus increasing its power. The sticker could say something like. "For Our Lakes, I Check My Boat, Trailer and Gear for Plants and Animals." I would suggest that you come up with several possible messages for the sticker and ask boaters what they think of them. I'd also suggest carefully testing the script to be used by the inspectors to request the commitment. For the idling project, the project team tested 8 different commitment requests in a store parking lot before doing their pilot.

If you do have your inspectors request commitments, they will need to be carefully trained. Some people are more comfortable requesting commitments than others and people won't ask for commitments if they aren't comfortable doing so. You will want to have made some of these commitment requests yourselves, so you can tell volunteers what types of reactions to expect. The volunteers should understand why and how commitment requests work and they need to practice asking for commitments by role playing at training sessions. They need to know that commitments should only be requested when someone, once engaged in a discussion about the activity being promoted, expresses interest in participating. I would suggest reviewing the chapter on commitments in *Fostering Sustainable Behavior* by Doug McKenzie-Mohr, which can be found on line at <http://www.cbsm.com/Chapters/commitment.lasso>.

- Identify these inspectors by giving them t-shirts, hats etc.
 - Aceti's Comments
The inspectors can also build a positive norm by letting boaters know that they themselves inspect their own boats (assuming that the inspectors are boaters themselves). The inspectors can say things like, "When I inspect my own boat, I make it easy on myself by doing such and such." Further, the staff t-shirts, hats, etc. can be emblazoned with the same normative message as the stickers (e.g. "For Our Lakes, I Check My Boat, Trailer and Gear for Plants and Animals."). This serves as a public commitment on the part of the staff, which helps communicate a norm.
- Educate boaters on how to properly inspect a boat and trailer. There is the perception of inconvenience that needs to be addressed. Reinforce the behavior through the use of prompts including stickers on the boat, trailer, bait bucket and on tie-down straps.
 - Aceti's Comments
Will stickers be durable? Will people who take great pride in how their boat looks want to put a sticker on it? I encourage you to think about other options as well,

such as magnets or esthetically pleasing plastic decals or badges. Most importantly, I encourage you to get feedback from boaters on what looks "cool," what they'd be proud to put on their boat, and what would maintain its appearance over time amidst the rough and tumble of boating activities.

II. REGIONAL EDUCATION – INSPECT YOUR BOAT

- Increase widespread awareness of invasive species through public relations and media campaigns:
- Use "scare tactics" to better convey a bad scenario.
 - Aceti's Comments
It is always important to pair a threatening message with information about what people can do to alleviate the threat. Otherwise, people will respond to the threatening message by tuning it out or denying it. From what I've seen of the brochures that various states have produced, you've done a good job in the past of coupling threatening messages with suggested action. I thought it was worth reiterating how important this is, though.
- Photograph (and publish) slob transporting milfoil on a trailer. Use photos that contrast a clean vs. infested lake.
 - Aceti's Comments
How about photos showing the impact that ANS can have on a boater's recreational experience? Props tangled in weeds? A kayaker trying to push through weeds? Michelle R. had identified having to stop to free the prop or having to row as being frustrating or unpleasant for boaters.
- Economic arguments – highlight the loss of waterfront property values.
 - Aceti's Comments
Do most boaters own waterfront property? Will this argument speak to their interests? In the New Hampshire ANS Communication Plan, 3-10-06, one of the obstacles to implementation for boaters was that "Boaters are concerned that if they support ANS prevention issues, they may not be able to boat or have access to that area. Watershed associations with shoreline property owners feel that ANS introduction is affecting their property values, based on research findings that a 16% decline in property values on lakes and ponds with presence of an ANS. Lots of effort by watershed associations in more wealthy watersheds to limit or rid the areas of access. There are other fishermen and boaters who would like to access public waters. They are having conflict with some shorefront property owners who want to block access to waters because they are so afraid of introduction or proliferation of milfoil. Some people who have access may not want others to share access. Anglers and boaters have a lot to lose if they lose access to waters." I don't know how aware the typical boater may be aware of these issues, but it seems to me that highlighting the loss of waterfront property values with boaters could backfire if they have any sense that acknowledging the problem of ANS could lead to loss of access.
- Develop a mascot branding idea but don't reinvent the wheel

Pet Store Working Group

I. IDENTIFY PLANT TRADE NETWORK AND TARGET

- Distributors and Suppliers and their journals and newsletters
 - Aceti's Comments

You might consider forming an official collaboration with the distributors/suppliers' trade association, if one exists. There are some elements of a collaboration that the Massachusetts Department of Environmental Protection pursued with the Massachusetts Food Association on food waste recycling that might apply. See the case study description below for more details.

- Namely, you might want to consider offering small grants to one or more distributors/supplies to compensate them for the time involved in pioneering this behavior change.
- To enhance social diffusion, you may also want to try to identify those individual distributors and suppliers who are influential among their peers and devote special attention/grants to helping them make the changes you seek.
- Offering individual suppliers/distributors technical assistance in making the switch to non-invasive plants may also be helpful in decreasing the amount of time they need to devote to making this behavior change.

Mailing addresses/e-mails

- Barrier of corporate ordering, lack of awareness, and desire for pretty plants

II. EDUCATE NETWORK WITH MESSAGES

- Proper disposal
- Sticker on bag
 - Aceti's Comments:

I'm not clear on whether this sticker is on the bag in which the customer takes home their aquarium plants and other pet store products, or on the bag in which products are delivered from the wholesaler to the pet store. It sounds like the stickers would be a visible way to raise awareness that there are proper and improper ways to dispose of aquarium plants (although it's hard to imagine that there would be room on a sticker for the "whys" and the "hows.") However, the sticker would be long forgotten years later when a pet store customer is dismantling/getting rid of their aquarium and its contents. We didn't talk about the barriers that consumers face to proper disposal of aquarium plants, but I can imagine that remembering that proper disposal is important and how to do it would be an issue at those infrequent points when it is required. Prompts are most effective when they are presented as close in time and space as possible to the targeted behavior. Perhaps when new aquariums are sold, a sticker could be affixed to tubing or another aquarium part that would be likely to come to the owner's attention when dismantling the system.

If the stickers are meant to be affixed to bags that wholesalers use to deliver supplies to pet stores, pet store staff would come into regular contact with the stickers in the course of unpacking and stocking inventory. Compared to stickers on bags given to customers, the stickers would be closer in space and time to the points when pet store staff are disposing of plants. However, an even more effective prompt might be a sign in the work area of the store in the location where staff would be making a decision about disposing of aquarium plants.

- Pet store brochure
- Brochure (using Illinois/NH/other existing information)
- Good clear pictures
- Common names/Latin name linkage and synonyms
- Regional clean list and dirty list
- Impacts of AIS
- Hitchhikers
- Provide easy access to info (NEANS, e-mails, web)

III. SHOWCASE CLEAN STORES (motivators)

- Stickers on door/in store ("this store protects the environment by selling only non-invasive plants")
 - Aceti's Comments:
This is a bit of a stretch, but I wonder if pet stores might find value in promoting their native-plants-only policy to their customers who own dogs. A certain percentage of dog owners (I have no idea what that percentage is) enjoy walking their dogs on protected land that often encompasses lakes or ponds. If the visual appeal of a weed-choked lake is markedly different than that of a weed-free lake, the issue of AIS may matter to dog owners. One way of increasing people's commitment to an idea is to involve them. Dog owners could be asked to check their dogs after they have swum in a lake or pond to make sure the animal is not carrying plant fragments to another area or water body. One would want to ask both pet store owners and dog owners about the value of this whole idea.
- List of 'clean' stores on NEANS website (good advertising etc)
 - Aceti's Comments
 - Listing 'clean' stores on the NEANS website would be a good start, but how many people whose opinions pet store owners care about are likely to visit the NEANS web site? On what web sites do pet stores **want** visibility? What can you do to ensure that the 'clean' certification is promoted on those websites?
 - Encourage pet stores to think about what part of their operation is most visible to their customers. Maybe their salespeople are the most visible part of their operation for customers. They might want to adopt an idea used by Whole Foods Markets. As of 2005, Whole Foods was purchasing or generating 20% of its total national power load, from certified green power sources. In the southwest region, store employees wear buttons touting the store's green power purchases.
 - In communities that have ways of showcasing 'green' businesses, advocate for pet stores selling only native plants to be designated as green businesses and publicized accordingly.
- News articles (promote a store that sells only natives)

- Other forms of recognition

- Aceti's Comments: Given that staying in business and increasing sales is important to pet stores, you may want to do some research on the increasing cache of green businesses and include some of this information in your messages to pet store owners. For example, in Massachusetts, the Devens Enterprise Zone maintains the 'EcoStar' Program. Devens businesses who meet certain criteria receive the EcoStar designation, which they can use in their marketing efforts. In their own promotional material to potential EcoStar members, EcoStar program administrators write, "Recent studies have shown increased use of environmental criteria in decision making among businesses and the general public. The extent to which a company is considered "green" or "socially responsible" is becoming a key factor in business investment and product purchasing. Greener companies are associated with reduced risks and liabilities and therefore companies are now seeking partnerships with other businesses that can demonstrate strong environmental commitments and performance."

In another example, Boston Green Tourism aims to help the City's convention and visitor industry grow by differentiating Boston as an environmentally appealing or "green" destination. The project engages individual businesses and associations, including Boston's convention centers, Massachusetts Lodging Association, Massachusetts Restaurant Association, Chefs Collaborative, transportation vendors, tour operators, event planners and visitors' offices. The project encourages businesses to become recognized as environmentally preferred facilities/operations by:

- carrying out initiatives necessary to become qualified for existing certification programs;
- meeting other types of existing standards or
- describing their facility's environmental achievements.

The important point to take away here is that one of the ways that Boston Green Tourism recruits new business is by subtly implying that if they don't change, they will be left behind by competitors who are becoming green certified. Further, a green certification gives them a tangible way to distinguish themselves from other businesses, improving their ability to market themselves. To strengthen the idea that one could be left behind, I would suggest that your communications with pet stores include examples/stories about pet stores that are already certified as selling only native plants.

Another message that Boston Green Tourism has used to good effect with hotels and restaurants regarding sustainable practices is that "this is an area of expertise you should have." Few of the hotel, restaurant and convention centers professionals are environmentalists when they first get involved in Boston Green Tourism. However, the idea that "this is an area of expertise you should have" is persuasive because it is compatible with the industry's culture. In the hotel industry, especially, there is a "culture of learning." Keeping up with the latest technology and best practices is expected. I don't know if there is a similar culture of learning among pet store owners, but the idea of developing expertise may be compatible with the value that some of them place on providing quality products and good customer service. In any event, that message may be more likely to resonate with pet store owners than messages about the impact of ANS.

Finally, I would consider investigating whether there are good citizenship or environmental award programs that could recognize particular stores for switching to native-only. Winning an award is a big boost for a business. Perhaps you could work with a store to apply for an award, and then use its success in winning the award as an example of the publicity benefits that can be realized by a store that switches to native-only plants.

Case Study~Food Waste Recycling

This program, developed through a collaboration with the Mass. Food Association, involves an intensive focus on one sustainable practice – food waste recycling. The program offers supermarkets the opportunity to become certified by setting up a food waste recycling program.

Incentives

Regulatory Relief. Supermarkets that become certified are exempted from enforcement of the state's food waste disposal bans.

Cost Savings. Recycling food waste is less expensive for supermarkets than throwing it away, providing a bottom line benefit.

Credible Messengers

In forming a collaboration with Mass Food, MassDEP came to the table with money that they offered to use to help one supermarket chain (Roche Bros.) start up and test a food waste recycling program. Based on his chain's experience, the CEO of Roche Bros. subsequently became a powerful advocate for the program among his peers. Addressing other supermarket owners in a presentation at a Mass. Food meeting, he said, "If you don't participate in this certification program, you're stupid!" DEP also benefited greatly from having a former grocery industry insider as their consultant on the project. The consultant knew and had credibility with many of the important players in the Massachusetts grocery business.

Technical Assistance

DEP will provide each store that becomes certified with several years of technical assistance to help them overcome the barriers to institutionalizing their programs.

Building on the Relationship

The certification program leaves an opening for DEP to go back later and work with the grocery industry on new initiatives. The mechanism would be the addition of new requirements that supermarkets must meet in order to remain certified.

¹Program description based on personal communication with Julia Wolfe, DEP's Commercial Waste Reduction Coordinator on February 3, 2006.

Effective Messaging Ideas from Brainstorming Session for Boaters

Ideas for Capturing the Attention of Boaters

- Mention that Florida spends \$20 million/yr to manage Hydrilla
- Describe Hydrilla flying through the air during a hurricane
- Compare a visual of a "good" lake and a "bad" lake and indicate that the boater makes the difference
- Stop Aquatic Hitchhikers!
- Make an analogy to disease vectors
- Use cartoons of tiny invasive creatures in the motor or bilge water, where you can't see them
- Use stories of people finding plants just before they launch their boat
- Use graphs of invasion rates
- Mention that a new species is introduced every 14 days
- Juxtapose one species being introduced with barges of water chestnut coming out
 - Aceti's Comments: Inspectors could make the possibility of an infestation in their favorite lake more concrete for boaters by mentioning a nearby or similar or well-known lake that has been impacted by ANS.
In general, it would be important to choose a number of ideas that you think are most promising and test the reaction to each one from boaters, though focus group research or other means.

Tell Stories

- Tell stories about what one person has done to prevent the spread of invasive species, or what one community has done.
 - Aceti's Comments: Describing what a community or group of boaters has done also communicates the idea that preventing ANS is a normative behavior in some groups. It also addresses the discouragement that some may feel about the efficacy of changing their behavior if others using the same lake don't. It communicates the idea that collective action is possible.

Integrate Personal or Community Goals into Your Strategy

- Possible Goal: No new invasive species are introduced
- Compare the number of "saves" from one year to the next
- Set a goal for the % of boats inspected at a particular lake from one year to the next
- Have a contest around the % of boats inspected from lake to lake.
 - Aceti's Comments: Friendly competition generates excitement and is newsworthy. However, like other external incentives, when the competition ends, the behavior change can die away as well. In the course of the competition, you will need to work to help boaters come to find satisfaction in other reasons for checking their boat, besides beating the other team. You might also consider making the competition an annual event to keep momentum ongoing.

Other Ideas

- Make inspecting your boat part of the safety check – part of proper boating procedure
- There is a norm among some boaters to maintain a sparkling clean vessel. Find a way to expand this to make it the norm for all boaters. Highlight this norm and make it more visible to others.

Help People See Themselves as Environmentally Concerned

Point out that they:

- Are outside enjoying nature
- Using the pump out station
 - Aceti Comments: Just as you might help people see themselves as environmentally concerned, you might also consider pointing out when a boat or truck is well cared for, and help people make the connection in their minds that someone who is particular about their boat and gear takes the time to remove aquatic hitchhikers.

Canoes and Kayaks

- Canoes and kayaks have been largely ignored, which makes the motor boaters feel singled out
- Canoeists and kayakers can launch anywhere, so you won't necessarily be able to reach them at ramps
- Work with companies that sell/rent canoes and kayaks to provide information on invasive species to their customers
 - But, a large percentage of canoes and kayaks are sold used
- On the plus sides, canoeists and kayakers are more likely to be receptive to the message about invasive species because generally:
 - They are more sensitive to the environment
 - Invasive plants are more of a problem for them than for motor boaters, due to their mode of propulsion in the water

Effective Messaging Ideas from Brainstorming Session for Pet Trade Industry

May never overcome the demand for non-native species

- Most hobbyists desire non-natives since these are frequently very hardy and colorful. Due to the demand, it may not be possible to eradicate non-native species from the pet trade. Therefore we need to consider ways to:
 - Research “safe” non-native species that can be sold as an alternate to invasive non-native species
 - Increase the popularity and selection of native species (make it “cool” to grow natives!)
 - Aceti’s Comments: Are there competitions/shows for aquarium enthusiasts? Could you work with hobbyist associations to have a competition category for aquaria that contain only native plants?
 - Create fiscal benefits by making native plants a cheaper alternative to non-natives. (tax, tariff?)

Educate owners/hobbyists

- Place stickers on tanks and fish bags that remind them not to release plants into the wild. (Look into Habitattitude, so that we don’t reinvent wheel)
- Provide clear and simple disposal guidelines for how to dispose of unwanted plants. Also, provide options for unwanted fish.

Develop a region ban list

- Rather than a state-by-state list, a regional ban list will be easier for major corporations to follow. Create a clean list and a dirt list.

Educate the pet trade industry

- Keep corporations up to date on state or regional bans. This will include determining where/whom to send letters to in order for the message to reach the appropriate people. They need to understand that their stores may be fined for selling certain species in certain states.
- Keep local pet stores up to date on regional bans via email updates, letter etc.
- Make sure that corporations and stores are aware that several non-native species hitchhike on the native species and it is important to check their stock.
- Develop detailed guides for pet stores:
 - contain clear photos of the non-native species
 - include scientific name, alternate names and commonly used incorrect names
 - Include information on similar species (look-alikes)
- Write articles on non-natives for trade newspapers, magazines and websites.
- Attend trade shows with an educational display and or give presentations.

Motivate the pet stores to sell non-invasive plants

- Showcase “native” stores on the NEANS website.
- Award certificates for stores that are certified “native”. These certificates would be visible to customers. The awareness that the store protects the local environment may help generate community support.

Some invasive species introductions are intentional

- Develop/promote legislation that deems it illegal to plant any plants in natural water bodies. (may need to define “natural”)

The ideas that the boater group felt would be best to focus on are:

1. On Ramp Strategy: Increase number of staff inspecting boaters. Utilize the existing volunteer staff from lake associations to cover the highest used boat ramps. Identify boaters with t-shirts and have them hand out commitment stickers.
2. Regional Education: Increase widespread awareness of invasive species through public relations and media campaigns. Present bad scenarios (scare tactics), bad photos and economic arguments.

The ideas that the pet trade group felt would be best to focus on are:

1. Identify the plant trade network (supplies, growers, distributors etc) and determine the appropriate contacts for each.
2. Develop education materials that contain clear photos, correct names, alternate names, look-alikes etc. Define invasive species and outline the issue. Create and include a clean and dirty list (regional ban?) and make this list very accessible via updates, web etc.
3. Reward "native stores" with visible store certificates, recognition on NEANS website and highlight them in various articles, magazines and websites. This will hopefully promote community support for "clean" stores.

Refining Social Marketing Strategies

➤ Jan Aceti's Comments

When we develop a social marketing strategy, we employ behavior change tools that have been evaluated by social scientists and found to be effective in overcoming barriers and increasing motivation to act. However, human behavior is complex. It is important to solicit feedback from members of the target audience on the appeal and acceptance of a proposed strategy before implementing it. Ideally, this is done through focus group research, in which one or more groups of five to six target audience members are convened. Focus group members are introduced to the purpose of the campaign and asked to review drafts of the stickers, brochures, press releases, and other outreach pieces. Participants can even be asked to watch a role play -- for example, of a volunteer showing a boater how to inspect his boat and asking for a commitment to do so regularly. Participants are asked whether these materials and messages would capture their attention and if they are clear and easy to understand. Focus group members are asked if they perceive any difficulties with the proposed strategy and if they have any suggestions for how it can be improved.ⁱ

If funding for formal focus group research is not an option, an alternative is to convene an informal, voluntary advisory committee of target audience members that meets for one or two sessions to provide the same sort of feedback on the proposed strategy. To attract advisory committee members who are more representative of the target audience, try to avoid recruiting those with a special interest in ANS or environmental issues. As an alternative to calling for volunteers based on environmental interest, try recruiting specific individuals who are active in their trade association or hobbyist club or who are civically active.

¹ McKenzie-Mohr, D. & Smith, W. (1999). *Fostering Sustainable Behavior: An Introduction to Community-Based Social Marketing*. Gabriola Island, BC: New Society Publishers. p125

APPENDIX A

NEANS Panel Hydrilla Initiative A Regional Pilot Project to Eradicate Hydrilla from Northwest Waters

Hydrilla Background

Hydrilla verticillata, considered the most aggressive and problematic invasive aquatic plant in the United States, is established in Maine (1 water body), Massachusetts (1 water body), and Connecticut (2-4 water bodies). Hydrilla has not been documented in Canada. Spread of *Hydrilla* to other localities within the Northeast would dramatically diminish aquatic habitat and alter recreational opportunities in the region.

Believed to come from Uganda and Tanzania (IPANE.org), *Hydrilla* was first identified in the US (Florida) in the late 1950s and has since spread to states including California, Washington, and Maine (2002). A large body of applied research and the consensus of the management and scientific communities assert that *Hydrilla* has an exceptional capacity to out-compete native vegetation, displace both game and non-game fish populations, and wreak havoc with surface and water-contact recreational uses. This is true of northern tier states as well as southern and mid-Atlantic states. Extensive information on *Hydrilla* biology and environmental effects can be found through the Center for Aquatic and Invasive Plants (<http://plants.ifas.ufl.edu/seagrant/hydver2.html>). No state has had as much experience with *Hydrilla* infestations as Florida, where its control accounts for more than \$20 million each year (Dr. William Haller, pers comm. date).

NEANS Panel Goal

At their November 2005 meeting in Stowe, VT, the NEANS Panel set eradication of *Hydrilla* in the Northeast as a priority. This concept was originally floated at the Panels May 2005 meeting in Portsmouth, NH, when Lars Anderson from California suggested that the NEANS Panel consider embarking on a regional effort to rid *Hydrilla* from water bodies within the Northeast. Regional coordination is critical for:

- Preventing additional infestations
- Early detection of any new infestations that may occur
- Responding rapidly to new infestations
- Attempting to eradicate existing populations in the region

"Hydrilla killas" will be the strategic focus of NEANS Panel activities from May 2006 to May 2008. Note however, that this focus will not preclude the Panel from working on other pressing issues, particularly in the marine realm.

NEANS Panel Role

The NEANS Panel's work plan to achieve this goal includes:

1. A Memorandum of Understanding, signed by Northeast Governors and Eastern Canadian Premiers, that endorses this effort and directs their respective state agencies to participate in the specific components of the NEANS Hydrilla Killas work plan (particularly items 2-8 below).
2. Regional outreach and advertising on the risks posed by *Hydrilla* and how to prevent spread
3. Training of volunteers throughout the region in early detection of invasive aquatic plants, particularly *Hydrilla*
4. Personnel and financial support for plant control work in the region in both rapid response to new infestations and controlling existing infestations; a stand alone fund will be established to support this work
5. Posting details of and contact information for successful prevention and plant control projects on the web

6. Convening state representatives semiannually to assess ongoing status of existing *Hydrilla* infestations in the northeast, to monitor progress of the overall effort, and to adjust the work plan as needed to achieve the NEANS Panel goal
7. Convening national experts on *Hydrilla* control from Florida and California
8. Drafting model state *Hydrilla* early detection/rapid response and plant management (for established populations) plans (use ME and MA plans as starting point)
9. Collaboration with the Great Lakes Panel, particularly in the context of their interest in keeping *Hydrilla* out of their waters.

NEANS Panel Committee Responsibilities

Science and Technology

1. Assess status of infestations in Northeast → post eventual map on web
2. Compile case studies of control work, esp. in the Northeast
3. Establish indicator(s) of success for *Hydrilla* control
4. Compile ecological and economic impacts of *Hydrilla* Develop model *Hydrilla* management plan

Policy and Legislation

1. Develop MOU on the NEANS Panel Hydrilla Project to be signed by Northeast Governors
 - Complete text and distribute draft MOU to the P&L listserve for comment (May 2006)
 - Distribute final draft MOU to the NEANS Panel for comment (Nov 2006)
 - Develop a briefing packet to accompany the MOU. Work with the S&T and Education Committees to outline contents of the packet and identify responsibilities
2. Recommend state legislation to prevent spread of *Hydrilla*

Communication, Education, and Outreach

1. Plan and carry-out a social marketing workshop for NEANS Panelists focusing on both preventing spread and early detection/rapid response. While *Hydrilla* will be the "poster child" for the workshop, outcomes of the workshop will be applicable to preventing spread of all invasive aquatic plants. The outcome of the workshop will be transferable to other regions.
2. Coordinate regional information and education efforts
3. Promote state level development of early detection programs

NEANS Panel Outcomes

Specific outcomes of the NEANS Panel Committee work include:

1. MOU between states (described above) signed by Northeast Governors and Eastern Canadian Premiers
2. A stand-alone fund to support state efforts to respond rapidly to new infestations and control existing infestations
3. Social Marketing Workshop for Panelists

About the NEANS Panel

The NEANS Panel was established in 2001, the fourth regional panel to be established under the auspices of the Federal Aquatic Nuisance Species Task Force. The mission of the panel is to "protect the marine and freshwater resources of the Northeast from invasive aquatic nuisance species through commitment and cohesive coordinated action." The NEANS Panel addresses issues and concerns relative to the freshwater and marine resources of the states of Maine, New Hampshire, Vermont, Massachusetts, Rhode Island, Connecticut, and New York, and the Canadian provinces of Quebec, New Brunswick, and Nova Scotia.

APPENDIX B

Barriers and Motivations for Recreational Boaters Behavior: Inspect boats, trailers and other recreational gear after leaving the water and before launching. Remove plants and animals.

Barriers	Potential Benefits/Motivations
<p>1. Inconvenience</p> <p style="padding-left: 20px;">a. Boaters are Rushed When:</p> <p style="padding-left: 40px;">i. Ramp is Crowded So As Not to Hold Up the Line;</p> <p style="padding-left: 40px;">ii. Kids are Screaming, etc.</p> <p style="padding-left: 20px;">b. Checking Boat is Distraction from Main Concern of Getting the Boat into the Water Safely</p> <p>2. Lack of an Existing Positive Norm Around Inspecting Boat/Gear for Plants and Animals</p> <p>3. Lack of Motivation (Laziness, Don't Care)</p> <p>4. Lack of Awareness/Knowledge</p> <p style="padding-left: 20px;">a. Lack of Awareness of Problem of Invasive Species (27.7%)¹</p> <p style="padding-left: 20px;">b. Lack of Awareness that Boats Spread Invasive Species (31.9%)¹</p> <p style="padding-left: 20px;">c. Lack of Knowledge about How to Check Boat</p> <p style="padding-left: 20px;">d. Belief that Checking Boat is Unnecessary Because Plants are Already Dry/Dead</p>	<ul style="list-style-type: none"> ● Avoiding Financial Penalties ● Boaters Love Lakes ● Knowledge that Lake Could Become a "Swampy Cesspool" Next Year ● Boaters Value Protecting Lakes <p>Are there benefits from preventing invasive plants that will enhance boaters' enjoyment or decrease frustration or unpleasantness?</p> <p>What do boaters enjoy most about boating?</p> <ul style="list-style-type: none"> ● Fishing (63%)² ● Relaxing and Enjoying the Outdoors (60.9%)² ● Cruising (21.0%)² ● Spending Time with Family <p>What is most frustrating or unpleasant for boaters?</p> <ul style="list-style-type: none"> ● The Hassle at the Boat Ramp ● Crowds ● Paying to Go Boating ● Boat Repairs ● Having to Stop to Free the Prop or Having to Row ● Weedy Water (although some fishermen like weedy waters) ● Being Unfamiliar with the Water Body and Worrying about Rocks and Stumps

¹ The percentage of the 1,501 respondents to the 2005 Massachusetts Boater Survey who indicated that prior to being interviewed by the ramp monitor, they had not heard of invasive species or been aware that they are spread by boats.

² These figures represent the percentage of respondents who identified this particular activity as their primary interest in boating in a New Hampshire boat/lake user survey conducted in the summer of 2004 as part of the ANS Pilot State Project. "Spending Time with Family" was not a response choice on the survey, although one respondent listed it under "Other." Michelle Robinson suggests that spending time with family is something that many boaters value about boating, however.

APPENDIX C

Barriers and Motivations for Pet Stores Behavior: Sell Native Plants Rather Than Invasive, Non-Native Plants

Barriers¹	Potential Benefits/Motivations¹
<ol style="list-style-type: none"> 1. For Some, Automatic or Corporate Ordering <ol style="list-style-type: none"> a. Decision Makers at Corporate Headquarters May be Far Away From the Local Problem 2. Lack of Awareness/Knowledge <ol style="list-style-type: none"> a. Lack of Awareness of Invasive Plant Problem (11%)² b. Lack of Awareness of Pet Stores/Nurseries as Source of Problem (25%)² c. Lack of Awareness of State Legislation (where it exists) (26%)² d. Lack of Knowledge about Geographic Origins of Plants (30%)² e. Lack of Knowledge of Correct Names for Plants f. Lack of Knowledge about Native Alternatives to Sell 3. Time Needed to Comply with State Regs when Ordering (among those aware of regs) (20%) 4. "The Banned List Always Changes" 5. Lack of an Existing Positive Norm Around Selling Native Rather than Invasive, Non-Native Plants 6. Concerns About Competitive Advantage Gained by Stores Selling Illegal Plants 7. Invasive Plants are Sometimes More Robust, Colorful and Ornamental than Native Plants 8. Lack of Enforceable List of Restricted Plants in Some States 	<p>Are there any benefits for you in not selling plants on state list?</p> <ul style="list-style-type: none"> ● Yes (25%) <p>Important to More Respondents</p> <ul style="list-style-type: none"> ● Increasing sales/meeting expenses/staying in business ● Employee Satisfaction/Employer Approval If Native Plants Only (59%) <p>Important to Some Respondents</p> <ul style="list-style-type: none"> ● Providing Quality Products ● Customer Service ● Healthy Animals ● Educating Customers (about pet care) <p>Typical Charitable Initiatives</p> <ul style="list-style-type: none"> ● Animal rescue and cruelty prevention ● Local charities <p>Customer Interests</p> <ul style="list-style-type: none"> ● Healthy Fish/Pets ● Plants Sold Are Native Only (26%) ● Plant Care ● Selection and Cleanliness ● Quality Products ● Customer Service <p>How can we help you reach compliance?</p> <p>Many were unsure, or don't do the ordering, but there were a few suggestions:</p> <ul style="list-style-type: none"> ● Make updates to the banned list available on websites ● Send an email update when the list has changed, so they don't need to check a website all the time ● Make a list of vendors who sell native plants

¹ Almost all of this information was derived from twenty-one interviews of pet store employees conducted by Michelle Robinson (MADCR) and NHDES interns in Oct./Nov. 2006.

² These percentages represent the fraction of interviewees who indicated they lacked awareness or knowledge in these areas. Not all interviewees answered all questions.