

Surface Water Protection and Water Conservation Outreach Projects Using Community-Based Social Marketing Techniques

Summaries for Reference

July 2011



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What is Community-Based Social Marketing? The techniques used in community-based social marketing are based on evidence that shows behavior changes are most likely to happen when outreach is conducted on a personal level, when barriers to changing behavior are addressed, and when the needs of the target audience are addressed.

The Drinking Water and Groundwater Bureau of the N.H. Department of Environmental Services encourages water systems to use techniques from community-based social marketing to encourage business owners and homeowners to adopt changes in behavior. Whether a water system wants homeowners to install low-flow water use equipment, reduce pesticide applications on their lawns, reduce lawn watering or clean up after their pets (to name a few projects), a properly implemented community-based social marketing technique is more likely to effect behavior than conventional approaches.

Contact the Drinking Water and Groundwater Bureau for more information about implementing community-based social marketing techniques in your service area.

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What is Community-Based Social Marketing?

The method of distributing brochures to “educate” the public about important issues was previously assumed to be an effective means of changing behaviors. However, numerous studies have shown that information-based programs often do little to effect behavior change.

Community-based social marketing uses social science research to identify barriers to the adoption of preferred behaviors and to enhance the benefits of adopting the preferred behavior. Community-based social marketing is achieved through five steps:

- 1) Identifying the barriers and benefits of a behavior/activity.
- 2) Developing a strategy that uses tested tools (see below).
- 3) Conducting a pilot of the strategy.
- 4) Evaluating the strategy.
- 5) Implementing a strategy based on what was learned from the pilot.

There are several tools available for promoting behavior change. These tools are not as effective alone as when they are used in combination. The tools used in social marketing are:

- 1) Obtaining commitments.
- 2) Prompts.
- 3) Norms.
- 4) Communication.
- 5) Incentives and disincentives (e.g., fines).
- 6) Building motivation.
- 7) Overcoming barriers.

This document could discuss all of these tools in detail. However, many experts have written about the tools and strategies to use with community-based social marketing. For example, *Fostering Sustainable Behavior: An Introduction to Community-Based Social Marketing* (Doug McKenzie-Mohr and William Smith, 1999) provides readers with background information, planning tools, and examples.

In addition, the following websites provide background information, case studies, and tutorials for completing a community-based social marketing project.

- Fostering Sustainable Behavior www.cbsm.com
- Tools of Change www.toolsofchange.com
- Health Canada e-learning tool (tutorial) <http://www.hc-sc.gc.ca/ahc-asc/activit/marketsoc/tools-outils/index-eng.php>

Surface Water Protection Projects

Dog Waste Outreach Project: Wachusett Reservoir, Mass.

Tools Used:

- Communication
- Prompts
- Incentives and disincentives

Background

The Massachusetts Department of Conservation and Recreation (DCR) Division of Water Supply Protection is responsible for managing and protecting the drinking water supply watersheds for approximately 2.2 million residents of Massachusetts. The Wachusett Reservoir watershed encompasses all or part of six cities and towns in central Massachusetts. While analyzing years of water quality data for a specific Wachusett Reservoir tributary (Cook Brook, Holden, Mass.), DCR staff found that spikes in bacteria concentrations occurred on a seemingly random basis, both during wet and dry weather.

During field inspections, a large number of dogs were observed along several sections of the brook. DCR staff assumed that this was impacting water quality along Cook Brook.

Goals

DCR hoped to reduce bacteria pollution to Wachusett Reservoir by reducing the amount of pet waste left behind in the Wachusett watershed.

Implementation and Methods

DCR sent mailings to residents with registered dogs in three Cook Brook neighborhoods, then later distributed brochures to town clerk's offices and veterinary offices watershed-wide. DCR also donated dog waste collection systems to two areas impacted by dog wastes and created a public service announcement (PSA) that was shown on cable access TV.

DCR partnered with the city of Leominster and helped a fifth grade class develop its own PSA, brochures and posters for the town clerk's office. The city of Leominster also amended the existing dog ordinance to include pet waste disposal. Residents who do not comply with the ordinance can be fined through this law.

Results

Recent water quality monitoring has shown a marked decline in *E. coli* bacteria in the Cook Brook watershed.

For more details

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Leominster 5th grade PSA:

<http://www.leominster.tv/publicweb/SitePages/video.aspx?id0=Fallbrook%20Elementary-Scoop%20it!%20Bag%20It!%20Trash%20It!>

(Yes, this looks like a typo – “4 ‘w’s?”, you ask? That **is** the correct URL)

Surface Water Protection Projects

Stump Pond Brook Fertilizer Reduction: Amherst/Merrimack, NH

Tools Used:

- Communication
- Obtaining commitments
- Prompts

Background

In 2002, Pennichuck Water Works and DES assessed the 1,500-acre Stump Pond Brook watershed, one of the subwatersheds in the Pennichuck Brook system. The assessment looked at drainage patterns and water quality threats and recommended minimizing impacts from lawn fertilizing and yard waste disposal. Comprehensive Environmental Inc. was contracted to determine the behaviors of neighborhood residents, and to identify barriers and competing behaviors that prevented changes to a more preferred behavior that would result in improved water quality.

Goals

After an initial survey of residents, CEI focused its efforts on:

- The use of fertilizer, weed killer and pesticides.
- Disposal of lawn and yard wastes.
- Pet waste management.

Implementation and Methods

A working group was established with representatives from Amherst and Milford committees and agencies. The working group established a plan of action for the project, including developing a pre-project survey and outreach materials to disseminate during the implementation phase. A logo and slogan were developed to use on all outreach materials.

The methods used included mailing a free soil test kit to all Stump Pond Brook watershed residents, hosting a free “master gardener” lawn and garden event, three postcard mailings with “vivid messaging,” lawn flags, and a table at a local farmers’ market.

Results

A survey sent after the implementation phase of the project indicated that a majority of respondents were familiar with the logo and slogan and had changed or were planning to change the amount of fertilizer they use on their lawns. Eleven percent of the total households in the watershed participated in the free soil test kit, and others planned to conduct a soil test within the next year.

For more details

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Surface Water Protection Projects

Lawn Care Behavior Change: Bangor, Maine

Tools Used:

- Prompts
- Norms
- Communication

Background

In 2007, a group of university extension specialists from New England banded together to conduct surveys in various urbanized areas to determine residents' perceptions of lawn care practices and water quality issues. Four communities were selected to receive mailed surveys. The communities were selected due to the proximity of Cooperative Extension activities. Additionally, door-to-door surveys were conducted in the Bangor, Maine, area. Following the surveys, intensive outreach activities were conducted in these Maine communities. The results of the survey informed the design of an outreach campaign. This was a sophisticated research project involving the perspectives of numerous specialists.

Goals

This project set out to answer four research questions:

- What are the lawn care practices of homeowners in New England?
- What are the basic attitudes homeowners have towards lawn care practices?
- What methods for information-gathering are used and trusted?
- What factors are likely to predict willingness to engage in environmentally friendly lawn care behavior?

Implementation and Methods

The survey was mailed to 2,150 households. Forty-one percent of surveys were returned. Researchers culled information from the survey results.

In Maine, six neighborhoods were targeted with one of three messaging techniques: a control (no outreach materials), standard messaging, and "normative" messaging (using the "norms" principle of social marketing). The normative and standard messaging neighborhoods received similar materials, including door-hangers, storm drain stencils, and access to online material. The normative messaging neighborhoods, however, received more specific content to encourage the practice of not using fertilizers and pesticides on their lawns, which was the normal behavior for most residents in the neighborhood.

Results

In the Maine neighborhoods, the standard messaging group was found to be more likely than the control group to reduce or eliminate their use of fertilizer or pesticides. And, the normative messaging group was more likely than the standard messaging group to do the same. The results of this study indicate that both the door-hangers and the stencils were highly visible in these neighborhoods. However, the website was rarely visited.

For more details

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Surface Water Protection Projects

Garrison Road Pet Waste Project: Dover, NH

Tools Used:

- Norms
- Communication
- Prompts

Background

In 2004, researchers discovered fecal bacteria at several sites in the Great Bay Estuary watershed, including the Garrison Road neighborhood, which was comprised of 441 homes. Using a DNA fingerprinting technique called microbial source tracking, researchers matched the bacteria in the water samples to specific sources, including a predominant source from dog waste.

Goals

The project's goal was to get residents and visitors in the Garrison Road neighborhood to pick up and dispose of their pet waste properly.

Implementation and Methods

A committee of local stakeholders was created. The committee surveyed existing behaviors and attitudes towards picking up pet waste and implemented appropriate tools for each audience, including a logo design contest, storm drain stenciling, door-hangers, branding of the campaign, neighbor-to-neighbor role models, press releases, and a pledging contest at a dog registration site.

Results

Pre- and post-project survey results indicated that there was approximately 25 percent improvement in understanding of pet waste impacts in the environment. Anecdotal evidence from neighbors indicated a positive attitude to picking up pet waste.

For more details

barbara.mcmillan@des.nh.us or

http://des.nh.gov/organization/divisions/water/wmb/coastal/scoop_the_poop.htm

Household Water Conservation Projects – Indoor Water Use

Barrie Water Conservation Program: Barrie, Ontario, Canada

Tools Used:

- Incentives and disincentives
- Communication

Background

In the 1990s, the city of Barrie was faced with a project to expand the wastewater system and develop a surface water supply due to increasing population. It was estimated to cost approximately \$68 million. The municipal works department conducted an environmental assessment and discovered that they could delay most of the capital expenses for 10 to 25 years by implementing water conservation measures. The city developed a plan to offer retrofits of toilets, faucet aerators and showerheads in 15,000 homes.

Goals

The city set a goal to retrofit toilets and showerheads in 15,000 homes (out of a population of 90,000). They expected this would drastically reduce wastewater flows and water usage.

Implementation and Methods

The city contracted with plumbers to set costs for fixture installations and offered rebates for ultra-low-flow toilets and low-flow showerheads. The program was promoted through newspaper ads, home show displays, and inserts in water bills.

Results

At the end of the retrofit program, the city determined they saved \$67 million. The cost of the program was \$3.7 million. Sixty-two percent of the costs went to rebates and fixtures. It was a win-win situation: the city saved money on capital improvements and the residents saved money on their water bills.

Also, water consumption in the city was reduced by 62 liters per day per person and wastewater flows were estimated to be reduced by 55 liters per day per household.

For more details

<http://toolsofchange.com/en/case-studies/detail/103>

Household Water Conservation Projects – Indoor Water Use

Water Efficient Durham: Durham, Ontario, Canada

Tools Used:

- Building motivation
- Obtaining commitments
- Overcoming Barriers
- Prompts
- Communication

Background

In 1995, the population of Durham, Ontario, was growing at a rate of 3 percent per year, and water use was growing at 6 percent per year. There were 20 days per year when water use was at the maximum capacity for the water source. The region determined that the only technological solution was to expand the supply and filtering capabilities of the system. This would prove to be expensive, however, and Durham hoped to avoid the expense by encouraging residents to reduce their lawn watering during hot, dry summer days when demand tended to be greatest.

There was an added challenge for this project: Durham is on the shores of Lake Ontario and residents assume there is an endless supply of fresh water.

Goals

The city wanted to show its residents ways to improve the health of their lawns and save money by using less water.

Implementation and Methods

The region first piloted a project in 1997 in the town of Ajax using four approaches:

- Neighborhood #1 was a control where no information was provided.
- Neighborhood #2 received a traditional mailing of water conservation brochures.
- Neighborhood #3 received landscape assessments provided by master gardeners.
- Neighborhood #4 received a series of interventions by college students using a variety of techniques (discussions, providing materials).

Later, the program was altered and delivered to other towns and neighborhoods. Later models of the program included a signed commitment by homeowners to reduce lawn watering.

Results

Lawn watering was reduced by 26 percent for the pilot project in neighborhood #4.

Over time, the program was expanded to other communities using slightly different models. In 2000, bulk metering indicated in two neighborhoods that 32 percent less water was used when students regularly visited with homeowners versus control neighborhoods where no student interactions occurred. In 2001, a dryer and hotter year, the neighborhoods were not visited and these reductions were not maintained.

The region spent approximately \$26 per household to reduce peak day demand, compared to \$86 per household that would have been spent to expand the capacity of the treatment plants.

For more details

<http://toolsofchange.com/en/case-studies/detail/156>

Household Water Conservation Projects – Outdoor Water Use

WaterSmart: Kamloops, British Columbia, Canada

Tools Used:

- Incentives and disincentives
- Norms
- Communication

Background

The city of Kamloops needed to reduce peak summer water use to delay spending \$15 million on water system expansion. Residents were historically resistant to individual water metering, so the town decided to initiate a water conservation program.

Goals

The city hoped to increase the awareness of residents of the need to conserve water and reduce the peak-period water consumption by 15 percent.

Implementation and Methods

The city restricted lawn watering during the peak summer days and set fines for illegal watering. The city also eventually prohibited watering between 11 a.m. and 6 p.m. A bicycle patrol of college students was used to help oversee these restrictions.

The city provided water-saving tips of the week in the newspaper and residents called into a local radio station to win prizes (t-shirts, mugs, showerheads). Once a month names were drawn for larger prizes (irrigation system, landscaping books, coupon to local garden center). TV, newspaper and radio ads were also used.

The city also developed a xeriscape demonstration project.

Results

Between 1992 and 2003, the peak water usage declined by 23 percent from the previous 10-year period. Hydroelectric costs were decreased, and the city did not need to perform upgrades to the system capacity, saving \$15 million in capital improvements.

For more details

<http://toolsofchange.com/en/case-studies/detail/23>