

**T**HE COMPOSTER project diverts a lot of useful material from the landfill," says Don McVeity. "Besides that, we do something good. Each person who knows of our modest efforts is given pause to think about their own lifestyle.

Perhaps we turn the tide a little and make a better world for our children."

McVeity speaks as a community member whose family is one of 106 households who participated in Waste Wise, a pilot community-based composting outreach project conducted by Clean Calgary Association (CCA) from November 2006 to December 2007. CCA is a nonprofit organization with a 27-year history of working on grassroots, environmental projects in the area of waste reduction.

Alberta EcoTrust provided the core financial support for the Waste Wise project, serving as a catalyst by giving CCA the momentum to secure additional funding and resources. The Calgary Waste and Recycling Services, Shell Environmental Fund, Grassroots NW Environmental, Calgary Dollars, Bill Goss and Pixie Gardens in Calgary also provided financial support.

#### NEED TO COMPOST

In Calgary, one of the fastest growing cities in Canada, there are compelling reasons for promoting composting as a household recycling practice. One is that home composting has the potential to divert a considerable amount of organic waste that otherwise would end up in landfills. To demonstrate evidence to support this claim, CCA, with support from EcoTrust and other sponsors, conducted Waste Wise, a yearlong community outreach pilot project.

Waste Wise was designed to demonstrate that compostable home waste can be successfully and easily diverted from Calgary's landfills, mitigating the negative consequences of organic waste in landfills (i.e. greenhouse gases). Calgary's landfills are said to emit more greenhouse gas than all the cars in this city. Plus, organics in landfills create leachate, which can have serious adverse effects on water quality.

Over 40 percent of Calgary's residential waste is estimated to be organic materials, most of which could be composted in people's backyards. Composting in Calgary, however, is 100 percent voluntary. The City encourages residents to use drop-off points for yard waste as part of its solid waste and recycling program, but since there is no garbage bag limit, no pay-as-you-throw program, and no prohibition on the disposal of organics, a substantial amount of household organic waste routinely ends up in Calgary's three landfill sites.

To understand Calgarians' habits and attitudes with respect to household waste, CCA commissioned Praxis Research to conduct an environmental survey of households in March 2006. The survey concentrated on a single community, Dalhousie,

## COMMUNITY-BASED SOCIAL MARKETING

# WASTE WISE IN CALGARY

*With an average diversion rate of 39 percent, a household composting pilot project in the community of Dalhousie is viewed as a model to be replicated.*

*Bert Einsiedel and  
Karen Morrison*

which was identified as among the more demographically representative communities in Calgary.

CCA volunteers were asked to hand-deliver the survey questionnaires to 1,052 households and to explain the purpose of the survey to household members within the study area. They returned four days later to pick up the completed survey, offering a compact fluorescent light as an incentive for completing the survey. The response rate was 41 percent.

#### SURVEY RESULTS

The key results of the survey were as follows: 46 percent of households do not compost in their backyards; 33 percent put leaves and grass in the garbage; 48 percent do not think that backyard composting has a significant impact on reducing household waste; and Only 8 percent think that backyard composting is the most effective method of reducing household waste (compared to recycling depots, bottle return depots and curbside recycling).

Several reasons were given for not composting: Lack of information on how to compost; Concern about the smell; Attracting bugs, mice and other rodents; High maintenance; Concern about having enough waste and, therefore, no need to compost; and Having no composter or the space to have one. These findings indicated to CCA that Dalhousie residents needed to be informed about backyard composting. CCA recognized an enormous opportunity and proceeded to develop a community-based composting outreach strategy, and to seek sponsors willing to support the project.

#### PROJECT GOAL

The short-term goal of the Waste Wise pilot community outreach program was to assist households in the Dalhousie community in reducing their waste sent to landfill by 30 percent through home composting. CCA's long-term goal was to use the lessons from the Dalhousie pilot program to develop a three-year extended replication of the community outreach program in other Calgary communities.

Setting the diversion target at 30 percent was consistent with the City's "80/20" goal of reducing the amount of waste going to landfills to 20 percent and recycling or recovering 80 percent of waste materials by the year 2020. At that time, the numbers were reversed: 80 percent of waste went into the landfills and 20 percent was recycled. Recycling food and yard waste was believed to be a key to reaching the City's "80/20" goal by 2020. Since an average family of four can compost 500 kg of food and yard waste in a year, a reduction of 30 percent would demonstrate that the City's goal is attainable and that community-based composting outreach education is effective in one community and could be replicated and extended into other similar communities around the city.

Households were eligible to be selected as participants if they: Lived in the community of Dalhousie; Were not yet composting but wanted to learn; Were willing to commit to composting year round; and Were willing to measure the results of home composting on a monthly basis and report the observations to CCA. On a first-come-first-serve basis, 106 households were selected. With an average of three people per household, a total of approximately 318 individuals participated in the project.

In addition to household occupants, the other Waste Wise program included 300 school children and their teachers in West Dalhousie Elementary School. Assuming that each of these students had a family with an average number of three members, there would be approximately 900 individuals directly and indirectly involved in the school composting program.

The total number of community members impacted by the Waste Wise outreach program was estimated to be around 1,218, which was around 20 percent of the Dalhousie community. To help establish relationships, early adopter households received tools such as compost bins, stainless steel kitchen buckets and compost guides as incentives. There were 61 CCA volunteers involved in the program, who con-

tributed approximately 1,533 hours of work over the project period. They provided ongoing support, education and bin evaluations to ensure that the early adopters were successful.

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#### MASTER COMPOSTER PROGRAM

The approach taken by CCA was called community-based social marketing. The pilot program began with the development and delivery of a Master Composter (MC) Program in the community. The MC Program was promoted through the *Dalhousie Digest* community newsletter, posters in the businesses, schools, faith organizations and other organizations such as the Girl Guides and Scouts. Graduates of the MC Program formed a team of knowledgeable ecotainers who went out into the community to provide hands-on education. CCA also hosted composting events, demonstrations and workshops designed to engage Dalhousie residents to begin home composting.

**Karen Morrison (left) of Clean Calgary evaluates a home composting bin during a visit with a resident participating in the pilot program.**



In the fall of 2006, CCA launched a 90-minute "Composting Basics" workshop. It advertised for candidates for a "Master Composter/Soil Builder Course" to residents of Dalhousie and the neighboring communities of Brentwood, Ranchlands, Hawkwood, Silver

Springs and Edgemont. Twenty-four individuals took the 5-week Master Composter course and served as Volunteer Master Composters. They assisted in coaching Dalhousie residents in the Waste Wise project in learning to compost in their backyards and learning to compost lunch organics from staff and students at the school. The Waste Wise project coordinator, Karen Morrison, worked closely with CCA's volunteer coordinator to ensure that the elements of the Master Composter program were strong.

#### HOUSEHOLD WASTE AUDIT

In order to measure the pilot project's impact, CCA conducted a Household Waste Audit of Dalhousie residents. They reported that they use both garbage cans and garbage bags. The 175 respondents who reported using garbage cans used an average of 1.5 cans/week. Six out of 10 filled one or fewer garbage cans per week. Of the 300 households that use garbage bags, an average of 1.8 bags/week were used. Eight out of 10 households said they filled two or fewer bags per week.

Most respondents indicated that they "always" recycle newspapers, magazines, mixed paper and cardboard. Fifty-three percent indicated that curbside recycling companies operate in their neighborhood; 39

## HOUSEHOLD WASTE AUDIT

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- How many garbage bags do you place at the curb weekly?
- How many times did you empty the kitchen compost bucket to the compost bin (secured weight and volume)?
- How many bags of leaves did you save and how many bags did you take to the depot?

- How many bags of leaves did you place in the garbage?

- How many bags of grass did you place in garbage?

- How many pumpkins did you compost and/or how many did you take to the depot, and how many did you put in the garbage?

- How many bundles of yard prunings did you take to landfill?

- Did you begin recycling? Are you recycling more items?

- How often are you using your garburator?

percent were not sure whether curbside recycling companies operate in their neighborhood. Only 6 percent said they already used this service. Respondents said that they usually left grass clippings on their lawns, although leaves are usually composted. Thirty-seven percent put grass clippings and 32 percent put leaves in the garbage for pick up.

#### MAJOR OUTCOMES

The year-end waste audit results from families participating in the program indicated an average diversion rate of 39.21 percent. Some 7,995.87 kg of kitchen organics were diverted from the waste stream, resulting in an estimated greenhouse gas savings of 8.44 metric tons of CO<sub>2</sub>. Significant as this is, there was more to this community engagement project than waste diversion.

CCA's Master Composter Program in Dalhousie produced 24 Volunteer Master Composter graduates, who in turn conducted six workshops throughout the community, and recruited the 106 households in the study, providing bin evaluations and composting support. Another significant outcome of the Waste Wise program was the commitment of the West Dalhousie Elementary School, with 320 students and staff, to composting lunch organics. CCA, CME and the Calgary Attendance Centre worked together to collect unwanted wood and materials, and constructed a four-bin custom compost system for the school.

In addition, through a partnership with Canada Safeway and Calgary Co-op in Dalhousie, grocery stores provided, free of charge, unwanted plastic food-grade pails with lids to use as collection buckets for the school's organic waste. Up to 20 kg of organic waste from staff and students' lunches each week are added to the compost bins. In the process, West Dalhousie School became a venue for community composting demonstrations and workshops. The school subsequently started a project called "Nature's Place Garden." The garden will be used as an outdoor classroom for students to learn how to use finished compost to amend the soil.

The program also strengthened the relationship between CCA and the Dalhousie Community Association. For example, the Association provided some media and marketing support, and articles about Waste Wise appeared regularly in the *Dalhousie Digest*, as well as on its website.

There were significant sponsorship opportunities to support school composting projects as a result of the pilot. CCA strengthened its capacity to design, deliver and evaluate waste reduction programs, in-

cluding skills in board governance and grant development.

### Almost 8,000 kg of kitchen organics were diverted, resulting in an estimated greenhouse gas savings of 8.44 metric tons of CO<sub>2</sub>.



**Students and staff at the West Dalhousie Elementary School committed to composting lunch organics. Materials are composted in a four-bin custom compost system built at the school.**

#### UNEXPECTED PROBLEMS AND BENEFITS

As with any complex undertaking, the Waste Wise program had its share of unexpected and disappointing occurrences, albeit nothing very serious. For example, the City of Calgary could not supply compost bins for seven weeks due to the annual compost bin sale. This resulted in a delay in the project schedule, but the staff was able to make up the lost time. Record rainfall in spring presented challenges in scheduling hands-on training visits.

Ruth Heerema, who writes the column "Family Matters" in the *Calgary Herald*, is quoted as saying, "What I love most about this program is the way it has spread into other areas of family life. Along with the composting, we've become way more careful about recycling in general. We look at all the packaging on things and take that into consideration before we buy anything, and we're using the car less. We're making better choices and it feels really good."

#### LESSONS LEARNED AND NEXT STEPS

There are a number of important lessons from this pilot program. For example, waste audits are important in order to empirically demonstrate the impact of the program and to explain the results to stakeholder organizations and to participants.

The Community-Based Social Marketing (CBSM) model was shown to be effective in promoting composting in Dalhousie, and schools are strategic places to begin CBSM programs. Since the completion of the pilot program, CCA has received many calls from schools and families outside of Dalhousie wanting to participate in similar programs.

What lies ahead? The Waste Wise Program will continue to increase the number of Dalhousie households that commit to begin home composting. CCA will also begin to engage other schools, as well as faith and other organizations to participate in this waste reduction and community building initiative. Dalhousie, in CCA's opinion, has evolved into a composting community and will serve as a model for other communities in Calgary and elsewhere. The Waste Wise Community Outreach program has been an important step towards the vision of zero waste. ■

*Karen Morrison is the Waste Wise Coordinator for the Clean Calgary Association. Bert Einsiedel is Professor Emeritus of Extension at the University of Alberta. He is active in environmental conservation programs in Calgary and is a Master Composter.*