



Quick-service Restaurant Waste Reduction Study Final Report (September 2003)

The following study addresses issues raised by stakeholders regarding source separation in front-of-the-counter in quick-service restaurants. Stakeholders included: regional waste reduction coordinators, the Nova Scotia Department of Environment and Labour, waste haulers, quick service restaurant owners and managers, and representatives from corporate franchises and the Canadian and Nova Scotia Restaurant and Foodservice Associations. Not surprisingly, many stakeholders identified similar concerns. The separate Bridgewater research study is incorporated into these recommendations (see Appendix 1, Bridgewater: A Case Study in Quick-service Restaurant Recycling and Composting). The study is organized into the following categories:

- 1.0 - Source Separation and Contamination
- 2.0 - Containers and Signage
- 3.0 - Stakeholder Education, Awareness and Support
- 4.0 - Public Education and Awareness
- 5.0 - Implementation Date and Enforcement
- 6.0 - Hauling Issues
- 7.0 - Municipal Issues
- Appendix A - Bridgewater Case Study
- Appendix B - McDonald's Case Study

As illustrated in the Bridgewater Research study and waste audit, several owners or operators have successfully instituted customer-based waste sorting in local quick-service restaurants. However, many challenges exist as certain conditions and strategies must be in place to ensure successful waste separation. These ideal conditions and strategies include:

- Clear understanding of responsibilities of all stakeholders involved
- Clear understanding of relevant by-laws and legislation
- Clear understanding of proper source separation in each region
- Well-planned source separation strategies
- Ideal containers and signage
- Staff commitment and training
- Close relationship between restaurants and waste educators and haulers
- Public education initiatives
- Corporate-level awareness and active partnership
- Enforcement at handling facilities

The first step taken by restaurants and waste coordinators should be to identify waste reduction strategies, followed by the implementation of a well-planned source separation strategy. Restaurants should aim to decrease the amount of waste they create and make efforts to replace remaining waste products, which are usually plastics, with reusable or biodegradable materials since plastics are a major source of contamination. Ideally, customers can then put all of their remaining waste in an organics collection container.

1.0 - Source Separation and Contamination

Issue

The predominant concern for stakeholders is the issue of recyclables and organics that are contaminated by customers, who do not correctly source separate. The issue of contamination was of particular concern to waste coordinators. Some waste coordinators believe that preserving source separation quality should be the overriding priority in determining a sorting method for waste in front-of-the-counter. In other words, sorting for quality should be the primary goal. Other waste coordinators believe that having public access to source separation in high profile spaces, such as quick-service restaurants, is a key step in meeting Nova Scotia's waste reduction objectives.

A few other stakeholders questioned the value of separating waste in front-of-the-counter. It was argued that this waste accounts for only a small portion of the total waste generated by restaurants and therefore may not be worthwhile to invest time and energy in its separation.

Current Situation

The South Shore of Nova Scotia (Region 6) and Bridgewater in particular, is the only area of the province that has an organized and sustained effort to promote recycling and composting for customer generated waste in quick-service restaurants. For this reason, the activities of the South Shore were examined in order to gain insights into the successful practices employed in this area, as well as to identify the challenges that still exist. In addition, other regions may be able to benefit from the strategies used by the stakeholders in this region to overcome challenges and institute in front-of-the-counter recycling and composting practices.

Support from a local waste educator, Richard Wilson, was the motivating force in the implementation of Bridgewater's program. Source separation in public places began in approximately August 2000, with the first participant (Bridgewater Mall) going "green" in January 2001. Organic waste from in front-of-the-counter at McDonald's, Wendy's, Dairy Queen, and the Bridgewater Mall Food Court was audited in January 2002 to determine the quality of the waste and the contamination levels in the organic waste stream. At the time of the audit, the greening program had been in effect in the Bridgewater Mall for about a year, at McDonalds and Wendy's for about 3 months and at Dairy Queen for about 1 month. A level of less than 10% contamination by volume was used to indicate acceptable rates of contamination.

Results:	% contamination by bag	% contamination by weight
McDonalds	14%	10%
Mall	9%	6%
Wendy's	33%	19%
Dairy Queen	9%	2%

Richard Wilson identified that the two main factors that were key to the success of the Bridgewater Mall and Dairy Queen's waste sorting were well-designed bins and signs, and trained staff and management, who fully supported the program.

Tim Hortons in Bridgewater has also reached acceptable levels of contaminant-free organics through a purely staff-based sorting strategy. They have sealed up their garbage cans and asked customers to leave waste on the tables to be sorted by the well-trained and organized staff members behind the counter.

Recommendations

1.1 - Source Separation Strategies

Three strategies for source separation are profiled in *Table 1: Strategies for Source Separation*. If the issue of source separation is considered solely in terms of the quality of waste separation, then Strategy 1 - *Staff-Based Sorting* is the preferable option, since this would yield the least amount of contaminated waste. However, if public education and participation is the key objective then Strategy 2 - *Customer-Based Sorting* is more effective. To balance the concern of some waste coordinators for high quality waste separation with the concern of other waste coordinators for public education and participation, Strategy 3 - *Dual Sorting*, becomes the most effective method of source separation.

With *Dual Sorting*, customers are given the option of sorting their own waste or having their waste sorted by staff. Well-designed and centrally located containers and signage are provided in front-of-the-counter for customers who want to sort their own waste. Customers could be encouraged to leave their trays on the table or a central tray collection area could be provided for customers to leave their trays to be sorted by staff. All other garbage receptacles throughout the restaurant should be sealed or removed. At one Tim Horton's in Bridgewater, there are signs on the garbage receptacles that state, "To our Customers: We at Tim Horton's do 100% Recycling (sic). To help us in this area, please leave your garbage on the table." Such signage could be paired with other educational efforts such as posters and table tents, to inform the public about the existence of, and rationale behind, the Dual Sorting system.

Since the amount of waste disposed of in front-of-the-counter is relatively small compared to the amount of waste behind the counter, staff should already be trained in correct source separation. Consequently, the transition to Staff-Based Sorting of customer-generated waste would require only a small amount of additional training. One manager in Bridgewater stated that, "We do use the resource of an extra staff person during busy times but it is not really much of a cost because we are organized and when you are used to it, it takes very little time. After all, you have to clean off tables and sanitize them between customers anyway so it is just one small extra step."

Table 1: Strategies for Source Separation

	Strategy	Pros	Cons
1) Staff-Based Sorting	<ul style="list-style-type: none"> - Staff sorts waste - Garbage receptacles are removed or sealed - Customers leave tray on tables or take to a central tray collection area 	High quality source separation- Restaurant owner/managers gain an increased awareness of waste stream content, potentially translating into decreased waste generation	Additional staff time required, which may incur added costs-Customers are not responsible for their garbage-Customers do not learn how to separate waste in quick-service restaurants
2) Customer-Based Sorting	<ul style="list-style-type: none"> - Customers sort waste - Containers and signage are provided in front-of-the-counter to facilitate the separation of waste 	Customer responsibility for source separation, therefore promoting source separation in all sectors, not just residential	Contamination of waste is more likely with poorly designed source-separation containers and limited public education -No consequences for customers who do not separate
3) Dual Sorting	<ul style="list-style-type: none"> - Customers are given option of sorting their own waste or leaving it for staff to sort- Containers and signage, as well as a central tray collection area, are provided in front-of-the-counter to facilitate waste separation 	Higher quality source separation than in Strategy 2-Individual opportunity for source separation, therefore promoting source separation in all sectors, not just residential	Lower quality source separation than Strategy 1- Increased space requirements- Some additional staff time may be required

1.2 - Waste Audits

Restaurant owners and managers should be encouraged to conduct a waste audit in order to collect baseline data, to identify waste reduction strategies and to assess their source separation needs. Audits could include a comprehensive audit, a visual assessment, or an audit based on weight. Waste audits templates already developed by waste educators could be used. These templates could be provided to restaurant owners and managers as part of the waste educators' information packages and on websites. Conducting a waste audit could be one of the first steps that a waste educator takes when working with restaurants. Nova Scotia Youth Conservation Corps or students could assist waste educators and restaurants in performing these audits.

1.3 - Waste Stream Variations in Nova Scotia

Nova Scotia is divided into seven waste management regions (see map). Components of the waste stream that are considered recyclable, compostable and garbage vary between the regions. With the exception of Region 1 (Cape Breton Island), where the Cape Breton Regional Municipality and Inverness County lack an organics collection program and municipal composting facility, the variations among regions are not extreme.

Variations exist between Region 4 (Halifax Regional Municipality) and Region 6 (South Shore). In Region 4, the differences relate to paper. In Region 6, the variations are related to hot and cold drink cups. Signage in Regions 4 and 6 could call attention to these limited variations, for the benefit of those visiting from elsewhere in Nova Scotia. In order to further increase uniformity between Waste Reduction regions, it would be valuable for managers from compost and recycling facilities to meet with waste coordinators at a day-long workshop to discuss the variations among the regions and set goals for their eventual elimination.



2.0 - Containers and Signage

Issue

The choice of appropriate containers and signage is a key factor in the success of source separation in the public sector if Customer-Based Sorting (Strategy 2) and/or Dual Sorting (Strategy 3) are implemented. Restaurant owners and managers indicated that guidelines for purchasing and locating containers and signage would be useful.

Current Situation

The best examples of containers and signage currently in use are at the Bridgewater Mall. They include many of the elements of a successful container and signage system, including colour-coding and clear signage. However, the ideal set of containers does not currently exist. The best sample of source-separation containers currently available is Midpoint International's Top

Loader, which has four streams, a slanted top, room for signage, a tailored-hole shape and a containment barrier.

Recommendations - Container and Signage Study

It would be valuable to conduct a study looking at the effectiveness of container types. The ideal container system could be implemented at a few restaurants as a pilot study to determine their effectiveness. The data collected could then be compared with data from restaurants with less than ideal containers.

2.2 - Container and Signage Guidelines

The following is a list of guidelines that have been developed as a result of discussions with waste coordinators, and conducting site visits at restaurants with source separation containers in front-of-the-counter. Container and signage guidelines could be made into a pamphlet and published on a website in order to make them easily available to restaurant owners/managers.

Ideal Container Guidelines

Colour-coded:

- green for organics
 - blue for recycling
 - black for garbage
- Appropriate shape of holes:
- narrow slot for paper
 - round for bottles
 - large square for garbage
 - rectangle for organics

Contamination barriers:

- rubber insert for beverage container hole
 - compost bin with lid that must be lifted to insert organics
 - Easy to open
 - Slanted tops so waste will not be left on top
 - All waste stream containers should be situated directly next to each other, creating a source separation centre
 - Ideally made out of recycled materials
 - Ideally made locally
 - Sturdy
 - Clear plastic bags, not black garbage bags, should be used so that waste is easily identified after the bag has been removed from the container
 - Easy to clean
- #### **Ideal Signage Guidelines**
- Graphics should be used to illustrate where waste should go, text should be minimal
 - Graphics should be of actual waste (i.e. containers, wrappers) generated in restaurant
 - Colloquial text i.e. "garbage" instead of "residuals" - colourful, eye-catching signs
 - Signs should be located both on the top backboard of the container, at adult eye-level, as well as on the front of container, at child eye-level and where people who use wheelchairs can easily see them - Signage should be uniform within a restaurant chain

3.0 - Stakeholder Education, Awareness and Support

Issue

The study found that owners, managers, haulers, corporate head offices, and restaurant associations were not adequately aware of correct source separation practices.

- what items are banned from Nova Scotia's landfills
- what items go into which waste streams
- owners and managers' responsibilities as defined by Nova Scotia's Waste Resource Management Regulations
- what waste reduction is and how it is accomplished
- what a waste audit is and how it is conducted

There was a lack of awareness among haulers regarding:

- their roles and responsibilities as defined by Nova Scotia's Waste Resource Management Regulations

There was a lack of awareness among corporate head offices of quick-service restaurants and Restaurant Associations regarding:

- the current status of source separation in quick-service restaurants, in-front-of and behind the counter
- the barriers that restaurants are experiencing in implementing source separation in front of the counter
- head office's responsibilities as defined by Nova Scotia's Waste Resource Management Regulations

It is important that owners and managers, corporate head offices, and restaurant associations receive education on these issues.

Restaurant chains with corporate head offices pose a particular challenge. Franchise or outlet owners and managers are limited in the changes that they are able to implement in their stores. Waste hauling contracts, décor and layout guidelines, and policies regarding training and staff duties are often dictated by head office, which is usually located out of province.

Education is important in increasing awareness, and is fundamental to implementation of correct source separation practices. It is important that educators work with restaurants closely, in order to ensure that owners and managers feel like they are part of the process, rather than being burdened with more legislation. Currently, there is a lack of educational support. Most owners and managers stated they had not received any assistance in their waste resource management. Many waste coordinators wish to have a clear message to convey to restaurant owners and managers prior to proceeding with sustained educational initiatives.

Current Situation

Support from a waste educator was key to the implementation of the source separation program in Bridgewater. All participating restaurant owners and managers mentioned that Richard Wilson's assistance was central to their waste separation activities. He started by making the necessary contacts in the restaurants and "talking, talking, talking." He gave

assistance such as taking the necessary digital pictures to create individualized signs for the restaurants involved. He was available for ongoing consultation from restaurant owners during every step of the process and, as well, helped to promote their efforts in the media.

In Region 7 (Western Region), Tim Hortons franchisee David Arnborg assisted by Amy Hillyard, the waste reduction coordinator for the area, spearheaded corporate support for front-of-the-counter source separation in Tim Hortons locations throughout Nova Scotia.

Recommendations

3.1 - Corporate Strategy

A strategy should be developed where corporate head offices are systematically approached and engaged in the issue of source separation, because in some cases, it may be inefficient or ineffective to approach individual restaurants. A task force or steering committee comprised of staff from the Department of Environment and Labour, RRFB Nova Scotia, and members of the Nova Scotia Association of Waste Reduction Coordinators could be specifically responsible for this task. This task force would decide on a systematic method of approaching corporate head offices that would be implemented uniformly across the province.

3.2 - Stakeholder Communication

The same task force would be responsible for ensuring that there is effective communication with relevant stakeholders and work towards clarifying the roles and responsibilities of each stakeholder involved. In order to facilitate the important work of developing relationships between stakeholders, it may be valuable to establish a stakeholder committee. This will provide a venue for building awareness and will give a voice to a variety of groups who currently have little opportunity to articulate their concerns and opinions, such as restaurant owners and managers, and waste haulers.

3.4 - Designated Waste Reduction Staff

It is recommended that in each of the seven waste management regions, there should be a staff person designated to work on waste education in the quick-service restaurant sector. More designated staff will be required in regions with higher numbers of quick-service restaurants. Each waste educator for this sector should develop a formalized strategy for approaching quick-service restaurants and tracking activities, such as the strategy developed by Darlene Proctor in Region 3. The regional waste educators' strategy for approaching corporate restaurant chains would be determined by the provincial task force responsible for working with corporate head offices. It is key that the regional waste educators are "out and about" in restaurants and that they are available to provide individual attention when necessary.

The tasks of the regional waste educators would be comprehensive and could be supported by youth corps or other student staffing. Tasks could include:

- Sending an introductory letter to local restaurants and to corporate head offices
- Meeting one-on-one with restaurant owners and managers
- Providing templates, information and support for conducting a waste audit
- Working with owners and managers to develop a waste reduction strategy for each particular restaurant

- Providing source separation lists
- Providing lists of container and signage suppliers, including selection guidelines
- Providing pamphlets
- Providing a hotline number
- Providing web address for a site dedicated to the quick-service restaurant sector
- Offering assistance in developing site-specific signage for owners and managers
- Developing promotional ideas
- Training corporate supervisors, who can then train staff
- Training staff
- Being available to answer questions and offer encouragement
- Providing on-going support and follow-up

Much of this information could be compiled into a package that could be given to owners and managers for future reference.

3.5 - Educational Materials

Waste coordinators expressed a need for educational material to provide to restaurant owners and managers. In particular, coordinators requested a pamphlet that would contain the following information:

- Expectations and responsibilities of each stakeholder group
- Definition of source separation
- Reasons for source separating
- Explanations of how to effectively source separate
- Clarification of a timeline for implementation of source separation regulations
- Clarification of enforcement issues

As well, based on the responses from restaurant owners and managers, it would be useful for certain materials to be available online, to be downloaded at their convenience. Items to be included on a website could include:

- Waste reduction strategies
- Source separation lists
- Lists of container and signage suppliers, including selection guidelines and graphics
- Waste audit templates
- Waste educator contact information

3.6 - Reward Programs

As a further incentive for quick-service restaurants to have effective source separation programs in place in front-of-the-counter, a provincial environmental reward system could be established.

Green Leaf™

Green Leaf™ Eco-rating Program is an environmental reward system geared towards hotels. A similar program could be tailored to Nova Scotia's quick-service restaurants. Green Leaf™ is a graduated rating system to identify a hotel's commitment to improving the environment and saving money. Member hotels are ranked on a scale of one leaf (i.e. statement of commitment) to five leaves (world leader in environmental policies and initiatives). Green Leaf™ is an

initiative of an Ottawa-based consulting firm. More information is available at www.terrachoice.com.

The Natural Step

The Natural Step is an international non-profit organization founded in Sweden that uses a science-based systems framework to help organizations become more sustainable. It categorizes environmental problems and possible solutions in order to make informed decisions. It has worked with high profile corporations, such as McDonald's and Starbucks to implement fundamental overhauls of operational systems resulting in exciting environmental improvements and cost reductions. Through its work with the Natural Step, McDonald's in Sweden has eliminated the need for over 1,200 tonnes of packaging and now recycles 97% of all its waste. The Natural Step has a Canadian office based in Toronto. More information is available at www.naturalstep.ca.

4.0 - Public Education and Awareness

Issue

Owners and managers identified public education as a major issue. One manager stated that, "The customers would have to be won over and trained to make [source separation] work and this would take about six months. It would have to be consistently applied to work properly, as well." Another manager emphasized the need for consistency, "If we were the only [restaurant] doing it, then the customers would not be used to it. But if [every restaurant] were doing it, then people would get used to it."

Current Situation

Public education was a component of the most successful examples of customer-based source separation in the province. In the Bridgewater Mall, a public education campaign was conducted well in advance of the official "launch" of the new containers. Cardboard tents were placed on tables, staff wore buttons and there were signs proclaiming that the mall was "going green." In addition, advertisements were placed in local papers. Regular customers were also kept aware of the program's existence. Many residents of the South Shore identify themselves as "leaders in the province" in the area of waste diversion. This makes them proud of the success of the program and to a degree, further encourages their source separation efforts. It seems to be one of the factors that motivates them to take a little extra time to sort appropriately.

Recommendations

4.1 - Public Education Campaign

Source separation in quick-service restaurants should be promoted through general public education and in-store promotions, such as table tents, posters and buttons. A media campaign could be developed to support source separation (newspapers, radio, television). This campaign would highlight Nova Scotia's success as a world-leader in solid waste-resource management

and provide goals for the future, including expanding source separation to every public sector venue.

A public education campaign could also clarify some of the existing points of confusion, such as the existence of landfill bans and information about proper source separation techniques (i.e. what goes where) in quick-service restaurants. As well, the campaign could clarify variations between residential and quick-service restaurant waste streams, and quick-service restaurant source separation variations between regions.

5.0 - Implementation Date and Enforcement

Issue

April 1st, 2003 was the target date for increased enforcement of provincial regulations and municipal bylaws in relation to source separation of in front-of-the-counter customer waste in quick-service restaurants. However, many restaurant owners, managers and corporate officers remain unaware of the existence of these regulations and bylaws, their responsibilities toward them, and the penalties for non-compliance. Many waste coordinators also do not know when and how the legislation should be enforced and there is currently no plan in place that would ensure a degree of consistency across the province. Waste haulers also do not have a clear understanding about how enforcement will affect them.

Many restaurant owners and managers expressed concern about being held accountable for waste improperly separated by their customers. Does the presence of containers and signage in a restaurant mean that the restaurant is in compliance, or must they achieve a certain quality of source separation? There is a risk that if restaurants merely need to install containers that the quality of their source separated waste will be poor. In effect, their containers and signage will be more symbolic than useful. However, if compliance is based on source separation quality, then owners and managers are concerned that their staff may come in contact with customer waste in receptacles, potentially posing safety threats and contravening Board of Health regulations.

Current Situation

In Bridgewater, a period of five months was allotted for education about regulations before enforcement. A waste educator, Richard Wilson, contacted all quick-service restaurants to inform them of their responsibilities and the subsequent consequences for non-compliance.

Recommendations

5.1 - Implementation Period

Based upon the implementation schedule used in Bridgewater, it is recommended that waste educators have approximately five months to contact, raise awareness and institute educational initiatives in their regions. This would allow time to contact and educate all the appropriate stakeholders involved and ensure that they are adequately informed and prepared.

Potentially, associations such as the Canadian and Nova Scotian Restaurant associations could help disseminate information among the stakeholders involved. Enforcement of the in-front-of-the-counter separation should begin only after the five-month phased-in period. Restaurant owners, managers, and corporate officers should clearly understand their responsibilities in terms of containers and waste separation quality so that there is no confusion. In addition, waste haulers should also understand exactly how enforcement would affect them.

5.2 - Implementation Date

The implementation date should be the same throughout the province, so that no regional waste coordinator is seen as overly strict. There would have to be some regional variances (i.e. areas such as CBRM would only be able to enforce recycling as organics collection is not available). However, there should be a uniform approach to the implementation of the legislation; every region should have the same timeline for implementation, the same penalties, and the same message.

5.3 - Enforcement

The issue of who is responsible for enforcement of the legislation must be clarified. There is confusion as to whether this is the responsibility of the municipalities or of the Department of Environment and Labour. The municipalities and the Department of Environment and Labour should both play a leadership role in enforcing legislation, each enforcing their by-laws and regulations respectively.

6.0 - Hauling Issues

Issue

Haulers need to address the source separation requirements of restaurants by providing appropriate collection containers accompanied by education on how to use them. Haulers will ultimately have to deal with any contaminated waste; therefore, it is in their interest to limit contamination. A more consistent approach to training and monitoring haulers is needed. As well, some restaurant owners, managers and associations are concerned that source separation may increase hauling costs.

Current Situation

Currently, most haulers use informal reporting strategies. Most are required to complete a daily report, but there are variations in what is worth reporting. Only some haulers educate clients, and again there are variations as to what information is offered. The owner of one hauling company stated that, "Haulers make reports to the office on an almost daily basis. Haulers are encouraged to educate clients, but it is difficult to ensure that they are actually doing it."

Recommendations

6.1 - Training

Waste educators should provide haulers with training and materials. In order to address the issue of high turnover rates, managers should be trained so that they can in turn train new employees. As well, an information package should be prepared for new employees.

6.2 - Reporting

Currently some waste coordinators have waste separation issues included in reporting requirements for hauling companies. Often these procedures are casual and anecdotal. It is recommended that reporting be formalized and systematically documented. When restaurants re-offend, local waste educators should be contacted so that they can work with the restaurant to improve conditions.

7.0 - Municipal Issues

Issue

The structure for municipal tipping fees is inconsistent around the province. Some regions charge less for recyclables and organics than for garbage. Restaurants and businesses need to realize the economic benefit of source separating their waste. Restaurant owners and managers, and their associations are critical of increases in hauling costs due to source separation.

Current Situation

Currently, there are no regulations regarding what fees waste haulers charge restaurants for removal of their waste. Many regions charge double for contaminated waste. This is an effective tool for encouraging proper source separation at the early stages of a waste source separation program.

Recommendations

7.1 - Tipping Fee Structures

Municipal tipping fees for garbage should be significantly higher than tipping fees for recyclables and organics. The tipping fees for recycling and organics should be low or non-existent. A tipping fee structure that encourages recycling and composting of waste should be implemented across the province.

The haulers' pricing system would then reflect this pricing structure in order to provide an incentive to restaurant owners and managers to source separate their waste. Any restructuring of tipping fees should be done with the participation of other stakeholders in order to make them partners in the process.

A fee structure where the cost of hauling recycling and organics is subsidized by the cost of hauling waste will result in a redistribution of costs or only a small increase in net costs. In the Bridgewater experience, it was found that while “greening” initially takes greater effort, once established, the volume of waste shifted toward recyclables and compost and away from garbage, thus reducing costs. As well, restaurants should be encouraged to make the connection that waste reduction is an effective means to cutting hauling costs.

Appendix A

BRIDGEWATER CASE STUDY

Bridgewater, located on the South Shore of Nova Scotia (Region 6), is the only area of the province that has an organized and sustained effort to promote recycling and composting for customer-generated waste in quick-service restaurants. For this reason, the Bridgewater area was examined to gain insight into its “best practices” for successful waste management. The Bridgewater Case Study may help other regions overcome challenges to introducing in front-of-the-counter recycling and composting programs.

In the Bridgewater Case Study, the following stakeholders were consulted to determine factors necessary for successful source-separation of waste:

Name	Organization	Position
Richard Wilson	Lunenburg Recycling and Composting Facility	Recycling/Composting Educator
Brian Dobson	Atlantic Shopping Centres (Bridgewater Mall)	Assistant Manager
Rose Baxter	Atlantic Shopping Centres(Bridgewater Mall)	Food Court Supervisor
Pam Schwartz	Dairy Queen	Owner
Julie Kinghorn	Subway	Manager
Judy	Arby's	Owner
Barb O’Kroneg	Tim Hortons	Owner (several stores)
Darlene Cox	Tim Hortons	Operations Manager
Ian Maynard	TDL (Tim Hortons)	District Manager for South Shore

The Bridgewater Case Study examines the source separation strategies used in the South Shore region and emphasizes the successes and on-going challenges. This case study is divided into 4 sections:

1. History
2. Current Practices
3. Factors Contributing to Success
4. On-going Challenges

1) History

In August 2000, Richard Wilson, Recycling Coordinator from the Lunenburg Recycling and Composting Facility, approached the Bridgewater Mall about separating their food waste into organics and recyclables streams. He began working with mall management and food court

staff to create a program designed to meet the specific needs of the mall. The food court includes an A&W, Dairy Queen, Tim Hortons and a Chinese food outlet. An education campaign for staff and customers began well before the launch of new source-separation containers in the Mall in January 2001. The new way of handling food waste at the Bridgewater Mall received extensive local media coverage.

Dairy Queen located nearby, soon followed the Mall’s lead and introduced source-separation containers for their customers. The Tim Hortons stores in the town, owned by Barb O’Kroneg, used a different approach to front-of-the-counter source separation. They sealed all waste receptacles and asked customers to leave waste on the tables to be collected and sorted by staff at a recycling area in the kitchen.

Organic waste from in front-of-the-counter at McDonald’s, Wendy’s, Dairy Queen and the Bridgewater Mall Food Court was audited in January 2002 to determine the quality of the waste and the contamination levels in the organic waste stream (see Appendix A). At the time of the audit, the “greening” program had been in effect in the Bridgewater Mall for about a year, at McDonalds and Wendy’s for about three months and at Dairy Queen for about one month. A level of less than 10% contamination by volume is used to indicate acceptable rates of contamination at the compost facility in Lunenburg.

Results:	% contamination by bag	% contamination by weight
McDonalds	14%	10%
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2) Current Practices:

Currently, Richard Wilson is working with other quick service restaurants in the community to encourage similar programs. He is also working to improve the quality of waste separation in restaurants previously sampled. Wilson is working with food establishments including, McDonalds, Wendy’s, Arby’s, KFC, Big Reds, Egg Roll King, SGM Pizza, Pizza Delight and Subway. Plans are underway to repeat the waste audit done in 2002.

3) Factors Contributing to Success:

Staff Involvement

Staff members who were involved in the implementation of source-separation of customer waste from the beginning can be credited with its success. At the Bridgewater Mall, the food court supervisor and her staff were featured in media articles and were rewarded for their hard work by winning a trip to the casino paid for with the earnings from redeemable beverage containers. In addition, their role as “leaders” was emphasized. They took pride in

the success of the program and did everything they could to encourage positive results by educating their customers, sometimes even sorting the waste for them.

Waste Educator Involvement

Support from a waste reduction educator was key to the implementation of this program in Bridgewater. All participating restaurant owners and managers mentioned that Richard Wilson's assistance was integral to their waste separation practices. He started by making the necessary contacts in the restaurants and "talking, talking, talking." He was available for ongoing consultation from restaurant owners and helped promote their efforts in the media.

Establishing a positive working relationship with the owner and manager of the restaurant was a key factor to success. Richard Wilson noted that it was essential to make management a willing partner in the program and to understand any barriers that might limit their participation. For instance, many restaurants were limited by stringent franchise dictates on waste bin colour and location.

Many restaurants need to be given a good reason why they should implement source separation of customer-generated waste. To encourage participation, Richard Wilson emphasized the benefits of waste source separation programs that include:

- i. Economic - Initially greening takes some effort, but once established, the weight of the waste generated shifts toward recyclables and compost and away from garbage. In most jurisdictions, tipping fees are lower for recyclable and compost materials that are diverted from the landfill than for residual material that is landfilled.
- ii. Boosting the food establishment's image as a good corporate citizen.
- iii. Satisfying client demands for source-separation of waste away from home.
- iv. Complying with Nova Scotia's Solid Waste-Resource Management Regulations under the Environment Act that prohibit recyclables and compostable material from landfills.
- v. Complying with municipal by-laws and site regulations for landfill disposal.
- vi. Complying with corporate waste management policies encouraging environmental responsibility

Good Communication and Feedback

Ongoing monitoring and feedback was an important element to the success of the program in Bridgewater. Internal waste audits enabled participating restaurants to assess the waste generated before the program began and to set waste reduction targets. Ongoing monitoring of the program through waste audits at the municipal compost and recycling facility clearly demonstrated the amount of waste that was diverted from landfill through the program. First year audit results show that over 20 tons of organics from the Mall and Dairy Queen were diverted from the landfill and turned into compost. These favourable results were given media attention, allowing front-line workers and owners to celebrate the success of the Bridgewater program. Many staff members wanted good measurable results on the waste audits and encouraged participation in their stores. In the words of Rose Baxter, the food court supervisor at the Bridgewater Mall, "We wanted to get a good report card."

Public Education

Public education was a key component to successful customer-based source separation in the Bridgewater areas. In the Bridgewater Mall, a public education campaign was conducted well in advance of the official “launch” of the new containers. Cardboard tents were placed on tables, staff wore buttons and there were signs proclaiming that the mall was “going green.” In addition, advertisements were placed in local papers. Regular customers were also kept aware of the program. Many residents of the South Shore identify themselves as provincial “leaders in recycling and composting”. They are proud of the program’s success and motivated to take the extra time to sort their waste appropriately.

Containers and Signage

The Bridgewater Mall has some of the best examples of containers and signage that promote good source-separation of waste. Containers and signs are colour-coded to send a clear message.

The choice of signage and containers used by quick-service restaurants is critical to the success of source separation of waste (see [Bridgewater Mall photos](#)). The most successful quick-service restaurants used waste containers that had the following characteristics:

1. Containers located side-by-side rather than apart
2. Colour-coded containers
3. colourful, graphic signs with images
4. Images on the signs represent the actual waste found at that location. Digital pictures of the waste items were a key component of the signs

Flexibility

Flexibility and adaptability during the implementation stage of a new waste management system is important. For instance, when containers or signs seem to be ineffective, they should be modified. Flexibility in the degree of staff or customer involvement also contributed to the program’s success.

Barb O’Kroneg, who owns the Tim Hortons restaurants in the Bridgewater area, decided that rather than ask customers to sort their own waste, staff would sort the waste as part of their clean-up duties. She felt that since her staff already spent time gathering dishes, and wiping tables, they could also sort the food waste into the appropriate streams. All waste containers were sealed and customers were asked to leave their trays and waste on the tables. Staff took the trays and waste behind the counter of the restaurant to a well organized sorting area and put the materials in the appropriate waste containers. O’Kroneg was pleased with this method of source-separation and did not find it a substantial cost burden. Staff members were well-trained and the waste was separated properly resulting in very little contamination of the organics and recyclable waste stream.

4) On-Going Challenges

Not all restaurants were enthusiastic partners in the new source-separation of waste. Restaurants had significantly poorer results if the restaurant lacked a “champion” to advocate for greening the restaurant.

Head Office

Corporate head office policies restricted many restaurants' participation in composting and recycling in the front-of-the-counter. Corporate policies for waste bins and signage continue to be significant impediments to success. For instance, in the Subway restaurant, signs are not allowed on the walls. This meant that the "garbage" sign had to be placed low on the side of an existing container, out of sight of the average customer. Consequently, garbage waste ended up contaminating the more prominent recycling and composting bins. Other restaurants chose to use existing garbage bins that were simply re-labeled. This was not a very effective strategy and the amount of contamination increased. Based on waste audit findings, bins that are not designed and labeled properly yield poor source-separation results and higher levels of contamination.

Lack of Awareness

Some of the restaurant owners and managers interviewed could not name materials that were banned from landfills in the province. In some restaurants, there was some confusion over where each type of waste belonged. For instance, in Arby's, the managers and staff were bringing milk cartons back to the local ENVIRO-DEPOT™ with their other refundable beverage containers.

Hauler Issues

Involving the waste hauler in the planning process for effective waste management is essential. Developing a good working relationship with the waste hauler will help prevent problems before they arise. In some cases, the storage containers offered by the haulers were not appropriate for recycling and composting. In other cases, the pick-up schedules were inadequate. Additional charges for recycling and composting seemed unreasonable to some owners and posed a barrier to recycling and composting efforts. For instance, some owners felt that the extra expense levied by haulers to include composting and recycling was too high.

Summary:

The Bridgewater experience with source separation of food waste in the quick-service restaurant sector can serve as a "best practices" model for other areas of the province. Challenges encountered in Bridgewater are similar to the challenges faced elsewhere when waste source-separation is introduced in public places.

Appendix B

McDONALD'S SWEDEN - CASE STUDY

Jill Rosenblum, The Natural Step staff

McDonald's Sweden is working to find innovative ways of providing fast, healthy, low-cost food for the majority of the people, while functioning as a sustainable operation - financially, socially, and environmentally. With the help of The Natural Step Sweden and 8,000 committed employees, in just five years McDonald's Sweden has reduced costs through numerous eco-efficiency programs, spurred new innovations, motivated and energized staff, and transformed their public image.

By studying the fundamental nature of their business through the lens of the TNS framework, McDonald's Sweden is moving beyond eco-efficiency. Today, approximately half of the 160 Swedish McDonald's, the bakery, and the national headquarters run on renewable energy - hydropower. All new restaurants use water pipes made of recycled plastic instead of copper, wood framing instead of steel framing, and wood foundations instead of concrete foundations - overall, reducing construction material use by 5-10 percent. Research is currently underway at seven restaurants to develop a biological filter to clean exhaust from fry stations. The new technology uses bacteria to eat the oil and reuses remaining clean air to heat their restaurants. In addition, McDonald's Sweden serves organic milk and beef, recycles 97 percent of all restaurant waste, has significantly reduced distribution distances helping to cut fuel costs by over 30 percent, and has eliminated the need for over 1,200 tonnes of packaging material by changing to smarter packaging.

In Sweden, McDonald's occupies 75 percent of the fast-food hamburger market and generated revenues of approximately \$350 million in 1998. The company has three primary business objectives - satisfied employees, satisfied customers, and profits - and understands that by developing and investing in the first, the rest will follow. According to Mats Lederhausen, Managing Director for McDonald's Sweden, "If you take all the resources you have as a company, the only thing that counts today is the human energy that you can pull together and with which you can do anything." As stated in the company's Environment Program, "There is one very simple reason that McDonald's Sweden is concerned with the environment: the future - the future for us as people, and for our company. Everything we eat and everything we make and everything we sell comes directly from our earth.

Nature is, in theory as well as in practice, our livelihood." In 1993, just as Lederhausen was settling into his new position, Dr. Karl-Henrik Robèrt addressed the company's top management in a two-day course on The Natural Step and sustainability. Immediately following the course, the participants began identifying innovations within their departments that would generate early pay-back and require relatively small investments of time and money, while Bertil Rosquist, the present Environmental Manager, was given the duty of setting up a structure for the company's environmental work. That same year, McDonald's Sweden established and educated an Environmental Board composed of top executives in the company. In addition, every store manager and owner/operator took a one-day course on The Natural Step.

By March 1995, the company had launched a multimedia training program that was developed in collaboration with TNS Sweden to assist in educating the entire workforce. The CD-ROM-based program illustrates a vision of a sustainable society, introduces the concept of an ecologically sustainable economy, and addresses how the principles of The Natural Step make sense within the context of McDonald's Sweden's business. In the meantime, the company's environment team began producing an internal magazine, newsletter, and regular videos highlighting the company's environmental activities and progress. The team helps develop local environmental programs, reducing water and energy consumption at the restaurants, ensuring proper waste separation, and working in the communities. To date 3,000 employees have been educated in TNS-based ecological sustainability which is being gradually integrated into all aspects of McDonald's Sweden's operations.

McDonald's Sweden's strategy works by focusing the company's environmental initiatives in seven different areas - waste separation and packaging, product distribution, construction projects, suppliers, office operations, energy reduction and conversion, and raw materials. So far the company has advanced its environmental agenda in each of these areas, and in certain cases has made advances in existing technologies and community infrastructure to accommodate its goals. For example, when McDonald's Sweden began its waste-separation initiative the infrastructure to support the program was not in place. The company challenged the communities that had a monopoly on unsorted waste and ultimately encouraged the development of a recycling system that can accommodate a seven-category waste-separation program. Today, all 160 restaurants use this system and estimate that they recycle 97 percent of their waste, averaging no more than one bag of unsorted waste per month.

In 1997, an environmental audit took an inventory of McDonald's Sweden's progress. After measuring every flow of materials and energy within the company's systems and exposing areas that need further attention, they determined the next step was to implement an environmental management system based on ISO 14001. The Natural Step has helped McDonald's Sweden develop a common model for sustainability, a common language to work from, and a common structure for their actions. Rosquist summarizes, "In the beginning, we met The Natural Step and we educated people, we picked the 'low-hanging fruit,' and we had an environmental audit. Now we know exactly where we want to go, what we shall do, and what is important." Working with ISO is giving The Natural Step another opportunity to assist the company. By offering a framework for sustainable action, The Natural Step is playing a key role as McDonald's Sweden sets its goals and asks the deeper questions with regards to the future.

McDonald's Sweden's approach is to carefully address the company's areas of highest concern - farming, construction, toys, chemicals, distribution, office operations, and packaging - through a policy document process that uses the TNS framework as the foundation. The process works by convening a group of critical stakeholders to address a particular issue. The group sets up a vision for a sustainable system, explores the issue from each stakeholder's perspective, and develops prioritized lists of long- and short-term goals and actions that include metrics and methods for evaluating progress. The process is being done in close collaboration with The Natural Step Sweden. Rosquist clarifies, "As the group goes through the problems associated with each area, it considers all four system conditions. When they have actually defined the

problems, set out the goals, and prioritized activities, they are related to the four system conditions. When I start to measure this, I know I'm on the right track."

The company's environmental efforts are not going unnoticed. In the spring of 1993, 30 percent of their customers surveyed indicated that they thought the company had a strong environmental commitment. By the fall of 1996, the number had jumped to 70 percent. McDonalds Sweden is just beginning to find ways of realizing its Environmental Vision of doing business in harmony with nature. In describing his experience of watching what can come from believing in human compassion, Lederhausen comments, "Really meaningful work brings out the best in people. I have found that there are few tasks that can be more meaningful than building a society that is sustainable. "