



Vancouver Recovered Food Assessment

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Prepared by:

The Vancouver Food Policy Council
Food Diversion SubCommittee:
Susan Kurbis
Brian Holl
Sue Moen
Heather Pritchard

Research Team:

Robyn Spencer B.A.
Nicole MacDonald B. Sc.
Peter Glaser B. Sc.



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SECTION 1: Food Recovery and Diversion Overview

Food Recovery & Diversion

CONTEXT:

Initiated in 2004, The Vancouver Food Policy Council's mandate is to support the development of a just and sustainable food system for the City of Vancouver that fosters equitable food production, distribution and consumption; nutrition; community development and environmental health. The VFPC mandate is to act as an advocacy, advisory and policy development body on food system issues within the City's jurisdiction by providing information, options and recommendations.

The specific purpose of the food waste & food recovery subcommittee is to identify opportunities & barriers for recovery, reuse, and recycling (composting) of food. We have engaged in an assessment of current programs and policies that affect food use/waste, we have identified some barriers and opportunities for action within the city's jurisdiction to act. Outlined here are recommendations that could lead to a reduction in food waste as landfill inputs, increase edible food recovery, as well as an overall reduction in the environmental impact of food. We recommend engaging in a full cost benefit analysis of the food diversion stream for the City of Vancouver and to focus resources where it will have the greatest impact on the food stream: both at a food diversion level & environmental impact level. Currently the GVRD is in the midst of a waste stream assessment and other recommendations will be forthcoming in the coming year(s). This document is intended to spark discussion about how the City of Vancouver can act to improve food diversion. Potential opportunities are outlined in the recommendations. (See appendix for detailed information on the scope & scale of the research conducted for this report).



METHODS FOR FOOD DIVERSION ASSESSMENT:



This assessment used primary data sources through interviews, surveys, case studies, and a literature review of food system reports within the City and GVRD. We focused on retail, restaurants, institutions, food processors, and charitable food providers as well as residential composting and the overall environmental impact of the food waste stream. This is in no way a complete assessment but rather a scan of the current situation and opportunities for potential action and further study. To be statistically accurate a comprehensive survey with a 10% respondent rate would be required and is far beyond the scope of the sub-committee.

1.1 INSTITUTIONS: SUMMARY

Total Institutions Surveyed: **6**

Sources of food waste: Mostly plate scraps & leftovers, produce trimmings, produce gone bad



Institutional analysis and assessment is key to understanding the City of Vancouver Corporation's food diversion situation. The COV is an institution with numerous food inputs and food outputs that need to be assessed for recovery (edible) and diversion (inedible). A COV food assessment has never been completed. To help create a basis of comparison we looked at 6 other institutions where we determined that 2 out of 6 were participating in food recovery programs and 3 out of 6 were participating in food waste diversion for compost. (see case study – UBC)

Recommendations:

1. Develop & implement a COV corporation food separation, recovery and diversion program¹
2. Engage in a communication strategy to identify & promote best practices in food diversion for municipal & other government run institutions.

a) INSTITUTIONS: EDIBLE FOOD WASTE

Institutions – Edible Food Waste		
Edible Food	Currently giving food away:	2 / 6
	Would consider giving food away:	1 / 6
	Currently composting:	(only composting inedible)
	Would consider composting:	(only composting inedible)

BARRIERS:

- Some institutions believe the risk of contamination is too great to recover food for charities.

¹ The Sustainability Office of the City of Vancouver is currently engaging in a waste audit of COV facilities and advising on new strategies to reduce waste which will be implemented and managed by the facilities manager (Spring 2006).

b) INSTITUTIONS: INEDIBLE FOOD WASTE

Institutions – Inedible Food Waste	
Inedible Food	Currently composting food waste: 3 / 6
	Would consider composting food waste: 3 / 6
	Currently giving food away for animal feed: 1 / 6
	Would consider giving food away for animal feed: 3 / 6

BARRIERS:

- Food diversion at the source is very problematic. There is a need to implement a system that effectively sorts waste and ensures contaminants (plastics, forks, etc,) are removed.

ANALYSIS – Inedible Food Waste

- Large institutions are generally aware of the idea of diverting inedible food for a composting program and are considering it.
- Many institutions use the same food service contractor within multiple facilities (and have a central food service coordinator), making it easier to initiate composting systems over a large scale.



The In-vessel Composting Facility at UBC

In the summer of 2004, The University of British Columbia began using a large-scale (4-5 tonnes per day) in-vessel compost unit located on the South Campus at UBC¹. The fully enclosed system allows for a controlled and accelerated process with no chemicals required ensuring optimal temperatures, moisture and oxygen levels for maximal rates of microbial decomposition of the food waste, and also eliminates the risk of odors and rodents. The main goal of the in-vessel project is to divert UBC's compostable materials from the landfill via the in-vessel composting and using the finished compost on campus landscapes to promote a sustainable closed-loop process². Environmentally the project, increases the environmental effectiveness of UBC's solid waste management, eliminates the need to purchase chemical fertilizers (mature compost will be applied to UBC campus grounds) and decreases the number of trips made to the Vancouver Transfer Station, Urban Wood Waste and Richmond BioRecovery by 54%.

Approximately 70% of the UBC's waste stream is made up of compostable materials, with an average of 1900 tonnes of compostable waste each year including: food waste, residual paper products, animal bedding, animal waste, wood, yard waste and sawdust³. In the last fiscal year, UBC diverted 97.5 tonnes of campus food waste (cooked food waste, meat and bones, dairy products, grains, bread, raw fruit and vegetables, coffee grounds, tea bags, and eggs shells)⁴. Currently, UBC collects all post and pre consumer waste in the residence dining rooms, which serve approximately 2500 student daily from September to April⁵. By September 2006, an organic waste program will be in place for all Food Services units⁶.

The greatest challenge with the in-vessel system is contamination of organic waste bins. It is not uncommon to find non-compostable items in the green bins, like plastics or metals in the organic bins, which can jam up the machinery and break the mixers⁷. This contamination costs money to fix and means that the composting system is out of order meaning that organic waste is diverted elsewhere. Other items that don't necessarily break the machinery include juice boxes, milk cartons and plastic jam containers, and however these items contaminate the final compost product. To deal with contamination in the end product, UBC filters the soil so that contaminated items are screened out⁸.

UBC does not currently have any arrangements for the recovery of edible food as they believe that the risk in food contamination after food pick up is great⁹. Furthermore, UBC claims that there isn't any policy or law to protect them from secondary contaminations after food leaves their facilities¹⁰. However, at large special events, special arrangement is made regularly with the local food bank and kitchens.

¹ The University of British Columbia. Composting. Available on-line: <http://www.recycle.ubc.ca/compost.htm>

² Rachel So, Communications Manager, UBC Waste Management. April 24th, 2006 at 11:00am.

³ The University of British Columbia. Composting. Available on-line: <http://www.recycle.ubc.ca/compost.htm>

⁴ Rachel So, Communications Manager, UBC Waste Management, Monday April 24th, 2006 at 11:00am.

⁵ Juliana Campbell, Marketing Coordinator, UBC Food Services. April 24th, 2006 at 10:55.

⁶ Ibid.

⁷ The University of British Columbia. Composting. Available on-line: <http://www.recycle.ubc.ca/compost.htm>

⁸ Communications Manager, UBC Waste Management, Monday April 24th, 2006 at 11:00am.

⁹ Juliana Campbell, Marketing Coordinator, UBC Food Services. April 24th, 2006 at 10:55.

¹⁰ Juliana Campbell, Marketing Coordinator, UBC Food Services. April 24th, 2006 at 10:55.

1.2 RETAIL & RESTAURANT: SUMMARY

Most Retail Grocers surveyed (nine out of ten) give edible food away to food recovery programs: Quest & Food Runners, or to individual groups or people in need. Four out of eight restaurants surveyed give food away to similar programs. Inedible food waste was separated for composting in six out of the 10 businesses surveyed. Produce from large retailers was not diverted for composting because: too little waste, a low understanding of options for composting, & no safe way to store inedible food waste before diversion to composting. We found only one of the eight restaurants we surveyed diverted their food waste for composting.

Recommendations:

1. Opportunities exist for diverting inedible food waste for compost & could be pursued with the help of the city at both the retail grocer & restaurant level. For example, a "Compost Hotline" &/or similar education and resource program could be implemented to support businesses who want to divert food for composting, (focused at the commercial sector).
2. When business licenses are given to restaurants & retailers an education brochure explaining food diversion and food safe techniques could be included that outlines options for diverting edible and inedible food from the landfill in a safe way ex: List food charities accepting edible diverted food (updated annually) & outline the process to divert food waste².

a) RETAILERS

Total Retail Grocers Surveyed: **10** Large ("big-box", chains): 4; Medium: 3; Small (produce markets): 3
 Main Sources of food waste: Plate scraps (restaurants), expired deli items (grocers), produce (trimmings and expired)

RETAILERS: EDIBLE FOOD WASTE

Retailers – Edible Food Waste		
Edible Food	Currently giving food away:	9 / 10
	Would consider giving food away:	1 / 10
	Currently diverting edible food for composting:	3 / 10
	Would consider diverting edible food for composting:	2 / 10

BARRIERS:

- Storage for external pickup of food waste
- Storage and space for onsite composting of diverted food waste
- Volume too small to be worth while for setting up a composting system or a diversion system

² The Greater Vancouver Regional Solid Waste Management Plan 1995: "The GVRD will require IC&I waste generators to prepare waste audits and waste reduction plans (except for those generators that fall below the threshold). The GVRD will provide guidance and other assistance in the preparation of those waste audits and waste reduction plans. If necessary to achieve 3Rs objectives, one possible mechanism to consider is linkage of the waste audits and reduction plans to business licenses. The cost of conducting waste audits and preparing waste reduction plans will be the responsibility of the waste generators and will be reflected in their operating expenses".
<http://www.gvrd.bc.ca/recycling-and-garbage/pdfs/SolidWasteManagementPlan1995.pdf>

- Not familiar with options available (lack of education)

RETAILERS: INEDIBLE FOOD WASTE

Retailers – Inedible Food Waste		
Inedible Food	Currently diverting for composting:	6 / 10
	Would consider diverting for composting:	1 / 10
	Currently giving food away for animal feed:	1 / 10
	Would consider giving food away for animal feed:	2 / 10

BARRIERS:

- (Management) Time involved in familiarizing with options, setting up system
- Unpleasant smells from storing food waste &/or composting food on site over time

ANALYSIS:

- Majority of food waste is produce and can be diverted to make compost
- Almost all retailers giving food away either to food bank, food runners, staff or customers in need
- 50% of large stores surveyed did not divert food waste to make compost due to lack of knowledge regarding services or because they believe it is not practical in terms of storage and/or cost
- Smaller retailers believe they do not have enough food waste to make food diversion for composting worth while
- Managers and owners of retail stores interviewed were not knowledgeable regarding food waste options
- Larger stores (3/4) indicate they do not have space to store food waste until pick up
- Smaller and medium size stores (4/6) do not believe they have enough food waste for diversion to composting or for use as animal feed
- Retailers largely use the services of Superior/ IBR

Case Study on Edible Food Waste: Safeway



Safeway is one of the largest grocery retailers in Canada and the US with approximately 1,200 stores. There are 122 stores in British Columbia with 10 stores in Vancouver.

Prior to the formation of “food banks”, Safeway gave away edible food to local soup kitchens¹. Currently, edible food is given to members of the Canadian Food Bank Association, with 10 million dollars worth of food being donated in BC alone². In Vancouver, edible food is picked up daily, weekly or bi-weekly by members of the Canadian Food Bank Association or on certain occasions, Safeway will deliver to local food banks if space and time permit it.

Vancouver stores are not diverting food waste for composting. They started diverting food waste for composting in 1994 but due to recent contamination (plastics in organic waste) waste management facilities were refusing to take the waste. In the next few months (2006), Safeway hopes to have a new system in place modeled from Alberta. The Alberta system sends inedible food waste to local Correctional Facilities where inmates engage in a composting system for the food waste as part of their rehabilitation. In the Alberta model, the finished compost is sold for a profit with the proceeds being donated to Safeway’s *Because We Care* program.

¹ Mark White. Safeway Calgary Head Office. April 20 at 10:30am

² Scott Gibney. Safeway BC Head Office. April 6, 2006 at 1:30pm

Case Study on Inedible Food Waste: Capers Community Markets

Capers Community Market began operation in 1985 in West Vancouver with one location. Now expanding, Capers has two locations in Vancouver with another opening later this year¹.

Through recycling, Capers on Robson diverts 138 tonnes of waste from the landfill each year and that saves Capers approximately \$7 500². Recycling food waste became a priority for Capers more than a decade ago. Although it cost Capers additional money for pick up (\$400-500/month) they believe it is the right thing to do. Initially produce was the only recovered food waste, but over time deli and bakery food were also included. Inedible food is picked up in approximately 12 gallon bins for diversion to composting 2-3 times a week by Smith Rite³. The organic waste picked up by Smith Rite goes to Carney's Waste Disposal (http://www.carneyswaste.com/compost_facilities.htm). The organic waste includes PLA NatureWorks containers made from corn which are completely biodegradable in 47 days. The lifecycle of NatureWorks PLA (from corn planter to the retail counter) can reduce fossil fuel consumption by up to 50 per cent, and the process to make it generates 15 per cent to 60 per cent fewer greenhouse gases than the petroleum-based plastic material it replaces.

Capers works with Union Gospel Mission and the Vancouver Food Bank (via Food Runners) to have selected edible food diverted through a pick up and redistribution program.

¹ Capers' Community Markets. Our Story. Available online:

<http://www.capersmarkets.com/cms/page1132.cfm>

² The Greater Vancouver Regional District. Smart Steps Case Study.

Available online: <http://www.gvrd.bc.ca/smartsteps/pdfs/CaseStudy-Restaurants.pdf>

³ Mary Lynn Assistant Store Manager Robson Street April 9 and 20, 2006.



b) RESTAURANTS

Total Restaurants Surveyed: **8** Large (chains): 2; Medium: 2; Small: 2; Fast food: 2

Main Sources of Food Waste: Meat/ dairy, produce, other perishable items

RESTAURANTS: EDIBLE FOOD WASTE

Restaurants – Edible Food Waste		
Edible Food	Currently giving edible food away:	4 / 8
	Would consider giving edible food away:	1 / 8
	Currently diverting food for composting:	1 / 8
	Would consider diverting food for composting	1 / 8

BARRIERS:

- Main barrier is education; many places are not familiar with options for giving edible food away
- It is not feasible for their business in terms of cost, time and location of restaurant
- There is not enough left over to warrant giving edible food away

RESTAURANTS: INEDIBLE FOOD WASTE

Restaurants – Inedible Food Waste		
Inedible Food	Currently diverting food waste for composting:	1 / 8
	Would consider diverting food for composting:	1 / 8
	Currently giving food waste away for animal feed:	0 / 8
	Would consider giving food waste away for animal feed:	2 / 8

BARRIERS:

- Lack of education about options for food diversion is a significant barrier among restaurateurs
- Many believe there is not enough waste to make food diversion for composting or for animal feed worth while
- Cost and time

ANALYSIS:

- Smaller and medium restaurants have less food waste because they are purchasing food more often (daily), therefore only buying what they need they generally do not have any spoiled food & do not require food diversion alternatives to the landfill.
- There is a perception that food waste removal companies will not pick up food diverted from restaurants if there isn't sufficient quantity to make it cost effective this was not substantiated through our interviews with waste companies however (see case study IBR/Superior).
- One restaurant has investigated options & has concluded that none are suitable
- Food is sold in specials through discounted price (day olds)



Case Study: The NAAM

The NAAM has been working on responsibly managing their food waste for almost 15 years. Since then, they have reduced the volume of waste going to landfills by about 240 cubic meters per year.

In addition to recycling non-food items such as glass and tin, the NAAM began a comprehensive organics management program. Trimmings from food preparation as well as scraps from unfinished plates (including the unbleached napkins) get separated and placed into a 2 cubic yard bin that gets picked up twice weekly by Superior Disposal Ltd. Over the course of a year, they estimate that over 100 tonnes of organic waste is being diverted & composted. Composting organics comes at an additional cost to the NAAM, however they feel this is their responsibility to manage their waste properly.

Bob Woodward, the NAAM's owner, stresses that developing the system and the habits to separate organics from other waste is not difficult.

Source: Interview with staff: March, 2006 & Interview with Bob Woodward, Owner The NAAM. Monday, May 8th. 2006.

1.3 FOOD PROCESSORS: SUMMARY

Total Surveyed: **9** (Microprocessors: 4; Small Processors: 2; Large Processors: 3)
Main Sources of Food Waste: produce, already prepared perishable items, meat/ dairy

We surveyed 9 food processors and found that most small-scale food processors indicate they have very little waste for both edible and inedible food diversion.



Recommendations:

1. Have multilingual food diversion and food safe education brochures available to small-scale processors³.
2. The amount of food waste is small & therefore requires a food diversion system that can accommodate small amounts of food waste – Being aware of options available will help small scale processors divert food waste. (see recommendation to develop an education program through a compost hotline for the commercial sector and/or possibly a compost co-op model)
3. The current COV waste bin space allocation requires updating for businesses who want to divert food waste, (COV licensing), ex: COV permitting related to business waste bins is not well enforced & requires monitoring⁴.
4. Assess economic development opportunities from food diversion with the support of the Vancouver Economic Development Commission (www.vancouvereconomic.com).

a) FOOD PROCESSORS: EDIBLE FOOD WASTE

Food Processors – Edible Food Waste	
Edible Food	Currently giving food away: 3 / 9
	Would consider giving food away: 3 / 9
	Currently composting: 0 / 9
	Would consider composting: 0 / 9

BARRIERS:

- Small processors feel they have too little food waste for it to be feasible to give it away/ or to divert it for composting.
- One tried giving edible food to food banks – they were told food banks did not want perishable food
- Language barrier: many people answering phones/ questions at the food processors did not have English as a first language

³ Eisler, Corrine. Senior Nutritionist Vancouver Coastal Health Authority. An education brochure on food safety for both donors and recipients of extra food should be put in place to minimize hazards associated with unsafe food.

⁴ Underwood, Chris. Comments – Wednesday, April 26th, 2006.

ANALYSIS:

- Edible food is being given away locally and informally (given to customers as samples, given to families that owners/ employees know, neighbors coming around asking, etc).
- There is a lack of education of options for giving food away (not aware of the perishable food bank services (QUEST, food runners))

b) FOOD PROCESSORS: INEDIBLE FOOD WASTE

Food Processors – Inedible Food Waste		
Inedible Food	Currently diverting food waste for compost:	1 / 9
	Would consider diverting food for compost:	5 / 9
	Currently giving food away for animal feed:	0 / 9
	Would consider giving food away for animal feed:	3 / 9

BARRIERS:

- Small processors feel as though they have too little food waste to be diverted
- There is a lack of awareness of options
- Lack of management time – food diversion is not a priority (no incentive or pressure)
- One bad experience with food diversion can completely eliminate it for consideration in the future.
 Ex: One produce manufacturer tried to give it to a pig farmer for feed but was told the peels were too acidic to be used and therefore gave up.

ANALYSIS:

- Developing a small scale community or small business scale composting system for disposal/ pick up might make food diversion seem more viable for the smaller processors, retailers, etc.
- There is not a lot of incentive (cost, regulations, feel good factor, etc) for processors to invest time to set up systems. COV support could be made available by developing extremely simple and easy to use systems for the commercial sector.



Food Distributor Case Study: Discovery Organics

Discovery Organics is a certified organic produce distributor for the past 8 years, representing certified organic produce grown within British Columbia, and elsewhere. They emphasize the use of local organic produce, and for the first 6 years, Discovery organics only distributed local organic British Columbia produce. However, in the last 2 years they have started to sell imported organic produce when local is not available. Produce is sold and delivered across Western Canada to retailers, co-ops and buying clubs. Discovery Organics also operates a 21-acre certified organic vegetable farm in the Fraser Valley.

Since the beginning of Discovery Organics in 1998, they have been committed to recovering and diverting edible and inedible food. Edible food is picked up a weekly basis by UsMoms and Ray-Cam Community Centre. Larger amounts of food that are edible but cannot be sold to retailers are picked up by Quest Outreach. Discovery organics also offers discounted produce for Carnegie Centre, a low cost meal provider. Inedible food is picked up weekly by 2 local organic farms for animal feed and for composting. It is estimated that Discovery Organics gives away \$1000 worth of food a week.

Source: Interview with Anne Moss, Owner Discovery Organics. April 25th 2066. 11:30

1.4 CHARITABLE FOOD PROVIDERS: SUMMARY

Total Surveyed: 37



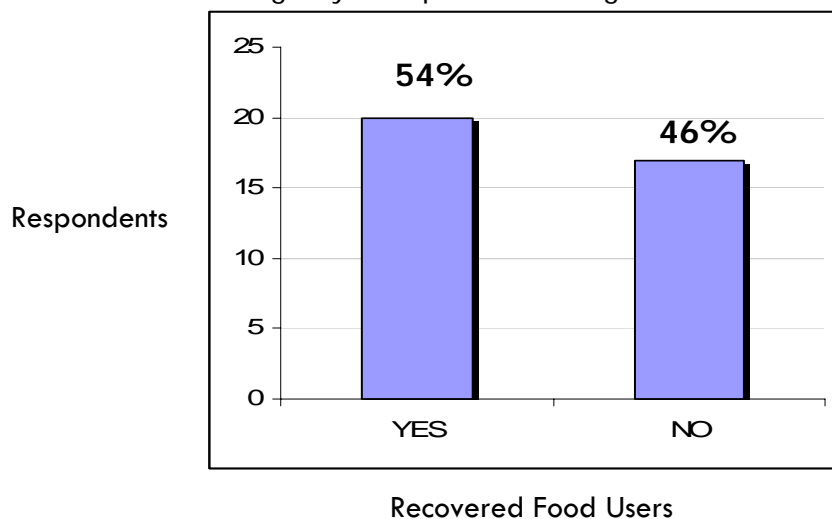
The majority of charitable food providers use some recovered food. This demonstrates that this is a food source for poverty relief in Vancouver. We surveyed 37 of these providers to find out their perceptions of recovered food. The unreliability of quality & quantity was problematic for most who received recovered food. A centralized distribution and quality control mechanism may address this issue as well as food donor education & awareness.

Recommendations:

1. Support a mechanism to ensure quality, safety, and reliable distribution for recovered food in Vancouver.
2. Support a food donor education & awareness program possibly linked to business licensing⁵.
3. Assess the practice of charging charities for recovered food.

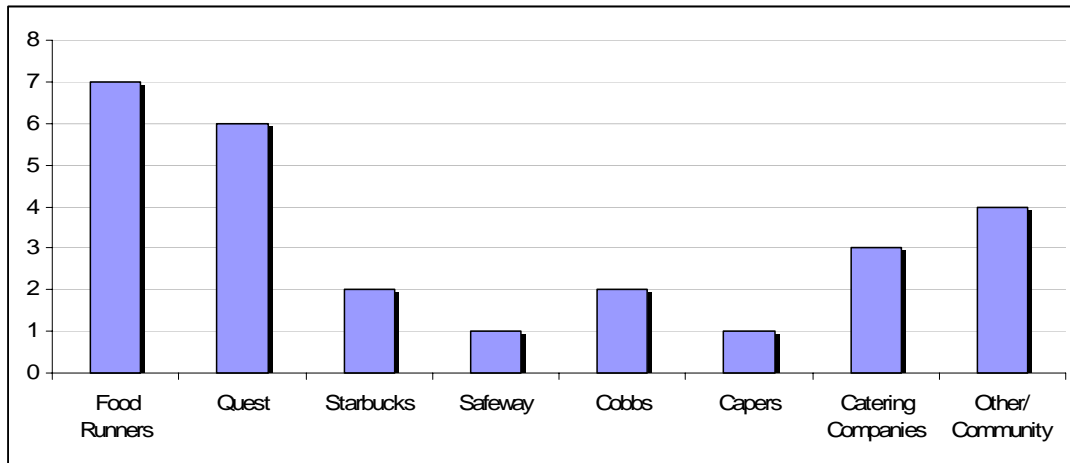
a) RECOVERED FOOD USERS SCAN: CHARITABLE FOOD PROVIDERS

Chart 1.4.1: Emergency food providers using recovered food



⁵ Food is a basic human right. Everyone should have access to safe, nutritious, culturally appropriate food. A coordinated effort is required to supply adequate food to Vancouver's residents in a dignified manner.

Chart 1.4.2: Sources of Recovered Food



Sources of Recovered Food

BARRIERS:

QUEST	<ul style="list-style-type: none"> - Volumes of food not always appropriate - Not as convenient due to a min. 100 dollar order to get delivery - Sometimes items are really dated (quality not great) & staff would be uncomfortable serving it - Confusion among management, communication wasn't clear
Food Runners	<ul style="list-style-type: none"> - Hard to know what you are getting in the deliveries so can't plan around it (hard to assume you are going to get what you need to cook with)
Legislation/ Nutritional Standards	<ul style="list-style-type: none"> - Perception that recovered food is not up to standard, so haven't considered using it. - HIV/ AIDS nutritional standards don't allow the use of recovered food (compromised immune systems of patients – have to be extra careful)
Other	<ul style="list-style-type: none"> - No longer using recovered food because we have secured funding (and so feel other organizations are more in need)

ANALYSIS:

- Organizations who charge for meals don't generally receive donations from QUEST/ food runners as they can operate off their own revenues.
- There are some issues with charities about giving food away that is low/poor quality & also some problems with paying for recovered food.



Case Study: reFUSE

For the past 4 years, reFUSE has been a full service Organics Recycling in Victoria committed to recovering and recycling organic discards from grocers, hotels, restaurants, institutions and private households from Victoria to Nanaimo. Approximately 99% of reFUSE's client base is commercial with about 20% of that being institutions such as the University of Victoria and Camosun College¹. They service 12 Government buildings, and many large restaurants and hotels in Downtown Victoria. Commercial customers use reFUSE for scheduled or on-call pickup services for food waste. About 1% of their business comes from residential customers that use reFUSE services for yard waste, while others use them to pick up their kitchen food waste². reFUSE uses cube vans that are able to pick up different streams of waste (garbage, recycling and organics) at once, allowing them to give a discounted rate for customers that use all of their services. Many customers that use reFUSE for all of their waste management needs reported a cost savings of 10-15% per year³. Customers with large quantities of waste pay a fee per weight, while customers with less waste pay a flat rate. They offer a full-service weekly collection programs start as low as \$35 per month and they also provide training and resources and storage totes to get started.

Organic waste collected by reFUSE is taken to their new waste management site in Cobble Hill where it is composted to be made in to a profitable soil. reFUSE has only owned the land at the Cobble Hill location for 6 weeks and is in the process of getting a waste management license that will allow them to house the compost in building which will accelerate the decomposition process and eliminate odors⁴. The capacity at Cobble Hill is 136 000 tonnes a year, with current estimates sitting around 18 000 tonnes leaving reFUSE able to expand their client base. With a capacity of 136 000 tonnes a year reFUSE is able to service all commercial companies and all curbside waste in Victoria⁵.

Some barriers that customers believed were stopping them from accessing reFUSE service included: cost, storage, education and amount of waste. To overcome barriers to their service reFUSE offers competitive rates, storage totes, training and resources to educate staff, and offer frequent picks from 1-3 times a week depending on needs.

¹ Jason Adams, Owner refuse. April 25th, 2006.

² Ibid.

³ Ibid.

⁴ reFUSE. Finding Waste to Change. Available online: <http://www.refuse.ca>

⁵ Jason Adams, Owner refuse. April 25th, 2006.

1.5 INEDIBLE FOOD SCAN: ON SITE COMPOSTING RESIDENTIAL

In the GVRD 2002 Annual Report it was estimated that the amount of organics diverted through the use of backyard composters was estimated at 250 kg/year/household⁶. In 1999 a Vancouver survey conducted indicated that about 36% of single-family properties in Vancouver have and use a backyard composter. Research indicates that the level of on site composting at the residential level is near saturation and that further increases may be small. All programs focused at single family homes are well utilized, (City Farmer & Compost Hotline).



Recommendations:

1. Engage in a focus group with City Farmer and other municipal residential compost educators & municipal/GVRD staff to assess future steps for the sector.
2. Engage in a full cost benefit analysis of focusing more resources at the residential sector within the context of the overall food waste stream for the City of Vancouver. Focus resources where it will have the greatest overall impact on the food waste stream: both at a food diversion level & environmental impact level.
3. Develop and implement a vigorous public awareness campaign in combination with garbage quantity restriction campaigns

ORGANIC WASTE STREAM (for the Region)

- Food waste (backyard compostable such as fruits and vegetables) contributes to 7.88% of the waste stream, 39.32 kg/person/year, a total of 83 622.23 tonnes of waste being added to the landfill per year⁷
- Other food waste such as meats, breads, dairy, and fats contribute to 8.59% of the waste stream, with 42.84 kg/person/year with 91 101.90 tonnes added annually
- In total, food waste contributes to 16.47% of waste found in GVRD landfills
- 46.66% of curbside waste is organic
- 46.97% residential drop off waste is organic waste
- 37.86% of industrial, commercial, and institutional waste is organic

COMPOSTING

- Since 1990 the City of Vancouver has sold approximately 36,900 backyard composters for a subsidized rate of \$25⁸
- That is about 43% of the single-family properties in Vancouver

⁶ Greater Vancouver Regional District (2002). Greater Vancouver Regional District Solid Waste Management 2002 Annual Report. Available online: <http://www.gvrd.bc.ca/recycling-and-garbage/pdfs/SolidWasteManagementAnnualReport2002.pdf>

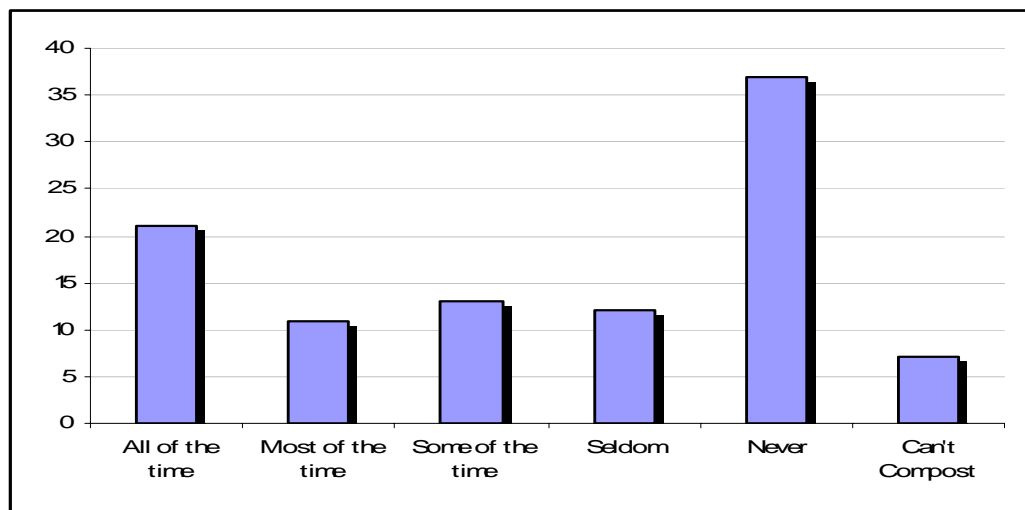
⁷ Technology Resources Inc. (2005). Solid Waste Composition Study. Available online: <http://www.gvrd.bc.ca/recycling-and-garbage/pdfs/2004CompositionExecSummary.pdf>

⁸ Moffit, Lindsay - Recycling Coordinator Solid Waste Management. <lindsay.moffit@vancouver.ca> "Home Composting in Vancouver" Personal Email. (April 7, 2006)

- There is also an unknown percentage of people who bought composters through retail outlets or built their own
- In terms of use, a Vancouver survey conducted in 1999 indicated that about 36% of single-family properties in Vancouver have and use a backyard composter
- Vancouver has sold 3 900 worm compost bins, which is about 3% of the 130,000 multi-family dwelling units⁹
- GVRD surveys have shown that about 57% of single-family properties actually own a composter
- In the GVRD 2002 Annual Report it was estimated that the amount of organics diverted through the use of backyard composters is estimated at 250 kg/year/composter¹⁰

GVRD surveys have shown the following in terms of use:

Chart 1.5.1: Backyard Composter Use in the GVRD



BARRIERS: Residential Composting

- There is a perceived upper limit to the number of people that are willing to get involved in backyard composting and we may be near to reaching that limit in the opinion of City staff.
- Residents of multi-family dwellings may find worm composting inconvenient or a hassle because of space constraints and issues of where to put soil when fully decomposed
- Other issues are time and interest, some people believe they are too busy¹¹

OVERCOMING BARRIERS: Residential Composting

- Thousands of GVRD and Vancouver residents access the services provided by City Farmer via the regional hotline and City workshops, outreach events, talks, and media events to become informed¹². However more people could be reached¹³.
- Educate residents to motivate them to owning and using a backyard composter or worm composter

⁹ Moffit, Lindsay - Recycling Coordinator Solid Waste Management. <lindsay.moffit@vancouver.ca> "Home Composting in Vancouver" Personal Email. (April 7, 2006)

¹⁰ Greater Vancouver Regional District (2002). Greater Vancouver Regional District Solid Waste Management 2002 Annual Report. Available online: <http://www.gvrd.bc.ca/recycling-and-garbage/pdfs/SolidWasteManagementAnnualReport2002.pdf>

¹¹ Levenston, Mike - City Farmer. <cityfarm@interchange.ubc.ca> "Home Composting in Vancouver" (April 7, 2006)

¹² Ibid.

¹³ Spring Gillard – Consultant. Written comments. May 17, 2006.

SECTION 2: Food Waste & Environmental Impact



Food waste is part of the solid waste stream and has both negative and positive impacts that can be assessed more systemically by using a full cost accounting method (FCA- see below). Keeping this in mind there are variables that need to be taken into account when assessing the environmental impact of food waste. These costs (or benefits) are borne by (or accrue to) society in general. They are important to the decision-making process: discharges to land, groundwater, surface water and air, effects on local ecology, community effects, remediation or corrective action costs.¹⁴

Food waste has had the following impacts that are deserving of further study and action: In 2004, approximately 59,500 tonnes of organic food waste was hauled to the Vancouver landfill.¹⁵ This is roughly equivalent to 2644 truck-trips/year at 22.5 tonnes per haul. - 1000g CO₂/km. (Based on EPA's Green Vehicle Guide) GHGs created by trucks transporting food waste – mainly CO₂, but other chemical pollutants as well. Methane is 21 times more effective in trapping heat in the atmosphere than CO₂ (over a 100-year period).¹⁶ Cities are also in need of healthy soil for remediation of toxic soils and/or soil amendments for parks and gardens. Using food waste as compost within the city seems like a desirable option to trucking food out of the city. For example: the intermediate-scale hot composting site at Strathcona Community Garden produces, on average, approximately 20 tonnes of finished compost for every 100 tonnes of organic food waste entered into the system.

Recommendations:

1. Assess the full cost of trucking food waste out of the city by calculating the overall GHG created through transportation as well as calculating escaped landfill gasses that are not a part of the methane recovery program. Incorporate this into the overall environmental impact in reporting.
2. Assess options for increasing composting at the micro-level in Vancouver at schools, community gardens/centers, as well as other institutions (COV, Hospitals, etc) to divert food waste out of the landfill and increase valuable soil remediation options for urban residents.



¹⁴ Government of New Zealand, Ministry for the Environment, (March 2004, Ref. ME505) *Landfill Full Cost Accounting Guide for New Zealand*. Available at: <http://www.mfe.govt.nz/publications/waste/landfill-full-cost-accounting-guide-mar04/fca-guide.pdf>

¹⁵ GVRD Waste Audit, 2004.

¹⁶ US EPA, 2006, "Methane: Sources and Emissions", Available at www.epa.gov/methane/sources.html



Case Study: Superior Disposal

Superior Disposal Ltd is a waste management company in Burnaby that picks up 3 streams of waste: organic; garbage; and recycling from Vancouver and Richmond, and occasionally from Maple Ridge. Servicing just over 100 clients, Superior picks up clean organic waste mainly from hotels, restaurants, produce markets and coffee shops. They also service one Government building and a few industrial product facilities. All organic waste, except coffee grounds, is taken to the International Biorecovery plant in North Vancouver. Superior will pick up organic waste in any volume with no minimum pick up requirement. The cost associated with this service is based on weight, on top of a flat fee. In general, restaurants tend to have heavier organic waste than produce markets (25% less weight). There is a discounted rate for customers that use Superior for all 3 services. Superior can provide businesses with a range of collection bin options to help accommodate storage issues. Superior has no problems servicing downtown alleys as they would for their regular garbage pick-up.

Superior has been in business for about 9 years. They have not experienced real barriers to their operations such as odour complaints, capacity, regulations etc.

Case Study: International BioRecovery (Processing)

The International Biorecovery (IBR) plant is a single demonstration plant, located in North Vancouver. IBR processes over 30 tonnes/day of biodegradable food waste with an expected increase of 50-75% in May due to a plant expansion¹. IBR produces over 3 tonnes/day of SG-100 (solid granular for commercial production) and over 60 litres/day of LC-200 (liquid concentrate), with a semi-continuous process, with operator monitor and control operating 24 hours/day, 7 days/week². Organic waste is obtained by multiple drop offs per day from Superior Disposal Ltd. Superior pays IBR a tipping fee of \$25 a tonne to dispose of organic waste³. Superior is the main waste management company used because they generally supply the daily capacity of 100 tons or waste⁴. Now with IBR's enhanced autogenous thermophilic aerobic digestion technology, biodegradable waste can be converted into environmentally safe soil fertility products in 2-5 days⁵. Using naturally occurring thermophilic bacteria, IBR's technology converts organic waste into high quality, pathogen-free, environmentally progressive soil fertility products for use in commercial agricultural, horticultural and turf markets⁶.

¹ Personal Communication Henry- 604-924-1023 Tuesday April 18, 2006 at 1 pm

² International Bio Recovery Corp. Plant/Facilities. Available online at: <http://www.ibrcorp.com/plant>

³ Personal Communication Henry- 604-924-1023 Tuesday April 18, 2006 at 1 pm

⁴ Personal Communication Henry- 604-924-1023 Tuesday April 18, 2006 at 1 pm

⁵ International Bio Recovery Corp. Technology. Available online at: <http://www.ibrcorp.com/technology.html>

⁶ International Bio Recovery Corp. Technology. Available online at: <http://www.ibrcorp.com/technology.html>

a) GHG Emission Reduction as it Relates to Food Waste

- Two primary concerns regarding greenhouse gas (GHG) emissions as they relate to food waste:
 1. GHGs created by trucks transporting food waste – mainly CO₂, but other chemical pollutants as well.
 2. GHGs created by food waste via anaerobic decomposition at landfill sites – mainly methane (CH₄).
- 1000g CO₂/km. (Based on EPA's Green Vehicle Guide)
- Methane comprises approximately 50% of gas generated at landfills; CO₂ comprises the other 50%.
- Methane is 21 times more effective in trapping heat in the atmosphere than CO₂ (over a 100-year period).¹⁷
- In Canada, methane emissions account for approximately 12.6% of Canada's CO₂ equivalent GHG emissions. Of these emissions, approximately 25% come from landfills.¹⁸

b) Transportation of Food Waste

- In 2002, approximately 59,500 tonnes of organic food waste is hauled to the Vancouver landfill.¹⁹
- This is roughly equivalent to 2644 truck-trips/year.
- CO₂ is the principal GHG created by fuel-combustion engines. The amount of CO₂ generated by each truck trip is difficult to estimate; it depends partly on the type of vehicle used, its energy efficiency, type of fuel used and other factors.
- Truck transport also produces other chemical aerosol pollutants, such as carbon monoxide, ozone and diesel particulate matter.

c) Soil Reclamation and Urban Soil

- In an urban environment, soil reclaimed for plant growth is usually inherited from disturbed sites e.g. vacant lots, former industrial and commercial sites. As a result of this inheritance, most reclaimed urban soils have very limited organic matter.
- In order to have truly healthy soil suitable for plant growth, organic matter is a necessary component. It creates better soil structure and can improve soil fertility by increasing exchange capacity, nutrient element content, biological activity and water retention.
- In an urban agricultural environment, composted food waste created within the urban area can provide significant amounts of this organic matter.
- As an example, the intermediate-scale hot composting site at Strathcona Community Garden produces, on average, approximately 20 tonnes of

¹⁷ US EPA, 2006, "Methane: Sources and Emissions", Available at www.epa.gov/methane/sources.html

¹⁸ Natural Resources Canada, 2002, "Canada's Energy Markets: Sources, Transformation and Infrastructure", Available at http://www2.nrcan.gc.ca/es/ener2000/online/html/chap3f_e.cfm

¹⁹ City of Vancouver, Engineering Services, Annual Report 2002, Solid Waste Division, July 2003

	finished compost for every 100 tonnes of organic food waste entered into the system.
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d) Methane Energy Use and Cool Vancouver Task Force	
	<ul style="list-style-type: none"> - The City of Vancouver has been collecting landfill gas at the Vancouver Landfill since 1991 - In 2003, the City of Vancouver set up the Vancouver Landfill Gas Recovery and Cogeneration Project. The project initially collected about 2,000 cubic feet per minute (cfm) of landfill gas, equivalent to 2,000 tonnes/ year of CO₂ equivalents but now collects about 3,500 cfm of landfill gas equivalent to 350,000 tonnes/ year of CO₂ equivalents. Offsets from the beneficial use system account for about an additional 50,000 tonnes per year of CO₂ equivalents. - This project diverts landfill gas (LFG) produced within the landfill into a network of pipelines and transported to a combustion facility that converts the LFG (approximately 50% methane) into heat energy and CO₂. - A portion of the resultant heat energy (100,000 GJ/year²⁰) is then utilized to heat an adjacent CanAgro greenhouse. The remainder is converted into electrical power that is sold to BC Hydro as "green power".²¹ - Current projections set this project to be in use for the remainder of the existence of the Vancouver Landfill, around 2040. - However, the termination of the Cache Creek Landfill site after 2009 will mean the GVRD will need to find an alternative site.

e) Land Use and Cache Creek Expansion	
	<ul style="list-style-type: none"> - 450,000 tonnes of Lower Mainland garbage (approximately 40%) currently goes to the Cache Creek landfill. - This landfill is expected to be full by the end of 2009. - A current plan for beyond 2008 was for a new landfill site to be created on a portion of GVRD-owned ranchland near Ashcroft. However, the environmental assessment related to this plan was suspended by the provincial government in June 2005, citing that alternatives to the development of this landfill needed to be considered.

Full Cost Accounting (FCA)

Full cost accounting is "an accounting method that seeks to identify, quantify and allocate all costs associated with a process or product, including environmental and other social costs." (www.theaccountspayablenetwork.com/html/modules.php) In general, this approach to accounting is useful in decision-making because it has the effect of widening the accountant's ledger.

²⁰ Giga Joule = 1,000,000,000 joules

²¹ J. Paul Henderson & Chris E. Underwood. (2004) City of Vancouver, Engineering Services, Solid Waste "Vancouver Landfill: Landfill Gas Collection and Utilization Project", available at: <http://www.city.vancouver.bc.ca/engsvcs/solidwaste/landfill/CollUtilProject.htm>

In the context of solid waste management, full cost accounting is a systematic approach for identifying, summing and reporting of the actual costs of such management, taking into account past and future outlays, overhead and operating costs.

Ashcroft Landfill Update

As for the Ashcroft Landfill, the environmental assessment has been suspended by the Ministry of Sustainable Resource Management since June 7, 2005 pending substantial completion of the Greater Vancouver Regional Solid Waste Management Plan amendment process.

SECTION 3: Foods & Legislation

Bill 10 is a comprehensive act that protects people, businesses, etc who are giving food away with an intended act of charity. It is outlined below. Legislation that governs food waste is far less straightforward and can involve all levels of government, (see case study below).

Recommendations:

1. Provide education materials on food legislation as part of the business licensing process as per Bill 10 – Food Donor Encouragement Act
2. Provide education materials on legislative requirements for storing and processing food waste.

LEGISLATION - BILL 10 – FOOD DONOR ENCOURAGEMENT ACT

BILL 10 -- 1997

FOOD DONOR ENCOURAGEMENT ACT

HER MAJESTY, by and with the advice and consent of the Legislative Assembly of the Province of British Columbia, enacts as follows:

Liability of donor

1. A person who donates food, or who distributes donated food, to another person is not liable for damages resulting from injuries or death caused by the consumption of the food unless
 - (a) The food was adulterated, rotten or otherwise unfit for human consumption, and
 - (b) In donating or distributing the food, the person intended to injure or to cause the death of any person who consumed the food or acted in reckless disregard for the safety of others.

Liability of director, agent, etc.

2. A director, agent or employee of a corporation, or a volunteer who provides services or assistance to a corporation, that donates food or that distributes donated food is not liable for damages resulting from injuries or death caused by the consumption of the food unless
 - (a) The food was adulterated, rotten or otherwise unfit for human consumption, and
 - (b) In donating or distributing the food, the director, agent, employee or volunteer intended to injure or to cause the death of any person who consumed the food or acted with reckless disregard for the safety of others.

Application of Act

3. This Act does not apply to a person who distributes donated food for profit.

Explanatory Note

This bill is intended to increase the donation of food-to-food banks and soup kitchens by limiting the liability of food donors, distributors and others who participate in the distribution of donated food.

The Bill provides that a person who donates food or who distributes donated food is not liable for injuries or death resulting from the consumption of the donated food unless the person intended to injure the recipient of the food or acted recklessly in donating or distributing the food.

Case Study: Composting Regulatory Issues & Education

Ecowaste Industries Ltd.

Ecowaste Industries, formerly Richmond Landfill Ltd., has over 30 years of waste management experience. From 1971 until 1986, Ecowaste operated a municipal solid waste landfill in the City of Richmond on 160 hectares of land owned by the Fraser River Harbour Commission ("FRHC"). As the land of the FRHC became filled, Ecowaste purchased 160 hectares of land next to the FRHC site where the Company currently operates a landfill for construction, demolition and excavation materials. In 1992, Ecowaste opened a windrow [compost facility](#) on this site for yard waste. Starting in 1993, and for a period of approximately 2 years, Ecowaste composted "fines" from a dry material recycling facility. In 1994, composting of biosolids began.

While the company does not accept food wastes, it does provide an instructive example of the range of permits and approvals that are (may be) required to operate a composting and waste disposal site. All information outlined in this document was obtained from the company web site (<http://www.ecowaste.com/index.htm>).

Regulatory Environment:

Ecowaste operates the Richmond Landfill under the following Permits and Licenses.

1. BC Environment

The company is authorized as a waste management facility under BC Ministry of Water, Land and Air Protection Operational Certificate MR-04922.

A special waste storage and treatment facility is authorized under BC Ministry of Water, Land and Air Protection Permit PS-16142.

The Production and Use of Compost Regulation was replaced by the Organic matter Recycling Regulation (OMRR) effective Feb. 5, 2002. Under OMRR Section 3.(2)(a)(i) the regulations do not apply to any composting facility authorized by an operational certificate. Nevertheless, Ecowaste operates this site in accordance with the requirements of OMRR.

2. GVS & DD Disposal Facility Licence

The company has been issued a Disposal Facility licence L-005 under the provisions of the Greater Vancouver Sewage and Drainage District Bylaw No. 181/183.

3. GVS&DD Compost Facility licence

The company has been issued a Compost Facility licence C-007 by the GVS&DD.

4. Environment Canada

Environment Canada does not have a direct role in the regulation of the facility but is included on the circulation list for any new permits or permit amendments.

5. Design Standards

The landfill complies with the Landfill Criteria for Municipal Solid Waste issued by the Ministry of Environment, Lands and Parks, June 1993.

6. Pollution Prevention Plan

In 1997, the company has completed a comprehensive Pollution Prevention (P2) Plan. In the development of this plan, a steering committee was formed composed of representatives from municipal, regional, provincial and federal governments.

7. Environmental Audits

Independent environmental audits commissioned by Ecowaste were done in November 1992 by Thurber Environmental Consultants Ltd. and in October 1994 by Reid Crowther & Partners (now Earth Tech, Inc.). During 2001, an environmental audit was done by URS Corporation.

Permit PS-16142 requires an annual environmental audit of the facility by an independent qualified consultant". Two environmental audits (Environmental Compliance Audit - 2001, Environmental Compliance Audit - 2002) have been conducted by URS Corporation and filed with the BC Ministry of Water, Land and Air Protection.

Ecowaste commissioned the preparation of a compost manual and training program as part of their compliance with the Production and Use of Compost Regulation of BC, the governing legislation at the time (now Organic Material Recycling Regulation). The technical, operational and safety aspects of waste composting were covered in the Ecowaste Composting Manual. Each site operator and senior staff member studied the manual, wrote a self-administered quiz and attended a composting workshop.

APPENDIX:

Report Assumptions:

1. There is sufficient existing food waste collection, transfer and processing capacity in the City of Vancouver or region.
2. There is adequate demand for the finished product (compost) that would result from food waste being diverted and processed.
3. Expanding food collection and food waste processing may require additional capital funding.

Research Methodology:

It is important to note that for statistically significantly research, a 30% sample size is required. However, that is beyond the capacity of the Food Policy Council. Instead, we have divided food waste generators into sub-categories and have sampled each accordingly.

Below is a list of organizations and businesses which were contacted throughout this research:

Retail and Restaurant References				
Size	Restaurant	Location	Contact Info	Date Contacted
Large	White Spot	2850 Cambie	Tracey 604-873-1252	April 6, 2006, 3pm
	Earl's	901 West Broadway	Laura 604-734-5995	April 7, 2006, 3pm
Medium	The Naam	2724 West 4 th	Bob 604-738-7180	April 6, 2006, 3:40pm
	Wild Rice	117 West Pender	Andrew 604-642-2882	April 7, 2006, 12pm
Small	Vera's Burger Shack	1030 Davie	Fred 778-239-5673	April 6, 2006, 11am
	The Morrissey Irish House	1227 Granville	Brandy 604-682-0909	April 6, 2006, 2pm
Fast Food	Pizza Town	88 West Pender	Walked in- 604-682-8096	April 7, 2006, 11:15am
	Quizno's	508 Abbott	Walked in- 604-915-7357	April 7, 2006, 10:30am
Size	Retail Store	Location	Contact Info	Date Contacted
Large	Safeway Canada	Head Office- Vancouver Head Office- Calgary	Scott Gibney 604-301-2646 Mark White- 403-730-3728	April 6, 2006, 1:30pm and April 18, 2006, 11am April 20, 2006 10am
	Marketplace IGA	3535 West 41 st	Bill Seminoff and assistant manager Adrian 604-261- 2423	April 6, 2006, 3:30pm
	Buy-low Foods	2083 Alma Street	Tom Dubiellak-604-222- 8353	April 4, 2006, 10:15am
	Choices Markets	Head office	Rick-604-940-8891	April 9, 2006, 11:30am
Medium	Stong's Market	4560 Dunbar	Glen-604-266-1401	April 6, 2006, 1:30pm
	Santa Barbara Market	1322 Commercial	Elena-604-253-1941	April 6, 2006, 1:40pm
	Capers Community Market	1675 Robson	Mary Lynn-604-687-5288 Aron Bjornson abjornson@capersmarkets.com	April 9, 2006, 11am April 20, 2006, 9:45am May 9, 2006
Small	Union Food Market	810 Union	Lynn-604-255-5025	April 4, 2006, 11:30am
	East-End Co-op	1034 Commercial	Susana-604-254-5044	April 4, 2006, 10:45am
	Benny Food	598 Union Street	Ramone-604-254-2746	April 6, 2006, 2pm

Charitable Food Providers			
Name	Location	Contact Info	Date Contacted
A Loving Spoonful	Suite 100 - 1300 Richards Street	604-682-6325	March 28 th , 2006

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	Vancouver, BC V6B 3G6		
Better Meals	3930 Kitchener Street Burnaby, BC V5C 3M2	604-299-1877	March 28 th , 2006
Gold Card Catering	12651 80 Avenue 120 Surrey, BC V3W 3A6	Heather 604-594-5520	March 28 th , 2006
Kosher Meals on Wheels (Jewish Family Service Agency)	300-950 West 41 st Avenue Vancouver, BC V5Z 2N7	604-257-5151	March 28 th , 2006
Victoria Order of Nurses – BC Meals on Wheels	1525 West 7 th Avenue Vancouver, BC V6J 1S1	Laura 604-732-7638	March 28 th , 2006
AIDS Vancouver	1107 Seymour St. Vancouver, BC V6B 5S8	604-893-2201	March 28 th , 2006
Green Earth Organics	1864 Triumph St. Vancouver, BC V5L 1K2	604-708-2345	March 28 th , 2006
Eastside Family Place	1655 William St. Vancouver, BC V5L 2R3	Tracey 604-255-9802	March 28 th , 2006
Greater Vancouver Food Bank Society	1150 Raymur Avenue	Will 604-876-3601	March 28 th , 2006
Inland Refugee Society of BC	101-225 East 17 th Ave. Vancouver, BC V5V 1A6	Catalina 604-873-6660	March 28 th , 2006
Kiwassa Neighborhood House, Kiwassa Neighborhood Services Association	2425 Oxford St. Vancouver, BC V5K 1M7	Latisha 604-254-5401	March 28 th , 2006
Longhouse Church	2505 Franklin St. Vancouver, BC	604-254-4531	March 28 th , 2006
Marpole Oakridge Area Council Society	1305 West 70 th Ave. Vancouver, BC V6P 2Y6	Tracy 604-266-5301	March 29, 2006
Drop-In Center for Youth (Union Gospel Mission)	1075 Seymour St. Vancouver, BC V6B 3M3	604-688-7587	March 29, 2006
Aboriginal Mother Center Society	208-2019 Dundas St. Vancouver, BC V5L 1J5	Christine 604-253-6262	March 29, 2006
Cedar Cottage Neighborhood House	4065 Victoria Drive Vancouver, BC	604-874-4231	March 29, 2006
Kitsilano Neighborhood House	2325 W. 7 th Ave. Vancouver, BC V6K 1Y4	Julie 604-736-3588	March 29, 2006
Riley Park Community Center	50 East 30 th Ave. Vancouver, BC V5V 2T9	Karen 604-257-8545	March 29, 2006
Thunderbird Neighborhood Community Center		Loraine 604-237-2487	March 29, 2006
Strathcona Community Center		604-713-1838	March 29, 2006
Sheway	533 East Hastings St. Vancouver, BC V6A 1P9	Maria 604-658-1221	March 29, 2006
Living Room Drop-In Activity Center (Lookout Emergency Aid Society)	429 Alexander St. Vancouver, BC V6A 1C6	Joyce 604-255-0340	March 29, 2006

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Motivation, Power and Achievement (MPA) Society	1731 West Avenue Vancouver, BC V6J 1M2	Judith 604-482-3712	March 29, 2006
Carnegie Community Center	401 Main Street Vancouver, BC V6A 2T7	Katrina 604-665-3349	March 29, 2006
Christ Church Cathedral	690 Burrard St. Vancouver, BC V6C 2L1	604-682-3848	March 30, 2006
First Baptist Church	969 Burrard St. Vancouver, BC	Soloman 604-683-8441	March 30, 2006
Street Church at Foursquare Gospel Church	175 East Hastings St. Vancouver, BC V6A 1N4	David 604-681-1910	March 30, 2006
The Gathering Place	609 Helmken St. Vancouver, BC V6B 5R1	604-665-2391	March 30, 2006
Gordon Neighborhood House	1019 Broughton St. Vancouver, BC V6G 2A7	604-683-2554	March 30, 2006
Mission Possible – Compassionate Ministries Society	543 Powell St. Vancouver, BC V6A 1G3	Rick 604-254-4469	March 30, 2006
The Open Door/ Out of the Cold	1803 East 1 st Ave. Vancouver, BC V5N 1B2	Aliza 604-873-4939	March 30, 2006
South Vancouver Neighborhood House	6470 Victoria Dr. Vancouver, BC V5P 3X7	Lynn 604-324-6212	March 30, 2006
Union Gospel Mission	616 East Cordova St. Vancouver, BC V6A 1L9	George 604-253-3323	March 30, 2006
411 Seniors Centers	411 Dunsmuir St. Vancouver, BC V6B 1X4	604-684-8171	March 30, 2006
Renfrew-Collingwood Senior Center	3015 East 23 rd Ave. Vancouver, BC	604-430-1441 3015 East 23 rd Ave. Vancouver, BC	April 3 rd , 2006
South Granville Senior's Center	1420 West 12 th Ave. Vancouver, BC	Joy 604-732-0812	April 3 rd , 2006
Covenant House Vancouver	575 Drake Street Vancouver, BC V6B 4K8	Susan 604-897-8598	April 3 rd , 2006
Urban Native Youth Association	1640 East Hastings Vancouver, BC V5L 1S6	Ruby 604-254-5147	April 3 rd , 2006
Walden Street Safe House	202-1193 Kingsway Vancouver, BC V5V 3C9	Ken 604-877-1234	April 3 rd , 2006
Anderson Lodge	1470 East Broadway Vancouver, BC V5N 1V6	604-874-1246	April 3 rd , 2006
Vi Fineday		Irena 604-736-2423	April 3 rd , 2006
Lookout Downtown Shelter	346 Alexander St. Vancouver, BC V6A 1C3	Jennie 604-681-9126	April 3 rd , 2006
			April 3 rd , 2006
Salvation Army (Cariboo Hill Burnaby Branch)		Jamie 604-525-7311	April 3 rd , 2006

Institutions

Food Diversion Report
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Name	Contact	Contact Date:
Provincial Ministry of Corrections	Don 250-729-7705	April 10 th , 2006
Vancouver Police	Heidi 604-717-3131	April 10 th , 2006
UBC Food Services	Piough 604-822-3663	April 11 th , 2006
Crofton House School	Rick 604-263-3255	April 11 th , 2006
Public Works	Jason 604-775-6642	April 11 th , 2006
Vancouver School Board	Adele 604-713-5014	April 11 th , 2006

Processors			
Name	Location	Contact	Date Contacted
Four Seasons Food Ltd.	127 East Kent Ave Vancouver, BC V5X 2X5	Sheri 604-321-5514	April 4 th , 2006
Frankly Fresh Salads	1735 Powell St. Vancouver, BC V5L 1H6	Frank 604-255-0054	April 4 th , 2006
Northwest Produce	355 Powell St. Vancouver, BC V6A 1G5	Dennis 604-683-8822	April 4 th , 2006
Discovery Organics	Vancouver, BC	Anne 604-299-1683	April 11 th
Natural Indulgence	1139 W Broadway Vancouver, BC V6H 1G1	Carla 604-535-0646	April 5 th
Sabra Kisher Restaurant and Bakery Ltd.		604-733-4912	April 5 th , 2006
P&S Frozen Foods	1238 Marine Dr. SE Vancouver, BC V5X 2V9	Susan 604-324-8820	April 5 th , 2006
Stock Market	1689 Johnston St. Vancouver, BC V6H 3R9	Wayne 604-687-2433	April 5 th , 2006
Booster Juice	2430 Commercial Dr. Vancouver, BC V5N 4B9	Devinder 604-871-1516	April 5 th , 2006