



GREEN ECONOMY WORKING PAPER #5

LOCAL FOOD JOBS IN THE CITY OF VANCOUVER

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This paper has been produced as part of a series of working papers intended to further discussion on the green economy in Vancouver. Developed in support of VEC's work in support of the City of Vancouver's Greenest City Action Team, the papers have been produced by consultants and researchers, and do not necessarily reflect the views of the VEC or its stakeholders. These papers will be used to inform the strategies put forward by the Green Economy working group. Findings will be continuously refined as understanding of the green economy progresses.

cover photo: City of Vancouver

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1. EXECUTIVE SUMMARY



Marina at Granville Island with Burrard Bridge and North Shore Mountains • photo: City of Vancouver

This study aims to define and quantify the number of local food jobs in the city of Vancouver. It builds on an initial Vancouver Economic Commission (VEC) analysis, as summarized in the ‘The Economy of Local Food in Vancouver’¹ and serves as a

companion to that report. Our results suggest that approximately one per cent (3,900) of the jobs in the city of Vancouver can be considered as local food jobsⁱ. This represents approximately eight percent of the total estimated food jobs in the city.

ⁱ This is higher than VEDC’s previous estimate of 1,000 local food jobs which is explained by the different definitions of ‘local food’ used; data was only available to a reliable level at the provincial (and not metropolitan or city) level.

2. THE IMPORTANCE OF LOCAL FOOD

Many hidden problems are associated with the globalized, mainstream food system. One problem is the carbon emissions associated with transportation of food over long distances. Another is that, in light of rising food prices and unstable geo-political forces, the system does not provide food security to local communities. For example, although BC produces enough vegetables, fruit and fish to meet local demand, only 20 percent of what local residents consume in these categories is produced in BC². Another problem is inefficiency; current supply chains are so inefficient that approximately 50 percent of fresh food (by volume) is spoiled or wasted³.

In many communities, there is significant effort to re-localize urban food systems, to address these problems, and to take advantage of the well-documented economic ‘multiplier effect’ associated with local food systems. As with other industry sectors, spending within the local economy magnifies the effect of those dollars within the community, and contributes to job creation and increased wealth. One study found that if 20 percent of Seattle’s food dollars were spent on local food, US\$1 billion would be contributed annually to Seattle’s economy.⁴



Fishing the waters off of the British Columbia Coast

3. PURPOSE OF THIS STUDY

Vancouver has a vision to become the greenest city in the world by 2020. Goal 10 of the city’s Greenest City Action Plan is: ***Vancouver will become a global leader in urban food systems.***

To help achieve this, VEC needed to understand the current urban food system in Vancouver and establish a baseline number of local food jobs as one measure of the success of local food policies.

Goal 10 of the city’s Greenest City Action Plan is:

Vancouver will become a global leader in urban food systems

4. STUDY DEFINITIONS AND SCOPE

4.1 Definition of Local Food

Definitions of 'local' food are inconsistent and incomplete. The Canadian Food Inspection Agency (CFIA) has restricted the use of the label 'local' to apply to food produced either within 50 km of where it is consumed, or to food produced and consumed within a municipal boundary, extended only to its immediately adjacent jurisdictions.⁵ Most local food proponents agree that this definition inhibits the creation of an urban food system that enhances the relationship between consumers and (predominantly rural) agricultural producers.

The City of Vancouver's Greenest City Action Plan defines local food as food that is produced as close to home as possible, within the province of BC⁶. Other definitions extend the CFIA's definition to 100 mile radials, or consider bioregional boundaries.

After careful consideration (further outlined in Appendix A: Rationale for the Provincial Definition of Local Food), consultation with key local food experts including members of the Vancouver Food Policy Council, and an assessment of the likely feasibility of various methodologies, VEC chose the following definition of local food:



4.2 Definition of a Local Food Job

A 'local food job' is defined as one that is *directly* related to BC food. For example, employees providing repairs to farm equipment were not included, nor were employees working with food that originates from outside of BC (such as coffee roasters)ⁱⁱ. Additionally, only local food jobs in the city of Vancouver (rather than Greater Vancouver) were examined. See *Figure 1* for examples.

FIGURE 1: EXAMPLES OF LOCAL FOOD AND NON-LOCAL FOOD JOBS



ii. This concept of a directly related job follows the same approach as taken in the 'The Economy of Local Food in Vancouver'.

5. METHODOLOGY

To best estimate the number of local food jobs in Vancouver, VEC began with two approaches: one census-based, and one survey-based. In the course of the study, VEC found it unfeasible to survey a sample size large enough to be representative; thus, the survey data was used only to inform the census-based approach.

The methodology of this study was as follows:

- 1) The terms 'local food' and 'local food job' were defined (see section 4);
- 2) VEC examined the 2006 Census data and identified the relevant local food industries to a four-digit North American Industry Classification System (NAICS) level;
- 3) A database of local food businesses was generated from a scan of relevant websites and literature combined with suggestions from key industry figures;
- 4) VEC conducted a survey of these local food businesses, alongside a survey of randomized Vancouver-based food businesses;

- 5) The results of these surveys, in conjunction with additional stakeholder consultation, were used to generate intensity ratios for each identified industry, finally;
- 6) VEC applied these intensity ratios to 2006 Census data, then projected them forward to 2010.

Once VEC established the study's definitions and scope, the 2006 NAICS Census data was analyzed to identify each industry containing a local food job. This analysis resulted in occupations being broadly classified under five local food sectors:

- Production;
- Processing;
- Retail;
- Restaurants & Eating/Drinking Places;
- Support Servicesⁱⁱⁱ.

For examples of occupations within each sector, see Table 1.

Table 1: Local Food Sectors and Example Occupations

Local Food Sector	Example Jobs
Production	Urban Farmer
	Fisherman
	Beekeeper
Processing	Juice Manufacturer
	Fish Cannery
Retail	Farmers Market Trader
	Grocer
Restaurants & Eating/Drinking Places	Chef
	Waiter
	Pub Owner
Support Services	Truck Driver
	Food Charity Employee
	Local Government Food Co-ordinator

ⁱⁱⁱ For the results of this analysis and a complete list of NAIC industries identified, see Appendix C.

VEC generated a database of local food businesses from a scan of relevant websites (see Appendix D), literature and suggestions from key industry figures. This population (Dataset A) was then surveyed, alongside a randomized list of food based businesses located in Vancouver (Dataset B) in order to inform the intensity ratios applied to 2006 census data^{iv}.



Dataset	Description	Size	Responses	Response Rate
A	Companies identified as a local food business	143	61	42.7%
B	Randomized food businesses	104	7	6.7%

VEC used intensity ratios^v in order to estimate the total number of local food jobs within organizations that work with a combination of BC-grown food and food from elsewhere. For example, a percentage of the jobs of a chocolate manufacturer could be considered as local if the ingredients used included milk from BC sources.

For each identified local food industry, VEC generated an intensity ratio^{vi} based on the

responses of the survey conducted, interviews with industry experts, and literature on urban food systems.

VEC applied these intensity ratios to 2006 Census data^{vii}, and the final job estimates were brought forward to 2010 levels using a compounded annual growth rate based on the overall job growth rate in the City of Vancouver from 2006 to 2010.



iv See Appendix B for a list of questions

v These ratios were based on the proportion of BC food by dollar value of a firm’s total food budget or equivalent.

vi For a complete list of intensity ratios used, see Appendix C.

vii In order to calculate the percentage of jobs in the City of Vancouver, as opposed to jobs held by residents of the city, relative industry percentages were used from the 2001 Metrocore Jobs Study (which identified jobs by place of work as opposed to place of residence).

6. STUDY RESULTS

6.1 Local Food Jobs

The study indicates that Vancouver has approximately 3,900 local food jobs across five local food sectors. Local food jobs account for approximately one percent of Vancouver’s total jobs of 400,000 in 2010^{viii}. These jobs are found across

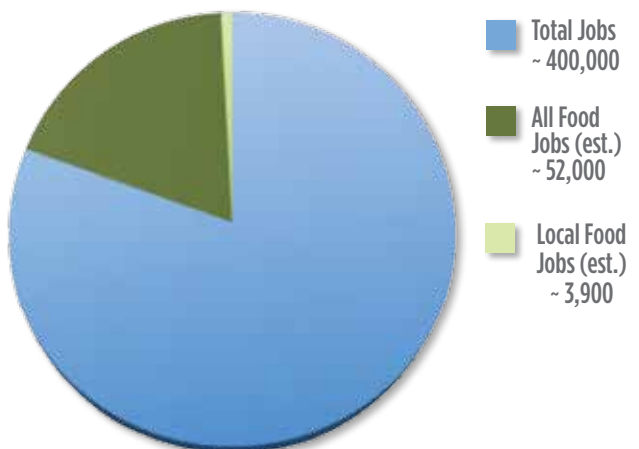
a variety of industries but predominately fall within restaurants, retail and processing. Fewer local food jobs are found in production (i.e. crop or animal) and support services, as is to be expected in an urban economy.

Figure 3: Local Food Jobs In The City Of Vancouver By Sector



These 3,900 local food jobs represent approximately eight per cent of the estimated total possible 2010 local food jobs in the City of Vancouver of 52,000^x (see Figure 4).

Figure 4: Local Food Jobs In A City Of Vancouver Context



viii City of Vancouver Estimates 2010.

ix Number calculated by adding total possible 2010 local food jobs for all relevant food NAICS (excluding non-relevant, in this situation, NAICS categories such as Local Government, Transportation and Warehousing, etc. which would increase the total possible local food jobs number to the extent of making it unusable).



6.2 Additional Findings

The study looked at an additional aspect of the food economy – to what extent local food employers could be considered ‘green’. The vast majority (98%) of all businesses surveyed reported that they participated in ‘green’ practices such as recycling, composting or purchasing green cleaning products. Seventy-eight per cent purchased at least some organic produce over the course of the year.

The study also looked at the how much of the local food produced in BC was exported. With the exception of companies surveyed within the fish processing and specialist food retail industry, VEC found negligible levels of local food currently being exported by companies located in the city.

APPENDICES

A. Rationale for Provincial Definition of Local Food

Factor	Rationale
Complexity of food derivation	Today's complex food chains often hide the true derivation of food. For interviewees to estimate food origin data on a metropolitan level is extremely difficult. For a more specific census subdivision level (such as the city of Vancouver) this estimate is likely to be inaccurate. However, province-wide estimates can be made relatively accurately.
Consumer context	For many consumers in Canada the phrase 'local food' implies food that is grown in their own province i.e. BC ⁷ , particularly in the context of supermarket and grocery shopping, where the majority of Canadians buy most of their food ⁸ .
Alignment with key partners	Using a provincial definition aligns with the geographical mandate of many of the most important local food advocacy organizations including Edible BC, FarmFolkCityFolk, Get Local and Association of BC Farmers Markets.
Compatibility with other local studies	Recent studies completed by local authorities have also used the provincial definition; examples are the Centre for Sustainable Community Development at SFU ⁹ , UBC Food Systems Project ¹⁰ and Local Initiatives for Food Enterprise ¹¹ .

B. Local Food Survey Questions

ORGANISATION NAME: _____

ORGANISATION CONTACT NAME: _____

ORGANISATION CLASSIFICATION: _____ (e.g. 111 Crop Production)

1) We have identified your organisation's industry classification to be _____. Would you consider that to be accurate? If not, what would you broadly consider your industry to be?

2) Approximately what percentage of your purchasing, on average over the year, would you say directly relates to local food (as defined as any food produced within BC)?

3) Do you think this is the average for your industry/competitors, or do you consider yourself above or below the average?

4) Do you know of any other organisations in your industry within city of Vancouver that you would consider to be excellent contributors to the local food economy?

5) Approximately how many employees^{xi} does your organisation have?

6) Do you employ any 'green' practices? E.g. composting, recycling, purchasing organically

7) What percentage of your 'products' would you say are exported outside of BC? **(IF APPLICABLE)**

Thank you for your time. We expect the results of the survey to be published soon on our website:
www.vancouvereconomic.com

^{xi} In the case of part-time employees, respondents were asked to combine part-time workers to make 1 full-time worker (broadly based on a 35 hour working week).

C: Local Food Jobs Detailed Breakdown

note: *n/a* in this case means “not available”

	2 DIGIT NAIC	3 DIGIT NAIC	4 DIGIT NAIC	NAIC TITLE	Intensity Ratio	Total Jobs	Local Food Jobs Estimate for 2006	Adjusted to 2010
Local Food Production	11	Agriculture, Forestry, Fishing and Hunting						
		111	Crop Production		1.00	182	182	192
			1111	Oilseed and Grain Farming				
			1112	Vegetable and Melon Farming				
			1113	Fruit and Tree Nut Farming				
			1114	Greenhouse, Nursery, and Floriculture Production				
			1119	Other Crop Farming				
		112	Animal Production		1.00	170	170	179
			1121	Cattle Ranching and Farming				
			1122	Hog and Pig Farming				
			1123	Poultry and Egg Production				
			1124	Sheep and Goat Farming				
			1125	Animal Aquaculture				
			1129	Other Animal Production				
		113	Forestry and Logging		0	n/a	0	0
			1132	Forest Nurseries and Gathering of Forest Products				
		114	Fishing, Hunting and Trapping		0.02	n/a	9	10
			1141	Fishing				
			1142	Hunting and Trapping				
		115	Support Activities for Agriculture and Forestry		0	441	0	0
		1151	Support Activities for Crop Production					
		1152	Support Activities for Animal Production					
Local Food Processing	31-33	Manufacturing						
		311	Food Manufacturing		0.1	4913	n/a	
			3111	Animal Food Manufacturing	0.15	98	15	16
			3112	Grain and Oilseed Milling	0.05	78	4	4
			3113	Sugar and Confectionery Product Manufacturing	0	323	0	0
			3114	Fruit and Vegetable Preserving and Specialty Food Manufacturing	0.4	297	119	125
			3115	Dairy Product Manufacturing	0.5	200	100	106
			3116	Animal Slaughtering and Processing	0.15	986	148	156
			3117	Seafood Product Preparation and Packaging	0.5	900	450	474
			3118	Bakeries and Tortilla Manufacturing	0.05	1456	73	77
			3119	Other Food Manufacturing	0.05	574	29	30
		312	Beverage and Tobacco Product Manufacturing		0.05	439	22	23
			3121	Beverage Manufacturing				
		325	Chemical Manufacturing		0	11	0	0
			3253	Pesticide, Fertilizer, and Other Agricultural Chemical Manufacturing				

	2 DIGIT NAIC	3 DIGIT NAIC	4 DIGIT NAIC	NAIC TITLE	Intensity Ratio	Total Jobs	Local Food Jobs Estimate for 2006	Adjusted to 2010
Local Food Retail	41	Wholesale Trade						
		411	Farm Product Wholesaler-Distributor		0.1	137	14	14
			4111	Farm Product Wholesaler-Distributor				
		413	Food, Beverage and Tobacco Wholesaler-Distributor		0.15	4184	n/a	
			4131	Food Wholesaler-Distributor	0.1	3685	368	388
			4132	Beverage Wholesaler-Distributor	0.05	402	20	21
		417	Machinery, equipment and Supplies Wholesaler-Distributor		0	69	0	0
			4171	Farm, Lawn, and Garden Machinery and Equipment Wholesaler-Distributor				
		418	Miscellaneous Wholesaler-Distributor		0	117	0	0
			4183	Agricultural Supplies Wholesaler-Distributor				
		419	Wholesale Agents and Brokers		0	n/a	0	0
			4191	Wholesale Agents and Brokers				
		44-45	Retail Trade					
			444	Building Material and Garden Equipment and Supplies Dealers		0.01	219	2
			4442	Lawn and Garden Equipment and Supplies Stores				
		445	Food and Beverage Stores	0.05	9192	n/a		
			4451	Grocery Stores	0.05	7189	359	379
			4452	Specialty Food Stores	0.1	1389	139	146
			4453	Beer, Wine, and Liquor Stores	0.1	615	61	65
		454	Non-Store Retailers	0	745	0	0	
			4543	Direct Selling Establishments				
	72	Accommodation and Food Services						
		721	Accommodation	0	n/a	0		
			7211	Traveler Accommodation				
Restaurants and Eating & Drinking Places		722	Food Services and Drinking Places		0.03	28859	n/a	
			7221	Full-Service Restaurants (e.g. table service, alcohol)	0.07	15685	1098	1157
			7222	Limited-Service Eating Places (counter)	0.01	9720	97	102
			7223	Special Food Services (caterers)	0.07	2098	147	155
			7224	Drinking Places (Alcoholic Beverages)	0.04	1353	54	57

continued on next page...

	2 DIGIT NAIC	3 DIGIT NAIC	4 DIGIT NAIC	NAIC TITLE	Intensity Ratio	Total Jobs	Local Food Jobs Estimate for 2006	Adjusted to 2010
Local Food Support Services	48-49	Transportation and Warehousing						
		484	Truck Transportation		0	n/a	0	0
			4841	General Freight Trucking				
			4842	Specialized Freight Trucking				
		493	Warehousing and Storage		0	n/a	0	0
			4931	Warehousing and Storage				
	61	Educational Services						
		611	Educational Services		0.0005	n/a	10	11
			6111	Elementary and Secondary Schools				
			6112	Community Colleges and CEGEPs				
			6113	Universities				
			6115	Technical and Trade Schools				
	62	Health Care and Social Assistance						
		622	Hospitals		0	n/a	0	0
		623	Nursing and Residential Care Facilities		0	n/a	0	0
			6233	Community Care Facilities for the Elderly				
			6239	Other Residential Care Facilities				
		624	Social Assistance		0.015	185	3	3
			6242	Community Food and Housing, and Emergency and Other Relief Services				
	81	Other Services (except Public Administration)						
		813	Religious, Grantmaking, Civic, Professional, and Similar Organizations					
			8132	Grantmaking and Giving Services	0.002	1181	2	2
			8133	Social Advocacy Organizations	0.002	n/a	2	2
			8134	Civic and Social Organizations	0.002	n/a	3	4
			8139	Business, Professional, Labor, Political, and Similar Organizations	0	n/a	0	0
	91	Public Administration						
		911	Federal Government Public Administration		0.0002	n/a	2	2
			9119	Other Federal Government Public Administration				
		912	Provincial and Territorial Public Administration		0.0005	n/a	2	2
			9122	Provincial Labour and Employment Services				

	2 DIGIT NAIC	3 DIGIT NAIC	4 DIGIT NAIC	NAIC TITLE	Intensity Ratio	Total Jobs	Local Food Jobs Estimate for 2006	Adjusted to 2010
		913	Local, Municipal and Regional Public Administration		0.0004	n/a	2	2
			9139	Other Local, Municipal and Regional Public Administration				
52	Finance and Insurance							
		522	Credit Intermediation and Related Activities		0	n/a	0	0
			5221	Depository Credit Intermediation				
			5223	Activities related to Credit Intermediation				
		523	Securities, Commodity Contracts and other Financial Investment and Related Activities		0	n/a	0	0
			5231	Securities and Commodity Contracts Intermediation and Brokerage				
			5232	Securities and Commodity Exchanges				
		524	Insurance Carriers and Related Activities		0	n/a	0	0
			5242	Agencies, Brokerages and other Insurance Related Activities				
54	Professional, Scientific and Technical Services							
		541	Professional, Scientific and Technical Services		0	n/a	0	0
			5411	Legal Services				
			5412	Accounting, Tax Preparation, Bookkeeping and Payroll Services				
			5418	Advertising, Public Relations, and Related Services				
			5419	Other Professional, Scientific and Technical Services				
56	Administrative and Support, Waste Management and Remediation Services							
		562	Waste Management and Remediation Services		0	n/a	0	0
			5622	Waste Management and Disposal				
Total Local Food jobs							3707	3907
Total City Jobs 2010 (estimated)								400000
% of Total City Jobs 2010 that are Local Food								0.98%
Total Food Jobs 2010 (estimated)								51691
% of Total Food Jobs 2010								7.56%

D: Local Food Directories

ORGANISATION	WEBSITE
SFU Local Food Directory	http://sfulocalfood.ca/wp-content/uploads/2009/03/your-local-food-guide-web.pdf
Get Local Directory	http://www.getlocalbc.org/en/where.php
UBC	http://www.supplymanagement.ubc.ca/Sustainability/ubc_sustainable_purchasing_guide.pdf
Quest	http://questoutreach.org/about/
GreenTable	http://www.greentable.net/
Eat Well Guide	http://www.eatwellguide.org/search/advanced
Food Network Local Food	http://100mile.foodtv.ca/providers/map
Certified Organic	http://www.certifiedorganic.bc.ca/search/searchbyregion.php?region=VAN
BC Speciality Food	http://www.bcspecialtyfood.ca/index.php

Endnotes

- 1 <http://www.vancouvereconomic.com/userfiles/file/Local-Food-in-Vancouver-webversion%281%29.pdf>
- 2 'BC's Food Self Reliance: Can BC farmers feed our growing population?', BC Ministry of Agriculture and Lands, 2006 http://www.agf.gov.bc.ca/resmgmt/Food_Self_Reliance/BCFoodSelfReliance_Rep_ort.pdf
- 3 Food Secure Vancouver Baseline Report, Serecon Management Consulting and Zbeetnoff Agro-Environmental Consulting March 2009
- 4 Sonntag, V. (2008) Why Local Linkages Matter: Findings from the Local Food Economy Study. Seattle
- 5 <http://www.inspection.gc.ca/english/fssa/labeti/decisions/compoe.shtml>
From Canadian Food Inspection Agency website:
 - "'Local', 'locally Grown, and any substantially similar term shall mean that the domestic goods being advertised originated within 50 km of the place where they are sold, measured directly, point to point, or meets the requirements of section B.01.012 of the Food and Drug Regulations, whichever condition is least restrictive"; AND
 - Section B.01.012: "'Local food' means a food that is manufactured, processed, produced or packaged in a local government unit and sold only in:
 - a) The local government unit in which it is manufactured, processed or packaged;
 - b) One or more local government units that are immediately adjacent to the one in which it is manufactured, processed, produced or packaged; or
 - c) The local government unit in which it is manufactured, processed, produced or packaged and in one or more local government units that are immediately adjacent to the one in which it is manufactured, processed, produced or packaged.
- 6 Greenest City 2020 Draft Local Food Action Plan, December 2010
- 7 <http://atguelph.uoguelph.ca/2011/02/local-food-is-in-the-eye-of-the-beholder/>
- 8 <http://www.farmersmarketscanada.ca/Upload/file/FMC%20FINAL%20Brochure%202009-ENG.pdf>
- 9 <http://www.sfu.ca/cscd/academic-programs/student-projects/scd301projects/food-security-farmers-market-survey/>
- 10 https://circle.ubc.ca/bitstream/handle/2429/24228/Scenario4Group92007_2.pdf?sequence=1
- 11 <http://www.sfu.ca/dialog/undergrad/pdfs/0702-LIFE-Herb.pdf>

