



Sea to Sky Food Recovery

STRATEGY AND ACTION PLAN

September 2021

WCS engagement
+ planning



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Introduction

Project Overview

The Sea to Sky Food Recovery Assessment and Plan project was undertaken to understand how to better maximize the recovery and distribution of surplus food, and to minimize food waste in the Sea to Sky region. In order to achieve these objectives, the assessment and planning process focused on:

- understanding the type, volume, and sources of surplus food in the region;
- understanding current needs and food distribution models;
- compiling a set of food recovery and distribution best practices; and
- identifying actions for how to improve food recovery and redistribution in the Sea to Sky that:
 - support the reduction of poverty
 - increase access to food
 - reduce food waste
 - increase capacity of organizations to recover and redistribute food.

A task force comprised of individuals from food distribution organizations (FDOs), local government, and food industry (hotels, restaurants, and grocers) representatives was created and engaged in the research and action planning.

The project was carried out by WCS Engagement + Planning on behalf of the Resort Municipality of Whistler. Funding was provided by the Union of BC Municipalities Poverty Reduction Program. While this project was delivered as a mechanism for poverty reduction, we recognize that the strategies and actions identified will help to improve access to food and to reduce food waste, which will help reduce the costs of accessing food. However, deeper, more systemic changes – such as living wages, more affordable housing, and health/dental care – are needed to reduce poverty at a community level.

Context and Rationale

Food waste and access to food are regional issues affecting all communities in the Sea to Sky Corridor. Whistler Community Services Society, Squamish Helping Hands Society, Lil'wat Nation, Southern Stl'atl'imx Health Society, and Sea to Sky Community Services all currently run food banks and food programs in the Sea to Sky Corridor to serve clients who face food access challenges.

The majority of recoverable food is generated in Whistler (through grocers, restaurants and hotels), but a significant amount is also generated by Squamish and Pemberton grocers and restaurants, as well as by Pemberton farmers. While regional grocers, restaurants and hotels do provide food to the food banks/programs, a significant amount of food waste still exists. (e.g., estimated to be about 30% of Whistler's waste stream).

At the same time, the demand for food bank services has been increasing as the cost of food and living increases, and the COVID-19 pandemic has exacerbated this situation further.

Remote communities in the Sea to Sky Corridor face unique challenges when it comes to the delivery of and access to food programs and fresh nutritious food.

The need for food programs in Indigenous communities north and east of Pemberton is greater than those further south, but there are no food banks in those communities which means that those people needing greater access to food must leave their communities to access the food banks in Whistler and Pemberton. In 2020, somewhat in response to the COVID-19 pandemic, the Pemberton Food Bank increased their programs, and Lil'wat Nation set up a temporary food bank).

This project is a result of the need identified by the Squamish-Lillooet Regional Food Project Task Force to improve food recovery and distribution efforts in the Sea to Sky, as well as to address the region's zero waste goals and the policy imperatives identified in the respective OCPs and waste management/zero waste plans.

To learn more about food waste and recovery within the Canadian context, visit Second Harvest and review their comprehensive research report called [The Avoidable Crisis of Food Waste](#).

Definitions and abbreviations

- Food waste: excess edible or inedible food that is not sellable and needs to be managed (recovered, landfilled, composted, etc.).
 - Edible food waste (avoidable): Food waste that can be consumed as is or prepared for consumption.
 - Inedible food waste (unavoidable): Food that is not consumable by humans because it has spoiled or is unusable (e.g. bones, cut-offs, peels, etc.).
- Recovered/recoverable food: Edible food that is/can be kept out of the waste stream and donated to FDOs.
- Dedicated food donations: Food that is allocated/intended for donation at the time of purchase.
- Donated food: All food provided to FDOs, whether dedicated for donation or recovered for donation.
- HRI: Hotels, restaurants and institutions
- FDO: Food distribution organizations (see below for details)

WHAT ARE FOOD DISTRIBUTION ORGANIZATIONS (FDOS)?

Source: BCCDC Industry Food Donation Guidelines, March 2019

The most widely known FDOs are food banks, but there are a range of organizations and programs that use donated food to feed hungry people, support healthier eating, build community capacity, educate, and train people, or help maintain cultural eating practices.

1. **Community kitchens** are facilities in which food is collectively prepared and consumed. They include educational, community building, and/or food provision aspects. Food may be consumed on site or taken home to be consumed at a later date.
2. **Food banks** and smaller food pantries provide food at no cost to clients. Food banks perform a number of functions including receiving, holding, storing, packaging, repackaging and distributing food to be consumed off the premises, but do not generally process or serve food.
3. **Low-cost retail outlets** provide food for pick-up by members, either at a reduced charge or at cost. Foods unsuitable for sale by wholesalers or retailers may be allowable for sale at these premises. Foods must be appropriately packaged and stored for use in a retail setting.
4. **Meal programs** (e.g., soup kitchens) fit the definition of a food service establishment or food premise; they prepare and serve food to clients on-site.
5. **Social enterprises** with a mission to provide food include culinary training schools, non-profit restaurants, and low-cost retail outlets. Foods given to social enterprises may be used in teaching kitchens or sold through a catering or grocery non-profit business.

Regional Profile

Study Area

The study area for this project is primarily the Sea to Sky Region, from the District of Squamish to the Southern Stl'atl'imx communities located in Area B and Area C of the Squamish-Lillooet Regional District (SLRD).

The SLRD is situated within the traditional territories of the Squamish, Stl'atl'imx and Líl'wat Nations and is also home to several Indigenous communities. Some Indigenous communities from the Xa'xtsa, Samahquam and Skatin fall outside the Sea to Sky and SLRD region but were considered to some extent in the study as they access health/food services in the SLRD.

Population and Demographic Context

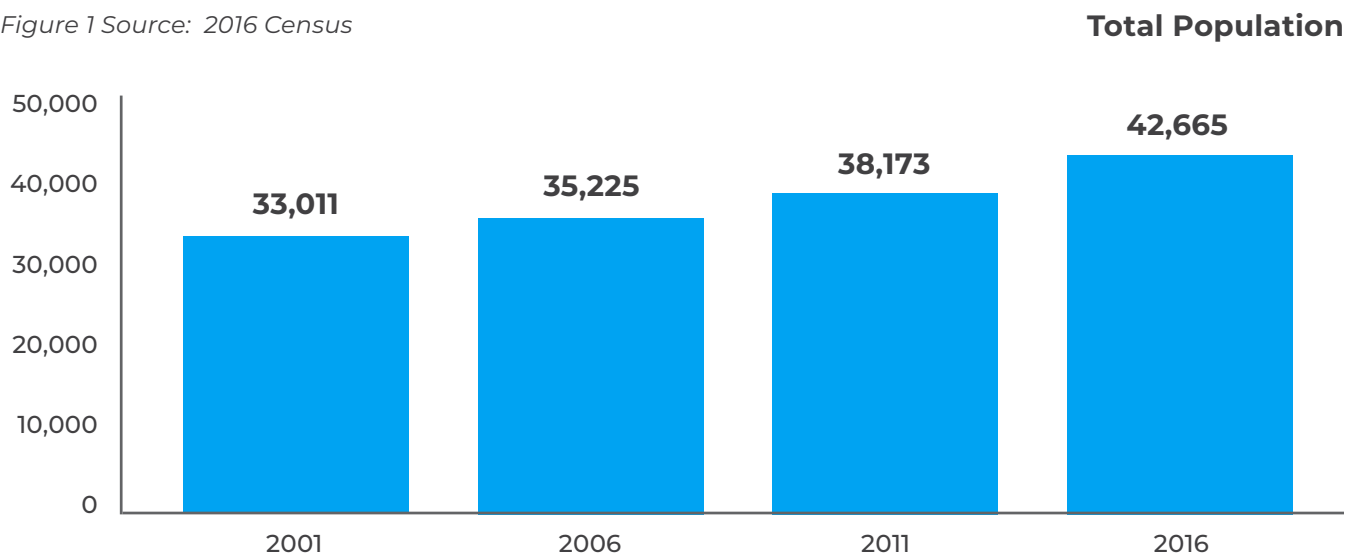
Note: The SLRD Census Division data is used to represent the Sea to Sky region. Findings are often broken out for individual Sea to Sky municipalities, but not always for other settlement areas such as Indigenous communities.

Population

The total population of the SLRD was 42,665 in 2016 and is spread across many communities although most (90%) live in one of these five settlement areas: Squamish (19,500), Whistler (11,900), Pemberton (2,600), Lillooet (2,300), Líl'wat Nation Reserves (1,600).

The 2016 SLRD population of 42,665 represents an 11% increase from 2011 and a 21% increase from 2006 (Figure 1). Since 2001, the rate of growth per year was approximately 2% per year. Based on the average rate of growth of 2%, the population of the SLRD in 2020 is approximately 46,200.

Figure 1 Source: 2016 Census



Based on a medium growth scenario, the population of the SLRD is expected to grow to 56,864 by 2036; representing an average annual growth rate of 1.5%.¹

¹ SLRD RGS Growth Projections

Households and Income

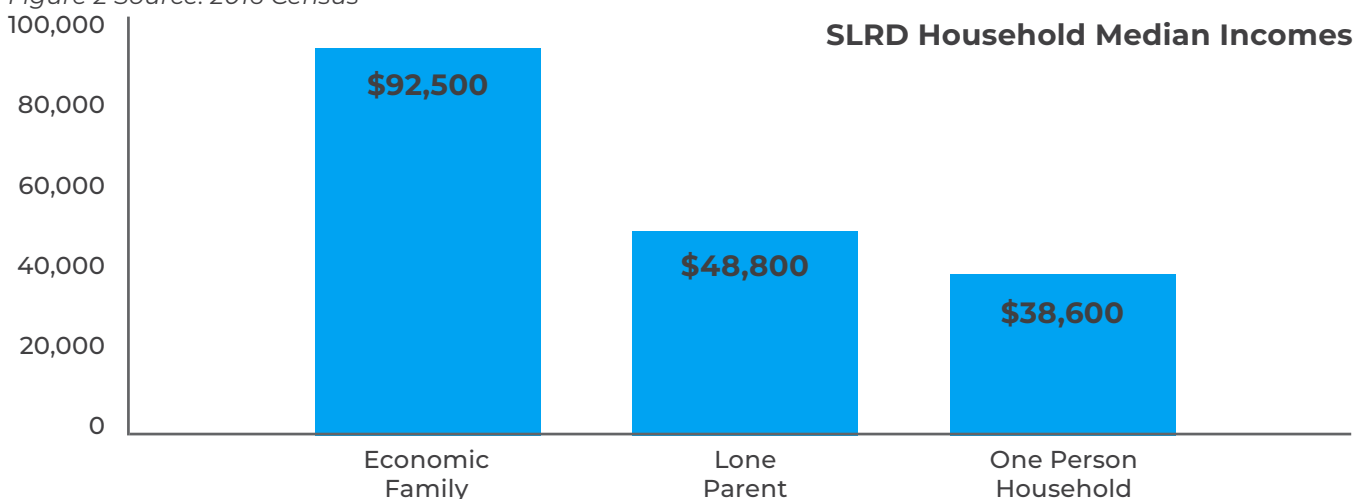
The SLRD population of 42,655 is spread across 16,415 households (related or unrelated) with an average household size of 2.5, slightly higher than the provincial average of 2.4.

- There are about 6,500 families with children, and about one quarter or 1,500 of those are lone parent families.
- Of households without children, there are 5,155 couple households, 4,020 one-person households and 1,215 households with more than one unrelated person living there. Those 1,215 households represent about 5,000 people living in shared quarters.
- Compared to the province as whole, the SLRD has a higher percentage of households with two or more unrelated people (non-couples) living together and a slightly lower percentage of one-person households and lone-parent families.

There are 11,430 economic families² in the SLRD with about 5,000 couple families with children and another 5,000 without. The median income for this group is \$92,500 as shown in Figure 2.

- Lone parent families (of which there are 1,400) have a median income of \$48,800.
- One-person household median income is \$38,600.

Figure 2 Source: 2016 Census



Income distribution at the household level can be measured by a figure called the Gini coefficient,³ where the higher the number is on a scale (0.0-1.0), the higher the inequality (Table 1). Data is not available for the SLRD as a whole. Both Pemberton and Squamish have a slightly less equal income distribution in 2015 than the provincial average, but more equal than Lillooet and Whistler.

Table 1 Gini Coefficient Source: 2016, Census, and censusmapper.com

Squamish	Whistler	Pemberton	Lillooet	BC
0.32	0.43	0.32	0.37	0.31 ⁴

² Economic family refers to a group of two or more persons who live in the same dwelling and are related to each other by blood, marriage, common-law union, adoption or a foster relationship. A couple may be of opposite or same sex.

³ Census Mapper calculates the Gini using after-tax household income. Full methodology available at <https://censusmapper.ca/maps/840#10/50.2213/-122.6067>.

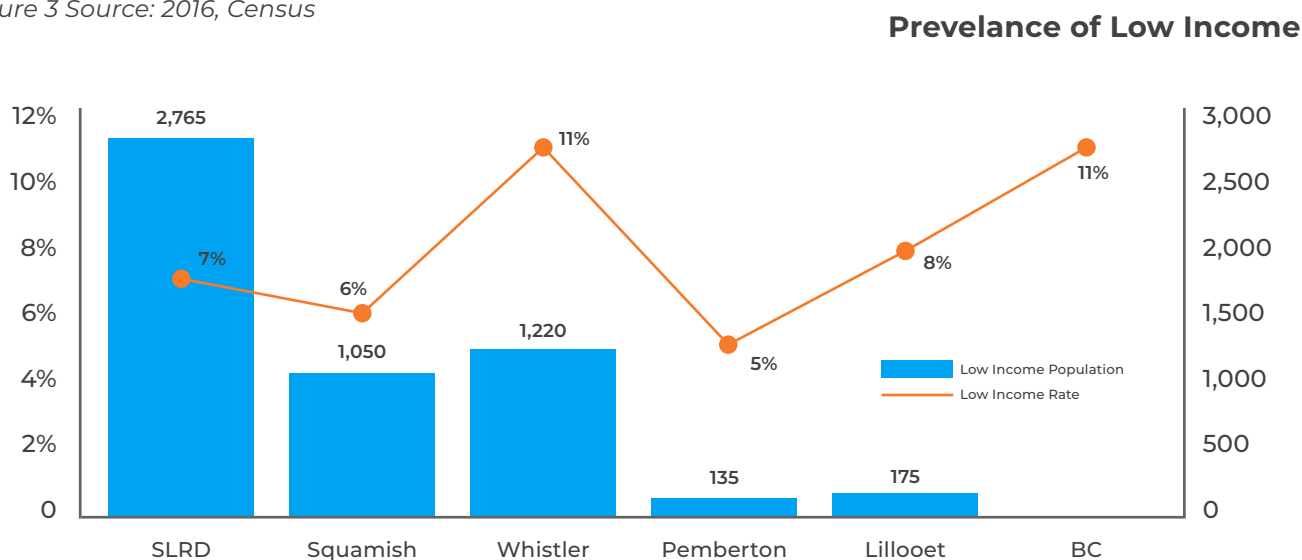
⁴ Statistics Canada. Table 11-10-0134-01 Gini coefficients of adjusted market, total and after-tax income

Low income

During the last Census in 2016, Low Income Cut Off⁵ measure was used as one way to understand the prevalence of low income in communities. Across the SLRD, 7% of the population or 2,765 people are living with low incomes, Figure 3. In comparison, the provincial rate is 11%.

- The proportion and number of people living in low-income situations within municipalities in the region is highest in Whistler at 11% of the population or 1,220 people.
- Pemberton has the lowest proportion and number of people living in low-income situation at 5% and 135 respectively.
- Data is not reported by Statistics Canada for Indigenous communities.

Figure 3 Source: 2016, Census



- The rate of children under 17 living in low-income situations is relatively consistent across the SLRD settlement communities and SLRD as a whole at about 5-6%, though it is somewhat higher in Lillooet at 8%. The provincial rate is 12% by comparison.
- The rate of seniors living in low-income situations is lower than that of children, and at 2-3% of the population, though 4% in Pemberton. The provincial rate is 17% by comparison.

Other Income data

Where reported,⁶ the average incomes of Indigenous members are lower compared to the average income of the overall SLRD or SLRD settlement areas.

- Average incomes of those persons 15 years of age and above who are Squamish Nation members are about 30% lower than the average income of in BC residents broadly, and SLRD residents more specifically. Average incomes of those persons 15 years of age and above who are Lil'wat Nation members are about 50% lower than the average income of BC residents broadly, and SLRD residents more specifically.

⁵ <https://www150.statcan.gc.ca/n1/pub/75f0011x/2012001/notes/low-faible-eng.htm>

⁶ Some Indigenous community low population numbers prevent Statistics Canada or INAC from reporting on incomes for privacy reasons.

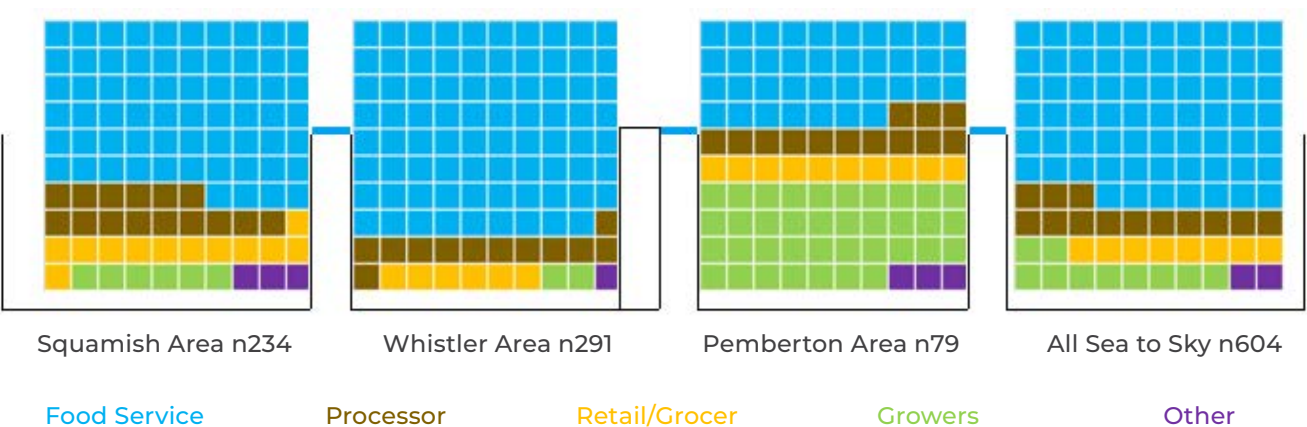
Food Industry Profile

The food industry includes all the organizations involved with food in the Sea to Sky region. This includes every organization from farm to fork to disposal, such as farms, grocers, restaurants, food programs, and waste collectors/managers.

Number of Organizations by Type and Location

Food service organizations such as hotels, restaurants and mobile carts make up the largest group of food organizations in the Sea to Sky. Across communities, Whistler has the highest concentration of food services organizations, Squamish has the highest concentration of retailers and Pemberton has a higher concentration of producers/growers (Figure 4). Given these unique characteristics, each community may have a slightly different approach to food recovery.

Figure 4 Distribution of food organizations by type by community



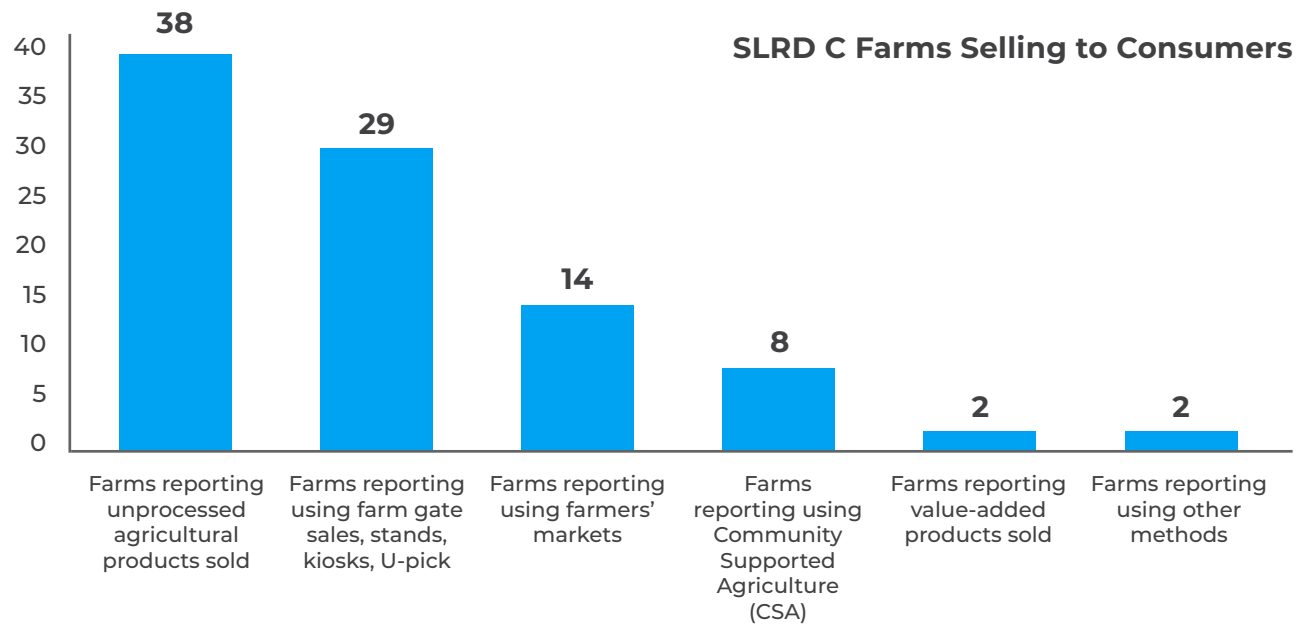
PRODUCERS/GROWERS

There are 138 farms within the SLRD, and 94 of those are in the SLRD Electoral Area C (Pemberton Valley, Mt. Currie, D'Arcy). Electoral Area D reporting in the Census of Agriculture was discontinued in 2016, due to the low number of farms.

The Sea to Sky region is well known for potato farming. In fact, potato farming is the dominant farm type in the area based on farm sales reported in the 2016 Census of Agriculture. However, hay is the most dominant crop when considering the amount of land used for farming. After raising horses and growing hay, the next most prominent category of farming includes 'other vegetable (except potato) and melon farming.' This category includes a large variety of vegetables.

- In total, 38 farms report selling unprocessed agricultural goods to consumers (Figure 5). Of those, the following channels were reported: 29 of them report using farm gate sales, stands, kiosks, or U-pick.
- A total of 14 farms report using farmers' markets; and eight provide a Community Supported Agriculture food delivery option.

Figure 5 Source: 2016, Census of Agriculture



RESTAURANT/GROCER FOOD SERVICES

Whistler and Squamish are the locations with the largest number of food premises and entities according to the Vancouver Coastal Health food premises database (Table 2). Premises are locations in which food is processed or served or sold for take-out, and multiple premises could be owned/managed by one entity. The number of entities is estimated by grouping premises under common phone numbers. In some cases, the entity may have multiple phone numbers and therefore the result in the table is an estimate.

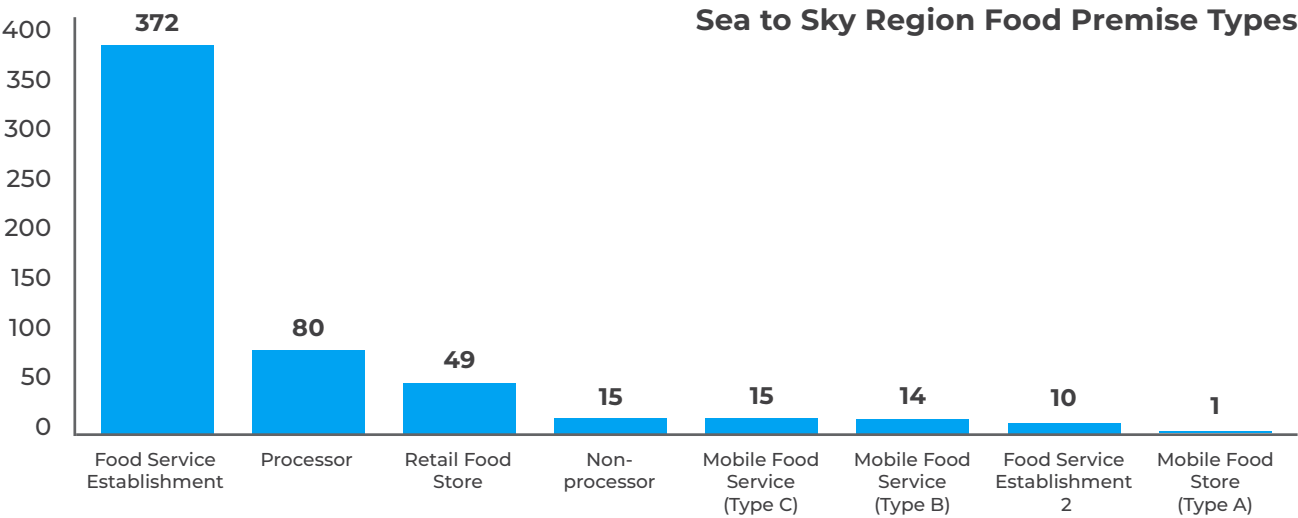
Table 2 Source: Vancouver Coastal Healthspace Data

Sea to Sky Community	No. of Premises	No. of Entities
Whistler	286	220
Squamish	179	136
Pemberton	43	34
Brackendale	20	11
Garibaldi Highlands	17	14
Britannia Beach	5	5
Mount Currie	4	3
D'Arcy	2	2

Food premises are categorized by the following types: Food Service Establishment 1, Food Establishment 2, Retail Food Store, Mobile Food Vendor and Processors. Figure 6

- By far most premises are Food Service Establishment 1, which includes a premise in which lower risk food is processed, served, or dispensed to the public and intended for immediate consumption (Food Establishment 2 is the same but in an institutional setting). A restaurant, or possibly a portion of a store that serves fresh food are included in this category.
- Processors and Retail Food Stores are the next most frequent premise types. Processors include premises such as a cidery, brewery or even an area in a grocer. Retail Food Stores might include premises that do not prepare foods, but instead sell prepackaged or raw foods such as a grocer or section of a gas station.
- Mobile Food Vendors are considered self-contained food operations that can move from place to place.

Figure 6 Source: Vancouver Coastal Healthspace Data



FOOD PROGRAMS

Whistler Community Services Society (WCSS), Squamish Helping Hands Society, and Sea to Sky Community Services (SSCS) all currently run food banks and food programs in the Sea to Sky Corridor serving those in need and those living in poverty. Sea to Sky Community Services (SSCS) supports the food bank and other programs in Pemberton as well as the temporary food bank set up to service demands during COVID-19 in Mt. Currie.

First Nation governments generally do not operate permanent food banks/programs, but do support other food programming such as hot lunches and garden growing programs. There are also temporary or pilot food programs operating in the region such as the traditional foods harvesting and preserving program supported by SSCS and run by the Southern Stl’at’imx Health Society.

Many of the organizations involved operate multiple food programs. For example, WCSS not only operates a food bank, but also a school lunch program, a community fridge to grab a small snack and go, as well as food skills and nutrition training. There are a total of 16 food programs (Table 3).

Table 3 Source: Vancouver Coastal Health and Food Program Websites

Type	No. of Programs
Free or subsidized grocery items (food banks and other distribution models)	5
Kitchens & other food programs	11

Meeting the need for food services can be challenging for FDOs because what is donated or recovered doesn't always match what clients need or what is required for balanced, nutritious meals. Supplementing donations with food purchases to provide more balanced meals adds a significant cost for all food program organizations (Table 4). Challenges for FDOs also include limited resources and infrastructure to collect, store, process and redistribute recovered food.

Table 4 Annual FDO Food Spending

	2021	2020	2019	2018	Food Typically Purchases
Squamish	\$70,000	\$45,000	\$10,000	\$27,000	Non-perishables
Whistler	-	*\$151,000	\$32,000	\$15,000	Perishables and non-perishables
Pemberton	-	\$70,000	-	-	

*April 2020 – March 2021

WASTE HAULERS/MANAGERS

Waste management is under the purview of the local and regional governments in the Sea to Sky Corridor. The main hauler for the area with municipal contracts is currently GFL Environmental Inc. The primary food waste composting company is Sea to Sky Soils in Pemberton.

Food Waste Available for Recovery

Edible food waste from grocers, restaurants and hotels is provided to food banks and programs, yet a significant amount is still sent to composters, farms or the landfill each year. Estimates suggest that there is between 6,000 and 9,400 tonnes of edible food waste generated in the Sea to Sky Corridor each year with between 165 tonnes and 530 tonnes being recovered for redistribution (Table 5, Table 6), suggesting that there is a significant opportunity to recover edible food.

Table 5 Sea to Sky edible food recovery opportunities and impacts (annual)⁷

Edible Food Recovery Potential (tonnes)	Estimated Current Recovery (tonnes)	Additional Potential for Recovery (tonnes)	Food Waste Costs ⁸	CO2e Total ⁹ (tonnes)
High estimate: 9,400	530	8,800	\$42.9 M	62,700 ¹⁰
Low estimate: 6,000	165 ¹¹	5,835	\$26.9 M	21,500 ¹²

⁷ High estimate extrapolated from national data based on Sea to Sky population (with visitors).
Low estimate extrapolated primarily from Squamish and Whistler waste composition studies.

⁸ Landfill/compost fees and wasted food costs.

⁹ Includes lifecycle CO2 from the entire food chain

¹⁰ Based on the entire food chain avoidable/edible food waste

¹¹ All donated food (recovered or purchased specifically for donation)

¹² Retail and post retail edible food waste considered only

Table 6 Estimated Sea to Sky food program collection/donation in kg, by community

Community	Estimated Annual Totals	Monthly	Weekly
Squamish 2019	125,000 kg	10,400 kg	2,400 kg
Whistler 2016-2018	19,200 kg	1,600 kg	370 kg
Pemberton/Líl'wat estimate (4,500 pop.)	18,000 kg ¹³	1,500 kg	350 kg
Other Indigenous (450 pop.)	1,800 kg	150 kg	35 kg
Totals	164,800 kg (165 tonnes)	13,750 kg	3,170 kg

Although most of the edible food waste is generated in Whistler (Table 7), a significant amount is also generated by Squamish and Pemberton grocers and restaurants, and likely some from Pemberton farms. Better recovery and redistribution to food banks and food program providers throughout the region is necessary to service the demands for food and to reduce the spending by food banks on food purchases.

Table 7: Sea to Sky opportunities for food recovery rounded to the nearest 5.

Area	Population	Edible Food Recovery Potential (tonnes)	Estimated Current Recovery (tonnes)	Potential for Local Recovery (tonnes)
Pemberton	2,600	245-380	18-21	225-360
Whistler	33,450 (includes visitors)	3,130-4,880	19-275	3,110-4,605
Squamish	19,500	1,825-2,845	125-160	1,700-2,685
Other SLRD ¹⁴	8,665	810-1,265	2-70	810-1,195
S2S Total	64,215	6,175-9,400	165-530	6,010-8,800

Table 8 highlights the best opportunities for recovery given the mix of food industry types within the region, the amount of edible food available and the relative ease of recovering and collecting it.

Table 8: Opportunity for food recovery: green represents the highest opportunity, yellow represents moderate opportunity and red represents the lowest opportunity. HRI= Hotel, restaurants, and institutions

	Production/ Grow	Processing Manufacture	Distributions	Retail/ Grocer	Households	HRI	Food Programs
Number of Entities	Up to 51 orgs. 38 sellers 8 community gardens	24 food processing orgs.	Very few	49 locations	16,500, dispersed	372 HRI locations	16 food programs
Potential Tonnes ¹⁵	Unclear	Unclear	Unclear	1,540-2,400	2,790-4,350	1,685-2,620	10

¹³ Based on the per capita amounts from Whistler (pop. est. 15,000) and Squamish (pop. 19,512)

¹⁴ All other communities in the SLRD, not listed in the table. E.g. Lillooet, D'Arcy etc.

¹⁵ High estimate extrapolated from national data based on Sea to Sky population (with visitors). Low estimate extrapolated primarily from Squamish and Whistler waste composition studies.

Strategies and Actions

This section presents the high-level strategies needed to address the biggest opportunities/needs for food recovery, redistribution, and waste diversion, and then for each strategy, specific actions are recommended. The rationale for each strategy is described to provide context.

A review of strengths and gaps in the Sea to Sky and assessed against best practices in food recovery was undertaken, and is included in Appendix A.

STRATEGY 1:

Secure additional recovered food donations to meet food bank/program needs.

The three food banks in the Sea to Sky corridor all purchase food to better meet client needs for the amount, types and quality of food required. Meeting food needs by increasing food donations is the focus of the actions below.

Recommended Actions		Lead
1.	Create more frequent/flexible pick-up systems/schedules from food donors to distribute food as quickly as possible before it perishes. Nesters and the Whistler Food Bank have just created a new schedule/system that is working better.	FDOs
2.	Establish storage/warehouse capacity with dry and cold storage space , considering these options in descending order of preference: a. Secure a portable facility for each food distribution organization that can be moved on and off site as needed (cost is about \$25-\$30,000; Whistler Food Bank has been in touch with a provider and is already aiming to purchase). b. Establish facility in the region that is shared among FDOs and/or operated by a third party c. Pool resources with local business that have access to storage/refrigeration, i.e., grocery stores, restaurants, hotels (though recognizing this option is temporary and has significant limitations)	FDOs
3.	Work with large food suppliers to have them: a. Donate food that is delivered to but is not usable by restaurants and hotels; b. Offer special pricing to local FDOs; and c. Donate non-recovered food. Sub-quality product and wrong orders (which don't happen often but are large quantities) are typically taken back down to the Lower Mainland; it would be ideal if this food could be directed to local food programs rather than being transported back.	FDOs with Food Banks BC

4.	<p>Increase/improve access to certified commercial kitchen space (i.e., community commissary) in each community that is large enough to accommodate food donation processing/preservation.</p> <p>The first step might be to explore existing underused commercial kitchen space to determine whether processing needs can be met through existing facilities. The second step might be to conduct a feasibility study to explore the need for and viability of establishing commercial kitchen capacity for fast preserving/processing of perishable food into more storable options.</p> <p>Consideration should be given to centralized or decentralized locations, organizational structure (a new agency or coordination between FDOs), access by farmers for processing and production, etc.). Sea to Sky Community Services is currently exploring a community food hub/centre, including a community kitchen, in Pemberton, which could be accessed by Lil'wat Nation members as well.</p>	LGs, SLRD
5.	<p>Continue to help HRIs understand the BCCDC Food Donation Guidelines (including Food Donor Protection Act) to ensure all recoverable food is captured and donated.</p> <p>While the opportunity for food recovery from HRI is not expected to be very significant since most of the food waste has been 'guest facing' and therefore cannot be donated, they may be some food that can be recovered. To maximize donations from HRI, it is important to keep the information about dates and food types as simple as possible; the FDOs can check/confirm dates upon receipt.</p>	FDOs

STRATEGY 2:

Remove barriers to accessing food programs.

After closing the gap in the supply of food to service the existing demand from existing clients, this next strategy is about ensuring that everyone who might need food programs is accessing them. Understanding who these individuals in our communities might be, and what the barriers are for them to access the food banks is the first step. Barriers might include transportation challenges, discomfort accessing the services, and hours of operation that do not align with personal schedules.

Recommended Actions		Lead
6.	Regularly engage food bank/program clients to update understanding of the challenges/barriers they face to accessing food and the amounts and types of food they need.	FDOs
7.	Improve understanding of those needing but not able to access food programs , the barriers they face, and the amount and type of food needed.	LGs
8.	<p>Explore low-cost/by-donation food programs to enable access to affordable food by more community members.</p> <p>Must be by donation since donated food cannot be sold. See Quest model from Lower Mainland.</p>	FDO
9.	<p>Provide home deliveries where possible to those clients with access challenges.</p> <p>Pemberton, Squamish and Whistler all do this for those who request delivery. Lil'wat has been unable to provide deliveries due to the high number of households requesting delivery.</p>	FDOs

STRATEGY 3:

Work with remote communities on food recovery and redistribution as desired/requested.

Remote communities in the Sea to Sky Corridor face unique challenges when it comes to the delivery of and access to food programs and fresh nutritious food. Direct engagement and collaboration to understand community-specific challenges and identify solutions was not part of the scope of this Sea to Sky Food Recovery Project and will be needed.

Recommended Actions		Lead
10.	Work with remote communities to identify food security challenges and potential food recovery and redistribution programs/locations as needed and as they define them.	Líl'wat and/or Pemberton Food Bank

STRATEGY 4:

Reduce and divert food waste that cannot be donated to food banks/programs.

Maximizing the recovery and redistribution of edible food that can be donated to FDOs is the primary focus of this strategy and action plan. Beyond this, there is food that cannot be donated to FDOs either because it has been 'guest facing' and 'plated' or because it has passed the expiry date allowed for redistribution by FDOs.

Recommended Actions		Lead
11.	Encourage a 'take-home' culture in HRI establishments, where taking leftover food home in (sustainable) to-go containers is cool and encouraged. Once food has been 'guest facing' on plates/tables, it cannot be donated, and this makes up most of the food waste from HRI. At minimum, 'take it home' messaging could be added as a zero waste tip in community newsletters. Messaging and training about portion size could also be considered.	LGs, HRI
12.	Upcycle produce destined for the bin to make sellable products (e.g., soups, smoothies, juice, etc.). Whistler Zero Waste Action Plan action (reworded). Nesters Whistler does this.	Grocers
13.	Secure food waste that cannot be donated to FDOs to feed farm animals and/or pets. Clippings/ cuttings (e.g., ends of sausages, stalks, etc.) that food banks cannot use currently go to waste and could be used to feed animals.	LGs, Farms

STRATEGY 5:

Build overall capacity related to food waste and recovery.

This strategy and the actions below help to support the other strategies and actions above by growing regional capacity – whether that capacity is in the form of knowledge, systems, funding or other – as articulated by the actions below.

Recommended Actions		Lead
EDUCATION/TRAINING		
14.	Provide or enhance learning offerings through community kitchen programs so people can learn how to use/cook and preserve (e.g., salting, canning, fermenting, etc.). recovered/surplus food.	FDOs
15.	Create work and training programs that align with both the needs of people facing barriers and the FDOs' need for staff. This can link back to funding opportunities (e.g., Employment and Social Development Canada programs) to offset operational costs of FDOs.	FDO
16.	Create learning opportunities at S2S schools about food security, food waste, and surplus food.	SD48
TOOLS/SYSTEMS		
17.	Adopt and consistently track a standardized set of metrics/indicators and units for quantifying recovered food donations, (e.g., weight, volume, dollars, number of clients, households, etc.). SHHS and WCSS already use this.	FDOs
FUNDING		
18.	Pay or donate a fee-for-service amount to local FDOs to help each community achieve zero waste goals. FDOs are providing a waste management service but are not paid to do so.	Grocers, large suppliers, HRIs
19.	Advocate for sustainable ongoing operational funds .	FDOs
20.	Fund or hire someone to coordinate and monitor implementation of the Food Recovery Strategy & Action Plan . This could be done by hiring a regional coordinator, or by existing staff, or a non-profit organization playing the coordinating role.	LGs, SLRD

OTHER		
21.	Find more office space for FDO staff to work (e.g., administrative tasks).	FDOs
22.	Advocate that the provincial Clean BC program and grants include food recovery as a methane reduction strategy.	LGs, UBCM
23.	Include food waste/recovery as part of the next component of the Good Food Program to be adopted by Sea to Sky institutions.	Squamish CAN
24.	Develop and deliver a “Love Food, Hate Waste” campaign with resort partners that educates about food waste and recognizes/celebrates major food donors. This is a fee-based national campaign (with supportive marketing materials) that is already being implemented by the RMOW and SLRD.	RMOW, Whistler Zero Waste Action Plan action.
25.	Include food security and recovery in community policies and plans (e.g., GHG plans, OCPs), and ensure they are implemented.	LGs
26.	Create events showcasing how to minimize food waste, e.g., a cooking challenge using food scraps.	RMOW, Whistler Zero Waste Action Plan action.
27.	Update relevant policies to include recovery of surplus food where possible.	All





Appendix A:

Strengths and gaps in the Sea to Sky, and leading practices

This document is a summary of strengths and gaps in the Sea to Sky, and a compilation of best practices, which provided a 'cheat sheet' to inform action planning. It includes the relative scale of the recovery potential for each food industry type, the strengths and challenges related to regional food recovery, as well as food recovery best practices pulled from a number of source documents that are listed at the end. Each best practice in the table is coded A, B, C, etc. according to the document from which it was sourced, and endnotes are used to provide more information about some of them.

RECOVERABLE FOOD POTENTIAL BY SOURCE IN THE SEA TO SKY

The table below summarizes the potential for food recovery, where green represents the highest potential, yellow = moderate potential, and red = the lowest potential. For more detail, including a breakdown by community, please see the Food Recovery Engagement and Research document provided as a separate document.

	Production/ Grow	Processing Manufacture	Transport/Distribution	Retail/Grocer	Hotels, restaurants and institutions (HRI)	Food Distribution Organizations (FDO)
Number of entities	Up to 51 orgs. 38 Sellers 8 Community Gardens	24 food processing orgs.	Very few	49 locations	372 HRI locations	16 Food programs
Potential tonnes ⁱ	Unclear	Unclear/Limited	Unclear/Limited	2,400	2,600	10

S2S STRENGTHS AND CHALLENGES/GAPS, AND GENERAL BEST PRACTICES

S2S Strengths (green) + Challenges/Gaps (red)	Best Practices	Organization Types:*							
		Gen	LG	F	P	R	HRI	T	FDO
1. Monitoring and assessment									
<i>Track levels and sources of food waste and (re-)assess potential to increase food recovery.</i>									
<p>S2S FDOs don't typically distinguish between dedicated food donations and recovered food waste when measuring food received; some don't measure at all. And while the FDOs have indicated that they generally can meet the demand for food, there hasn't been any assessment of unmet demand, or additional needs by those who cannot easily access the FDO services.</p> <p>Most grocers/retailers track unsellable food as 'shrink' but this is confidential information; the amount of 'shrink' that is recovered and donated is not tracked as carefully (sometimes not at all and sometimes just as an estimate based on the number of boxes of food).</p> <p>Most HRI do not track the amount of food thrown out.</p> <p>No regional organization in the S2S to monitor, assess, and address food waste/recovery.</p>	Track donations using a variety of identification codes in case of recalls. ⁱⁱ (A)			✓	✓	✓	✓		✓
	Measure recovered food and assess potential to increase both. (D)			✓	✓	✓	✓		
	Measure success beyond "kilograms collected" (e.g. people served, events, volunteers, etc.). This information is crucial for grant applications. ⁱⁱⁱ (C) (D)								✓
	Support a coordinated system for individual business/organizational level tracking and assessment of recoverable/donated and received/redistributed food. (D)	✓							
	Assess assets, gaps and further development of food rescue infrastructure. (D)	✓							

*Organization types: General, Local Government, Farms (moderate recovery potential), Processors (low recovery potential), Retail (high recovery potential), Hotels/Restaurants/Institutions (high recovery potential), Transport, Food Distribution Organizations (which are described at the end of the doc.) Colour coding follows the first table in the document and represents the size of the opportunity for food recovery in the S2S Corridor.

S2S Strengths (green) + Challenges/Gaps (red)		Best Practices	Organization Types:*							Gen	LG	F	P	R	HRI	T	FDO
2. Planning, policy, regulations																	
Remove barriers, establish requirements, incentives and disincentives to improve recovery.																	
<p>Best before date or other food liability concerns from the food industry are barriers to donating food.</p> <p>There is a lack of enforcement preventing food waste in the garbage at the food operation so food is lost.</p> <p>Squamish Zero Waste Plan includes banning organics as an action item.</p> <p>Pemberton does not have a ban on organics/food scraps.</p> <p>Whistler has a ban on organics in the landfill, and tipping fees are higher than for unmixed waste. Industrial, commercial, institutional and large multi-family residential parcels must separately collect food scraps, organics, recyclables and landfill waste for disposal.</p>	Ban food and food scraps from the landfill (e.g. CRD, Metro Van ^{iv}). (A)	✓															
	Review and revise vendor agreements to enable donation of edible food. (D)	✓															
	When issuing RFPs, include need for respondents to include food recovery and redistribution strategies, and to measure and reduce the amount of food going to waste. (D)	✓															
	Review organizations date code/food donation policies to ensure that they do not prevent the donation of safe food. (D) (Background: In BC, the Food Donor Encouragement Act FDO Guidelines are permissive – they allow for distribution, as long as the source is known, trusted, BB date is clearly displayed, and ingredients are known/accessible.v (A))					✓	✓	✓									
	Create official protocols for serving systems (e.g. buffet process) to encourage donation of excess food. (D)							✓									
	Establish clear, robust rules surrounding the management of potentially donatable food by public health institutions, to address the current “when in doubt, throw it out” philosophy. (D)						✓	✓									
	Remove any clauses in crop insurance policies that prevent the donation of edible crops. (D)			✓													
3. Funding/Financial Resources																	
Grants, rebates, financial incentives to community orgs to enable food recovery																	
<p>Funding from Federal Government (Local Food Infrastructure Fund) - \$50M over 5 years. Provides access to expensive infrastructure, e.g., refrigeration.</p> <p>A \$10 million grant from the Province enabled Food Banks BC to provide 89 community food banks with walk-in coolers and freezers, refrigerated trucks and related infrastructure.</p> <p>Clean BC Program exists and could prove to be a mechanism for food recovery.</p> <p>Farmers and HRIs can receive a charitable tax receipt for donating food to FDOs that is sellable.</p>	Fund food recovery initiatives, including infrastructure, staffing, communication, etc., considering revenue from waste reduction or tipping fees. (C)	✓	✓														
	Collaboratively invest in and operate redistribution infrastructure and community food programs initiatives. (D)	✓	✓						✓								✓
	Fund the development and commercialization of innovative solutions for transforming inedible FLW into edible foods and ingredients (e.g. soup stock). (D)	✓															
	Fund the start-up of social ventures that will in turn fund or deliver food programs for those in need.vi (B)		✓					✓	✓								✓
	Fund non-profit organizations to run scheduled retrieval services, driving to farms and retail stores, picking up donated goods, and delivering to food banks. (F)		✓					✓									
	Offer a tax rebate (or other financial incentive) to farms, producers, retailers, and HRIs that donate food to FDOs (Milan, Italy offers a 20% reduction on their waste tax). (E)		✓														

S2S <i>Strengths (green)</i> + <i>Challenges/Gaps (red)</i>	Best Practices	Organization Types:*							
		Gen	LG	F	P	R	HRI	T	FDO
<p>Many strong and established FDOs already exist in the region with successful programs.</p> <p>Lack of resources (human and financial) to monitor, assess and address food waste.</p> <p>United Way has provided funding for food security initiatives.</p>	Share purchasing power. FDOs augment their food donations by purchasing additional food. A retailer or wholesaler might share their purchasing power with a partnering FDO in order to help reduce their costs. (A)					✓	✓		✓
3. Human Resources <i>Individuals and organizations have the capacity to recover and redistribute food.</i>									
<p>Staffing challenges for food banks, and the cost of labour and wages are not covered by grants or sales.</p> <p>Challenges coordinating and staffing pick-ups/deliveries between donors and FDOs.</p> <p>Very passionate and dedicated senior staff at HRI who go out of their way to collect and donate food.</p> <p>Strong collective knowledge and passion amongst FDOs in the region.</p>	Engage employees in food recovery solutions and operations. (D)				✓	✓	✓		
	Designate someone to make decisions about food donations. This designated "donation liaison" leads the day to day activities involved with food donation. (A)				✓	✓	✓		
	Use food recovery and donation activities as team-building opportunities in organization since most FDOs rely heavily on volunteers. (A)	✓	✓		✓	✓	✓	✓	
	Establish additional food bank locations, which could lessen travel distances and make redistribution easier for many farmers and retailers. (F)		✓						✓
	Deliver lean ^{vii} training to FDO staff and volunteers to optimize the use of resources. (D)								✓
	Encourage public participation in volunteer recovery and redistribution programs. (D)	✓							✓
4. Infrastructure <i>Including service facilities, storage, refrigeration, equipment, vehicles, etc.</i>									
<p>Cold chain issues; lack of refrigerated trucks.</p> <p>Insufficient on-site storage, loading bays and refrigeration, leading to spoilage at donor locations and FDOs.</p> <p>Squamish Food Hub expansion, but too early to tell if it will meet growing needs.</p> <p>A Pemberton Food Hub is being planned by Sea to Sky Community Services.</p>	Share infrastructure. Many FDOs report needing more access to cold storage and transportation. Donating warehousing space, freezer or cold storage space, or arranging for transportation and delivery from your facilities could be very beneficial. (A)				✓	✓	✓	✓	✓
	Share packaging, supplies and services. Dishes, equipment, storage wares, and environmentally sensitive packaging might be needed by FDOs. (A)			✓	✓	✓	✓	✓	✓

<p>Whistler facilities currently meet the needs of the 80-100 clients per week. Pemberton space is limited; not enough space to store food (during COVID space has also forced reduction in staffing due to physical distancing requirements).</p> <p>Lil'wat facility (which is only temporary) has ample storage space, but human resource and transportation capacity is challenged (especially true during COVID).</p> <p>Remote communities (mainly Indigenous ones) have access challenges and very little storage capacity for food redistribution.</p> <p>HRI may have existing infrastructure (e.g. storage, vehicles, kitchens) that can support gaps/needs.</p> <p>Food can be missorted and spoils each other. Mobility/transportation barriers exist for some FDO clients.</p> <p>Pemberton has a commercial community kitchen at the Community Centre, but space is limited and challenging for FDOs/processors to have to move equipment and food in and out for other community users. Lil'wat has a commercial kitchen, but it is very busy most of the time. Squamish is currently working on a strategy to inventory commercial kitchens and determine when they are not in use and could be accessed by small food businesses/processors.</p>	Encourage and support the development of new business models by waste management haulers, who might expand their services to support food recovery efforts (D).		✓					✓	
	Ensure adequate refrigeration at FDOs, which enables them to provide customers with a choice of products, similar to shopping at a supermarket (vs. receiving a box of pre-selected food). This is identified as one of the top needs in the Sea to Sky.								✓
	Establish commercial community kitchen that enable food processing by FDOs, farmers and other community organizations.	✓	✓						✓
6. Food redistribution/ access programs <i>How the food is managed and distributed by FDOs to those in need.</i>									
<p>Some Stl'at'imx communities are very remote and travel is sometimes challenging or not possible at all. Lower Stl'at'imx Health Society distributes food for remote Lower St'at'imc communities.</p> <p>Need for better collaboration between new food programs and existing programs.</p>	Provide ongoing support to regional working groups focused on recovery and redistribution.		✓						
	Support implementation of foundational redistribution system, with guidance on modifying to suit local conditions. (D) ^{viii}		✓						
	Grow or manufacture food specifically for donation. Farmers may "grow a row," and manufacturers may do a special product run specifically intended for an FDO. In-demand products ^x should be the focus. (A)			✓					

<p>Well managed and resourced food programs exist in S2S and are generally meeting existing requests for food.</p> <p>Sea to Sky farms are donating more food than in the past and these foods are in high demand.</p> <p>COVID has strengthened local food networks that can aid future food recovery.</p> <p>Squamish food program facility expansions provides food in a market-like setting.</p> <p>Food industry operations are generally very supportive of donations and recovering food.</p> <p>Responsive to new/emerging food needs (e.g. Li'wat Food Bank set up quickly in response to COVID).</p> <p>Strong FDO anecdotal understanding on what their needs are and how they can best meet those needs.</p>	Provide free left-over or unsold lunch menus from restaurant on weekdays to people experiencing homelessness. ^x (B)						✓		
	Build a more formal, long-term relationship with FDO(s), which will help to clarify expectations for both organizations. A memorandum of understanding (MOU) ^{xi} can be a helpful tool to capture important information such as contacts, hours of business, expectations, etc. (A)			✓	✓	✓	✓		
	Build relationships with those receiving the food, and listen to their ideas about how it should be delivered in way that most allows recipients choice and dignity.								✓
	Establish formal collaborative agreements between multi-regional food redistribution and community food programs. (D)								✓
	Improve strategic and operational collaboration between food rescue and community food programs at all levels (federal down to local). (D)	✓	✓						
	Sell products from wholesale/retail, industry, catering, agriculture etc. that can't be sold are near or past their 'expiration' date at lower prices in social markets. ^{xii} Could be done through a smartphone app. (B)			✓	✓	✓	✓		
	Although food banks cannot sell food, they can set up a social enterprise with retail where they sell items and raise funds for food banks.								
	Establish 'gleaning' programs with farms, where FDOs are given permission to access farm fields post-harvest and recover food that would otherwise be wasted.			✓					✓
	Establish or expand food programs for school-aged children.								✓
7. Education, communications <i>Increase food recovery stakeholder awareness and capacity related to food recovery.</i>									
<p>Uncertainty amongst retail and HRI donors about the ability to use prepared foods at food banks.</p> <p>Uncertainty about what raw foods the food banks need e.g. too much bread and sweets, additional composting costs for the food banks if not needed.</p> <p>There has been significant education in Whistler in the commercial sector, including a Solutions Guide and workshops for reducing food waste.</p>	Shift the language of 'food waste' to 'surplus food' or 'forgotten food' to educate that the surplus food is not garbage; it is edible and nutritious. (C) (D)	✓	✓						
	Create a 'take-home' culture within restaurants where (sustainable) to-go containers are cool and encouraged. (E)		✓				✓		
	Publish best practice date coding policies to inform processors. (D)	✓	✓						
	Publish a comprehensive donor resource to encourage donations and reduce organizational time dedicated to the effort, including: the benefits, facts/figures, health regulations, date labelling meaning, the BC Food rescue timetable. ^{xiii} (D)	✓		✓	✓	✓	✓		✓
	Educate about ways to transform food waste into edible foods and ingredients (and extending the shelf-life). (D)			✓	✓	✓	✓		✓

<p>Strong existing community groups to support education and communications efforts.</p> <p>Global groundswell/movement taking place that S2S can learn from.</p>	Recognize businesses working with FDOs as a way to encourage others to do the same. (E)		✓						✓
	Provide health inspectors with the training and tools to more explicitly integrate food donation issues into their work (health authority).	✓							
	Offer value-added services like community meals, film screenings, workshops (how to grow, prepare, and reduce food surplus), and community kitchen events to preserve fruits and vegetables, to benefit all community stakeholders, and increase awareness and support (MacKenzie & Park, 2015). (C)								✓
	Establish standardized communication system and processes for donors and redistributors (e.g. website, checklist, set times for pick up, etc.). (D)					✓	✓		✓
	Encourage organizations to engage their employees in recovery and redistribution initiatives, within the organization or as individual volunteers. (D) ^{xiv}			✓	✓	✓	✓	✓	
<p>8. Advocacy (to other levels of government)</p> <p><i>Secure the needed support and/or legislation from the provincial and/or federal governments</i></p>									
<p>Food recovery is not currently part of Clean BC program (nor federal programs) as a strategy to address climate change.</p>	Advocate for policies that promote a reasonable living wage and mitigate food insecurity. ^{xv} (C)	✓							
	Lobby for supportive donor and liability (e.g. Good Samaritan Act) legislation. ^{xvi} (C+D)	✓							
	Advocate for improved strategic oversight of food rescue and community food programs at all levels (federal down to local). (D)	✓							
	Advocate for the requirement that schools educate students on food sustainability and rescue.	✓							
	Dates								
	Advocate for the adoption of new national enforceable date code formats (e.g. Julian codes) that enable and expand food recovery and donations. (D, Technical Report)	✓							
	Advocate for the establishment of industry standard on date code protocols regarding food donations. (D)	✓							
	Advocate that government work with industry to eliminate date codes from being abused for competitive advantage. (D)	✓							
	Advocate for the establishment of clear guidelines and legal framework for allowing mislabelled food products that do not represent a food safety hazard to be donated. (D)	✓							
Food loss and waste (FLW)									

	Advocate for the establishment of a national ban to prevent FLW going to landfill with firm timelines for its implementation. (D)	✓							
	Advocate for the establishment of collaborative FLW agreement with industry members in conjunction with voluntary FLW reduction agreement with government. (D)	✓							

What are Food Distribution Organizations (FDOs)?

Source: BCCDC Industry Food Donation Guidelines, March 2019

The most widely known FDOs are food banks, but there are a range of organizations and programs that use donated food to feed hungry people, support healthier eating, build community capacity, educate and train people, or help maintain cultural eating practices.

1. **Community kitchens** are programs in which food is collectively prepared and consumed. They include educational, community building, and/or food provision aspects. Food may be consumed on site or taken home to be consumed at a later date.
2. **Food banks** & smaller food pantries provide food at no cost to clients. Food banks perform a number of functions including receiving, holding, storing, packaging, repackaging and distributing food to be consumed off the premises, but do not generally process or serve food.
3. **Low cost retail outlets** provide food for pick-up by members, either at a reduced charge or at cost. Foods unsuitable for sale by wholesalers or retailers may be allowable for sale at these premises. Foods must be appropriately packaged and stored for use in a retail setting.
4. **Meal programs** (e.g., soup kitchens) fit the definition of a food service establishment or food premise; they prepare and serve food to clients on-site.
5. **Social enterprises** include culinary training schools, non-profit restaurants, and low-cost retail outlets. Foods given to social enterprises may be used in teaching kitchens or sold through a catering or grocery non-profit business.

Sources for best practices

- A. BCCDC Food Donations Guidelines: <http://www.bccdc.ca/resource-gallery/Documents/Guidelines%20and%20Forms/Guidelines%20and%20Manuals/EH/FPS/Food/Food%20Donation%20Guidelines%20Complete.pdf>
- B. Best Practices to prevent food waste in Europe: <http://www.reducefoodwaste.eu/best-practices-to-prevent-food-waste.html>
- C. Harvesting Potential from Forgotten Food – Best Practices, Found and Dalhousie University: <http://foundns.com/wp-content/uploads/2017/10/Food-Rescue-Best-Practices-2017.pdf>
- D. Page 25-27: <https://secondharvest.ca/wp-content/uploads/2019/01/Avoidable-Crisis-of-Food-Waste-The-Roadmap-by-Second-Harvest-and-VCMI.pdf>
- E. Circular Cities Roadmaps 2020 (Banff, Calgary, Edmonton, Lethbridge, Strathcona) <https://recycle.ab.ca/circular-cities/>
- F. FAO. 2011. Global food losses and food waste – Extent, causes and prevention. Rome. <http://www.fao.org/3/mb060e/mb060e00.pdf>

Endnotes:

ⁱ Estimates based of national averages and the Sea to Sky population (with visitors) estimate of 64,215 people. Rounded.

ⁱⁱ Keep track of the following: • Donation date • Name of the recipient FDO • Name of the item • Unit of measure for the item (e.g., cartons or kg) • Quantity donated • BBD (Best Before Date) • Production dates, UPC codes, lot codes, or specific batch numbers • Wholesale unit cost for the item • COGS or cost of goods sold (multiply the unit cost of the item by the number of units) Optional: • Weight of food donations (kg) • No. of meals by portion donated.

ⁱⁱⁱ Though many organizations effectively measure the weight of the food they have rescued, this number does not account for poor growing seasons, differences in food weights, food packaging, and the nutritional value of one food versus another. Shift your key performance indicators to numbers of harvest events, community partners and volunteers. In this way, you are measuring the social value of building community, reducing waste, increasing awareness, and increasing access to food, rather than simply how much food you have collected (Miroso, Mainvil, Horne & Mangan-Walker, 2016). Food-Rescue-Best-Practices-2017.pdf

^{iv} Starting in 2015, organics (e.g., food or food scraps) are banned from Metro Vancouver garbage. Healthy edible food can be donated. Waste or scraps should be collected for compost or biofuel.

^v In BC, the Food Donor Encouragement Act protects corporations and their directors, agents, and employees from liability when donating food or distributing donated food.⁷ As long as the food was not rotten or unfit for consumption, and the food was not donated or distributed with reckless disregard for safety, this Act provides protection from liability. <http://www.bccdc.ca/resource-gallery/Documents/Guidelines%20and%20Forms/Guidelines%20and%20Manuals/EH/FPS/Food/Food%20Donation%20Guidelines%20Complete.pdf>

^{vi} Kitchens use fresh, non-compliant vegetables (misfits) from organic farmers, which cannot be sold on the market. The food is served in refillable jars at events or delivered by bike to the offices in Vienna.

^{vii} Lean practices optimize resources (human, financial, and other) and are guided by tenets of continuous improvement and respect for people.

^{viii} Support the implementation of food recovery distribution models based on local community needs, existing assets, and existing organizations.

^{ix} In-demand items in BC are included in Appendix 1: <http://www.bccdc.ca/resource-gallery/Documents/Guidelines%20and%20Forms/Guidelines%20and%20Manuals/EH/FPS/Food/Food%20Donation%20Guidelines%20Complete.pdf>

^x Employees of the Social Services Centre pick up the left-over or unsold lunch menus directly from the canteens and transport them to the Centre of emergency assistance for those in extreme social situations where the homeless can get a good hot meal which would have otherwise been thrown away. <http://www.reducefoodwaste.eu/best-practices-to-prevent-food-waste.html>

^{xi} MOU templates are available on the BCCDC website.

^{xii} All those social markets are charitable organisations or non-profit companies with clear regulations on prices, food hygiene and access authorisations. All goods are donated for free from retail and industry. <http://www.reducefoodwaste.eu/best-practices-to-prevent-food-waste.html>

^{xiii} BCCDC Food Rescue Timetable: https://www.foodrescue.ca/docs/default-source/food-safety/best-before-timeline.pdf?sfvrsn=c7501331_22

^{xiv} When people understand the issues at hand, they are more likely to participate in solutions (know better, do better). Redistribution efforts can often take more time and effort than just composting or putting food in the garbage. Engaged staff will support stronger food recovery programs.

^{xv} Explore, understand, and then make explicit the connections between poverty, food waste, and food insecurity. Help to educate the local community and government to understand the social, health, and environmental impacts of our broken food system, and how your organization can help mitigate those impacts (Lipinski, Hanson, Loma, Kitinoja, Waite, & Searchinger, 2013).

^{xvi} Our research found that, in Canada especially, organizations encountered resistance to participation from potential retail and corporate donors because they were worried they were not protected from liability for selling “near-expired” food. Removing liability as a barrier would greatly enhance the ability of organizations to do their work. Food-Rescue-Best-Practices-2017.pdf

