



SWBC Bio-Region Food System Design Project Phase I - Stakeholder Engagement Report

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Stakeholder Engagement



Institute for Sustainable Food Systems

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Executive Summary

The Southwest BC Bio-Region Food System Design project was launched by the Institute for Sustainable Food Systems at Kwantlen Polytechnic University in the fall of 2012. The project is exploring what a bio-regional food system in Southwest BC might look like and how it could contribute to community, economic development and environmental stewardship goals. In 2013 a project team was formed. The team developed a set of Food System Design Objectives and began baseline research to understand the current state of the food system in Southwest BC. During this time the team also began building relationships with food system stakeholders in the bio-region including: municipalities, farmers, community groups, environment and food security organizations, food system businesses, industry and many others.

Three different engagement tools were used to gather feedback from stakeholders for Phase I of the project. In June of 2014 a series of six workshops were held across the bio-region where group discussion and activities were used to gather feedback on the Food System Design Objectives and Sub-Objectives. At the workshops participants also filled out an Activity Sheet where they provided individual rankings and values for the Food System Design Objectives and Sub-Objectives. Finally an Online Activity Sheet was distributed to gather responses from those stakeholders who were unable to attend the workshops. This engagement represents the culmination of Phase I of the project and will inform how the team moves forward with its work in Phases II and III.

Through this engagement, over 106 stakeholders participated in lively discussion about the project and the future of the food system in Southwest BC. Many topics from energy, health and nutrition, land access, farm productivity, Indigenous food sovereignty and environmental stewardship were discussed and shared through the Activity Sheet. The most common thread was that stakeholders are looking for reliable data and information on key food system topics to inform decision-making and advocacy efforts.

At the events and online, stakeholders were asked to rank the draft Food System Design as well as assign a value to the Food System Design Sub-Objectives. They reported that it was difficult to rank objectives because each objective is inextricably linked to the others. Despite this challenge, Objectives 1.0 (Increase Self-Reliance in Agricultural Production), 7.0 (Strengthen and Enhance Local Farms and Ancillary Businesses), and 2.0 (Minimize External Inputs and Optimize Soil, Water and Air Quality) emerged as key priorities for stakeholders.

Stakeholders expressed a sincere desire to see the development of a bio-regional food system with a focus on the viability of farms and farming and the creation of a local food economy where dollars stay in our communities and where the environment is respected and protected as we make use of the bounty of our bio-region or “life place”. It is clear that stakeholders believe that growing food in Southwest BC is important, that protecting the livelihood of current farmers and opening the doors for new farmers is critical, and that we need to ensure that the way we grow food does not negatively impact the ecological systems that support us.

The team has reviewed and considered the feedback received by stakeholders during this process. At the end of the this document we report on key actions resulting from stakeholder feedback as well as provide answers to how we will address questions and concerns that were raised during the process.

We thank the many stakeholders who took the time to meet with us, attend workshops and provide feedback on the project. Your views and perspectives are crucial to this process and have helped to guide our thinking in immeasurable ways.

Introduction

Project Background

By the year 2050, we will be living in very different times. Climate change, rising oil costs, increasing water scarcity, increasing populations and environmental degradation will continue to impact global food supply. How are we going to feed our communities given these challenges?

The Institute for Sustainable Food Systems (ISFS) is a research Institute at Kwantlen Polytechnic University dedicated to exploring the human and ecological dimensions of the food system. We do this through applied research working with and for the community to tackle the big questions about how our food system works and how it could work in the future. In this process we are committed to working with Indigenous communities to understand, describe and position Indigenous priorities, perspectives and paradigms in food system research, design and planning.

ISFS launched the Southwest BC Bio-Region Food System Design Project to better understand the realities, challenges, and potentials of the food system in Southwest B.C. The project is designed to explore the economic, environmental and food self-reliance potential of a bio-region food system in Southwest BC. A bio-regional food system is one in which food is produced in the bio-region for people in the bio-region.

The team is using a scenario process to develop an understanding of possible food system futures for Southwest BC. Scenarios are data driven stories that are created to understand the relationship between factors in a system and understand the outcomes of different decisions. Scenarios do not prescribe or predict what will happen, but are helpful for exploring different options in an uncertain future.

The team is developing a mathematical model to determine how much and what kinds of food we can grow in the bio-region given a number of ecological and resource constraints. The model will solve this problem in the context of a 2050 future where population growth, climate change impacts and other factors impact our food system. With this model we will create a set of scenarios to compare different choices. We will create a business as usual scenario that will explore the trajectory of our current path, and a set of alternate future scenarios that represent different choices we could make. With stakeholders, these scenarios will be used to explore different trade-offs, synergies, and decisions. From this we will create the Design, the delineation of a desired food system future.

The SWBC Bio-Region Food System Design Project is meant to explore how a bio-regional food system can complement the existing Southwest BC food system and explore the potential ways the current food system might evolve in the future toward greater resilience and sustainability in our communities. The 2050 Design will be accompanied by a set of recommendations and actions to support the development of a bio-regional food system future.

Twenty-two researchers from a range of disciplines including agriculture, economics, planning, geography, ecology and Indigenous food systems are contributing to the project; team members are working with stakeholders to explore future food system scenarios, and to develop the Design.

The goals of the SWBC Bio-Region Food System Design Project are to:

- Increase awareness and understanding of the food system and agriculture in Southwest BC.
- Provide data and knowledge to guide informed conversation and decision-making about the future of the food system in Southwest B.C.
- Bring diverse stakeholders together to explore food systems thinking, design and planning at the bio-region level.
- Develop a methodology for designing a bio-regional food system that can be applied elsewhere in BC, Canada and the world.
- Bring together a multidisciplinary research team to explore the environmental, economic and food self-reliance dimensions of the food system.

What is a Bio-Region?

Bio-regions are areas that share similar topography, plant and animal life, and human culture. They are alternately referred to as a 'Life Place'. They are largely based on eco-regions but incorporate human settlement and activity patterns and can take political boundaries into consideration. **The bio-region for the project includes the following regional districts: Metro Vancouver, Fraser Valley, Sunshine Coast, Squamish Lillooet, and Powell River. The bio-region also includes the traditional territories of the Coast Salish Peoples.**

The characteristics most commonly used to delineate bio-regions are watersheds and biogeoclimatic zones, landforms, and vegetation assemblages. The Southwest BC bio-region was delineated using a combination of regional watershed boundaries, Level 3 Ecoregional Classification zones (that reflect similarities in climate, geography and biological communities) and municipal/regional district boundaries. The overlapping boundaries of ecoregions, watersheds, landforms, and Indigenous territories offer a valuable contextual and historical reference point for deepening our shared understanding of how to "live in place" in the present day. This concept also complements Indigenous concepts of bio-cultural.

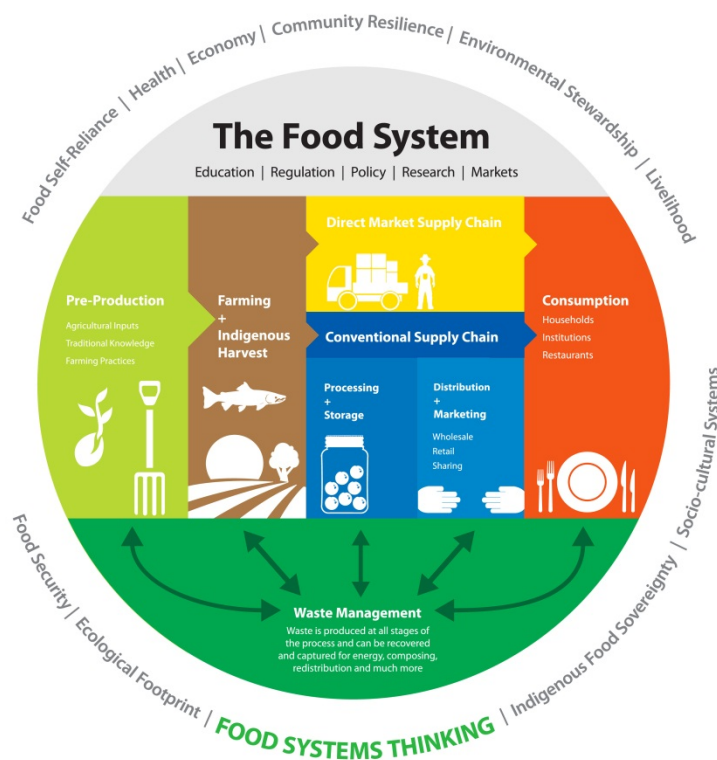
The project is divided into three phases and also contains a parallel Indigenous food systems research project.

Phase I: Baseline Research

In this phase the team established the draft Food System Design. These are statements that describe what a food system should be and achieve (see page 13 for a complete list). The team established corresponding indicators for each objective that determine how progress and change could be measured in the future. The team also gathered data to characterize the state of the current SWBC food system in relation to those objectives. During this phase the team began building relationships with the region's food system stakeholders including municipalities, agriculturists and farmers, community groups, environment and food security organizations, food system businesses, industry and many others.

Phase II: Food System Design

During this phase the team is developing a mathematical model to create scenarios of different food system futures. Using the model, we are exploring how much and what types of food we could grow in our bio-region to increase levels of food self-reliance given a set of constraints and limits on the system. These constraints might include land availability and greenhouse gas emissions limits, and goals such as reducing nitrate pollution from our waterways and protecting and enhancing habitat for biodiversity. We are also using the model to explore what impact different diets, for example eating more



THE FOOD SYSTEM is made up of all the processes and infrastructure involved in feeding a population, including the following key elements: pre-production, farming and Indigenous harvest, processing and storage, distribution and marketing, consumption and waste management. It includes the inputs needed and outputs generated at each of these steps and the human resources that provide labor, research, education and technical support. It can be thought of in terms of the human, physical, and environmental components needed to support our food supply.

seasonally, or eating less red meat, would have on our food system, our environment, and our economy. We will use these constraints, goals and questions to develop a set of scenarios that tell a story about the different potential food system futures.

The scenarios will highlight different relationships in the system, and decisions and trade-offs that will be required to create the system that best meets our stated Food System Design Objectives. We will work with stakeholders to explore the scenarios and to create the Design. The Design will show how much and what types of foods could be grown in a bio-regional system and will describe such things as the number of jobs that could be created in this system, farm revenues generated in the system, greenhouse gas emissions, nitrate levels, habitat protection values and more.

Phase III: Action Planning

In this final Phase the team will work with stakeholders to develop a set of actions, strategies and policy recommendations. We will provide stakeholders with the tools, information and recommendations needed to carry forward the Food System Design.

Indigenous Food Systems Research

An Indigenous Research Associate, guided by a 10 member Indigenous Research Advisory Committee, is working in parallel to the three-phase process described above to describe the Indigenous food system and understand the key points of intersection between an Indigenous food system paradigm and the sustainable bio-regional food system paradigm. The work includes: researching and describing the Indigenous food system paradigm or way of knowing, developing a framework with which to assess the final SWBC Food System Design from an Indigenous perspective, and identifying research gaps for future work. This work will be instrumental in contributing to Indigenous food system knowledge and research. It will lay the foundations for future work and strengthen the Institute's ability to integrate Indigenous food systems thinking into future research and projects. It will also identify an array of potential research work to address research and data gaps.

Stakeholder Engagement Overview

Participation from stakeholders across the food system is integral to the success of this project. Community and stakeholder values and knowledge are important in shaping a sustainable food system future. We hope this project will begin to open a broader dialogue about agriculture and food systems in the bio-region. We also hope it will provide stakeholders and communities with a common (food system) language and opportunities to create new relationships in working towards common goals.

ISFS is dedicated to working with stakeholders from across the food system. In this project, we are primarily focused on engaging municipal governments and working with them to explore the economic, environmental and food self-reliance dimensions of bio-regional food systems. In addition to working with municipal government we are engaging with a broad range of stakeholders to develop the Design and Action plan. Groups we are working with include:

- Municipal and regional district councils
- Municipal and regional district planners and economic development staff
- Community and economic development organizations (i.e. Chamber of Commerce, Board of Trade)
- Environmental stewardship organizations
- Provincial government agencies
- First Nations
- Farmers, agricultural advisory committees and Farmer's Institutes, etc.
- Local/ community food organizations (Farmer's Markets, community gardens, food security groups etc.)
- Indigenous communities and food sovereignty organizations
- Local food businesses (distributors etc.)
- Health organizations

We are working with these stakeholders in a variety of ways to ensure that the project reflects stakeholder priorities and incorporates a wide range of knowledge and perspectives. Since the project's launch we have used a variety of tools to work with stakeholders including:

- **Project Briefings and Meetings:** From municipal councils and staff to agricultural advisory committees, boards of trade, and community organizations, we have presented the project and gathered feedback from over 100 organizations and individuals since 2012. At the time this report was released, the project has been funded by eight municipalities and regional districts and is endorsed by over 30 municipal governments and community organizations.
- **Research and Data Collaborations:** Each research domain is working with experts and agencies in their field to access the latest and most locally relevant data for the project.
- **Academic Advisory Committee:** An academic advisory committee was developed in the early stages of the project to advise on methodology. This team continues to meet with us regularly to guide the project.

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- **Indigenous Research Advisory Committee (IRAC):** An Indigenous Research Advisory Committee was developed to provide feedback and insight on Indigenous objectives and indicators in the project. The committee now advises the broader Indigenous Food Systems research project including providing comment on key lines of enquiry, the research outline, and connecting researchers with key information sources.
 - **Project Advisory Committee:** A project advisory committee made up of stakeholder representatives was convened to gather ongoing feedback on project goals and methods. The committee will also provide recommendations and assistance with engagement and outreach for the project.
 - **Project Website and Social media:** A project website, Facebook page and twitter page were launched to keep stakeholders aware of project developments and to gather feedback. Follow us at www.facebook.com/swbcfoodsystem and @SWBCFoodSystem
 - **Phase 1 Stakeholder Workshops and Survey:** In June of 2014 six stakeholder workshops were held in the following communities: Maple Ridge, Whistler, Sunshine Coast, Abbotsford, Vancouver and Richmond. In addition, a workshop was held at the 2014 BC Food Systems Network Gathering. Workshops were designed to bring stakeholders up to date on project developments and gather feedback and questions about the Food System Design Objectives and Sub-Objectives. Eighty-three participants from across Southwest BC joined in the discussion at workshops. In addition an online survey was launched from July 3 -18, 2014 to gather feedback from those unable to participate in the workshops. Twenty-three online surveys were completed.

This report details the findings and feedback collected at the Stakeholder Workshops and from the Online Survey from June 1 – July 18, 2014.

Phase I Stakeholder Engagement

Procedures

The goals of the Phase I Stakeholder engagement were to:

- Create a space for diverse stakeholders to have an open dialogue about the food system in SWBC
- Inform stakeholders of project progress and educate stakeholders about the challenges facing our food system over the coming decades
- Gather feedback and input on the Food System Design Objectives and Sub-Objectives (See page 13 for a full list)

Three key tools were used to gather feedback from stakeholders for Phase I of the project.

1. Workshops
2. Activity Sheets
3. Online Activity Sheet

Each workshop opened with a 30 minute presentation describing characteristics and trends in farming and food production in British Columbia, and introducing the project, its goals and methodology. This was followed by an open question and answer period.

The workshops were designed to allow us to gather project feedback in a manner that encouraged group dialogue on key issues and provided stakeholders with an opportunity to broaden their understanding of the food system and each other's work. Stakeholders worked together in table groups to rank Food System Design Objectives and select their top three to five objectives. They also were encouraged to recommend additional objectives if they thought any were missing. Each table group then shared their top and recommended objectives back with the larger group.

Each workshop ended with an open session during which participants shared with the project team in an open format:

- The food system related initiatives, organization and contacts in their communities
- Their key questions, for the project and about food systems in general

Activity Sheets (see p.13) were filled in by workshop participants as way to gather individual feedback and to explore if there were significant differences in how individuals responded as compared to the table groups. On the Activity Sheets Stakeholders were asked to rank Food System Design Objectives in order of importance and assign a value from 1-5 (1 being not important and 5 being very important) for each Food System Design Sub-Objective.

Finally, an online version of the Activity Sheet was distributed to ensure that those who could not attend the workshops had an opportunity to provide feedback. The Online Activity Sheet also provided opportunities for respondents to ask questions and share concerns about the project.

Stakeholders were invited to workshops using a variety of methods. The team developed a comprehensive list of organizations and contacts that are agents in the food system (see list of stakeholder groups on page 9). Organizations were contacted by phone and email. The workshops were also promoted on our project website Facebook and Twitter pages.

Activity Sheet – Draft Food System Design Objectives and Sub-Objectives

Ranking	Objective	Sub-Objectives		Value
	1.0 Increase self-reliance in agricultural production	1.1	Maximize production and consumption of bio-regionally produced food	
		1.2	Maximize ability to source bio-regionally produced agricultural inputs (seed, feed, fertility and stock)	
		1.3	Increase storage and processing capacity to support year-round supply of bio-regionally produced foods	
	2.0 Minimize external inputs and optimize soil, water and air quality	2.1	Optimize soil quality and minimize erosion from agricultural land	
		2.2	Improve water efficiency in food processing and crop irrigation	
		2.3	Improve nutrient cycling	
		2.4	Reduce use of synthetic fertilizers	
	3.0 Increase biodiversity	3.1	Increase number of crop and livestock types in the bio-region	
		3.2	Increase genetic variety of crops and livestock in the bio-region	
		3.3	Increase wild biodiversity on and around agricultural lands	
	4.0 Minimize non-renewable energy inputs and optimize energy efficiency (production and processing)	4.1	Reduce total energy demand in the food system (system includes locally produced foods and foods imported for consumption)	
		4.2	Reduce fossil fuel share of total energy use in the food system (system includes locally produced foods and foods imported for consumption)	
	5.0 Reduces & remove greenhouse gas emissions	5.1	Minimize system wide carbon dioxide CO ₂ emissions from fossil fuel combustion, and minimize methane (CH ₄) emissions from cattle, manure [and waste disposal]	
		5.2	Remove carbon dioxide CO ₂ from the atmosphere through carbon sequestration	
	6.0 Reduce the ecological footprint of the food system	6.0	Minimize resource inputs (land, water, energy, petrochemicals) and waste outputs (carbon emissions and solid waste) throughout the system	
	7.0 Strengthen and enhance local farm and ancillary business	7.1	Improve the financial viability of low-input, low-impact agriculture	
		7.2	Reduce cost of entry for new farmers	
		7.3	Increase local processing and storage (post-production) capacity	
		7.4	Increase access to alternative marketing and distribution channels	
	8.0 Contribute to the local economy	8.1	Increase the agricultural sector's contribution to the GDP	
		8.2	Increase the number of good jobs in the food system	
	Other			

Workshop Results

The workshops were well attended by a diverse range of stakeholders from almost every community in the bio-region. Lively discussions were sparked about a range of Southwest BC food system issues from the cost of agricultural land to the challenges of reducing food waste in the system. Stakeholders voiced strong support for protection of the Agricultural Land Reserve, identifying it is a key asset in Southwest BC. They also felt that more must be done to increase agricultural production in the region and that improving the financial viability of farming is a critical first step. Overall stakeholders were pleased to know that ISFS is engaged in Southwest BC food systems research and design, and they expressed the importance of such work.

Feedback on the Food System Design Objectives indicated that the research team had done a thorough job of exploring food system issues and identifying objectives that are in line with stakeholder values. Stakeholders expressed the importance and need for balance between the objectives despite not always feeling they had the expertise to evaluate the merit of specific objectives or sub-objectives. Many found the objectives hard to rank as the objectives are intertwined, each impacting the others in different ways. For example, some stakeholders pointed out that an increase in agricultural production could result in an increase in local greenhouse gas emissions or the environmental footprint of the food system. Balancing all these factors is a challenge.

Design Objectives Ranking

The following three Food System Design Objectives were most commonly ranked as the top three objectives during the workshops. They are listed here in order of importance, as selected by workshop participants.

Objective 1.0 Increase Self-Reliance in Agricultural Production

The concept of increasing food self-reliance (the degree to which the bio-region can grow food to satisfy demand for food in the bio-region) was one that resonated with stakeholders across all workshops. Most viewed it as a useful frame and starting point from which to look at other questions. It was noted, however, that food self-reliance must not be conflated with food security or community resilience. While food self-reliance may contribute to food security, it is not its only dimension.

“A vibrant food system has to start with vibrant farmers. Getting unfarmed land into production and getting young farmers going is crucial.”

- Workshop participant

Objective 7.0 Strengthen and Enhance Local Farms and Ancillary Businesses

All stakeholders spoke to the importance of building a better business case for farming. In order to increase the number of farms in the bio-region we must make farming, of all kinds, economically viable. Most stakeholders were well aware of agricultural land costs and other challenges and identified improvement in farm business viability as the key to kick-starting a bio-regional food system. Municipal government stakeholders explained that economic activities are a tangible place for communities to take clear and immediate actions. The link between different food system objectives was again

identified by stakeholders who pointed out that efficiencies throughout the food system, such as minimizing water and fossil fuel use, could increase overall efficiency and thereby strengthen the viability of farms.

Objective 2.0 Minimize External Inputs and Optimize Soil, Water and Air Quality and 6.0 Reduce the Ecological Footprint of the Food System

The environmental objectives (Objectives 2.0,3.0,4.0,5.0, and 6.0) were of the most technical of all the objectives and thus were the least well understood by participants. Still, stakeholders reflected an understanding of some impacts of the food system on the environment, and our dependence on water and good soils to grow food. Most stakeholders felt that Objectives 2.0 and 6.0 could be used as umbrella objectives for each of the environmental objectives. Most stakeholders understood objective 2.0 to be at the farm level whereas they interpreted objective 6.0 as a systems level objective from which all ecological goals can flow.

Recommended Objectives

Few additional objectives were suggested but some key themes emerged.

- **Education:** Stakeholders spoke to the importance of education and the need for system wide behavior change. They suggested an objective related to public education and awareness about sustainable food systems.
- **Climate Change Adaptation:** Stakeholders in Whistler spoke to the importance of understanding and addressing climate change, noting that the project does not have a specific climate adaptation objective.
- **Waste Management:** Many stakeholders brought up the ban on organic waste that is being introduced in Metro Vancouver in 2015 (see: <http://www.metrovancouver.org/services/solidwaste/businesses/organicsban>), food waste, and food recovery. They suggested a food waste related objective.
- **Community Nutrition, Community Resilience and Social Progress:** Many stakeholders spoke to the lack of representation of “people” in the objectives. Objectives for human health, community resilience and social progress were suggested.

Table 1: Summary of Workshop Feedback by Workshop Location

Workshop Location	Objective Ranked #1	Objective Ranked #2	Objective Ranked #3	Additional Objectives Suggested
Maple Ridge	1.0	7.0	6.0 & 3.0	Education Indigenous Food Sovereignty
Whistler	1.0	7.0	6.0	Education Climate Change Adaptation Renewable Energy
Sunshine Coast	1.0 & 7.0	7.0 & 1.0	2.0	Education
Abbotsford	7.0	2.0	1.0	Ethics or Social License in Agriculture – Treatment of animals and plants
Vancouver	7.0 & 1.0	2.0	6.0	Food Recovery Indigenous Food Sovereignty
Richmond	1.0	7.0 & 2.0	2.0 & 7.0	Community Development Nutrition and Health Community Resilience

Stakeholders did not provide group feedback on specific Food System Design Sub-Objectives in the workshops.

Activity Sheet Results

Design Objectives Ranking

Seventy-six Activity Sheets were collected during the workshops.

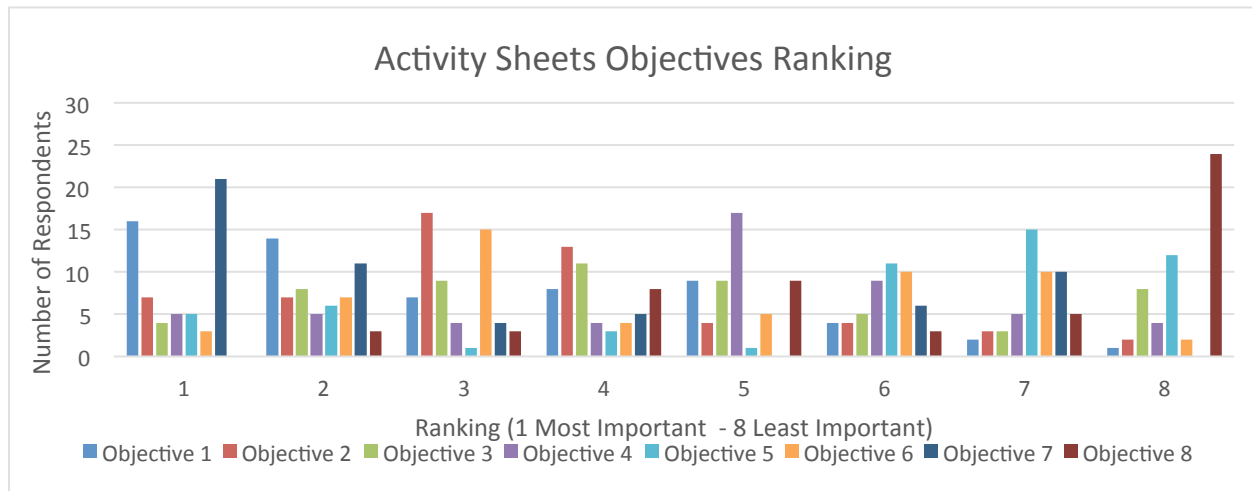


Figure 1: Objectives ranked in order of importance on Activity Sheets completed at Phase 1 Stakeholder Workshops

Figure 1 above shows the top ranked Food System Design Objectives by Activity Sheet respondents. The objectives the most commonly rated as 1st, 2nd, or 3rd in importance were:

- 7.0 Strengthen and Enhance Local Farm and Ancillary Business
- 1.0 Increase Self- Reliance in Agricultural Production
- 2.0 Minimize External Inputs and Optimize Soil, Water and Air Quality
- 3.0 Increase Biodiversity
- 6.0 Reduce the Ecological Footprint of the Food System

Objectives ranked as least important included:

- 8.0 Contribute to Local Economy
- 5.0 Reduce and Remove Greenhouse Gas Emissions
- 3.0 Increase Biodiversity

Recommended Objectives

The following additional Food System Design Objectives were documented on the Activity Sheets.

- Adaptation to climate change
- Increase climate resilience of food production
- Protect and improve productivity of land base
- Reduce waste
- Urban Agriculture

- Decrease externalities of food economy
- Integrated concepts of ecosystem services into food production
- Valuing culture, community and diversity in community
- Protect/ enhance the viability of existing Indigenous Food Sources
- Improve healthy food access to poor, senior, populations with food access barriers
- Increase social equality of food production and distribution
- Improve nutrition of the diets of the regional population

Sub-Objectives Ranking

Participants ranked almost all Food System Design Sub-Objectives equally. On average 74% of participants ranked each Sub-Objective as “important” or “very important”.

Figure 2 shows the percentage of participants who ranked sub-objectives as “important” or “very important”. The five sub-objectives most likely to be ranked as “important” or “very important” were:

- 7.1 Improve the financial viability of low-input, low-impact agriculture
- 2.2 improve water efficiency in food processing and crop irrigation
- 7.2 Reduce cost of entry for new farmers
- 7.3 increase local processing and storage (post-production) capacity
- 1.3 Increase storage and processing capacity to support year round supply of bio-regionally produced food.

The sub-objectives least likely to be ranked as “important” or “very important” were:

- 5.2 Remove carbon dioxide from the atmosphere through carbon sequestration
- 8.1 Increase the agricultural sector’s contribution to the GDP

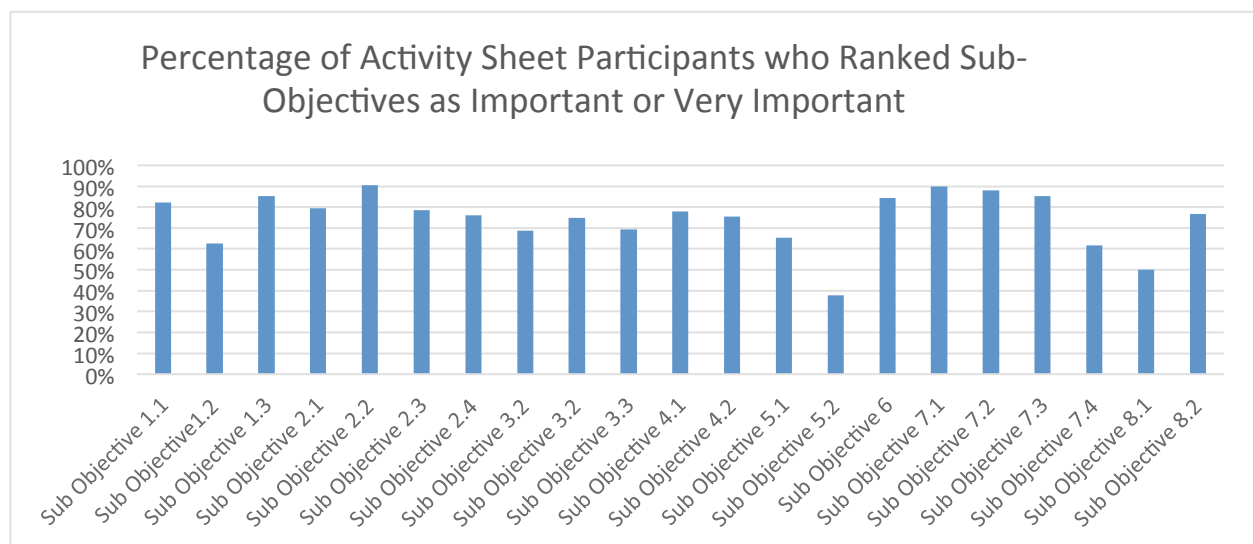


Figure 2: Percentage of participants who ranked sub-objectives as Important or Very Important

Based on conversations with participants in the workshop it is likely that many were not familiar with the concept of carbon sequestration in the soil. It is likely that many people rated this sub-objective as not very important as this concept was confused with carbon capture and storage technology used in the oil and gas sector.

Online Activity Sheet Results

Twenty-five online participants responded to the Online Activity Sheet activity. The Activity Sheet was posted online from July 3- 18, 2014 for stakeholders were not able to attend the Phase I Stakeholder workshops.

Online activity sheets were submitted from across the bio-region. Responses were submitted from: Abbotsford, Burnaby, City of North Vancouver, Delta, Gibsons, New Westminster, Port Moody, Powell River, Richmond, Sechelt, Squamish, Surrey, White Rock, Vancouver, and Pemberton.

Demographic information was only asked of online survey respondents. Of the 25 respondents the Environment/Food Security/ Community NGO Sector and Community members were most highly represented (30% and 26% respectively). Farmers/ Agribusiness represented seventeen percent (17%) of respondents and municipal government, thirteen percent (13%). Online survey respondents represented a wide age demographic with the largest percentage of respondents between the ages of 50-59 (32%) and 40-49 (27%). Online respondents were equally split between male and female.

Design Objectives Ranking

Almost half of respondents did not complete the online Food System Design Objectives Ranking Exercise.

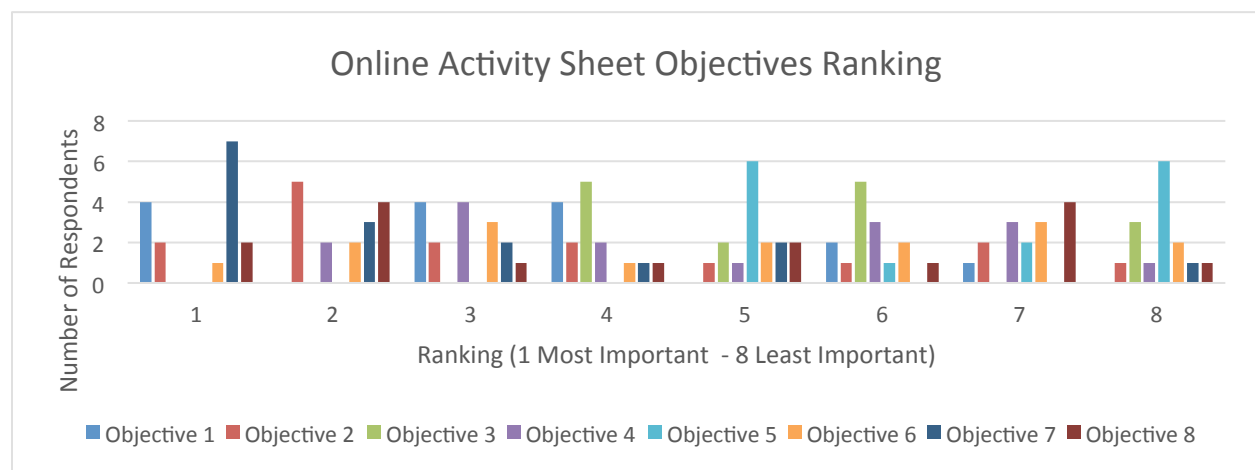


Figure 3: Objectives ranked in order of importance on Activity Sheets completed at Phase 1 Stakeholder Workshops

Figure 3, above, shows the top ranked objectives by Online Activity Sheet respondents. The objectives the most commonly rated as 1st, 2nd, or 3rd were:

- 1.0 Increase Self-Reliance in Agricultural Production
- 2.0 Minimize External Inputs and Optimize Soil, Water and Air Quality.
- 4.0 Minimize Non-Renewable energy inputs and optimize energy efficiency (production and processing)
- 7.0 Strengthen and Enhance Local Farm and Ancillary Business
- 8.0 Contribute to the local economy

Objectives ranked as least important included:

- 3.0 Increase Bio-Diversity
- 5.0 Reduce and Remove Greenhouse Gas Emissions
- 8.0 Contribute to Local Economy

Sub-Objectives Ranking

Participants again had a difficult time ranking sub-objectives, however there was more variation than in the Activity Sheet responses and some different priorities emerged. On average, 67% of respondents ranked each Sub-objective as “important” or “very important”.

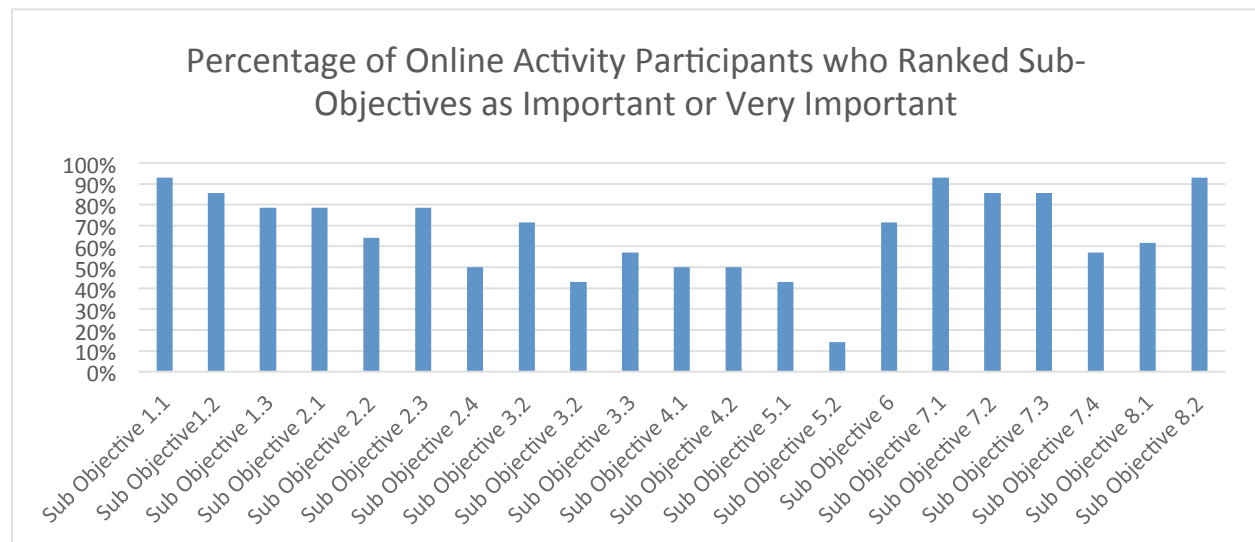


Figure 4: Percentage of participants who ranked sub-objectives as “important” or “very important”

As illustrated in Figure 4, the five sub-objectives most likely to be ranked as “important” or “very important” were (in order of importance):

- 1.1 Maximize food production and consumption of bio-regionally produced food
- 7.1 Improve the financial viability of low-input, low-impact agriculture
- 8.2 Increase the number of good jobs in the food system

-
- 1.2 Maximize ability to source bio-regionally produced agricultural inputs (seed, feed, fertility, and stock)
 - 7.2 Reduce cost of entry for new farmers
 - 7.3 Increase local processing and storage (post-production) capacity.

The sub-objectives least likely to be ranked as “important” or “very important” were:

- 5.2 Remove carbon dioxide from the atmosphere through carbon sequestration
- 5.1 Minimize resource inputs (land, water, energy, petrochemicals) and waste outputs (carbon emissions and solid waste) throughout the food system

Discussion Topics and Key Questions

During the workshops, facilitators asked each table group to list key questions about the project and about our food systems. In particular, stakeholders were asked to list questions to which the answers would support their food system-related work. Several key topics were represented among the questions; the topics reflected the discussion that took place during the ranking exercise. Below is a brief overview of the topics, discussion and sample comments and questions from stakeholders. See page 26 for how the team will move forward with these recommendations. See Appendix B for full list of specific stakeholder questions.

Ecology and Environmental Stewardship

Most workshop participants were not from a technical environmental or ecology background. While they understood the broader impacts of environmental sustainability, few were comfortable commenting on the specifics of the environment-related food system objectives. Stakeholders recognized the importance of environmental stewardship and supported the objectives of reducing greenhouse gas emissions and managing the ecological footprint of the food system as a whole. For stakeholders in water-constrained municipalities, such as Surrey for example, balancing water availability for agriculture, salmon, and other needs was identified as a big priority. They wanted to know how water availability could impact future food production. In addition many stakeholders described the need for improved farming practices. They spoke of small scale farming as a philosophy and the need for agro-ecological approaches on farms. Some stakeholders had questions about the difference between genetic variety in the food system and genetically modified foods. The project team is working on an FAQ and glossary of terms that will include information to build more understanding around this topic.

Education and Awareness

Education and awareness building were key themes at all workshops. Stakeholders highlighted the need to increase public and stakeholder understanding of the current food system and its diverse elements. Participants commented that we must all develop a deeper understanding of food, community, health and economy from understanding the growing seasons, to acknowledging the economic and community

benefits of vibrant farms and food system businesses. Many noted that a key to change is to understand values and behavior and learn how to influence them. Still others spoke of the cultural and community dimensions of food, and how they affect food preferences and diets, among other things.

Many participants suggested we must educate leaders about the food crisis we are facing in order to mobilize municipal governments and others to action. Many commented on a lack of awareness and knowledge among the broader public. Others wanted to ensure that younger generations would be educated about food systems from an early age and they asked questions about curriculum development and farm/ garden projects at schools.

Economics

The most common topic of discussion was the economics of the food system. This topic also elicited the most questions. Stakeholders are curious to learn more about the impacts of market and economic forces on the food system and how these create systemic barriers as well as opportunities for a bio-regionalized food system. Many stakeholders were interested in how we might explore alternative economic evaluation tools – for example using alternatives to Gross Domestic Product (GDP) accounting to demonstrate true economic contribution to our communities. All stakeholders spoke to the importance of increasing the viability of farming across the spectrum of scales and types of agricultural production. Some spoke to the importance of creating the right policy and regulatory climate to support a bio-regionalized food system and to the training programs that are required to build capacity and knowledge about such a system. Many had tough questions about the economic viability of a bio-regional food system based on low input production methods and alternate market sales. They had questions about market demand for local food and specific local products and about the balance between local consumption, exports and imports. Many also had questions about farm labour. Who is working on farms in Southwest BC and how will we define a “good” farm job in our Design? What conditions will people be working in and how much will they be paid? Stakeholders were also keen to discuss the role of co-operative and social enterprise business models. Many shared their observations about resurgence of these models and characteristics of their success in this sector. We hope, with our project, to provide data and information to enhance this already compelling conversation.

“Politically people don’t see food as a crisis or priority issue to be resolved. In order to create change we have to help Municipal governments see this as a priority issue.”

– Maple Ridge Workshop Participant

“We have to think of farming in terms of energy units. We won’t get economic viability without addressing energy use on farm.”

– Maple Ridge Workshop Participant

Energy

The topic of energy emerged in many discussions. Many stakeholders were interested in information about alternative energy, co-generation on farm, waste energy opportunities and others. Some stakeholders felt that global forces outside the food system will impact energy costs and availability and that this issue will largely self-regulate implying that other topics in food systems are potentially more valuable starting points. Understanding energy use within the food system in more detail and identifying alternative energy options within the system are part of the long-term research focus at ISFS. A few stakeholders identified potential research and pilot testing opportunities with Fortis BC and other organizations that could be pursued by farmers and other food system stakeholders.

Food Self- Reliance

Food Self-Reliance stood out as a critical issue for stakeholders. They reflected a desire to bring balance to an overly globalized food system but had many questions about how to do so. Almost all groups wanted to know about the food self-reliance potential in the bio-region. Stakeholders wanted to know – how much food can we grow for our local communities? The SWBC Bio-Region Food System Design project will provide data on this question through our model of food production capacity.

“I want to know how self- reliant we could be if all ALR land was in production. Given population growth how many people can we feed with local farms.”

- Whistler Workshop Participant

“This is about risk management and putting money in the bank so to speak in our communities.”

- Whistler Workshop Participant

Many stakeholders shared information about the big picture trends in the environment, economy and policy realms that are affecting the food system and the changes that are coming. They discussed issues of community resilience, adaptation planning and risk management. Others wanted more information about how to balance ecological, economic and food production goals. For example, how might we plant crops based on ideal soil capacity, access to water, and distribution networks? How do we incorporate the environmental and community impacts and benefits of food production decisions with economic dimensions? Many

stakeholders spoke to the importance of building regional food economies to adapt to the uncertainties of climate change. Stakeholders linked this topic directly to the economic viability of farming. Many asked about the economic and ecological potentials and limits of the bio-region. What can we do here, what can't we do here and how do we work with other areas to create a diverse and vibrant food system? Data on both the ecological and economic potentials of bio-regional food system production will be produced and published through the work of the SWBC Bio-Region Food System Design project.

Health and Food Access

Issues of health, nutrition, food access and food insecurity also played a big part in the discussion. Many stakeholders had questions about the cumulative health impacts of quality nutrition or malnutrition, about the capacity of Southwest BC to fulfill the dietary needs of the population that lives here, about the impact of culture on food choices, and about poverty and food insecurity in the bio-region. Food banks and others working on these issues were highlighted as important community groups to work with. Stakeholders had many questions about food basket costs in Southwest BC and wanted to better

“Health and nutrition depends on what we grow as well as what policies are in place to encourage/promote healthy living”

– Richmond Workshop Participant

understand the impacts of buying local and organic on the affordability of food for low-income families in the bio-region. Stakeholders wanted to better understand equity in the food system and the relationship between self-reliance, food security and health, and we learned a lot from our health stakeholders about the distinctions between these three concepts. Nutrition, food security and food safety are tied to many factors.

Indigenous Food Systems

Stakeholders in many communities, in particular, Vancouver, the Sea to Sky corridor and Maple Ridge area identified Indigenous food systems as a priority area. Many had questions about how we were addressing Indigenous issues in food systems in the Design. This is addressed in Page 8 of this report. One stakeholder working on reserve talked about the need for job creation in local communities and the role that agriculture could take. He spoke to how community farms on reserve benefit from and contribute to the sense of community inclusion and ownership over initiatives. Many challenges were identified in respect to land rights and property rights systems in the Indigenous context.

Stakeholders were pleased to see that this conversation had begun, as historical relationships between farmers and Indigenous communities have not always been positive. The protection of salmon bearing streams and the sharing economy of Indigenous communities were discussed as well as traditional concepts of a food system in harmony with the land, air, water and the community.

“Currently we talk about food production in a sphere entirely separate from Indigenous food sovereignty and tradition. As this project looks at shifts in the food system I think it’s an appropriate time to bring the Aboriginal discussion in.”

**- Online Activity Sheet
Comment**

Land Cost and Access

Land access and cost barriers were top of mind for most stakeholders. Stakeholders are well aware of and sensitive to high land prices, the effects of speculative land buying, and limited land access. They understand how these factors impact entry for new and young farmers with little capital, and also how they affect farm viability and the business case for farming in the bio-region. Many had questions about

how to bring underused farm land into production and how to make small lot farming viable. They were anxious to get ideas and policy recommendations that support increased land access for new farmers, that assure agriculture lands are not held in speculation, and that encourage use of agriculture lands for food production. Municipal stakeholders were eager to better understand their roles in supporting agricultural development and getting farmland into production.

Policy

The topic of necessary policy changes also arose often. Stakeholders had questions about the distribution of farm subsidies and how supply management supports or hinders a bio-regional perspective on food systems and new farmer entry. Many spoke of a need for updates to municipal legislation in relation to bylaws such as those regulating backyard chickens and farm gate sales. Regional and municipal stakeholders wanted to understand the larger policy landscape and talked about the impacts federal and provincial policies can have on a municipal or regional government's ability to address barriers and challenges locally.

Project Implementation

The team received many questions about the project, its audience and intended outcomes. Stakeholders want to see clear deliverables and communicated that they need tools translated in accessible, practical language tailored to their realities and needs. Stakeholders asked questions about who we were working with, how farmers are involved and who will be implementing action steps once the project is complete.

Protecting the Agricultural Land Reserve (ALR)

The ALR has received a lot of media attention in the past several months. This was reflected in the concerns shared with us by stakeholders. Protection of the ALR emerged as a top priority at every meeting. For most stakeholders this issue links directly to land cost and access, and to food self-reliance. All felt that the ALR boundary must be protected and farm land preserved. Many also made the link between protecting the ALR and putting farmland into production. This brought stakeholders back to questions about how to increase the viability of farming in the bio-region, especially on smaller, underused lots. The bottom line for most stakeholders was that we must protect our ability to grow food by maintaining a strong agricultural land base.

“Local slaughtering facilities died when the federal government changed the health and safety rules. They’ve since been changed back however the facilities are gone and this is a challenge. We have to ship meat all the way to Abbotsford to get it processed and then have it shipped back here.”

– Whistler Workshop Participant

Protecting the ALR and promoting productivity are very important. We have to maintain our capacity to grow food.

– Whistler Workshop Participant

Engagement Follow-Up and Next Steps

The feedback we received in the workshops and through our meetings with stakeholders has already provided many insights for the team. Feedback has been directly incorporated into our conversations about methodology. We continue to work to ensure the project meets the needs and concerns identified by stakeholders. Below are some comments and discussion about how we will incorporate or address specific feedback as well as next steps for the project.

Engagement Follow-up

Addressing Recommended Objectives:

Education: We recognize the importance of education in creating food system change and will address this factor in the action-planning phase of the project as part of our recommendations and next steps. It will not be added to the Food System Design Objectives list, as the perspective of the team is that education is a tool toward making change rather than an outcome of the food system.

Climate Change Adaptation: Climate change is an important consideration in this project. Its potential effects will be integrated into the modeling process. Most of the current objectives relate to climate change adaptation in some way by increasing resilience and diversity in the system – whether by crop diversity, more resilient landscapes, or biodiversity in our food system. It will not be added as a discreet objective.

Food Waste, Health, and Social Equity: We are working with stakeholders and our advisory committee to ensure that these issues are considered to the extent possible. However, we do not have the capacity to explore them in depth in this iteration of the project. It is our intention to do so as we continue our research at the Institute in the future.

Indigenous Food System: It was the original intention of this project to address specific Indigenous food system objectives and indicators in this project. In working with our Indigenous Research Associate, and a 10 member Indigenous research advisory committee we have decided that a more in depth exploration of the Indigenous Food systems paradigm is needed before we can continue with specific objectives and indicators. At this time our research associate is researching and describing the epistemology of the Indigenous Food System Paradigm. She will describe this paradigm and create a framework to explore the key points of entry, complementarity and contention between the two systems. With this framework she will be able to evaluate the final food system Design and document gaps and future research needs. We are committed to bridging the gap between these two paradigms and conversations and hope this research will provide a solid foundation upon which we can begin to address these issues more meaningfully.

Many of the ecology objectives in the food system have overlap with Indigenous food system priorities. Where possible we will be working to model for habitat protection, especially salmon, and other elements of the Indigenous food system.

Project Communication:

The team is working to refine communication about the project process, next steps and outputs. We will continue to revise and update the website and develop new materials to communicate with stakeholders on key issues. An FAQ document and glossary of terms will be posted online.

Next Steps

In the coming months the project team will be refining the bio-regional food production capacity model. As described in the Project Background section on p.5, we are using this model to develop a set of scenarios of alternative food system futures and to explore their impacts and outcomes in terms of the Food System Design Objectives. We will connect again with stakeholders in early 2015 to review and discuss the scenarios.

For more information contact the Institute for Sustainable Food Systems at 604-599-2574 or neal.ranzoni@kpu.ca. Follow us on twitter @SWBCFoodSystem, or facebook.com/swbcfoodsystem. Finally visit our website www.bcfoodsystem.com and be sure to sign up for our newsletter for regular updates.

APPENDICES

Appendix A – Draft Food System Design Objectives and Sub Objectives

Ranking	Objective	Sub-Objectives		Value
	1.0 Increase self-reliance in agricultural production	1.1	Maximize production and consumption of bio-regionally produced food	
		1.2	Maximize ability to source bio-regionally produced agricultural inputs (seed, feed, fertility and stock)	
		1.3	Increase storage and processing capacity to support year-round supply of bio-regionally produced foods	
	2.0 Minimize external inputs and optimize soil, water and air quality	2.1	Optimize soil quality and minimize erosion from agricultural land	
		2.2	Improve water efficiency in food processing and crop irrigation	
		2.3	Improve nutrient cycling	
		2.4	Reduce use of synthetic fertilizers	
	3.0 Increase biodiversity	3.1	Increase number of crop and livestock types in the bio-region	
		3.2	Increase genetic variety of crops and livestock in the bio-region	
		3.3	Increase wild biodiversity on and around agricultural lands	
	4.0 Minimize non-renewable energy inputs and optimize energy efficiency (production and processing)	4.1	Reduce total energy demand in the food system (system includes locally produced foods and foods imported for consumption)	
		4.2	Reduce fossil fuel share of total energy use in the food system (system includes locally produced foods and foods imported for consumption)	
	5.0 Reduces & remove greenhouse gas emissions	5.1	Minimize system wide carbon dioxide CO ₂ emissions from fossil fuel combustion, and minimize methane (CH ₄) emissions from cattle, manure [and waste disposal]	
		5.2	Remove carbon dioxide CO ₂ from the atmosphere through carbon sequestration	
	6.0 Reduce the ecological footprint of the food system	6.0	Minimize resource inputs (land, water, energy, petrochemicals) and waste outputs (carbon emissions and solid waste) throughout the system	
	7.0 Strengthen and enhance local farm and ancillary business	7.1	Improve the financial viability of low-input, low-impact agriculture	
		7.2	Reduce cost of entry for new farmers	
		7.3	Increase local processing and storage (post-production) capacity	
		7.4	Increase access to alternative marketing and distribution channels	
	8.0 Contribute to the local economy	8.1	Increase the agricultural sector's contribution to the GDP	
		8.2	Increase the number of good jobs in the food system	
	Other			

Appendix B – Stakeholder Questions

Question	Addressed in this Project?	New Project Opportunity
- Where do the food subsidies go?		X
- What is the capacity for off-season growing?		X
- Is there easily accessible inventory or database of what is being produced where and by who?		X
- How much of our own food can we grow?	X	
- How much food are we wasting? How many more people can we feed with food that is wasted?		X
- What can this bio-region do? What can't it do?	X	X
- How does this bio-region link with other bio-regions in the food system?		X
- Marketing boards: are they beneficial to a sustainably system, why? Or do they just prevent new entrants?		X
- How much of SWBC farmland is fallow and how can tax policy change this?		X
- How much arable land is in public ownership (can we put the commons into production)		X
- How can we put underutilized land into production?	X	X
- What is the market demand for local food?	X	X
- What are the economic, social and ecological impact of what we import as well as the impacts of what we grow locally?	X	X
- How do we get agriculture to compete against energy and other land uses?	X	X
- What are the farming trends? What is the agricultural land being used for? How do these trends affect the nutritional quality of food?	X	X
- Who is farming? What roles? How many temporary foreign workers?		X
- How are processing and storage facilities distributed within the region? How are municipalities supporting this?	X	X
- In terms of medium sized farms, what are the top three market niches, and potential market niches?		X
- Ultimately how do we get money to stay in the region?	X	X
- Can we do a market analysis of what agricultural products are actually being produced locally and what demand exists from retailers and restaurants? How much unmet demand is there for products that can be produced locally?		X
- What is the production capacity of our lands and which lands are best suited for what kind of growing? Can we do an analysis of existing agricultural land according to its quality and capacity? It should include not only soil types but irrigation requirements and proximity to	X	X

infrastructure.		
- Identify the most promising land for agricultural usage and identify land best retained as forests etc. Do local governments own any land that can be used for pilots?		X
- Who is monitoring existing farming operations to identify successful models for the sunshine coast and determine whether there are any significant barriers which lie within local government's power to address?		X

Appendix C – Frequently Asked Questions

SWBC Bio-Region Food System Design Project FAQ – August 21

FAQs

- *What are the project goals?* p.32
- *What geographic area does the project focus on and why did you pick this boundary?*
What is a Bio-Region? p.33
- *Why explore and design food systems at a bio-regional level?* p.33
- *What is the Design and how are you creating it?* p.34
- *What are Food System Design Objectives and Indicators?* p.34
- *Why design for 2050?* p.35
- *How will the Design account for factors such as population change in 2050?* p.35
- *Why Design a food system when the market already dictates food supply and demand?* p.35
- *Does the study include Urban Agriculture, Fish, or Seafood?* p.35
- *How will the Design be used and by whom?* p.35
- *What are you going to produce at the end of the project?* p.36
- *Who are you working with and how are you working with them?* p.37
- *How are you working with Indigenous communities?* p.38
- *Who is funding this project?* p.39
- *How are the Ministry of Agriculture, the Agricultural Land Commission, and the BC Agriculture Council Involved?* p.39
- *How does this project support protecting the Agricultural Land Reserve?* p.39
- *How is this project different from Agricultural Area Plans?* p.39
- *How is this project different from a community planning process?* p.40
- *How can I get more information?* p.40

What are the project goals?

The project was designed to explore the economic, environmental stewardship and food self-reliance potential of a bio-regional food system in Southwest BC. A bio-regional food system is one in which food is produced in the bio-region for people in the bio-region. In the face of ecological and economic uncertainty and change in the future, we believe that gaining an understanding of the potentials of a bio-regional food system is an important step towards community resilience. This project is the first step in exploring many questions about how we might feed our communities in Southwest BC in the coming decades. The food system has many dimensions including health, community, Indigenous food sovereignty, food access and many others. The Institute for Sustainable Food Systems is dedicated to exploring these dimensions over the long term.

The goals of the SWBC Bio-Region Food System Design Project are to:

- Increase awareness and understanding of the food system and agriculture in Southwest BC.
- Provide data and knowledge to guide informed conversation and decision-making about the future of the food system in Southwest B.C.

- Bring diverse stakeholders together to explore food systems thinking, design and planning at the bio-regional level.
- Develop a methodology for designing a bio-regional food system that can be applied elsewhere in BC, Canada and the world.
- Bring together a multidisciplinary research team to explore the environmental, economic, and food self-reliance dimensions of the food system.

What geographic area does the project focus on and why did you pick this boundary? What is a Bio-Region?

The project is focused on the “Southwest British Columbia Bio-Region” (see Figure 5). Bio-regions are areas that share similar topography, plant and animal life, and human culture. They are alternately referred to as a “Life Place”. The boundaries of bio-regions are largely based on eco-regions but also incorporate human settlement and activity patterns and can take political boundaries into consideration.

The Southwest BC Bio-Region’s boundary is defined by the boundaries of the following five regional districts: Fraser Valley, Metro Vancouver, Squamish Lillooet, Sunshine Coast and Powell River. This boundary matches closely with Level 3 Ecoregion boundaries as well as the Traditional Territories of the Coast Salish traditional territory. The food system Design itself will focus on the agricultural land (primarily ALR) within this bioregion.

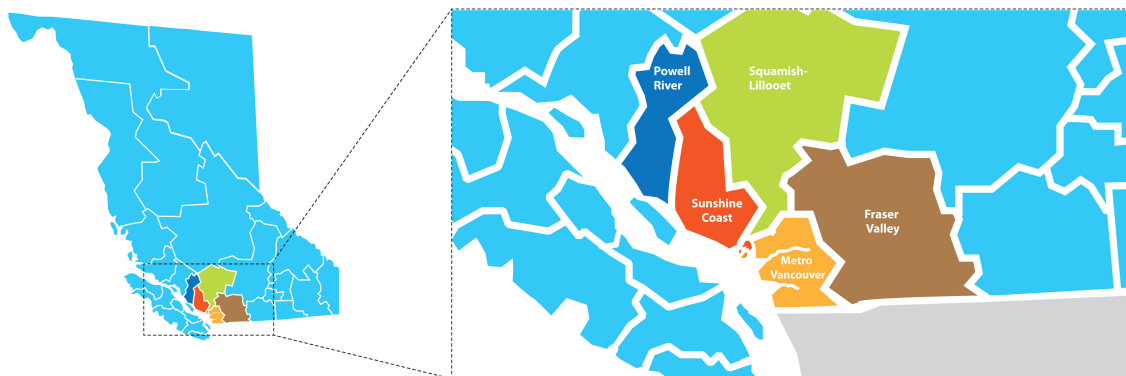


Figure 5: The Southwest British Columbia Bio-Region

Why explore and design food systems at a bio-regional level?

Our food system is facing many crises across the globe. There are many theories about how to best address the challenges of economic and ecological uncertainties in the future. Creating bio-regional food systems is one approach to addressing this challenge. This project is designed to ground theories in real communities and explore the potential of a bio-regional food system in Southwest BC.

Bio-regional food systems are based on the idea that we could contribute to sustainability by aligning our economy and human activities to the ecological capacity of where we live; i.e. “living in place”.

No community will ever be entirely self-reliant. In the near future we believe we will be compelled to find ways to work together within the bio-region to produce food with and for each other. Our goal with this Design is to explore those connections and opportunities. In the future we hope to explore how neighboring bio-regions (Okanagan and Vancouver Island, for example) can work together.

What is the Design and how are you creating it?

We are using a scenario process to develop an understanding of possible food system futures for Southwest BC. Scenarios are data-driven stories that are created to understand the relationship between factors in a system and understand the outcomes of different decisions. Scenarios do not prescribe or predict what will happen in the future, but are helpful for exploring different options in an uncertain future.

The team is developing a mathematical model to determine how much and what kinds of food we can grow in the bio-region given a number of ecological and resource constraints. The model will solve this problem in the context of a 2050 future where population growth, climate change impacts and other factors impact our food system. With this model we will create a set of scenarios to compare different choices. We will create a business as usual scenario that will explore the trajectory of our current path, and a set of alternate future scenarios that represent different choices we could make. With stakeholders, these scenarios will be used to explore different trade-offs, synergies, and decisions, and from this we will create a Design, or desired future.

The Design will paint a picture of what a bio-regional food system could look like in Southwest BC. It will describe the outcomes, benefits and impacts of the scenario that is chosen and will detail such things as:

- Land available for farming and food systems in the Food System Design
- How food self-reliant we could be with this Food System Design
- The revenue and job potential in the Food System Design
- The Ecological Footprint of food production and consumption in the Food System Design
- Estimated food system greenhouse gas emissions in the Food System Design
- The small and medium sized business opportunities in the Food System Design
- The degree to which the food produced in the Food System Design meets the nutritional requirements of the bio-region's population
- The impact of different diets on the Food System Design outcomes
- The impact of fertilizers, manure and other nutrients in the Food System Design on soil, water and air quality in the bio-region
- How the Food System Design protects and enhances wildlife habitat in SWBC
- And others.

What are Food System Design Objectives and Indicators?

The Food System Design Objectives describe the goal or end state that we are trying to achieve with the Design. Indicators are tools or measures we can use to evaluate the Food System Design year after year to see how well we are achieving the stated objectives. For a full list of the objectives see Appendix A.

Why design for 2050?

This project is about rethinking, at a systems level, the way we feed ourselves in SWBC. This requires thinking beyond today's systems, values, and paradigms. By looking to 2050 we can start to understand some of the trends that might shape our future, and we can build a Design that is guided by our values and priorities, informed by data that is relevant to our bio-region.

How will the Design account for factors such as population change in 2050?

The research team is working with published data on future trends where available, for example, anticipated impacts of climate change on British Columbia agricultureⁱ; population projections for communities in SWBCⁱⁱ; and crop yield variability based on historic data (Statistics Canada). All of our assumptions and projections will be documented and referenced. These projections cannot tell us with certainty what the world will be like in 2050, but they can guide us in our thinking, our expectations and our planning for the future.

Why Design a food system when the market already dictates food supply and demand?

From the rapid growth of farmer's markets and CSA's to the increased participation of large distributors in the food system conversation there is evidence of a growing demand for local food. Our food system is shaped by policy, regulations and other forces that influence the market. The creation of this Design is about understanding some of those forces and how our regulatory, policy and other decisions affect the food system future we want.

We will not be accounting for market forces or demand for food in the Design. Instead, we will create scenarios that explore the outcomes and impacts of a food system that aims to meet nutritional requirements (per Canada's Food Guide) and reflects current dietary preferences as identified through Statistics Canada Food Availability data.

Does the study include Urban Agriculture, Fish, or Seafood?

The food system is a large and complex system that incorporates many sub-systems. Urban agriculture, fish, and seafood are part of this broader picture but currently we do not have the research capacity to explore these dimensions of the food system. We understand that they are important pieces of the puzzle and look forward to incorporating them into future work.

How will the Design be used and by whom?

We will work with stakeholders in Phase III to develop an action plan for the Design. The action plan will provide strategies and policy recommendations for government and community groups, – associations/organizations, non-profits, industry and others. As an academic institution our goal is to provide tools, information and support to guide the implementation of recommendations. By creating a Design with stakeholders we hope to develop a sense of ownership for the Design that will lead to strong leadership from organizations across the bio-region in the implementation of these recommendations and actualization of a more regionalized food system.

What are you going to produce at the end of the project?

The project will produce a range of information and tools for a diversity of food system stakeholders. Project materials will be created to share key information in a variety of formats to suit the needs of different audiences. The final Design, action plan and supporting products will be shared widely and freely with all stakeholders and the general public through the project website www.bcfoodsystem.com and other avenues. We will also provide targeted reports and briefings to key stakeholders and those who have a crucial role to play in implementing recommendations for action.

Tools and information produced by the project will include but are not limited to:

- Scenarios detailing potential food system futures
- The final Food System Design. The Design will include a description of outcomes including:
 - o Land available for farming and food systems in the Food System Design
 - o How food self-reliant we could be with this Food System Design
 - o The revenue and job potential in the Food System Design
 - o The Ecological Footprint of food production and consumption in the Food System Design
 - o Estimated food system greenhouse gas emissions in the Food System Design
 - o The small and medium sized business opportunities in the Food System Design
 - o The degree to which the food produced in the Food System Design meets the nutritional requirements of the bio-region's population
 - o The impact of different diets on the Food System Design outcomes
 - o The impact of fertilizers, manure and other nutrients in the Food System Design on soil, water and air quality in the bio-region
 - o How the Food System Design protects and enhances wildlife habitat in SWBC
 - o And others.
- Food System Design Action Plan including policy recommendations, governance recommendations, and potential evaluation indicators
- Indigenous Food Systems Paradigm Evaluation Framework (for more details see "How are you working with Indigenous communities?")
- Inventory and Analysis of all regional and municipal Official Community Plans and Agricultural Area Plans.
- Research and Technical Bulletins: detailed research results for key questions of the project. Potential topics including but not limited to:
 - o Inventory of the Ecological Footprint of food production and consumption in SWBC
 - o Analysis of the current economic state of the SWBC food system
 - o Inventory of greenhouse gas emissions in SWBC's current food system
 - o Calculation of current food self-reliance in SWBC
- Farm Enterprise Budgets: farm planning tools for 30 crops and livestock varieties specific to SWBC
- Academic Journal Articles

Who are you working with and how are you working with them?

The Institute for Sustainable Food Systems is dedicated to working with stakeholders from across the food system. In this project, we are primarily focused on engaging municipal governments and working with them to explore the economic, environmental and food self-reliance dimensions of bio-regional food systems.

Beyond our municipal partners, we are working with a broad range of groups and individuals to develop the Design and action plan. Groups we are working with include:

- Municipal and regional district councils
- Municipal and regional district Planners and economic development staff
- Community and economic development organizations (i.e. Chamber of Commerce, Board of Trade)
- Environmental stewardship organizations
- Indigenous communities and food sovereignty organizations
- Local food businesses (distributors etc.)
- Provincial government agencies
- First Nations
- Farmers, agricultural advisory committees and Farmer's Institutes, etc.
- Local/ community food organizations (Farmer's Markets, food security groups etc.)
- Health organizations

We are working with stakeholders in a variety of ways to ensure that the project reflects stakeholder priorities and incorporates a wide range of knowledge and perspectives. Since the project's launch we have used a variety of tools to work with stakeholders including:

- *Project Briefings and Meetings:* From municipal councils and staff to agricultural advisory committees, boards of trade, and community organizations we have presented the project and gathered feedback from 100+ organizations and individuals since 2012. The project has been funded by over six municipalities and regional districts and is endorsed by 30 + municipal governments and community organizations.
- *Research and Data Collaborations:* Each research domain is working with experts and agencies in their field to access the latest and most locally relevant data for the project.
- *Academic Advisory Committee:* An academic advisory committee was developed in the early stages of the project to advise on methodology. This team continues to meet with us regularly to guide the project.
- *Indigenous Research Advisory Committee (IRAC):* An Indigenous Research Advisory Committee was developed to provide feedback and insight on Indigenous objectives and indicators in the project. The committee now advises the broader Indigenous Food Systems research project including providing comment on key lines of enquiry, the research outline, and connecting researchers with key information sources.

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- *Project Advisory Committee:* A project advisory committee made up of stakeholder representatives was convened to gather ongoing feedback on project goals and methods. The committee will also provide recommendations and assistance with engagement and outreach for the project.
 - *Project website and social media:* A project website, Facebook page and twitter page were launched to keep stakeholders aware of project developments and to gather feedback. Follow us at www.facebook.com/swbcfoodsystem and @SWBCFoodSystem
 - *Phase 1 Stakeholder Workshops and Survey:* In June of 2014, stakeholder workshops were held in Maple Ridge, Whistler, Sunshine Coast, Abbotsford, Vancouver and Richmond. In addition, a workshop was held at the 2014 BC Food Systems Network Gathering. Workshops were designed to bring stakeholders up to date on project developments and gather feedback and questions about the Food System Design Objectives. 83 participants from across Southwest BC joined in the discussion at workshops. In addition an online survey was launched from July 3 -18, 2014 to gather feedback from those unable to participate in the workshops. 23 online surveys were completed.

How are you working with Indigenous communities?

We have reached out to Indigenous communities and First Nations as part of our overall outreach program. Contacts were invited to participate in the Phase I workshops and we will continue to meet with and work with contacts across the bio-region to gather feedback, questions and concerns on the project.

We believe that the food system of the future must be designed in a manner that respects and incorporates an understanding of Indigenous food systems and Indigenous values and priorities. Indigenous communities are guided by a particular paradigm or way of thinking that defines their relationship to food and the land and water that supports their communities. We must create a food system that feeds all of our communities - one that protects streams for salmon, and habitat for wild animals and Indigenous plants, and considers the bio-cultural heritage and traditions of our first peoples.

The Institute for Sustainable Food Systems has a full time Indigenous Research Associate on board to explore these dimensions of the project. Our team is working to better understand the Indigenous food system paradigm and how it relates to a sustainable food system paradigm. As a first step on this journey of understanding how to create a food system that respects both paradigms we will create a framework to evaluate the final SWBC Food System Design against key points of entry, complementarity and contention. We will also identify gaps in the research and in the project that can be addressed at a later date. We are guided in this work by a 10 member Indigenous Research Advisory Committee made up of representatives from different Indigenous communities across the bio-region who carry expertise and experience in different areas of the food system.

Who is funding this project?

The project is funded by several different parties. Many thanks to the Real Estate Foundation, Howard Webster Foundation, VanCity Credit Union, and VanCity enviroFund for their contributions. We have also received substantial in-kind contributions from participating universities including Kwantlen Polytechnic University, University of British Columbia, and Ben-Gurion University. Finally, the following municipalities and regional districts have contributed to the project: City of Burnaby, City of North Vancouver, District of Maple Ridge, Township of Langley, City of Langley, District of Squamish, Squamish-Lillooet Regional District.

How are the Ministry of Agriculture, the Agricultural Land Commission (ALC) and the BC Agriculture Council (BCAC) involved in the project?

The Agricultural Land Commission (ALC) and BC Agriculture Council (BCAC) provided letters of support for the project's initial Real Estate Foundation BC grant application. The ALC Director and Board have been briefed on project and the ALC has officially endorsed the project since its launch in 2012. We are in continued dialogue with the BCAC about different aspects of the project and how they might engage.

The project team has communicated with the Ministry about the project since its launch. We have briefed staff and three different Ministers on the project. Ministry of Agriculture Regional Manager - Coast (Orlando Schmidt) sits on the Project Advisory Committee that provides recommendations on methodology and engagement to the project team.

We continue to brief all three entities and will work with them in the Design and action planning phases of the project to the fullest extent possible.

How does this project support protecting the Agricultural Land Reserve?

It is the position of the Institute for Sustainable Food Systems (ISFS) that protecting the Agricultural Land Reserve (ALR) is crucial to building a strong and vibrant food system in Southwest BC and across the Province. ISFS believes that protecting the ALR means maintaining the integrity of its boundaries as well as encouraging active farming of ALR lands.

This project will support the ALR protection goals by demonstrating how the ALR contributes to goals of increased food self-reliance, community resilience and a vibrant agriculture and food sector in Southwest BC. Information produced by the project can be used by community groups, municipal planners and others to advocate for ALR protection in the bio-region and in BC.

How is this project different from Agricultural Area Plans?

Agricultural Area Plans establish measures at the municipal level to strengthen farming and contribute to agriculture's long-term sustainability (BC Ministry of Agriculture). They establish measures for supporting local farmers and protecting the environment.

While our project goals are similar to those of Agricultural Area Plans we are using very different approach and tools to achieve them. These differences include:

1. As described above we are using a scenario approach to develop a Design for a future food system (refer to “What is the Design and how are you creating it?”).
2. The time horizon in an Agricultural Area Plan is generally shorter-term as compared to the 2050 horizon of the SWBC Bio-Regional Food System Design Project.
3. The project is focused on the food system at the bio-regional level. It will explore how we can achieve goals of increased food self-reliance, increased agricultural production and environmental stewardship at a higher geographic scale than that used in Agricultural Area Plans. Part of our action planning will be to examine potential bio-regional governance models and to explore how municipalities and stakeholders can work together across jurisdictional boundaries to build a bio-regional food system.

How is this project different from a community planning process?

Community planning processes use a wide range of tools to engage community members and stakeholders in developing a plan for a specific area like a street, neighborhood, or city. They are often very interactive and participatory processes where stakeholders contribute to the creation of goals, objectives and strategies. They are run by an organization that has the authority and jurisdiction to implement the plan together with partners.

In this project, we are using an applied research approach to tackle big questions that are very similar to those addressed in a community planning process. Like in a community planning process, stakeholder engagement and input is critical to the project’s success. In an academic environment, however, we do not have the authority or jurisdiction to implement the recommendations. We must work with engaged stakeholders who do to make change happen. We have chosen an applied research approach because it will allow us to develop strong, reliable data to inform the broader conversation on food systems in Southwest BC. The information developed by this project, and others in future, could inform the community planning processes for food systems and give stakeholders tools to advocate for and create change. By connecting with community we can ensure that values, priorities, and local knowledge are included in the research process and that our results are relevant and useful to stakeholders.

How can I get more information?

1. Sign up for our project newsletter to receive regular updates about the project and learn about opportunities to get involved. Sign up on our website – www.bcfoodsystem.com
2. Follow the project on [Facebook](#) and [Twitter](#)
3. Contact us for more information at 604-599-2680 or neal.ranzoni@kpu.ca.

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http://pics.uvic.ca/sites/default/files/uploads/publications/Strengthening%20BC's%20Agriculture%20Sector_0.pdf

ii (BC Stats<http://www.bcstats.gov.bc.ca/StatisticsBySubject/Demography/PopulationProjections.aspx>)