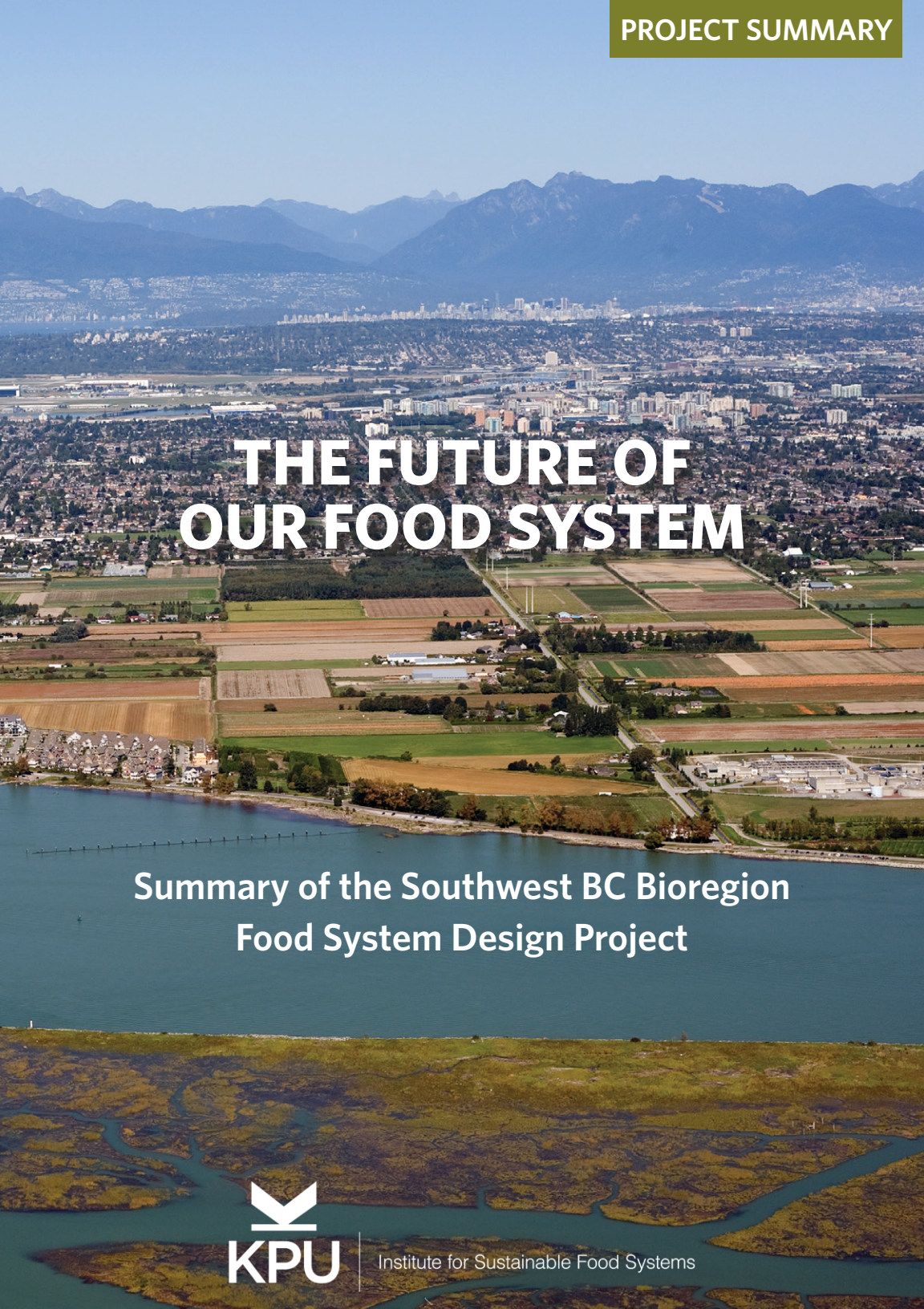
PROJECT SUMMARY



THE FUTURE OF OUR FOOD SYSTEM

Summary of the Southwest BC Bioregion Food System Design Project

KPU | Institute for Sustainable Food Systems

About ISFS

The Institute for Sustainable Food Systems (ISFS) is an applied research and extension unit at Kwantlen Polytechnic University that investigates and supports regional food systems as key elements of sustainable communities. We focus predominantly on British Columbia but also extend our programming to other regions. Our applied research focuses on the potential of regional food systems in terms of agriculture and food, economics, community health, policy, and environmental stewardship. Our extension programming provides information and support for farmers, communities, businesses, policymakers, and others. Community collaboration is central to our approach.

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For permissions, contact:
Dr. Kent Mullinix
Director, Institute for Sustainable Food Systems
kent.mullinix@kpu.ca

Find Out More

This document is one means used to present project findings. It is intended for a broad audience and provides the highest level of information. Supporting it is a full project report and a series of research briefs that provide more detailed explanation of research methods and project outcomes. Elements of this project will also be reported in peer-reviewed academic journals. To view these other documents, please visit www.kpu.ca/isfs.

"Food is a sustaining and enduring necessity. Yet among the basic essentials for life—air, water, shelter, and food—only food has been absent over the years as a focus of serious professional planning interest. This is a puzzling omission..." [1]

American Planning Association, in its 2007
Policy Guide on Community and Regional Food Planning

The Challenge

Our food system is far from sustainable. It is dependent on diminishing supplies of oil and fresh water and threatened by global warming. Its adverse environmental impacts, such as groundwater contamination, habitat destruction, soil degradation and loss, and enormous greenhouse gas emissions contributing to global warming are undisputed.[2] In BC, as elsewhere, food price increases, food insecurity, diet-related disease, and the economic marginalization of farmers and loss of revenue from the local economy is also of concern.[3] In Southwest BC, we spend an estimated $8.6 billion on food annually,[4] but much of this does not stay in the local economy because it is spent on imported food or in non-local food system businesses. Climate change, food and energy price instability, and dietary preferences are limiting the capacity of our food system to provide sufficient food. Our food system future seems tenuous, and perhaps the only thing we know for certain is that our population will continue to grow, requiring more food to sustain it. We need to purposefully address the challenge of providing food for all, in sustainable ways, well into the future. A sustainable future requires a sustainable food system.

Some argue that localizing food systems will better ensure a sustainable, resilient food supply into the future. Local food systems are characterized by greater food self-reliance, which is defined as the ability to satisfy local food needs with food grown locally. Local food systems are purported to have greater social benefit,[5] reduce negative environmental impacts associated with bringing food from farm to plate,[6] improve community health, nutrition, and food safety,[7] and strengthen economies.[8]

Despite a growing interest in food system localization, there remains little information about how or to what degree it can realistically address our food system sustainability concerns. We are at a critical moment in history where issues of climate change, food security, energy, and local economics are rapidly converging. The choices we make about our food system could potentially mitigate some of these issues or make them worse. Good information is needed to help us make decisions about our future.

What Is a Food System?

A food system is "an interconnected web of activities, resources and people that extends across all domains involved in providing human nourishment and sustaining health, including production, processing, packaging, distribution, marketing, consumption and disposal of food." [9]

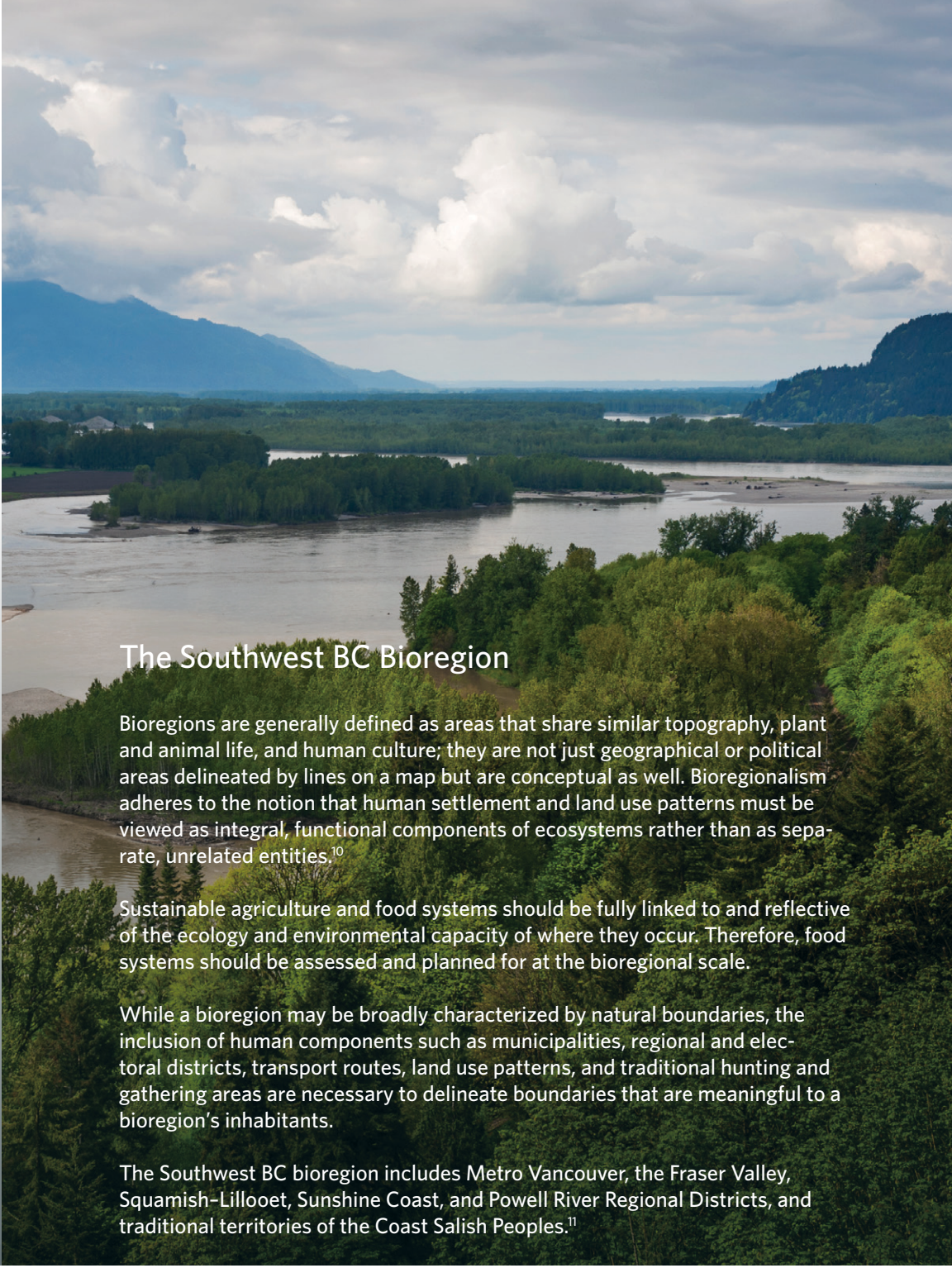
Lisa Chase and Vern Grubinger in *Food, Farms, and Community: Exploring Food Systems*

About the Project

This multidisciplinary food system design project was initiated to explore the food self-reliance, environmental stewardship, and economic potential of a local food system in the Southwest BC bioregion. It aimed to provide regionally specific, data-driven information about:

- the potential to increase Southwest BC food production and processing for local markets
- whether and to what extent increasing local food production could improve food self-reliance, benefit the provincial economy, and create jobs
- the detrimental environmental impacts of food production in Southwest BC and strategies to reduce them

The project modelled a number of different future food system scenarios that represent the possible outcomes of choices we face. When compared to our current situation, these future scenarios can be used to help identify and understand the impacts of our decisions, the options and outcomes that we could seek to achieve, and those we would like to avoid.



The Southwest BC Bioregion

Bioregions are generally defined as areas that share similar topography, plant and animal life, and human culture; they are not just geographical or political areas delineated by lines on a map but are conceptual as well. Bioregionalism adheres to the notion that human settlement and land use patterns must be viewed as integral, functional components of ecosystems rather than as separate, unrelated entities.[10]

Sustainable agriculture and food systems should be fully linked to and reflective of the ecology and environmental capacity of where they occur. Therefore, food systems should be assessed and planned for at the bioregional scale.

While a bioregion may be broadly characterized by natural boundaries, the inclusion of human components such as municipalities, regional and electoral districts, transport routes, land use patterns, and traditional hunting and gathering areas are necessary to delineate boundaries that are meaningful to a bioregion's inhabitants.

The Southwest BC bioregion includes Metro Vancouver, the Fraser Valley, Squamish–Lillooet, Sunshine Coast, and Powell River Regional Districts, and traditional territories of the Coast Salish Peoples.[11]

Scenarios

Scenarios are data-driven stories created to explore the relationships between factors in a system and to illustrate the outcomes of different decisions. Scenarios do not predict what will happen nor prescribe a particular approach.

A baseline and four future scenarios were modelled. The Baseline reports on the current food system status. The four future scenarios include an assumed 60% increase in population from the Baseline, and each explores a different possibility for localizing the Southwest BC bioregion's food system in 2050.

By 2050, the impacts of population growth and climate change on our local food system will be evident. Near enough to plan for, 2050 is also far enough away that we can start now for effective food system planning and action to implement our preferred food system future and have enough time to realize ambitious, meaningful goals.

Food System Scenario Modelling

To explore food system futures in the Southwest BC bioregion, ISFS developed a computational model of agricultural land use and associated food self-reliance and environmental outcomes. The model used optimization methodology and the best available data.

2011 Baseline

The Baseline reports on the current impacts and outcomes of food production in the Southwest BC bioregion, using data from the Census of Agriculture (2011). It provides a reference point against which outcomes from future scenarios can be compared.

2050 Business-as-Usual Food Production (BAU)

The first future scenario explores a future food system in which the only change from 2011 is an increased population. This scenario illustrates the food self-reliance, environmental, and economic outcomes of maintaining the current allocation of crop and livestock production.

2050 Increase Food Self-Reliance (Increase FSR)

The second future scenario explores a future food system in which the only change from the BAU scenario is the strategic reallocation of crop and livestock production to meet local food need and increase food self-reliance. The aim of this scenario is to satisfy as much of the bioregion's 2050 food need as possible, without expanding land in food production.

2050 Mitigate Environmental Impacts from Agriculture (Mitigate Impacts)

The third future scenario builds upon the second, Increase FSR, to explore a future food system that mitigates some of agriculture's key environmental impacts. Changes from the Increase FSR scenario are the implementation of a nutrient balance (nitrogen and phosphorous) and habitat enhancements (hedgerows and riparian buffers).

2050 Expand Agricultural Land in Production (Expand Land)

The fourth future scenario builds upon the third, Mitigate Impacts, to explore a food system in which currently unfarmed but arable land is brought into food production. The only change from the Mitigate Impacts scenario is an increase in the amount of agricultural land under production. Crop and livestock production continue to be reallocated to increase food self-reliance and measures to mitigate environmental impacts continue to be implemented.

Indicators

Indicators provide specific information on the outcomes and impacts of the modelled food system scenarios. Indicator values are not predictive of the future. Rather, they represent the value of a particular set of variables that has been modelled for illustrative purposes.

For each scenario, this project modelled 15 indicators in the areas of food production and ecological and economic impact.

No data are available on how much of the food produced in Southwest BC is consumed within the bioregion and how much is exported. Similarly, no data are available on how much of the food imported to the bioregion is consumed in Southwest BC, as some of it may be sent on to other regions. The amounts reported here assume that the bioregion's population chooses to consume local products over imported products whenever possible. Therefore, the reported amounts of food production for the local market are likely to be greater than what actually occurred. Likewise, the reported amounts of food imports are likely to be smaller than what actually occurred.

Food Self-Reliance

Food self-reliance measures the proportion of the population's diet that could be satisfied by locally produced food. It compares the quantity and types of food in the diet of the bioregion's population (the food need) to the quantity and types of food produced there.

Ecological Footprint

The ecological footprint of food consumption measures the area of biologically productive land and sea (biocapacity) required on an ongoing basis to meet the population's food need and to absorb associated carbon emissions.

Greenhouse Gas Emissions

Greenhouse gas emissions measure the amount of greenhouse gases, expressed as carbon dioxide equivalents (CO_2e), produced as a result of agricultural production on land within the bioregion.

Carbon Stocks

Carbon stocks measure the amount of carbon dioxide equivalents (CO_2e) stored in the aboveground woody parts of non-production perennial vegetation (trees and shrubs). This carbon was previously in the atmosphere.

Wildlife Habitat Capacity

Wildlife habitat capacity measures the overall value of an area as habitat for regional species, measured on modelled agricultural land only.

Habitat Connectivity

Habitat connectivity measures the distance wildlife can travel via non-production perennial vegetation through the agricultural landscape.

Nutrient Surplus (N and P)

Nutrient surplus measures the quantity (kilograms per hectare) of nitrogen and phosphorous contained in the manure of livestock raised in the bioregion relative to the quantity of those same nutrients needed for crop production in the bioregion.

Food Production

Food production measures the commodity weight of crop and livestock products grown and raised on farms in the bioregion. Amounts represent the weight of raw food products at the time of farm gate sale.

Food Imports

Food imports measures the commodity weight and monetary value of crop and livestock products imported to meet food need not satisfied by local production.

Total Employment

Total employment measures the number of full-time equivalent positions (FTEs). It accounts for seasonal/temporary, year-round, part-time, and full-time positions.

Total Output

Total output measures the monetary value of raw and processed food products produced in the bioregion as well as goods and services from all industries associated with food production in the bioregion.

Total Gross Domestic Product

Total gross domestic product (GDP) measures the unduplicated monetary value gained for all goods and services associated with primary agriculture, food processing, and other related industries.

Total Employment Income

Total employment income measures the gross income earned by employees in primary agriculture, food processing, and other related industries.

Total Tax Revenue

Total tax revenue measures the value of federal, provincial, and municipal tax revenue collected from individuals and businesses involved in the Southwest BC food system.

Calculating Food Need

Despite a widespread interest in dietary habits and food self-reliance, data that thoroughly and accurately track food consumption patterns at the local, provincial, or national levels do not exist. Food system researchers have used various methods to estimate food consumption or "food need." This project estimated food need by combining two datasets—one that tracks the stocks and flows of food commodities across the country and is a suitable proxy for Canadian food preferences, and one that provides nutrition recommendations to the Canadian public by age and sex.[12] Our method assumes that residents continue to eat foods that cannot be grown here (e.g., mango) and to eat fresh foods out of their season of local availability (e.g., fresh strawberries in January). To satisfy need for these foods, imports are required. The foods modelled included the following:

Fruits and Vegetables

Apple, canned
Apple, dried
Apple, fresh
Apple, frozen
Apple, juice
Apple, pie filling
Apple, sauce
Apricot, canned
Apricot, fresh
Asparagus, canned
Asparagus, fresh
Avocado, fresh
Banana, fresh
Bean, green, canned
Bean, green, fresh
Bean, green, frozen
Beet, canned
Beet, fresh
Blueberry, canned
Blueberry, fresh
Blueberry, frozen
Broccoli, fresh
Broccoli, frozen
Brussels sprout, fresh
Brussels sprout, frozen
Cabbage, fresh
Carrot, canned
Carrot, fresh
Carrot, frozen
Cauliflower, fresh
Cauliflower, frozen
Celery, fresh
Cherry, fresh
Cherry, frozen
Coconut, fresh
Corn, canned
Corn, fresh
Corn, frozen
Cranberry, fresh
Cucumber, fresh
Date, fresh
Fig, fresh
Grape, fresh
Grape, juice
Grapefruit, fresh
Grapefruit, juice
Guava, fresh
Lemon, fresh
Lemon, juice
Lettuce, fresh
Lime, fresh
Mango, fresh
Manioc, fresh
Mushroom, canned
Mushroom, fresh
Onion, fresh
Orange, fresh
Orange, juice
Papaya, fresh
Pea, canned
Pea, fresh
Pea, frozen
Peach, canned
Peach, fresh
Pear, canned
Pear, fresh
Pepper, fresh
Pineapple, canned
Pineapple, fresh
Pineapple, juice
Plum, fresh
Potato, frozen
Potato, sweet, fresh
Potato, white, fresh
Pumpkin and squash, fresh
Radish, fresh
Raspberry, frozen
Rutabaga, fresh
Shallot, fresh
Spinach, fresh
Spinach, frozen
Strawberry, canned
Strawberry, fresh
Strawberry, frozen
Tomato, canned
Tomato, fresh
Tomato, juice
Tomato, pulp, paste, and puree
Turnip, fresh

Meat and Alternatives

Bean, canned
Beef
Chicken
Egg
Mutton and lamb
Peanut
Pork
Turkey

Milk and Alternatives

Buttermilk
Buttermilk, powder
Cheese, cheddar
Cheese, cottage
Cheese, processed
Cheese, variety
Chocolate drink
Milk, partly skimmed, 1%
Milk, partly skimmed, 2%
Milk, skim
Milk, skim, concentrated
Milk, skim, powder
Milk, standard, 3.25%
Milk, whole, concentrated

Fats and Oils

Butter
Margarine
Salad oils
Shortening

Grains

Barley
Corn flour and meal
Oats
Rice
Rye
Wheat

Self-Reliance and Livestock Feed Imports

The source of livestock feed greatly influences food self-reliance calculations. In 2011, the crop mix in Southwest BC included very little livestock feed grains, which made the bioregion very dependent on imported feed. The implications of livestock self-reliance on that of the whole diet are striking. By relying on imported feed, Southwest BC was able to achieve 40% food self-reliance for the whole diet. If imported feed had not been available, total dietary self-reliance would have been only 12%.[13]

Dependence on livestock feed imports from other regions is consistent with a global trend toward the decoupling of livestock production from a local land base.[14] This has drastically shifted global patterns of land and water use as well as shifted the production of nutrients from animal manures away from a balance with crop need.

Measures of food self-reliance in the 2011 Baseline scenario and all 2050 scenarios include livestock feed imports. However, whether or not importing feed can be thought of as a truly self-reliant practice is debatable.

2011 Baseline

Southwest BC comprises densely populated urban zones surrounded by more sparsely populated peri-urban and rural areas. It has approximately 165,000 hectares of arable land, including land in the Agricultural Land Reserve and Crown land suitable for farming or grazing. In 2011, an estimated 101,000 hectares were in production and the population of the bioregion was approximately 2.7 million.

Southwest BC's climate and soils render it a prime agricultural area. It is currently a major producer of dairy, eggs, turkey, and chicken, as well as cranberries, blueberries, raspberries, greenhouse vegetables, potatoes, and various other horticultural crops. Total dietary food self-reliance in 2011 was 40%.[15] The ecological footprint of Southwest BC food consumption was 0.97 gha per person. This is high, at over half of the "fair Earth share" required to meet all livelihood needs.

Southwest BC agriculture contributed 40% of the province's total greenhouse gas emissions from agriculture, but non-production vegetation (trees and shrubs) on agricultural land also contributed to climate change mitigation by storing 5.3 million tonnes of carbon. Crops and non-production vegetation contributed to wildlife habitat, although their capacity to do so was low, and habitat connectivity was limited.

Nitrogen and phosphorus from manure production were found in modest surplus across Southwest BC. These surpluses represent potential pollutants to the environment as they can contaminate surface and ground waters, particularly if concentrated in certain areas—as is the case in the Southwest BC bioregion.

The bioregion produced 1.1 million tonnes of food. Assuming that residents chose locally produced food first, 79% of this would have been sold within Southwest BC and the remainder exported. To satisfy outstanding food need, 1.8 million tonnes of food valued at $1.6 billion would have been imported. This represents a significant loss of potential economic activity in Southwest BC, which, if captured, could substantially enhance the local economy.

The production of this food, and associated goods and services, required 16,163 employees in agriculture, food processing, and other linked industries. Total employment income associated with these employees was $834 million. The total output resulting from food production in the bioregion was $3.5 billion and total GDP was $1.2 billion. Tax revenue of $230 million associated with this sector was distributed to federal, provincial, and municipal governments.

Comparing Possible Futures

2050 Business as Usual

Relative to 2011, with an increase in population but no increase in or diversification of food production, self-reliance and imports would worsen (the latter by increasing). With the exception of the ecological footprint, which would worsen due to the increase in population, environmental indicator values would not change. Though no more food would be produced locally, a small shift in local food need resulting from demographic change, and an increase in food processing, would very slightly improve economic performance.

2050 Increase FSR

Relative to 2011, reallocating crop and livestock production to meet local food need would improve food production, food self-reliance, economic performance, and food imports (which would improve by decreasing). Carbon stocks and habitat connectivity values would remain unchanged because no additional land would be cleared for food production. However, performance of all other environmental indicators would worsen relative to 2011 as a result of increased food production and population.

2050 Mitigate Impacts

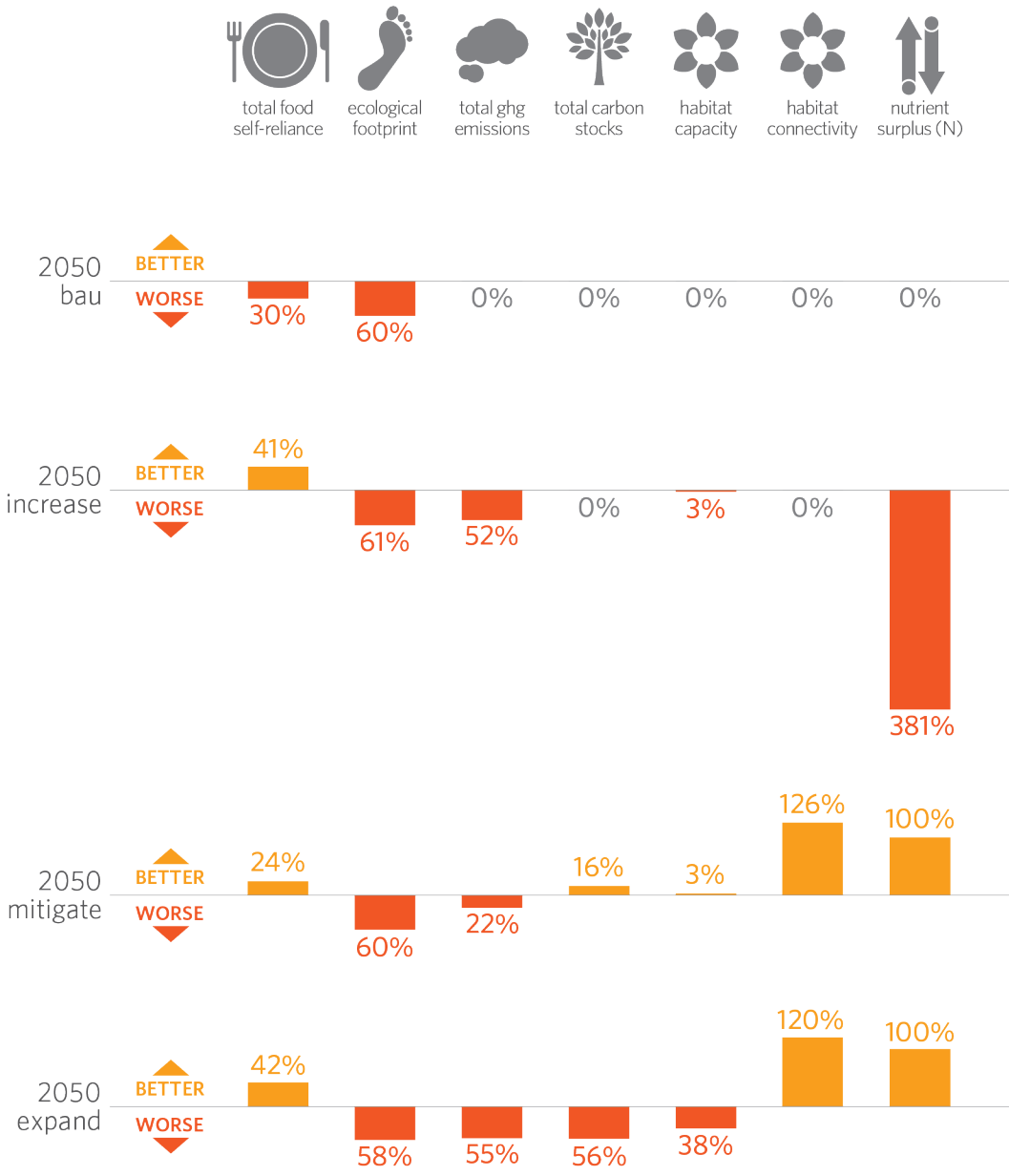
Relative to 2011, implementing habitat enhancements would slightly decrease the amount of available land, and the implementation of a nitrogen balance would limit the production of livestock products. Despite this, food production, food self-reliance, and all economic indicators would still improve, though not as much as in the Increase FSR scenario. The ecological footprint would worsen due to population growth, and GHG emissions would worsen due to the increase in food production. The performance of all other environmental indicators would improve due to the implementation of habitat enhancements and a nitrogen balance.

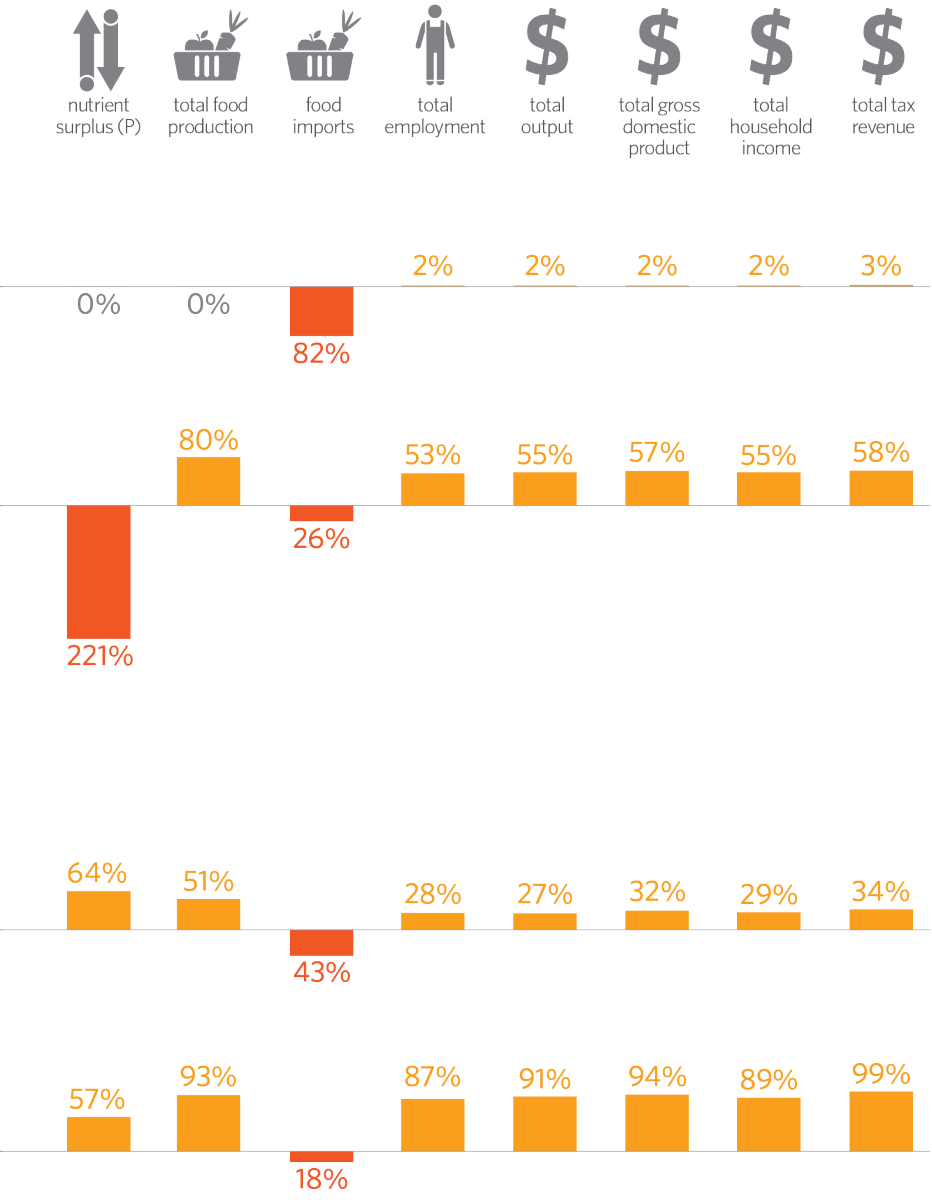
2050 Expand Land

Relative to 2011, significant improvements to food production, food self-reliance, and all economic indicators would be possible by increasing land in production and reallocating production activities, even while mitigating environmental impacts. Expanding land in production would result in worsened indicator values for carbon stocks, habitat connectivity, and habitat capacity. A worsened ecological footprint would result due to population growth. Worsened GHG emissions would reflect the increase in food production in the bioregion (rather than at import production locations). Nutrient surpluses would be mitigated by the implementation of a nitrogen balance.

Comparison of Performance for All Scenarios

% change from 2011 conditions




nutrient surplus (P)
total food production
food imports
total employment
total output
total gross domestic product
total household income
total tax revenue
0%
0%
82%
2%
2%
2%
2%
3%
221%
80%
26%
53%
55%
57%
55%
58%
64%
51%
43%
28%
27%
32%
29%
34%
57%
93%
18%
87%
91%
94%
89%
99%

Ecological Footprint:

Why doesn't growing more local food reduce the size of the ecological footprint?

Increasing food self-reliance in Southwest BC has little effect on the size of the ecological footprint. By comparing ecological footprints for food produced in the bioregion with food produced outside and imported to the bioregion, we see that the ecological footprint of our food need is influenced more heavily by the kinds of foods consumed than by where they are produced.

Some crops have an ecological footprint advantage when grown locally while others do not. This is largely due to production yields, transportation energy emissions, and on-farm energy emissions. A food commodity may have a higher yield when grown outside the bioregion, but transportation emissions to reach Southwest BC must be factored in. A commodity grown locally may have a lower yield, requiring more land and on-farm energy use (from machinery) per unit of production, but no transportation energy emissions. In the case of livestock products, feed yield and livestock diets must also be factored in.

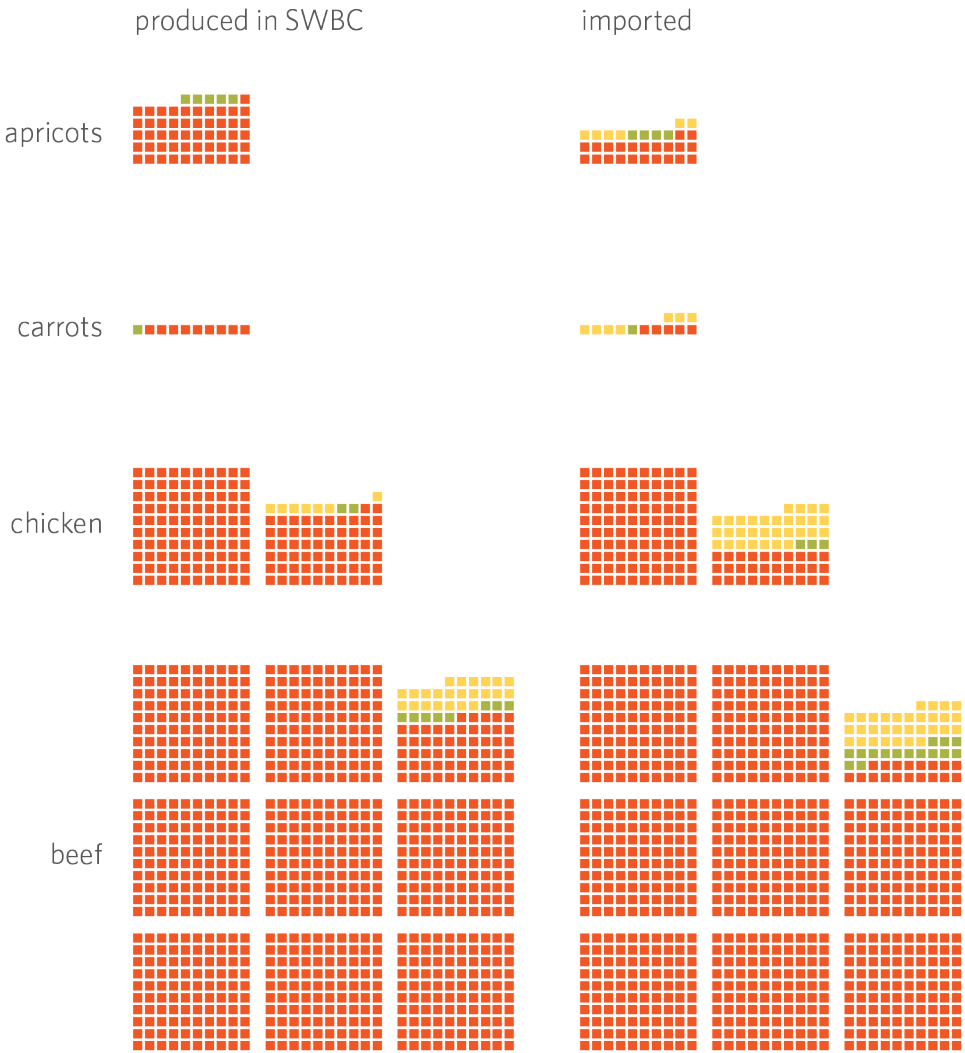
About 77% of food commodities that make up the bioregion's food need can be grown locally, and these same commodities can also be imported. Of 45 such crops, there is a local advantage for 16 crops, an import advantage for 16, and the remaining 13 show little difference in ecological footprint between locations of production. No general statement can be made about whether local or imported food crops have an ecological footprint advantage. Each crop and livestock product must be assessed individually.

Yield

The most significant factor determining the total ecological footprint of a fruit, vegetable, grain, or feed crop is yield, suggesting that we should seek to determine what agricultural methods maximize yields without negatively impacting the environment. However, we must be thoughtful about displacing lower-footprint import crops with higher-footprint local crops.

Ecological Footprint Comparison

Global hectares (gha) required to produce one tonne (t) of a specified food commodity



Indicator Recommendations:

What is required to advance each indicator for the better?

Food Self-Reliance

Shifting the mix of crop and livestock production in Southwest BC would increase food self-reliance, even with population growth. Although it is possible to grow a wide range of crops in the bioregion, prioritizing the production of specific vegetables, fruits, and livestock over hay and pasture is necessary if goals of increasing food self-reliance are to be achieved.

Ecological Footprint

Changing dietary preferences could substantially reduce the ecological footprint of Southwest BC food need. Red meat has a very high ecological footprint compared to other food commodities. Substituting meat alternatives (legumes) for all meat products while maintaining egg and dairy consumption—a vegetarian diet—would reduce the ecological footprint of food consumption by 37% when compared with the 2050 BAU scenario's conventional diet. Further, reallocating production activities to optimize food self-reliance for a vegetarian diet would result in an ecological footprint 40% smaller than the 2050 BAU scenario.

Greenhouse Gas Emissions

Although increasing local food production would result in a corresponding increase in emissions from agriculture in the short term, it presents a long-term opportunity to reduce emissions through changes to diet (less meat) and to farming practices. Emissions from manure and fertilizer application to farm fields, for example, can be reduced by adopting best management practices for application rates and timing and manure storage methods.

Carbon Stocks

Maintaining existing large forest stands, which currently store the greatest amount of carbon on agricultural land in Southwest BC, would keep this carbon out of the atmosphere. To the extent that some are cleared for food production, other measures to mitigate associated loss of stored carbon could be implemented. Examples of mitigation measures include: increasing soil organic matter, planting new hedgerows or riparian buffers, and maintaining existing perennial vegetation along parcel boundaries and waterways.

Wildlife Habitat Capacity

The most effective enhancements for habitat capacity would be to plant extensive perennial hedgerows along field boundaries and riparian buffers along waterways, protect high-value habitats such as wetlands, and cultivate perennial crops such as berries and nuts. However, the capacity for habitat on Southwest BC farmland would remain relatively poor regardless of habitat enhancements implemented. Improving capacity to a "moderate" level would likely pose a high trade-off with lowered food production and self-reliance.

Habitat Connectivity

Establishing hedgerows and riparian buffers would result in a more extensive network of wildlife habitat that facilitates ease and safety of movement, with minimal trade-offs for food production.

Nutrient Surplus (N and P)

Strategically increasing crop and animal production with an appropriate mix would maintain a balance between the amount of nutrients produced and required, thereby minimizing the risk of nutrient losses to the environment.

Economic Impact (All)

Increasing food production in accordance with local food need and increasing local food processing capacity would increase the economic contribution of Southwest BC's food system to the provincial economy. The processing sector is key to stimulating the regional food system economy as it adds value to farm products and creates more links within the regional food supply chain.

Our Food System, Our Choice to Make

Our food system should provide the kinds of wholesome, nutritious foods we need and want. It should also buffer us from the uncertainties of global economics and climate change, better position us to address critical environmental issues, and contribute substantially to our local economy.

Informed decision making leading to policy development and implementation is key. But to make good decisions we require information. This project has sought to bring data-driven information to the discussion of our food system future. And the findings clearly indicate—for community leaders, planners, and policy makers—the necessity of thoughtful, targeted action if greater levels of bioregional food self-reliance and related community sustainability goals are to be achieved.

The bottom line is that, in addition to global issues, we are facing a number of pressing local challenges: an increasing population, threatened farmland, environmental degradation, and BC's economic vitality and the strength of its agricultural sector. Our project investigated the potential of a more sustainable, bioregional food system to address these local challenges. It demonstrated that such a food system could play an important part of a comprehensive vision for a sustainable future for Southwest BC.

Many Southwest BC residents are motivated to support a bioregional framework that brings the food economy home. Our food system can and should operate to achieve what we want it to. It really is up to us.

Applying the Findings

The data and information generated by this project can serve as the basis for constructive discussion, decision making, and planning at municipal, regional district, First Nation, and provincial government levels. It can inform Agricultural Area Plans, Official Community Plans, and other policies and economic development strategies. It will also be useful for business people investing, or considering investing, in the food system.

This project also brings focus to the concept of a "bioregion" and, in doing so, the necessity of aligning our communities and economic activities, including food provision, to our immediate environment and the ecology of where we live. This project should help readers better understand if and how localizing our food system can contribute to achieving environmental stewardship, economic development, and sustainability goals, making clear their interdependence.

The project's methods can be applied at any scale or to any place, and the models can be easily altered to investigate other food system potentials and "what-if" scenarios. We encourage others to build upon this project to get the answers they need to advance a more sustainable food system. For more information on project methodology and outcomes, see additional reports (full report, research briefs, and journal articles) posted at www.kpu.ca/isfs.

The Project and Its Goals

The Southwest BC Bioregion Food System Design project was conceptualized at ISFS in 2012 and conducted from 2013–2016. The project was conceived as a "research project within a research project," with the broad goals of developing a method to delineate the interconnected economic, food self-reliance, and environmental stewardship potentials of a bioregional food system and then applying the method to the Southwest BC bioregion. To our knowledge, this project is the first of its kind.

The project developed a model to evaluate the contemporary food system and conduct "what-if" analysis of future scenarios. Dozens of scenarios were generated. Ultimately, the five presented in the full report and this summary revealed meaningful and demonstrative relational outcomes. Substantial, critical project startup funding was received from the Real Estate Foundation of British Columbia (REFBC). Additional funding was received from the R. Howard Webster Foundation, Vancouver City Savings Credit Union (Vancity), Vancouver Foundation, and nine local governments.

In early stages of the project, workshops were held across the bioregion to gather feedback on project objectives and food system design parameters. Stakeholders expressed a sincere desire to develop a bioregional food system focused on the viability of farms and farming, create a local food economy where dollars stay in local communities, and prudently use the bounty of the bioregion while respecting and protecting the environment.

During the project the project team briefed and sought feedback from many municipal and regional district staff, city councils, agriculture and food system advisory committees, and community organizations.

Endnotes

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