



FOOD SECURITY & CLIMATE CHANGE

Context: The latest (2022) International Panel on Climate Change (IPCC) report states that because of human activities, Earth:

- is currently 1.1°C warmer than in pre-industrial levels;
- is already experiencing impacts (see Gabriola specific below); **Need for adaptation**
- is likely to hit 1.5°C of warming within 20 years, with a narrow pathway to stay below that warming target; **Need for mitigation**
- must reach net-zero emissions by 2050 to avoid catastrophic warming.

Impact of Weather Changes on Gabriola Food Production

- BC is predicted to have wetter conditions during winter and spring, and drier/drought conditions during summer.
- Increased “extreme” weather events such as windstorms, forest fires, snow, hail, droughts and flood pose risk to food production.
- Increased need for irrigation during summer, with possible water shortages caused by reduced precipitation, limited water storage capacity and increased population.
- Changes to weather result in need to change historic growing strategies for different crops. A long, wet spring in 2022 resulted in delays for many crops.
- Different pollination times due to weather changes impact timing for local pollinators. In 2022 Gabriola cherry and pear trees were insufficiently pollinated, resulting in poor crops.
- Some crops requiring hot, dry heat that were challenging to grow here previously can now be grown more easily (melons, peppers, etc.).

BC’s Reliance on Imported Food:

- Approximately half the province’s food is imported from other regions in Canada or other nations.
- Dairy products are the most “local” category of food.
- Fish and meat are BC’s largest “crops” by value.
- Most of BC’s fruit and vegetable supply is highly dependent on the state of California.
- California is suffering from long-term drought and is likely to suffer further as climate change progresses.
- There has been a major decline in production of tree fruit in BC over last quarter century, due to Okanagan orchards switching to intensive grape production for wine.
- 50 years ago, 85% of food consumed on Vancouver Island was produced locally; today only 5%.
- 13% of BC farms are on Vancouver Island.
- The following table is a snapshot of how the islands in the Island Health Region are 50% self-sufficient in some food categories, but heavily reliant on imports in many other categories:

| Food Categories | Self-Sufficiency Index (%) |
|---------------------------|----------------------------|
| Vegetables | 17.3 |
| Fruit | 8.8 |
| Grain (human consumption) | 1.0 |
| Meat, poultry | 16.0 |
| Dairy | 40.6 |
| Eggs | 53.0 |
| All Above Food Categories | 22.3 |

Local Self-Sufficiency Index (%) for Major Food Categories in VIHA Region, based on Ostrey (2011)

- Only 40% of BC citizens consumed recommended quantities of fruit and 35% consumed recommended amounts of vegetables. Low regular intakes of fruit and vegetables are associated with diet-related chronic illnesses like diabetes (Ostrey, 2011)
- Approximately 70% of fats and vegetables, 60% of cereals fruit and nuts and fish, 50% of shellfish and 35% of meat imported into BC came from the US. Fifty-eight percent of BC's meat came from Australia and New Zealand. (Ostrey, 2011)
- Worldwide climate shocks are already resulting in crop shortages, creating food shortages that have pushed up global food prices, leading to famines and climate refugees.

GHG Emissions from Food Production and Consumption

- The breeding and raising of animals for food contributes more to global warming than the transportation sector (FOA, United Nations, 2006).
- Manufactured fertilizers are high emitters of GHGs due to the energy intensity required to make ammonia, and the unused portion of nitrogen fertilizers that releases nitrous oxide into the atmosphere (nitrous oxide is 300 times more potent than CO₂).
- Mechanized farming is fossil-fuel intensive.
- The farther a food item is transported, the higher its associated GHG emissions.

Food Choices

- The International Panel on Climate Change recommends reducing or eliminating consumption of meat (especially beef), milk, cheese and butter.
- Eating locally grown food reduces GHG emissions, while increasing food security and food sovereignty.*
- Buying food that does not use harmful fertilizers and pesticides (e.g. certified organic, permaculture) reduces those impacts.

** Food Sovereignty – “The peoples’ right to define their own policies and strategies for the sustainable production, distribution and consumption of food that guarantees the right to food for the entire population, on the basis of small and medium-sized production, respecting their own culture and ...diversity.” (World Forum on Food Sovereignty, 2001)*