

Part V: One Earth?



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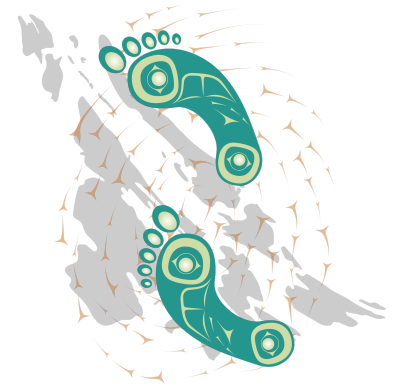
June 2022

Galiano Conservancy Association

Summary & Recommendations

One Island 🌍

This report considers the **Biocapacity**, the Ecological Footprint, and the **Ecological Fingerprint** of the Galiano Island community. To perform this analysis, a certain amount of reductionism was necessary: **we looked at Galiano Island in isolation, as a microcosm of the planet**. We recognize, however, that examining one island by itself can only tell us so much, especially given the countless ecological, cultural, social, economic, and political entanglements that characterize the many communities of the Salish Sea. In this final part of our report, we zoom out to consider what we learned during the course of the **One Island, One Earth** project, and what we think it means.



Two Questions 🔍

The results we have presented reflect the questions we asked. The original purpose of the project was to answer the question: **“Is the Galiano Island community living sustainably within and relative to the resources provided by Galiano Island?”**

As the project developed, we added a second question: **“What can the Ecological Footprint of a small island community tell us, and what are its limitations?”**

Three Goals 🎯

Our analysis and our recommendations reflect three goals that we believe will resonate with many members of the Galiano Island community. We intend these goals to address actions that could be taken at the community level; actions at the individual, Provincial, Federal, and International level are beyond the scope of this report.

1. **Contribute at a local level to less than 1.5 °C of warming globally**

We view the **Climate Crisis** as the defining issue of our time. Our recommendations reflect our current understanding of how the Galiano Island community is best positioned to contribute to the International target of reducing warming to less than 1.5 °C at a planetary scale.

2. **Contribute at a local level to less than 1.5 gha per capita globally**

Ecological Footprint analysis demonstrates that climate change is a *symptom* of a larger issue, which is referred to as **Overshoot** – the Ecological Footprint term for human demands outstripping the regenerative capacity of the biosphere. The concept of Overshoot points to (a) the use of the Earth’s resources faster than they are regenerated, and (b) a lack of equity in the

(over)use of these resources. Our recommendations reflect our current understanding of how the Galiano Island community is best positioned to contribute to the target of reducing the Ecological Footprint to less than 1.5 gha/ca at a planetary scale.¹

3. Advance climate resilience, equity, and decolonization at a community level

We believe that community actions taken to *mitigate* the impacts of the Climate Crisis and Overshoot must also help the Galiano Island community *adapt* and become more resilient and equitable. The ongoing effects of colonization, wealth inequality, and environmental degradation demand consideration in any community decision-making process, and our recommendations reflect our understanding of the need to do so, while acknowledging that we cannot do so on our own. Our goal here is to contribute to ongoing discussion at the community level.

Five Key Findings

We believe that this report communicates several important insights.

1. Galiano Island's ecosystems contribute disproportionately to the biosphere

Our Biocapacity analysis demonstrates that the lands and waters that comprise Galiano Island are highly productive relative to their size and geographic location, contributing 14,373 **global hectares (gha)** to the planet. Roughly half of this biological productivity is terrestrial, and the other half is marine. Conservation plays a large role, with a third of island Biocapacity existing under some form of protection; threats to Biocapacity include land conversion, unaddressed ecosystem degradation, climate change, and declining marine productivity. Interviews with community members affirmed that these lands and waters have supported thriving human populations since time immemorial.

2. The Galiano Island community's Ecological Footprint is less than the Canadian average, but more than double the global average and more than four times an equitable "One Planet" scenario

The Galiano Island community requires 6.8 global hectares per capita (gha/ca) to support itself at its current standard of living, compared to a Canadian average of 8.2 gha/ca and a world average of 2.8 gha/ca. Globally, only 1.6 gha/ca are available to support sustainable, equitable "**One Planet Living**." Interviews with community members revealed that the Galiano Island community relies much less on local resources (some of which have been declining) than it has historically, which - coupled with increases in consumption - has resulted in a high footprint.

¹ According to the Global Footprint Network, there are approximately 1.6 gha available to each person on the planet at the time of writing. However, this does not allow for any Biocapacity to be set aside for wild nature. Therefore, we consider a global target of less than 1.5 gha/ca to allow for preservation of some amount of biodiversity.

3. The large number of part-time residents and tourists doubles Galiano Island's Ecological Footprint, thereby exceeding the island's Biocapacity

The full-time resident population of Galiano Island accounts for roughly half of the total footprint (9,700 gha), while the other half is attributable to part-time residents and tourists (8,900 gha). In total, our Ecological Footprint estimate of 18,600 gha total exceeds the Biocapacity of Galiano Island by 29%.² While Galiano has a small full-time population, the “full-time equivalent” population almost doubles when days from part-timers & tourists are taken into account. Interviewees associated this increased population with increased traffic and development, increased water use, decreased availability of housing, and decreased access to harvesting areas are associated with increased population; at the same time, Interviewees recognized some economic and cultural benefits provided by the seasonal population.

4. About 40% of the Ecological Footprint remains outside of local community control

Senior government services comprise 40% of the Galiano Island community's footprint. This portion of the footprint is beyond the direct influence of the Galiano Island community, and is the responsibility of elected representatives and the body politic. Several factors affecting the remaining 60% of the footprint are also beyond direct community control. Interviews with community members highlighted a number of important areas where local livelihoods and lifestyles are impacted by factors beyond community control (e.g., loss of fishing and forestry industries).

5. About 60% of the Ecological Footprint is responsive to community action

We estimate that 11,100 gha of the Ecological Footprint, or roughly 60%, is responsive in some way to community action. In fact, the Galiano Island community is already outperforming its neighbours in some areas. The local footprints of food and consumables & waste are below average for BC jurisdictions. On the other hand, developed area, electricity use, and air travel are above average. Transportation is the largest contributor to the footprint, and substantial improvements are possible in this and other areas. Interviews with community members suggested to us that, while barriers do exist, the community is motivated to address the challenges it faces and has a long history of taking the initiative to do so.

Ten Recommendations

We suggest the following ten recommendations for action at the community level, acknowledging that significant progress has been made in some of these areas, and that work on others is ongoing. These recommendations are informed by both the CHRM Consulting / **BCIT Centre for Ecocities** “One Planet

² We stress that this is a relative comparison, and not a direct comparison. The Galiano Island community currently imports resources to meet most of its basic needs, greatly reducing the pressure on local Biocapacity.

Scenario” (see Part III of this report) and our Ecological Fingerprint assessment (see Part IV of this report). The specific targets that are discussed below stem from the “One Planet Scenario,” and would require further community consultation and collaborative goal setting to achieve traction.

1. **(Re)connect across islands and shared territories through the waters of the Salish Sea**

The words of Levi Wilson at the beginning of this report remind us that **no island community is “an island unto itself.”** We have learned that One Planet Living is not possible to achieve on one island in isolation; instead, we believe that it is now essential to (re)connect and (re)knit the islands together through the Salish Sea waters that define them, following the lead of hwulmuhw mustimuhw.³ We see increased interdependence among island communities as key to local resilience, and increased collaboration among islanders as key to setting and achieving regional targets through regionally-tailored solutions

2. **Protect, steward, and enhance island ecosystems**

The lands and waters that comprise Galiano Island are highly productive, despite having been impacted by industrial forestry, road building, land conversion, pollution, and depletion of marine resources. Currently, one third of the island’s Biocapacity has some form of protection. Efforts to protect intact ecosystems, restore degraded areas, enhance productivity, and apply ecosystem-based management will help to ensure that Galiano Island continues to be a *Biocapacity reserve* for the biosphere. Future efforts to protect ecosystems should not preclude hwumluhw mustimuhw or other community members from making sustainable use of island resources. We believe that islanders can be exemplary “stewards of Biocapacity” for the planet, and propose a **new target of 50% protection of island Biocapacity.**

3. **Support existing island organizations, initiatives, and programs**

Many of the issues discussed in this report already have dedicated community programs and/or organizations dedicated to addressing them. For example, the Galiano Club’s Community Food Program and the Galiano Island Recycling Resources Society are two examples of grassroots organizations that are already playing an important role in lowering the island footprint. BCIT’s “One Planet Scenario” calls for an **80% reduction of food waste and a 50% reduction in solid waste** production, to be achieved through local production, meal planning, use of all food parts, and sharing and reuse of consumer goods. Both of these organizations are foundational to efforts to meet these targets, and we encourage community members to continue to support these and other vital local institutions.

4. **Activate, electrify, and share transportation**

³ Indigenous People. See “xwulmuxw mulstímuxw” in <https://www.sfu.ca/~gerdts/papers/HulquminumWords.pdf>

Transportation is the single largest contributor to the local footprint. BCIT's "One Planet Scenario" calls for a **50% decrease in vehicle fleet and 100% electrification of transport** (including vehicles, watercraft, and ferries). Advocating for ferry electrification, creating active transport infrastructure, supporting the adoption of electric vehicles, improving public transportation options, and experimenting with island-adapted transport solutions (e.g. electric truck co-op, delivery services, vehicle sharing, revival of canoe culture) will all contribute to reducing the footprint of transportation. After considering the results, we feel that **transportation is the area where the community has the potential to make the most impact.**

5. Reduce the overall footprint of human infrastructure

One challenging result of our analysis is that the Galiano Island community claims a very large spatial area relative to its population for roads, structures, clearings, and other infrastructure to support human occupation. This "rural sprawl" has negative implications for ecosystem connectivity, island biodiversity, and access to harvest areas. The BCIT "One Planet Scenario" calls for an **85% reduction in residential developed area and an 80% reduction in non-paved roads**. However, there is no fast or easy solution to this state of affairs, and limitations in groundwater availability pose a serious obstacle to densification that can and must be addressed. We believe that creative solutions to reduce the spatial footprint of settlement across the island will significantly reduce the Ecological Footprint, while also potentially addressing other issues such as housing affordability, ecosystem fragmentation, and access to harvest areas.

6. Make improvements to existing infrastructure

Electricity use on Galiano Island is higher than average for BC jurisdictions. Installation of heat pumps to replace fossil fuel heating and/or inefficient baseboard heating will lower the footprint and ghg emissions, as will improved insulation of dwellings. Low-carbon renovation options and aeration of septic fields would have an impact on reducing local ghg emissions. BCIT's "One Planet Scenario" calls for a **50% reduction in septic emissions and 100% electrification** of operating energy for buildings. We observe that supporting these small (but often expensive) upgrades will play a key role in footprint reduction.

7. Invest in a circular economy across the Southern Gulf Islands

In many respects, the Ecological Footprint is a measure of the environmental impacts of all the goods and services that are *not produced locally* within a given community. Re-localizing the production of essential goods does not necessarily eliminate, but greatly reduces the footprint of everything from food to fibre and even energy. Currently, many products and services that are provided locally are targeted at the seasonal population; we think that re-orientation of even

some of this energy towards generating local necessities across and between the Southern Gulf Islands will lower the footprint while benefiting island resilience.

8. Adopt and normalize currently underutilized technologies and practices

Rainwater harvesting and composting toilets are two examples of proven technologies and practices that address the very real challenges and opportunities presented by island living. We feel that these approaches could and should be adopted much more widely than they currently are, and that efforts to normalize (and/or formalize) their adoption at a community scale will reduce the footprint while also addressing limited groundwater availability and other pressing issues.

9. Reorient and revive traditional industries and lifeways

Our interviews with community members identified fishing and forestry as historical foundations of the Galiano Island economy that have now been effectively “lost.” The silver lining to the loss of these industries has been widespread recognition of the negative impacts of industrial clear-cutting and overfishing on Salish Sea ecosystems. Nevertheless, we think it would not be too much of a stretch to describe Galiano Island as “a small rock in the ocean covered in trees and surrounded by fish.” With this in mind, we believe that it is essential to the long-term sustainability of the island community to revive a local economy for forest and marine resources, with an orientation towards ecosystem health and community benefit. While the feasibility of this recommendation is affected by economic and regulatory factors that are outside of community control, we invite consideration of potential avenues for community action.

10. Reconciliation, resurgence, and landback should guide action and take precedence

Our interviews with Indigenous islanders reinforce that Galiano Island has been home to many, diverse *hwulmuhw mustimuhw* since time immemorial. From an Ecological Footprint perspective, the Indigenous lifeways that were practiced in the Salish Sea prior to colonization provide the ultimate, locally-adapted example of “One Planet Living.” From the perspective of the Truth and Reconciliation report, “Reconciliation is not an Aboriginal problem; it is a Canadian one. Virtually all aspects of Canadian society may need to be reconsidered.”⁴ We thank the individual *hwumluhw mustimuhw* who shared their time and knowledge with us during the course of this project, and we make our recommendations with the understanding that they may be improved upon or reconsidered entirely pending further input from the Indigenous peoples who include Galiano Island as part of their territory. We hope our work here may be of some use to the ongoing process of accounting for and addressing the harms of colonization.

⁴ Truth and Reconciliation Commission of Canada. (2015). *Honouring the Truth, Reconciling for the Future: Summary of the Final Report of the Truth and Reconciliation Commission of Canada*. Retrieved on May 16, 2022 from https://ehprnh2mwo3.exactdn.com/wp-content/uploads/2021/01/Executive_Summary_English_Web.pdf

Discussion

Questions and Answers ?

The two questions that we opened this report with can now be answered with some confidence:

“Is the Galiano Island community living sustainably within and relative to the resources provided by Galiano Island?”

We find that, at this point in time, the answer is “no.” In a direct sense, the Galiano Island community has become increasingly untethered over time from the actual resources provided by the lands and waters that comprise Galiano Island. As a result, at the time of writing, the vast majority of essential (and inessential) resources are imported to the island, with the notable exception of water. In an indirect sense (i.e., in relative terms), the estimated combined Ecological Footprint of the full-time, part-time and tourist populations currently exceeds the estimated Biocapacity of the island. **If the Galiano Island community were to decrease its overall footprint by 29%, it would match our estimate for island Biocapacity;** a 63% reduction of the island community footprint would be necessary to hit the global target of less than 1.6 gha/ca.

“What can the Ecological Footprint of a small island community tell us, and what are its limitations?”

We find that the Ecological Footprint and Fingerprint, together, can provide a striking illustration of the challenges and opportunities small island communities face on their journey towards sustainability and equity. We believe that, were this assessment to be applied to other small islands in the Salish Sea, patterns of similarity and difference would emerge that might help to clarify the extent to which these challenges and opportunities are shared among islands, and reveal circumstances unique to each island. In some areas, such as freshwater availability, the Ecological Footprint is completely silent, and other methods must be used to investigate these further.

Broadly speaking, our results are in the same “ballpark” as results from nearby urban communities. Uniquely, our use of the Ecological Fingerprint imbues our Ecological Footprint results with life, history, and purpose. In summary, we find that at the island scale, **Ecological Footprint results are instructive, but only make sense when contextualized by the Ecological Fingerprint.**

We encourage other islands in the Salish Sea to extrapolate from our results, or even to apply a similar assessment themselves. It may be reasonable to, for example, generate a basic Ecological Footprint for the **Islands Trust** Area based on extrapolation of these results, with some modification to account for inter-island differences. **We view the potential for improved collaboration (and friendly competition) across islands to be significant.** Interested island organizations should contact oneisland@galianoconservancy.ca for assistance in this process.

Sticking Points and the Devil in the Details 🐱

A number of difficult questions arose in the process of completing this project. Here are just a sampling of the decisions we faced that influenced our results in significant ways:

- Where does an island begin, and where does it end?
- How much marine area should be included in this analysis?
- What defines a “community member?” Who should be included: full-time residents, part-time residents, visitors, or all of the above?
- Should senior government services be included in the footprint total?
- What percentage of community members need to be surveyed for results to be representative?
- How should surveys be designed to ensure accurate and representative information is collected, and surveys are accessible and comprehensible to diverse community members?
- How many people should be interviewed, and what questions should be asked?
- Who should be interviewed, and how should their knowledge be included?
- Is it possible to discuss Ecological Footprints without putting “blame” on individuals for issues that are global in scale?
- How should issues of population size and “**carrying capacity**” be handled?

The decisions that we ultimately made regarding each of these questions are implicit in this report, and are discussed in the relevant sections. Different decisions can reasonably be made on these questions.

Like our GCA forebears, we also identified several tensions in the “balance between overlapping issues.”⁵ These tensions are critical to understanding the Galiano Island community, and striking the appropriate balance between different priorities - potentially through implementing novel solutions - is essential to acting on the recommendations of this report. Here are a few of these tensions, and how we chose to consider and in some cases resolve them through our recommendations:

Water Availability v. Density / Housing Affordability

In Interviews, on surveys, and in conversation, community members frequently brought up concerns around housing affordability and water availability, at times in the same breath. These issues are sometimes framed oppositionally and having direct bearing on how the Galiano Island community approaches the proposed target of reducing the total built area on the island. Most community members that we spoke to acknowledged that limited groundwater availability imposes some environmental limits on development (and, by extension, island population), but there are varying perspectives on where these thresholds lie. Some areas of the island experience annual water deficits,

⁵ See Emmings, K., & Erickson, K. (2004). *Galiano Island Landscape Classification and UP-CLOSE Workshop Series Final Report*. Galiano Conservancy Association, Galiano Island, BC.
https://galianoconservancy.ca/wp-content/uploads/2016/11/final_report_complete.pdf

while others enjoy year-round surplus, so the threshold shifts depending on what part of the island is being discussed.

We heard different perspectives on the degree to which rainwater harvesting, greywater reuse, composting toilets, and other water-conserving technologies can resolve this tension. In this report, we recommend widespread adoption of all of these technologies, accompanied by incremental reductions in the built area to be gained through some degree of densification. The implicit **goal is to have more full-time residents securely and affordably housed, with reduced reliance (and pressure) on groundwater, and a reduced spatial footprint of development.** This goal raises questions about the extent to which the island community should continue to support an economy based around large numbers of seasonal visitors (who put pressure on groundwater supplies during the summer drought) and large houses occupied by part-time residents (which greatly extends the built area).

Solar v. Hydro

Ecological Footprint assessments consider hydroelectric power to be a low-emission source of renewable energy. While this is certainly true in comparison to energy derived from fossil fuels, hydroelectric power has significant negative environmental and social impacts that deserve consideration. Community members on Galiano Island started the [Salish Sea Renewable Energy Co-Op \(SSREC\)](#) to transform the Southern Gulf Islands into a “solar powerhouse.” Tom Mommsen of SSREC advised us that, while reducing overall electricity use and improving home energy efficiency through installing heat pumps and improving insulation should be first on the energy agenda, transitioning to an electric vehicle and installing solar panels are a close second, with significant co-benefits. **Local solar energy has the potential to reduce community reliance on off-island energy sources** and contribute to transitioning British Columbia away from the negative consequences of continued large-scale hydroelectric development. We recommend that the community continue to invest in local renewable energy production, but in step with electrification and improvements in energy efficiency: these transitions should proceed together.

Population v. Carrying Capacity

The question of **carrying capacity** is often brought up in the context of discussions around the Ecological Footprint. Carrying capacity is defined as “the number of people, animals, or crops which a region can support without environmental degradation. Carrying capacity is frequently applied in the biological sciences, but we caution that it cannot be so easily applied to localized human populations. Human beings live at a remarkable variety of material standards (as illustrated by the comparison of Ecological Footprints), and these standards can change quickly. Trade networks allow human communities to overcome local limitations in resources that cannot be overcome by other species, and globalization has greatly increased humanity’s ability to displace resource generation from consumption. From the perspective of the Ecological Footprint, then, **the global scale is the most relevant scale at which to consider human carrying capacity.** If the human population of the planet uses more resources than the environment can generate, environmental degradation occurs, and the human population is

considered to be in overshoot; this is the Ecological Footprint equivalent for exceeding planetary carrying capacity. The global human population is currently in overshoot, and as such, Ecological Footprint analyses cast significant doubt on the notion that increases in population are benign at the global level.⁶ At the local scale, carrying capacity depends on living standards and community values, which cannot be easily quantified.

Some community members that we spoke to expressed deep concern around the fact that the human population of the island has been steadily increasing; others felt that the growth of the community yields benefits in terms of economic and cultural / social diversification. At the local level, we argue that the Ecological Footprint is ambiguous on the topic of population growth: population increases inevitably contribute to the total footprint of a community, but **if approached with sustainability in mind, population growth can reduce per capita footprints in a small community**, and help to set the stage for further per capita reductions. Implementing the recommendations put forward in this report requires the involvement of diverse, dedicated, skilled, and energized community members.

This report demonstrates that **part-time residents and seasonal visitors effectively double the footprint of Galiano Island** relative to its full-time population. We believe that under the right set of circumstances and incentives, the Galiano Island community could continue to grow its full-time population while reducing its economic reliance on (and the effective population of) tourists and part-time residents. To do this, the energy of the full-time population would need to be invested in **generating local employment in fields that help to reduce the local footprint and emissions**. We caution that, for this approach to succeed, the community would need to **prioritize preserving and increasing access to harvest areas for hwulmuhw mistumuhw** and other non-Indigenous community members.

Next Steps

In this report, we attempt to put the Galiano Island community's Ecological Footprint into context at local, regional, national, and global scales. We identify components of the footprint that can be addressed at the community level, and provide recommendations for how the community might approach reducing its footprint in ways that reflect its history, culture, economy, and daily realities. We do not, however, purport to speak for the community.

What the Galiano Island community does with this information remains to be seen. Next steps could include:

- Generating consensus around priority actions and reduction targets for Galiano Island
- Adopting a climate/footprint action plan, *or* joining other islands⁷ in adopting a regional plan
- Identifying which individuals, organizations, and levels of government are best positioned to act on community-determined priorities, and providing support and accountability

⁶ See Rees, W. E. (2020). Ecological Economics for humanity's plague phase. *Ecological Economics*, 169, 106519. <https://doi.org/10.1016/j.ecolecon.2019.106519>

⁷ See Transitional Salt Spring's Climate Action Plan 2.0: <https://transitionsaltspring.com/climate-action-plan-2-0/>

The Galiano Conservancy Association⁸ will continue to provide resources to the community in the areas of ecosystem conservation, water conservation, ecological restoration, sustainable food systems, renewable energy, forest management, and climate resilience. We will seek out opportunities to collaborate on shared objectives across islands, implement projects and programs that deliver on the recommendations of this report, and engage the Galiano Island community.

We've created an online survey to collect community feedback on the results and recommendations of this report as a step towards building consensus around priority actions and targets. If you consider yourself a member of the Galiano Island community, please tell us what you think [HERE](#).

Glossary

Key Terms

Biocapacity - Biocapacity represents the productive potential of an area's biologically productive land and water surface; in other words, the capacity for ecosystems to regenerate plant matter. Biocapacity is measured in global hectares (gha).

BCIT Centre for Ecocities - An arm of the British Columbia Institute of Technology with the mission "to help cities and communities close their sustainability gap."

Tonnes of Carbon Dioxide Equivalent (tCO₂e) - Carbon Dioxide Equivalence expresses the impact of each different greenhouse gas in terms of the amount of CO₂ that would create the same amount of warming when released into the atmosphere. This enables reporting total greenhouse gas emissions with one measurement.

Carbon Sequestration - A natural or artificial process by which carbon dioxide is removed from the atmosphere and held in solid or liquid form.

Carrying Capacity - The number of people, animals, or crops which a region can support without environmental degradation.

Climate Crisis - Refers to the planetary threat posed by continued anthropogenic emissions of greenhouse gases into the atmosphere; the term has come to replace 'climate change' and 'global warming' in discourses concerning global climate.

Consumption-based Emissions Inventory (CBEI) - A form of greenhouse gas emissions inventory that enables a region to quantify the emissions that are attributable to activities of individuals that reside

⁸ Visit www.galianoconservancy.ca

within that region. CBEIs do not replace traditional 'territorial' inventories (see below), but rather they are complementary to them. CBEIs include the emissions that are generated during the production, shipping, use and disposal of all goods consumed in the region, regardless of where they are produced, as well as the impacts of residents and local businesses while they are travelling outside the community's borders.

ecoCity Footprint Tool - A tool developed by Dr. Jennie Moore, with the capacity to create multiple outputs for a community using "bottom-up" data sets: a territorial greenhouse gas emissions inventory, a consumption-based greenhouse gas emissions inventory, and an ecological footprint. See ecocityfootprint.org

Ecological Fingerprint - An evaluation of the particular attitude, self-image and intrinsic values a community adopts with respect to global resource use.

Ecological Footprint - An estimate of how much biologically productive land and water area an individual or population needs to produce all the resources it consumes and to absorb the waste it generates; in other words, the area that would be required to support a defined human population and material standard indefinitely. It is measured in global hectares (gha), where a global hectare is a biologically productive hectare with globally averaged productivity for that year.

Ecosystem Services - The direct and indirect contributions of ecosystems to human well-being. Ecosystems services including provisioning, regulating, supporting, and cultural values.

Embodied Energy - Energy used in creating and delivering a material (e.g., consumable good or infrastructure), including energy used for extraction of raw materials, manufacturing and transportation of the end product.

Embodied Emissions - Greenhouse gas emissions associated with creating and delivering a material (e.g., consumable goods or infrastructure), including those associated with energy used for extraction of raw materials, manufacturing and transportation of the end product.

Exclusive Economic Zone (EEZ) - The area of the sea in which a given nation state asserts special rights regarding the exploration and use of marine resources. In Canada, the EEZ extends 370 kilometers offshore.

Food Miles - The distance food travels from where it is grown or made to where it is purchased or consumed by the end user.

Global Hectares (gha) - A global hectare (gha) is a unit of biocapacity, representing the productivity of a bioproductive hectare on earth with average productivity. There are just over 12 billion biologically productive hectares on Earth. Global hectares are often expressed in terms of global hectares per capita (gha/ca).

Global Footprint Network - An international nonprofit organization founded in 2003 with a mission “to help end ecological overshoot by making ecological limits central to decision-making.”

Islands Trust - The Islands Trust is a special purpose government mandated to preserve and protect over 450 Islands in the Salish Sea. The Province of British Columbia created the Islands Trust in 1974 in response to the potential environmental effects of dense residential subdivisions that were in development in the Gulf Islands. The mandate of the Island Trust is “to preserve and protect the Trust Area and its unique amenities and environment for the benefit of the residents of the Trust Area and of British Columbia in cooperation with municipalities, regional districts, improvement districts, First Nations, other persons and organizations and the government of British Columbia.”

Net Primary Production - The difference between the energy fixed by autotrophs and their respiration; most commonly equated to increments in biomass per unit of land surface and time.

One Planet Living - A lifestyle that, if adopted by everyone, could be supported indefinitely by the regenerative capacity of Earth’s ecosystems.

Operating Energy - The energy used in the function of a product, building, vehicle, etc.

Operating Emissions - The greenhouse gas emissions associated with operating energy.

Overshoot - Global overshoot occurs when humanity’s demand on nature exceeds the biosphere’s regenerative capacity or supply. Such overshoot leads to a depletion of Earth’s life-supporting natural capital, including the buildup of waste such as ocean acidification from excessive CO₂ or climate change from greenhouse gas accumulation in the atmosphere.

Rockfish Conservation Areas - Areas designated by Fisheries and Oceans Canada where any fishing activities that impact on rockfish, lingcod, or their habitat (including activities resulting in bycatch of these species) are prohibited.

Senior Government Services - Services provided by Federal and Provincial governments to the citizenry; in Canada, this includes military, health care, administrative, and other high-level services that aren’t accounted for at the local level.

Sustainability Gap - The difference between the estimated Ecological Footprint of a population and the Ecological Footprint that would achieve “One Planet Living” (see above).

Territorial Emissions Inventory - Also known as a Sectoral Inventory, a territorial inventory identifies direct greenhouse gas (GHG) emissions from all sources within a region. This is the standard type of GHG emissions inventory compiled by local, regional, provincial and federal governments.

A standardized approach to territorial inventories is prescribed by the GPC (Global Protocol for Community-Scale Greenhouse Gas Emissions Protocol).

Two-eyed seeing - According to Mi'kmaw Elder Albert Marshall: " to see from one eye with the strengths of Indigenous ways of knowing, and to see from the other eye with the strengths of Western ways of knowing, and to use both of these eyes together

Acronyms

BCIT - British Columbia Institute of Technology

CBEI - Consumption-based Emissions Inventory

CRD - Capital Regional District

CSPGS - Coast Salish Peoples of Galiano Society

CO₂/Co₂e - Carbon dioxide/Carbon dioxide equivalent

EF - Ecological Footprint

eF Tool - ecoCity Footprint Tool

EEZ - Exclusive Economic Zone

GCA - Galiano Conservancy Association

GFN - Global Footprint Network

gha - Global Hectares

gha/ca - Global Hectares per Capita (person)

ghg - Greenhouse Gas

GIRR - Galiano Island Recycling Resources

GPC - Global Protocol for Community-Scale Greenhouse Gas Emissions Protocol

ICBC - Insurance Corporation of British Columbia

MSW - Municipal Solid Waste

NPP - Net Primary Production

RCA - RockFish Conservation Area

SSREC - Salish Sea Renewable Energy Co-op