



Climate Action REPORT CARD 2023

An Update on Progress Towards the Goals of the
Salt Spring Island Climate Action Plan 2.0

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Acronyms

ALR	Agricultural Land Reserve
CAP	Climate Action Plan
CARL	Climate Adaptation Research Lab of Transition Salt Spring
CRD	Capital Regional District
DPA	Development Permit Area
EV	Electric Vehicle
GHG	Greenhouse Gases
IWAV	Islanders Working Against Violence
LTC	Local Trust Committee
NSSWD	North Salt Spring Water District
SSIWPA	Salt Spring Island Watershed Protection Alliance
SSCE	Salt Spring Community Energy
TSS	Transition Salt Spring
OCP	Official Community Plan
LUB	Land Use Bylaw

Acknowledgements

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A special thank you to Kacia Tolsma, climate researcher extraordinaire, for her terrific work to pull this report together.

Cover Photo: Rob Lowrie



Introduction

From 2019 to 2021, Transition Salt Spring (TSS) worked to develop a local Climate Action Plan (CAP) 2.0 with 250 actions to address the climate crisis on our island. Progress on these actions helps support the goals of reducing our greenhouse gas (GHG) emissions by 50% by 2030 and adapting our island community and its ecosystems to the changes already underway.

What Did We Find?

Overall, Salt Spring is not on track to meet the emissions reduction and climate change adaptation goals set out in TSS's 2021 CAP 2.0.

While there has been notable progress in several areas, it is clear that we are not ready for the multiplying threats that come with the accelerating impacts of climate change.

This report card is the first undertaken since CAP 2.0 was published in 2021. It tells us how well the community is meeting our climate action goals to better prepare for the future. It also helps us focus attention on the things we need to do better to make more urgent progress.

This report card builds upon the original CAP 2.0 to focus on climate change adaptation and uses a 'climate justice' lens to better acknowledge that climate change is impacting people differently based on factors like secure housing, income, gender, and ethnicity.

The three goals of this report card are:

1. Develop and apply indicators and metrics that establish a baseline so we can track our climate action progress every two years.
2. Publicly communicate our community's climate action successes, challenges, and vulnerabilities to mobilize political and public support for bold climate action.
3. Use the findings to work with our community and its leaders to implement high-priority policies and programs that further reduce emissions and better prepare our island for climate change.

Detailed Technical Report: The information in this report was collected from different sources such as published reports, interviews, and talking to people in the local community. References for the tables and additional information can be found in the technical report: <https://shorturl.at/qwyE9>

To view the 2021 Climate Action Plan 2.0. <https://transitionsaltspring.com/climate-action-plan-2-0/>

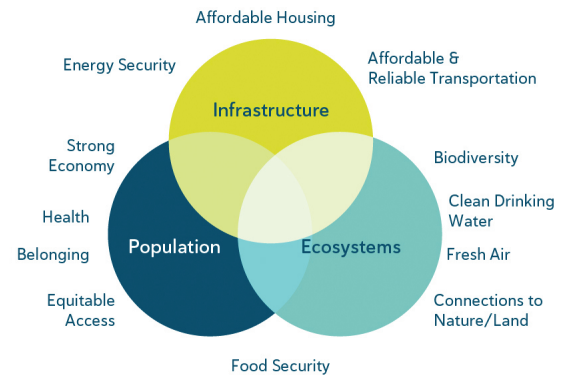
Indicators and Metrics

To understand climate change and its impacts, we can use indicators like the number of electric cars or the acres of protected forest on the island. These indicators help us to see the big picture of climate change and how it affects people, the environment, and our infrastructure.¹ By tracking these indicators, we can measure our progress towards the goals outlined in CAP 2.0.

Indicators help us track progress and compare where we started to where we are now. Usually, indicators are numbers-based, but sometimes they're not up-to-date very often or don't apply to our island specifically. This means, we need to be careful how we use them. In addition, most of the work to fight climate change has focused on reducing GHG emissions. However, that's only part of the picture. It's also important to measure how well our community can handle tough situations caused by climate change, such as severe weather events. This means figuring out what problems we might have in the future and making sure we're ready to handle them.

This is harder to measure, but just as important (Figure 1). That's why this report uses both numbers and descriptions to show progress and resilience on the island.

Figure 1: Example Factors that Influence Resilience



Our resilience on the island is deeply interconnected. Factors that influence resilience cross areas of population health, ecosystem health, and low carbon, and climate-ready infrastructure.

What Can We Expect on Salt Spring

Our world is changing very quickly, and it's mostly not good news. Some people don't think a small increase in temperature will make a big difference, but the accepted science says it will. If the temperature increases by 1.5°C, many natural systems will be damaged and change forever, which will impact our lives too.

On Salt Spring, we will experience deeper droughts and shortages of drinking water, more dangerous storms, increased forest fire risks, rising sea levels, flooding and road washouts, ocean acidification, and fewer fish and other animals. If we keep going with our

current climate policies and practices we'll see temperatures increase by 2.5°C, which will lead to even more significant impacts.² It is also likely that on Salt Spring, we might have to deal with many problems at the same time, like heatwaves and wildfire smoke.

Even if we stopped producing emissions today, our climate will continue to change because of the emissions we have already released that stay in the atmosphere. This is why we need to act urgently now.

¹United Nations Economic Commissions for Europe. 2021. Conference of European Statisticians' Set of Core Climate Change-related Indicators and Statistics Using the System of Environmental-Economic Accounting. Retrieved from: https://unece.org/sites/default/files/2021-08/CES_Set_Core_CCR_Indicators-Report.pdf

²UN Climate Press Release. (2022, October 26). Climate Plans Remain Insufficient: More Ambitious Action Needed Now. UNFCCC. Retrieved March 16, 2023, from <https://unfccc.int/news/climate-plans-remain-insufficient-more-ambitious-action-needed-now>

Here's What We Can Do Together

The good news is that Salt Spring Island already has a strong community of people that care about each other and the environment, along with an extraordinary range of skill sets which will help us meet our goals.

We need to refocus our island economy in two ways:

- 1. Adapting our buildings and ecosystems to reduce climate risks like fire, drought and storms.**
- 2. Reducing the pollution (GHG emissions) we create.**

Both of these things are connected. For example, when we protect and manage our forests for climate resiliency, we help capture and store carbon, and we also collect more water in the ground for drinking and reducing fire risks. When we make decisions that reduce emissions and energy use, for example switching from a gas to an electric vehicle or from oil heating to heat pumps, we can also reduce household and business costs. These examples illustrate that addressing climate change can often have many secondary benefits like skilled, high paying jobs.

Island Priorities

Salt Spring needs to better prepare for climate change by protecting forests, preventing fires and making sure we have enough food and water so that we can bounce back from challenges near and far.



FOREST PROTECTION

As our summers become hotter and drier, the health of our forests will be intricately linked to the health of residents. Forests serve as homes for many diverse animal and plant species, they cool the air and reduce the intensity of hot spells, clean our water and keep it in the ground. Healthy trees reduce GHGs by storing carbon in their trunks, leaves, and root systems and can reduce the risk of severe forest fire. Well-cared for forests also provide sustainable sources of timber for island livelihoods. Protecting our forests will keep us, our economy and our environment healthy and resilient to future weather extremes.



WATER SECURITY

On Salt Spring Island, we rely on our lakes, streams, springs, and wells for drinking water, growing food, supporting wildlife, replenishing groundwater, and putting out fires. In recent years, there have been more severe droughts followed by extreme rainfall. When this happens, rainwater flows into the sea instead of being absorbed on land, which makes it harder to get enough water to meet our current and future demands. Other problems are caused when we build lots of roads and ditches that funnel water straight into the ocean, or when we clear land for development which pushes soil and pollutants into our water supplies, which is expensive and difficult to treat. We need good plans in place to protect our surface and groundwater supplies to have enough water for our community, our businesses, natural wildlife, and ecosystems, especially when things get tough.



FOOD SECURITY

Climate change hazards such as extreme heat and cold, droughts and heavy rains, along with increased numbers of pests and diseases are already stressing water supplies and contributing to crop failures. These factors are affecting the availability and the cost of food we eat and the money farmers make growing food on Salt Spring and around the world. Creating a stronger local food system, where we grow and buy food closer to where we live, will help build food security and also reduce the emissions caused by transporting food and keeping it cold. To do this, we need to better utilize Salt Spring's agricultural lands, develop better agricultural skills and shared infrastructure, support commercial food growth, enhance soil fertility, grow more diverse crops in greater volumes using locally sourced seeds, and increase the use of 'regenerative' farming practices that add more to the ecosystem than they take out.

In addition to preparing for climate change, we also need to reduce the two biggest sources of emissions on Salt Spring - transportation (direct, on-island) and food (indirect).



TRANSPORTATION EMISSIONS

Most island residents use fossil fuel cars as their main form of transportation, and often there's only one person in the car. While we are making amazing strides at transitioning to electric vehicles (EVs), it is important to create safe spaces for people to bike and walk, and build a carbon-free and frequent bus service. Together these options bring more choices into our transportation system, provide better accessibility and improve public health. We can also make sure that new housing is clustered to improve pedestrian, cyclist, and transit access.






FOOD EMISSIONS

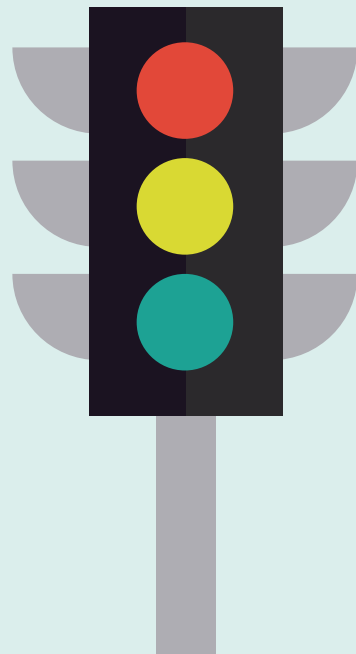
Under 10% of our food is island-grown. Outsourcing food and bringing it to the island is the source of significant GHG emissions, from clearing land to growing food, producing it, and transporting it to stores and homes. Forty percent of the emissions on the island come from imported food. To reduce these emissions, we need to grow more food on the island using methods that improve soil health and capture carbon. The type of food we eat can also make a big difference in how much emissions are produced. To meet our goal of reducing emissions by 32,000 t/CO₂e by 2030, many people will need to opt for a more plant-based diet which uses less water and land.

Note: *Land Use and Settlement Patterns* was included as a distinct section in CAP 2.0, but for the purposes of this Report Card, indicators have been integrated into all aspects of the plan.

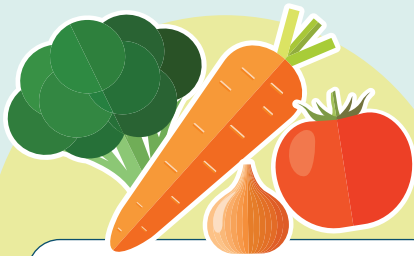
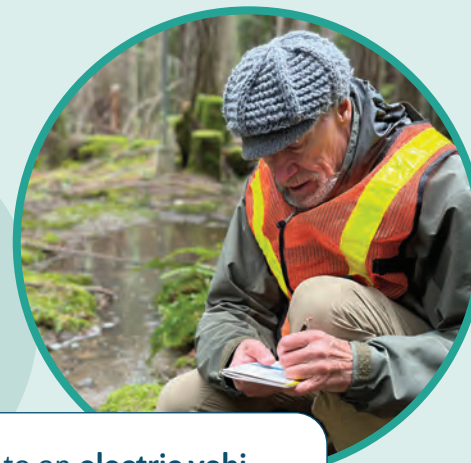
How to Read this Report Card

This Report Card uses a Stoplight approach to illustrate the progress we are making toward achieving our climate goals on the island.

-  A green light signifies areas where we have made progress in the last two years.
-  A yellow light signifies areas where some progress has been made, but may be stalled or paused and where much more work needs to be done.
-  A red light signifies areas that are getting worse, or going backwards, indicating that much work still needs to be done.



What can you do today?



Grow your own food, buy locally grown food where possible, and include more **plant-based** options in your diet.

Do the **Self-Assessment**: Is Rainwater Harvesting Right for You? [From Salt Spring Island Watershed Protection Alliance](#). TSS's Climate Action Coach program also works with residents to access **rain-water harvesting rebates** for storage tanks.



Reduce the number of trips taken by car through walking, biking, electric biking or scootering and planning ahead. Where possible, **car-pool** and double up on trips into town and off the island.

Learn about the health of your **forests and ecosystems on your property** and how this affects fire risk near your home. **Minimize** the number of trees you cut down on your property, as healthy forests reduce fire risks and keep more water in the soil. About 65% of the land on Salt Spring is privately owned. This means that landowners play a vital role in **protecting** forests and watersheds.



Switch over to a **heat pump** to gain heating and cooling benefits and save money! [Learn more about available incentives.](#)

Reduce what you send to the trash, and where possible **compost** organics and recycle. For a guide on what can be recycled on the island, including free recycling at the Rainbow Road depot, click here.

Shift to an **electric vehicle**. There are Federal and Provincial rebates available and the TSS **EV Group** has resources for how and where to buy new and used electric vehicles locally.

Learn what neighbourhood **emergency POD** you are in and who your POD leader is. Get ready for the challenges ahead by working with your neighbours. They will be your biggest support during emergencies.



Transition to an efficient **wood stove** and use it only for power outages if possible. [Learn more about available incentives](#) available incentives through the TSS Climate Action Coach program.

Trade in your propane stove for an electric one to **improve** the air you breathe in your home and **reduce emissions**.

Transportation

The Climate Action Plan 2.0 focuses on reducing the pollution from transportation by 68% by the year 2030 - that's a lot!

Switching to low carbon transportation options will make it easier for people to get around and it will also be better for our health. We can do this by focusing on electrifying cars, buses, and ferries, building more walking and biking paths, improving public transportation, and reducing long-distance travel.

Since the publication of the CAP 2.0, we've expanded mobility priorities to include options such as an inter-island passenger ferry and demand-based public transportation.

Progress!

Electric Vehicles. More people on Salt Spring Island are getting EVs – almost 40% more between 2020 and 2021 (Figure 2).

Chargers. The Capital Regional District (CRD) has provided funding for new EV and e-bike chargers and is taking over the maintenance of some existing chargers.

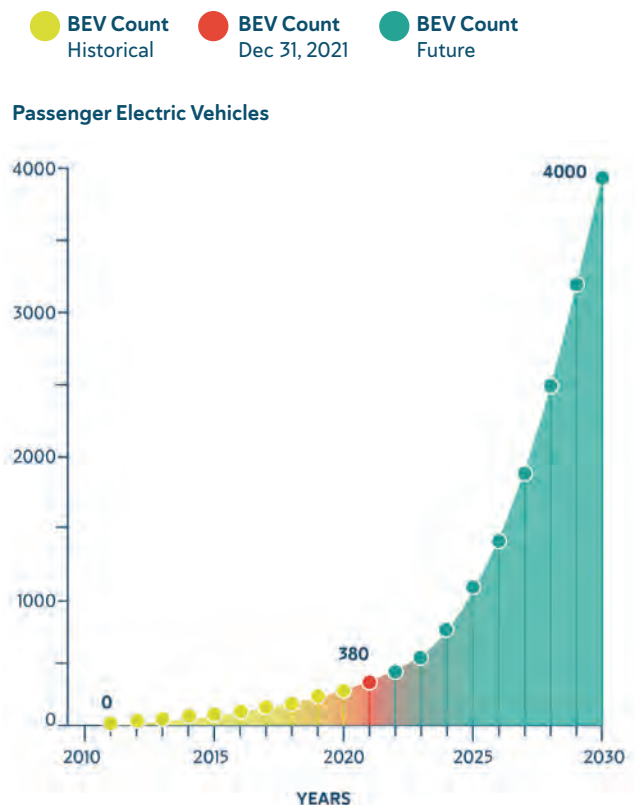
Electric School Buses. School District 64 has added two new electric buses and plans to replace old buses with electric ones in the future.

Pathways and Bike Lanes. Island Pathways has received a Federal grant to promote the expansion of the Salish Sea Trail Network, a regionally important piece of active transportation infrastructure.

The CRD added several kilometres of sidewalks and pathways in the last few years and is funding designs for more, including Merchant Mews, and the Harbourwalk.

The road from Ganges Hill to Cranberry Road is being repaved with wider shoulder lanes for people to walk and bike and could serve as a model for the completion of the Salish Sea Trail Network on Salt Spring.

Figure 2: Growth in Passenger EVs
History up to 2021, and projected growth to 2030



Transition Salt Spring's Electric Vehicle Group referenced ICBC's Open Data License Report of vehicle ownership statistics for 2021 Salt Spring to show that EV ownership increased by 108 cars to a total of 380. That 380 total represents a growth rate of almost 40% over 2020. Source: TSS EV Group

Limited Progress

Connected Active Transportation. The CRD has been developing an Active Transportation Network Plan to change how people get around the island and help us reach our emissions reduction targets (Figure 3). The plan will focus on expanding bike lanes, multi-use trails, sidewalks, and pathways in and around Ganges Village. This is where residents and visitors have raised concerns about unsafe walking and cycling conditions due to narrow roadways, a lack of shoulders, dangerous blind crossings and fast-moving traffic.

While some progress has been made, there is still much to be done to improve safety and fill the Salt Spring Island gap in the Salish Sea Trail Network to connect Vesuvius and Fulford Ferry terminals. There are some promising discussions happening within the Salish Sea Trail Network, which includes local leaders, non-profits and the Ministry of Transportation and Infrastructure that will hopefully address these critical safety issues.

More advocacy is required to convince the Ministry of Transportation and Infrastructure to lower speed limits, paint road markings, and sweep shoulders more frequently to make roads safer for everyone.

Discussions about pedestrian and cyclist safety on Fulford Hill (leading to the BC Ferries Fulford Harbour Terminal) are underway with the Ferry Advisory Committee.

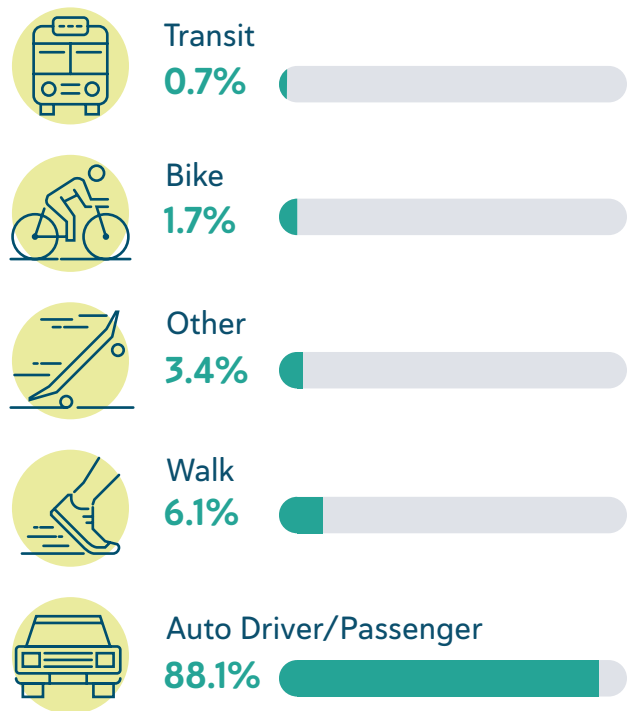
Needs Work

Emergency planning to maintain off-island transportation links during storms and other climate change related events. In the event of extreme weather or ferry cancellations, people on the island may not have enough food or fuel to last long, and workers like hospital staff may not be able to get to the island. BC Ferries is also struggling to hire and retain staff members. We need plans in place now for extreme weather events.

Accelerating electrification of the BC Ferries fleet. Reaching TSS's emissions reduction target of 86% (by 2030 over 2007 levels) will depend

Figure 3: How are people getting around on the island?

Total number of trips per day: 25,000



Most islanders use their car to get around (88.1%) and only 0.7% of the population rely on transit. Source: 2017 CRD Origin Destination Household Survey.

on using electric ferries on the Fulford and Vesuvius routes. BC Ferries' own target is much lower; they are aiming to reduce their pollution by 27% (by 2030 over 2008 levels), which is less than other marine organization's targets of 40%.³ Currently, there are no plans for electric ferry routes from Fulford or Long Harbour and only early plans for Vesuvius.

³BC Ferries. (2022). Clean Futures Plan 2022 - - An Update on Progress. BC Ferries. Retrieved March 20, 2023, from https://www.bcferries.com/web_image/hf0/hce/8910527397918.pdf

BC Ferries has developed a plan to update the Vesuvius ferry route with two hybrid electric-diesel ferries by 2026 - 2027 and is beginning to consider the design of electric charging facilities at appropriate terminals. Charging facilities are necessary to allow for the electrification of these hybrid ferries, otherwise, there will be few emissions reductions.

To provide reliable service delivery, safely expand their infrastructure, and protect their assets in a changing climate, it is recommended that BC Ferries conduct a risk and vulnerability assessment with climate projections.








BC Ferries is increasing the number of sailings on the Fulford Harbour route and will be adding a second ferry to this route when the two hybrid-electrics are deployed at Vesuvius. Increasing the number of sailings will also facilitate improvements in transit service. However, BC Transit and the CRD must jointly fund and collaborate to ensure that ferry and transit schedules are synchronized and can adapt to changing community needs.

Supporting EV growth through on-island EV repair expertise and improved charging infrastructure. We need reliable, locally stored renewable electricity supplies in the event of extended power outages to charge EVs. Current chargers in Ganges village are very busy during power outages. Continued electrification of our cars will make us increasingly vulnerable during long outages if we do not have grid-independent charging options.

Reducing single-person vehicle trips, and electrifying buses. At present, there are no electric BC Transit buses on the island and local bus service, while average for a rural community of our size, is infrequent. For transit to be a good option for short-distance trips it must come frequently (every 10-15 minutes). Currently, buses on the island have an average run frequency of between 1 hour and 18 minutes to 2 hours and 45 minutes in the winter, even though many stops are close together (Figure 4).

We need a plan from BC Transit and the CRD on how they intend to increase service and electrify their fleet on the island.

Figure 4: How long do you need to wait if you miss your bus?

	Ganges Local	Fulford (Busiest Route)	Vesuvius	Long Harbour	Fernwood	SS Connector	Cusheon Lake
# of runs a day	5	9	8	3	6	2	3
# of stops along route	4	5	4	1	4	5	5
# of minutes between each stop (range)	3-7 Mins	3-7 Mins	4-6 Mins	10 Mins	6-11 Mins	4-6 Mins	4-11 Mins
Average run frequency. In other words, how long you would need to wait for the next bus if you missed one.	 2 Hours	 1.8 Hours	 1.3 Hours	 1.8 Hours	 1.9 Hours	 2 Hours	 2.75 Hours

This graphic shows how long you might need to wait if you missed your bus on the island, based on a winter, weekday schedule. Source: <https://www.bctransit.com/salt-spring-island/home>

Transportation Indicators

Metrics		Baseline		Where we Are		2030 Target	Notes
Emissions							
On Island Transportation	t/CO ₂ e	32,400	2007	31,700	2018	16,000	
BC Ferries (Total emission from all ferry routes on SSI)	t/CO ₂ e	22,500	2007	17,651	2019	3,000	BC Ferries Target: Reduction of 27% of 2008 levels by 2030. TSS CAP Target: Reduction of 86% or 1.05% per year, assuming electric ferries on Fulford and Vesuvius.
Commercial Freight-er Anchorages	t/CO ₂ e	Unknown	Unknown	10,000	2017	Decrease	Largely out of our control around the Island.
Electric Vehicles							
Fuel Vehicles	# of vehicle insurance policies	8,800	2017	9,700	2021	Decrease	This number includes passenger and commercial vehicles.
Electric vehicles	# of vehicle insurance policies	120	2017	380	2021	4,000	
Hybrid vehicles	# of vehicle insurance policies	190	2017	310	2021	Increase	
Public Level 2 chargers (wands)	#	7	2017	18 wands, 12 locations	2022	Increase	
Electric BC Transit buses operating on SSI	#	0	2021	0	2022	Increase	BC Transit's target is to have a fully electric fleet by 2040. Currently, there are 5 BC Transit buses operating on Island.
Electric SD64 buses	#	0	2021	2	2023	Increase	When a school bus is retired, the intent is to replace it with an electric bus.
Active Transportation							
Auto passenger or driver (within district, 24 hours)	% trips	86%	2011	88%	2017	Increase	2016 trip level data is based on trips made by persons 5+, 2011 data is based on trips made by persons 11+
On foot	% trips	7%	2011	6.1%	2017	Increase	
Bike	% trips	2%	2011	1.7%	2017	Increase	
Transit	% trips	2%	2011	0.7%	2017	Increase	
E-bikes	#	Unknown	Unknown	<i>Future area of interest.</i>		Increase	Request CRD to start tracking E-Bikes.
Public e-bike chargers	#	Unknown	Unknown	9	2021	Increase	
Public pathways and trails	km	Unknown	Unknown	150	2022	Increase	21 trails identified by the SSI Parks and Recreation Commission system.
Students using active travel to get to and from school or the school bus stop	%	Unknown	Unknown	30	2021	Increase	

Public Transportation							
Annual bus ridership	# of rides	50,000 (est.)	2008	116,000	2021	Increase	Rides are across 7 routes, with Fulford being the busiest.
Bus stops with bus seats and/or other stop amenities (covers).	# of stops	Unknown	Unknown	6	2022	Increase	Out of 20 stops.
Long Distance Travel							
Required round trips cancelled (from each terminal/year)	# trips	Unknown	Unknown	2: Fulford to Swartz Bay 7: Crofton to Vesuvius. 20: Tsawwassen to Long Harbour.	2021-2022	Decrease	BC Ferries fiscal year ended March 31, 2022.
Arrivals by bike between March to June	#	Unknown	Unknown	9,557	March 2021 - June 2022	Increase	49% through Fulford, 31% Vesuvius, 20% Long Harbour.
Car share members	#	Unknown	Unknown	220	2017	Increase	

Built Infrastructure

We need to change where and how we build and manage infrastructure to both lower our emissions and improve our ability to respond to severe weather events.

For example, buildings without air conditioning, located in areas facing high fire risks or sea level rise, lower our resilience in the face of climate change. Since the publication of the CAP 2.0, we're looking for ways to expand our focus to use natural processes to protect our community from the extremes of climate change. Strategies like "nature-based solutions" are increasingly being advocated for by TSS and the Insurance Board of Canada.⁴

Progress!

Resilient New Infrastructure. A new fire hall is being built, the emergency department at Lady Minto Hospital is being expanded from four treatment bays to eight, and the CRD Emergency Program has relocated to the seismically upgraded Middle School. All of these key facilities will be located on higher ground, away from the risk of sea level rise as we deal with more challenging and frequent climate change related emergencies.

Fire Risk Reduction. Salt Spring Island Fire Rescue conducted 288 evaluations of residential properties to identify fire risk reduction opportunities. Contractors carried out 65 fire reduction actions on residences belonging to elderly, disabled, or vulnerable individuals who could not undertake the tasks themselves between 2021 and 2022.

⁴Insurance Bureau of Canada.(n.d.). Insuring and Restoring the Natural Assets that Protect Coastal Communities Retrieved from: <http://assets.ibc.ca/Documents/Disaster/IBC-Coastal-Flooding-Paper.pdf>

Rebates. TSS's Climate Action Coach Program worked with hundreds of islanders to help them get rebates and install efficient wood stoves, heat pumps, and rainwater harvesting systems.

Local Energy Security. Islanders Working Against Violence (IWAV) and Salt Spring Community Energy (SSCE) partnered to install 298 solar panels, at the Croftonbrook housing project, providing 74 housing units with green energy. The project builds local energy resilience and security for vulnerable members of our community, reduces IWAV's operating expenses, supports ongoing affordability for residents, and generates additional energy for the grid in the peak season.

Cooling Shelter. The CRD has upgraded the geothermal system at the public library to allow its use as a summer cooling centre.



Photo: David Denning and Ron Watts



● Limited Progress

Septage and Sewage Management.

Salt Spring's septage and sewage sludge is currently collected at a CRD property near Burgoyne Bay and trucked off the island bi-weekly at a cost of about \$600,000 per year, contributing to our GHG emissions. The CRD has commissioned a study to examine ways to reduce off-island transportation of liquid waste (e.g., dewatering).

- The CRD Board needs to change its bylaw to permit the land-based application of composted septage to further reduce emissions and create a local source of soil nutrients.
- The Ganges sewage treatment plant was recently upgraded to make room for new affordable housing in the Ganges area rather than over forested land and natural spaces.

Water Conservation. Some CRD funding goes to water conservation through a rainwater cistern incentive program run by TSS, but much more water conservation programming is required, including for water district ratepayers to decrease environmental impacts on drought-stressed watersheds.

POD Programming. Currently, the capacity of the Neighbourhood POD program to support emergency preparedness, local self-sufficiency, and built infrastructure protection is uneven across the island, and many neighbourhoods do not yet have active POD programs or leaders.

The CRD needs more funding to better support POD leaders, revitalize inactive PODS, and track their capacity to better identify preparedness gaps. To help better prepare for climate-related emergencies, the CRD needs to support the expansion of services to provide information about ways to improve fire and drought resilience and community-based food security.



Photo: Salt Spring Emergency Program

Needs Work

Expanding access to affordable, low-footprint homes that maintain the rural nature of the island. As climate stresses increase, migration to Salt Spring will likely continue to grow, pushing people with fewer means off the island. This means fewer nurses, firefighters, teachers, grocery workers, and forest stewards, among many others. Housing becomes a ‘climate justice’ issue because it affects those with

less, more than those with means. The SSI Housing Action Program Task Force has provided recommendations to help with this, like allowing density in certain areas, finding new ways to build homes that are better for the environment, and decreasing the number of homes used for vacation rentals.⁵ Much more work needs to be done to advance and implement these recommendations.

What is Climate Justice?



Climate justice means that those most impacted by climate change need to be front and centre in planning to ensure that their needs are met as impacts rise. On Salt Spring, this means that those who are insecurely housed or living rough will be the most impacted.

Photo: Alex Harris

Water Management. North Salt Spring Water District (NSSWD) has declared a moratorium on new water connections within its service area, which includes Ganges. An inter-agency working group should be convened to work with NSSWD to identify evidence-based strategies to see how water might be made available for denser affordable housing in or near the Ganges area. This could include collaboration on water reclamation or the use of stored rainwater for household use.

Preparing for long-term power outages and building on-island renewable energy sources with battery storage.

This is especially important for the eight emergency reception centres on SSI and as we increase the number of EVs over time. Figure 5 shows that most power outages happen when trees and branches fall on hydro lines in forested areas. Hazards like wind storms, drought, and heavy rainfall will continue to stress our trees and forests and this will cause more power outages and expensive insurance claims. Figure 6 shows how the number of claims from one insurance provider on Salt Spring related to water, wind, snow/ice has gone up since 2020.⁶ This means we need to take action now to build back-up energy.

Reducing building emissions and accelerating retrofits.

On May 1st, 2023, the BC Step Code will be mandatory across BC and all communities will require an energy advisor to support new buildings. We need to strengthen our ability to retrofit older buildings and design new, low carbon buildings and this will require training for local energy advisors. Currently, Salt Spring has two accredited advisors who are fully occupied with existing home retrofit assessments.

Most new(er) homes on the island are heated with electricity and even without the Step Code, are much more energy efficient than the older, existing housing stock. A retrofit program aimed at older houses heated with wood, propane, and heating oil will help support emissions reductions and resilience in the face of climate-related stresses.

Figure 6 shows that the number of insurance claims is increasing year over year, and the the average cost of claims is also rising. It also shows that a large portion of the reported claims are related to damage from water, wind, and snow/ice. Source: Westland Insurance, Personal Communication, 2022

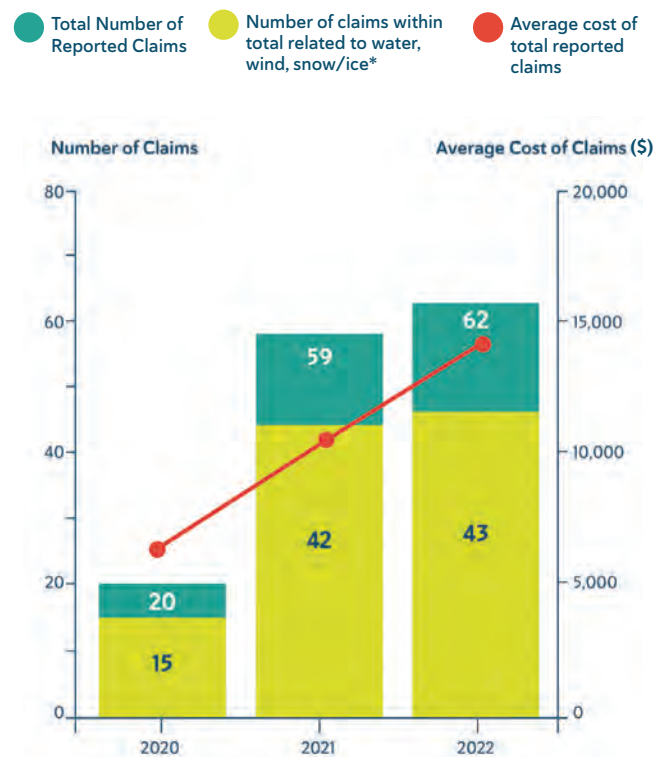
⁵ Salt Spring Island Housing Action Program Task Force. (2022, August 30). Housing Action Program Task Force Summary of Recommendations. Retrieved March 16, 2023, from <https://webfiles.islandstrust.bc.ca/islands/local-trust-areas/salt-spring/current-projects/Housing%20Action%20Program/6.%20Other%20Information/HAPTF%202022%20Summary%20of%20Recommendations%20Report.pdf>

⁶ Westland Insurance, Personal Communication, 2022

Figure 5: Top 5 Salt Spring Island Power Outages by Source (2022)



Figure 6: Total # of Reported Insurance Claims, Including claims related to water, wind, snow/ice & average cost of reported claims.



* Of note, for water claims there is no distinction between claims from an external source or internal plumbing.
 **Data for 2022 ends in November of 2022.

New policies and data are needed to inform to inform climate resilient land use planning and natural asset management. Recommendations include:

- Conducting a community Hazard Risk and Vulnerability Analysis with up-to-date climate projections in collaboration with the CRD’s Emergency Program to inform Islands Trust and CRD policies including a new Official Community Plan (OCP) and Land Use Bylaw (LUB).
- Updating Salt Spring’s OCP and concurrently passing a comprehensive LUB with climate risk and emissions reduction, climate justice, and environmental protection at its core.
- Developing a Sea Level Rise Strategy and incorporating measures into the LUB to guide retreat from threatened coastal areas and defend critical infrastructure like the Ganges Sewage Treatment Plant.

- Developing a Natural Asset Management Strategy, with up-to-date climate projections and exploring opportunities to develop regulations such as Development Permit Areas (DPAs) to protect our buildings, infrastructure, and potable water sources from catastrophic forest fires.



Photo: Alex Harris

Built Infrastructure Indicators

Metrics		Baseline		Where we Are		2030 Target	Notes
Emissions							
Buildings (2007 & 2018 CRD data)	t/CO ₂ e	4,600	2007	4,500	2018	3,200	
Solid Waste	t/CO ₂ e	3,100	2007	1,700	2018	400	
Energy Security							
Power outages/year	#	Unknown	Unknown	339	2022	Decrease	Based on all events.
Buildings on island at each level of BC energy step code	#			<i>Future area of interest.</i>		Increase	BC Step Code will become mandatory in May of 2023.
Heat pump connections	#			<i>Future area of interest.</i>		Increase	
Renewable energy electricity installations	#			<i>Future area of interest.</i>		Increase	
Wood stove exchange rebate applications processed by TSS	#	Unknown	Unknown	13	2022	Increase	

Metrics		Baseline		Where we Are		2030 Target	Notes
Emergency Response							
Emergency department visits at Lady Minto Hospital	#	9225	2020/2021	8703*	2021/2022	Decrease	*Year end October 2022
Community heating and/or cooling shelters	#	Unknown	Unknown	3 Cooling Shelters	2022	Increase	With reversible heat pumps; All Saints Church in Ganges, Community Gospel in Central, and public library.
Emergency PODS on Island	#	Unknown	Unknown	60	2022	N/A	
People connected to PODS	#	Unknown	Unknown	5,500 people	2022	Increase	
Average cost of insurance claims on Island	#, \$	59 claims reported at an average cost of \$13,600	2021	62 claims reported at an average cost of \$16,300	2022	Decrease	For the water claims, unable to break down if they were from an external source or from internal plumbing. 2022 numbers year end November.
Insurance claims related to water, wind or snow/ice	%	71	2021	69	2022	Decrease	
FireSmart assessments completed	#	Unknown	Unknown	288 Residential	2021/2022	Increase	5% of 6,000 properties on the Island
Waste Disposal							
Disposal rate per person for the capital region	kg	372	2012	400	2021/2022	250 kg/ capita by 2030	The aspirational target is 125 kg/ capita. Due to its rural nature, it's likely that SSI is contributing less than the per capita amount.
Per capita organics sent to landfill	kg	75	2016	67	2021	Decrease	
Per capita wood and wood products sent to landfill	kg	61	2016	76	2021	Decrease	
Per capita plastics sent to landfill	kg	51	2016	51	2021	Decrease	
Per capita paper and paperboard sent to landfill	kg	55	2016	57	2021	Decrease	
# of backyard burn permits	#	2238	2020	1817*	2022	Decrease	*As of November 20, 2022.
# of land clearing permits	#	98	2020	30	2022	Decrease	

Agriculture

Globally, food supply chains are stressed, with notable increases in crop failures in the southwestern United States. Salt Spring is heavily reliant on food produced in this region and as production is impacted by climate change, our community will be impacted by higher prices or gaps on the shelves, increasing our food insecurity levels.

Agricultural goals in CAP 2.0 include reducing the emissions from producing and transporting food, increasing the amount of food we grow on the island, and supporting low carbon agriculture here on Salt Spring, all of which will support local food security.

● Progress!

The Agricultural Alliance's renewed 2020 Area Farm Plan is the guiding document for increasing food security in times of increasing climate stress. Notably, the plan identifies three key, interconnected infrastructure elements to support local food security: the Root Food Hub, the Salt Spring Abattoir, and the EcoDrum composting facility. These elements are either already operational or will be in 2023, but need to be supported, strengthened, and expanded.

Supporting Local Farming. The Root Food Hub on Beddis Road was launched in 2023 and will help improve food security on the island by scaling up the processing, storage, and distribution of local food. This helps support local and small-scale farmers to build their food processing capacity.

Local Markets. The Tuesday and Saturday markets continue to grow and are a great source of local produce, a draw for tourists, and support our rural, artisanal character. The CRD acquisition of the Ganges Fire Hall property will allow for the expansion of the farmer's market, possibly on a year-round basis.

Local Products. Country Grocer has worked hard to become the largest single retailer of local produce on the island, carrying anywhere between 30-35 local products. Other initiatives such as LocalSalt, a variety of Community Supported Agriculture, food box programs and many small farm stands continue to grow the amount of local product options available.



Photo: The Root

● Limited Progress

On Island Animal Processing. The Abattoir is a community-managed slaughter service that opened in 2012 and has been growing its capacity to process animals on the island and reduce transportation and refrigeration emissions. In the past year, the Abattoir has faced different challenges such as avian flu, limited cooler capacity, and staffing challenges, which resulted in animals being sent off the island for processing. These issues are on track to be resolved in 2023, which will increase on-island animal processing capacity by at least 25%. While on-island animal processing and choosing pasture-raised meats from local farmers is a great step to reducing our emissions, the agricultural emissions target is dependent on many more islanders significantly decreasing their consumption of meat products.

Large-Scale Composting Facility. The EcoDrum is an innovative, large-scale composting facility located on the Burgoyne Bay Community Farm that will produce soil-enriching compost material. SSCE provided the project with solar panels and storage batteries to provide electricity to turn the composter's drum.⁷

- More work is needed to establish where large quantities of organics will come from, as the landscape has changed since initial planning. The composter will only accept food waste from grocery stores and other institutional sources but would need to increase in size to manage household food waste.
- Further work is required to harness the island's commercial food waste as composting rates are low.

Land Matching Opportunities and Housing. Salt Spring has a substantial amount of inactive or underused Agricultural Land Reserve (ALR) or other farmland which, if managed more effectively, could greatly increase food production and food security.



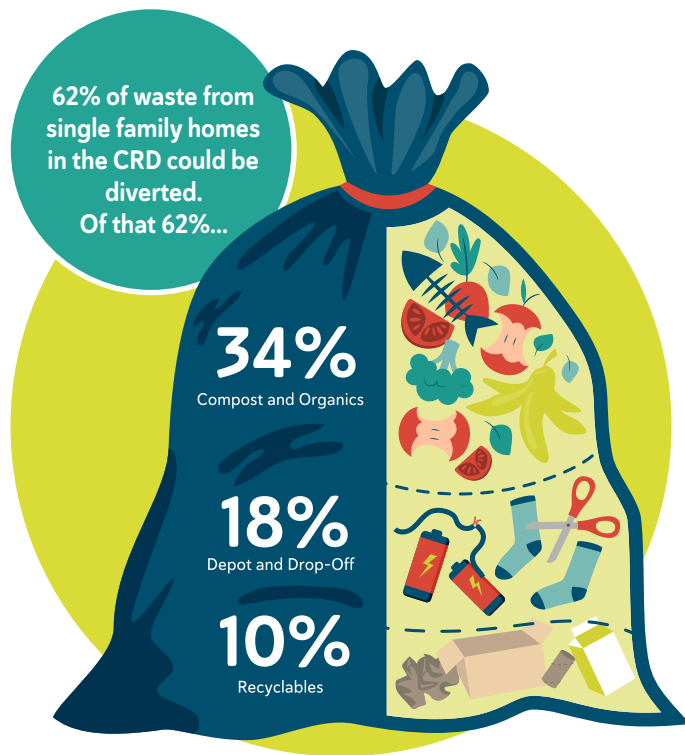
Photo: Bullock Lake

- Younger farmers are seeking agricultural opportunities but cannot afford to purchase land. Several landowners on SSI have indicated their willingness to lease their farmland under the right terms and conditions. The SSI Farmland Trust is working with the Young Agrarians on possible land matching opportunities.
- Beyond high land prices, there is also a lack of skilled labour and an acute shortage of housing for farmers and farm workers. The Islands Trust has passed Bylaw 526 to allow smaller rental houses on land zoned for agriculture.

⁷ Magley, R. (2023, February 8). Islanders and government funds make composter dream possible. Gulf Islands Driftwood. <https://www.gulfislandsdriftwood.com/islanders-and-government-funds-make-long-held-composter-dream-a-reality/>

Residential Composting. Many residents compost locally, but it's estimated that 67 kg/capita of organics are still sent to landfill. In both single-family and multi-family homes, the top three materials that could be redirected by composting programs are avoidable food waste (e.g., leftovers, whole meats/fish, baked goods, deli items, etc.), compostable soiled paper, and unavoidable food waste (e.g., banana peels, eggshells, bones, etc.) (Figure 7).⁸

- To close this gap, the CRD needs to provide composting services for residents and grocery stores on the island. From 2016 - 2022, organics sent to landfill in the CRD decreased by 4.4%, because of the implementation and uptake of organics diversion programs led by the CRD.⁸ Further reductions could be realized if an island-wide composting service was implemented.



The Capital Regional District 2022 Waste Composition Study outlines that the diversion potential from single family homes is as high as 62%, including compost and organics (34%), depot and drop-off items (18%), and recyclable materials (10%). Of note, it is likely that Salt Spring residents in single-family homes divert more compost than the average CRD resident.

- Building community gardens in denser areas on the island that are accessible to residents on foot or on a bike could also encourage both local composting and enhance food security.

School Meal Program. The Grow Local Project is an initiative supported by the Agricultural Alliance to increase the demand for local food. One initiative is weaving island-grown food into existing school meal programs, including sourcing local produce for breakfast programs and meal kits. More progress is needed to develop school meal programs that integrate with school gardens and food literacy initiatives.



Photo: Duck Creek

Needs Work

Improving our local food security with coordinated political, financial, and community support. In the event of extreme weather and ferry service interruption, *we only have two days worth of food on the island.* Options like shared community food storage, processing, and distribution in existing community kitchens across the island could help manage disruptions and build food security. This will become increasingly important as climate-related global supply chain disruptions become commonplace.

Reducing agricultural emissions with home and commercial grower education. Low carbon agricultural practices and technologies, including emissions free energy and regenerative farming practices, make land more productive and climate resilient at a lower environmental cost.

⁸ Tetra Tech Canada. (2022, December 19). Home. YouTube. Retrieved March 17, 2023, from https://www.crd.bc.ca/docs/default-source/recycling-waste-pdf/2022-waste-composition-study.pdf?sfvrsn=47af43ce_2&utm_medium=email&utm_campaign=Climate%20News&utm_source=Envoke-Climate-Action---LG&utm_term=2023-March-Climate-News%3A-LG-Edition

Agriculture Indicators

Metrics		Baseline		Where we Are		2030 Target	Notes
Emissions							
Food (based on 80% of 7 t/CO ₂ e per capita).	t/CO ₂ e	56,000	2007	62,200	2018	30,000	Target is very aggressive and assumes most islanders adopt a plant-based diet.
Agricultural Availability and Productivity							
Salt Spring's land base in the Agricultural Land Reserve (ALR)	Ha	2,920	2010	2,943	2020	Maintain	2855 ha of this are considered effective ALR, or ALR within the legally surveyed parcels.
Privately owned ALR parcels used exclusively for farming	%	Unknown	Unknown	29	2017	Increase	Of privately owned parcels, 221 parcels (48%) were available for farming and 104 parcels (23%) were unavailable for farming (land use making agriculture improbable (e.g., golf course)) or had little potential for farming.
ALR parcels not used for farming	%	Unknown	Unknown	72	2017	Decrease	
Land matching programs				<i>Future area of interest.</i>			
Active licences for surface water use for agriculture	#	Unknown	Unknown	109	2017	Increase/Decrease	Includes irrigation, greenhouse, nursery and stock
Locally Grown and Processed Food							
Local fresh produce consumed compared with estimated total	%	Unknown	Unknown	6	2010	Increase	
Produce grown on island	kg	145,430 (101 acres)	2009	90,323 (under 43 acres)	2016	Increase	The 2016 number is from a survey by the SSI Agriculture Alliance and is the reported findings from 30 farms, which are estimated to make up 48% of total commercial farms.
Farms on the island	#	196	2016	114	2021	Increase	Between the 2016 and 2021 Census, the definition of a farm has changed to be only farms reporting revenue to the CRA.
Farmers selling only on island	%	Unknown	Unknown	80%	2016	Increase/Decrease	This % is from a survey with respondents self reporting.
Farmers increasing production in the last 5 years	%	74%	2010	60%	2016	Increase	
Tuesday/Saturday market produce vendors				<i>Future area of interest.</i>			
Farm stands	#	Unknown	Unknown	43+	2022	Increase	
Community gardens	#	Unknown	Unknown	90 family plots at Burgoyne Valley community farm, 39 at Rainbow Road	2022	Increase	
Animals processed in the abattoir	#	3426 Chickens, 302 Turkeys, 511 Lambs/Goats, 13 Beef	2019	3647 Chickens, 419 Turkeys, 395 Lambs/Goats, 12 Beef	2022	Increase local meat bought. Decrease meat prevalent diets.	Chicken numbers are down significantly from previous year because of Avian Influenza outbreaks in BC (chicks not available). Lamb - could have been more but lacking staff last year. Expect to process over 500 in 2023

Forests

Salt Spring's forests are our greatest natural asset to reduce climate change risks, store carbon, and remove it from the air. Healthy forests reduce fire risk, support habitat and biodiversity, and provide a range of ecosystem services like clean drinking water. They also provide a potentially regenerating local supply of timber for lumber and value-added wood products.

Progress!

Forest Acquisition. Local organizations and public agencies have played a large role in preserving forested areas throughout the island, over 25% of which is protected.

Recently, four significant parcels have been acquired for preservation purposes:

- **Reginald Hill:** 398 acres of forested land, managed by the Nature Conservancy of Canada who will create a conservation plan to safeguard the area's biodiversity and natural ecosystems.
- **Hwmet'utsum/Mount Maxwell:** 75 acres of forested land that have been secured as a community park. Bringing this land from private ownership to public ownership will help create a large tract of contiguous protected land, benefiting biodiversity and forest and watershed health.⁹
- **Creekside Rainforest Land:** 15.5 acres of temperate rainforest, purchased by the Salt Spring Island Conservancy with support from islanders.
- **Beddis Road Larmour property:** 40 acres of vital forests and wetlands protected by the Water Preservation Society.



Reduction in Land Clearing Fires. Changes to the Open Burning Smoke Control Regulation have reduced the number of land-clearing fires that release large amounts of GHGs and harmful smoke that impacts human health. The Salt Spring Fire Department is working with the CRD, Islands Trust and private partners to find alternatives to open burning, such as chipping as part of a low emissions approach to waste management.¹⁰

⁹ Driftwood Staff. (2022, October 13). Coalition secures funds for community park on Mount Maxwell. Gulf Islands Driftwood. Retrieved March 15, 2023, from <https://www.gulfislandsdriftwood.com/coalition-secures-funds-for-community-park/>

¹⁰ M. Sherrin, Personal Communication, 2022

Forest Stewardship and Fire Risk Reduction. Community partners are working together to increase forest health in the Maxwell Creek Watershed. Transition Salt Spring's **Climate Adaptation Research Lab (CARL)** has received support from local and federal sources to better understand and reduce fire risks.

Key goals of CARL include:

- Wetland restoration and flash flood management to reduce the amount of polluting sediment and nutrients entering Maxwell Lake, which increases the risk of algae blooms and the cost of water treatment.
- Forest fire risk reduction through forest restoration. Fire in the Maxwell Creek watershed could potentially destroy the availability and potability of this source of water for decades.
- Local and regional partnership development to share effective climate change solutions with public and private landowners across the Coastal Douglas-fir ecozone. The TSS CARL project has already resulted in significant collaboration and partnership with the University of Victoria Restoration Ecology Program students, North Salt Spring Waterworks District, BC Wildfire Services, SSI Water Preservation Society, Gulf Islands Secondary School, local ecologists, arborists and professional fellers.

● Limited Progress

Community Wildfire Resilience Plan. Efforts are underway to establish a Community Wildfire Resilience Plan led by the CRD and emergency management officials, which will be released soon. Much work remains to be done to reduce the risk of fires in many areas of the island.

Forest Fire Development Permit Area. The Fire Department is collaborating with the Islands Trust to create an educationally-focused Forest Fire



DPA to enhance the island's wildfire resilience. The DPA would help people understand wildfire interface zones and actions they could take to reduce fire risks to their homes and property, but we need more tools to protect forests from negative feedback loops caused by development and climate change.

Regional discussions have begun among local Members of the Legislative Assembly, Trustees, the Coastal Douglas-fir Conservation Partnership, the Private Land Managers Association, and fire experts from the Provincial and Federal Governments to protect forests and communities in areas of potential fire risk. While these discussions are heading in the right direction, no meaningful protective measures have yet been implemented.

Needs Work

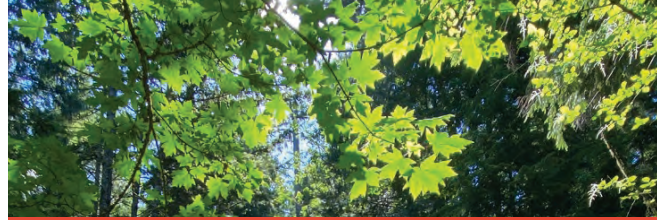
Improving forest and wetland management and supporting biodiversity with government funding and regulatory measures. The Fire Risk Reduction Workshop led by TSS identified that there are few government resources or incentives to support and educate private landowners managing their forest and wetlands and little coordination to develop biodiversity plans with private landowners, with the burden falling on private citizens and non-profit organizations.

Developing a comprehensive healthy forest management strategy. Carbon captured and stored by forests offset most of SSI's entire transportation GHG emissions. They are by far SSI's single most important contribution to climate action and yet, other than existing protected areas and very modest existing DPAs, there is virtually no regulatory protection for these forests.

Unmanaged tree removal is increasing our vulnerability to fire, weather extremes, and flash flooding. It's also reducing water retention in soils and groundwater sources.

There is also no on-island coordination to protect and manage our forests to reduce fire risk, support local jobs and provide a truly sustainable local wood and lumber supply. The island requires a comprehensive and holistic strategy to allow for this coordination. The strategy should include goals for 2030 that:

- Organize different forest management activities, such as reducing interface and at edges of forests of forests, reducing slash piles and associated burning of woody debris, maintaining ground cover plants and managing forests to increase ecological processes, restoring native biodiversity, and managing the risks associated with invasive species like broom and gorse.



Forests offset most of SSI's entire transportation GHG emissions. **They are by far SSI's single most important contribution to climate action** and yet, other than existing protected areas and very modest existing DPAs, there is virtually no regulatory protection for these forests.

- Use watershed-based regulatory measures and management to protect watersheds and sustain more fire-resistant mature/older trees and wetlands. These actions will be critical for protecting short and long-term groundwater recharge and reducing vulnerabilities to flooding/erosion and road washouts, and restoring ecological processes and species complexity to improve ecosystem functions like water filtration and storage.
- Establish a Coastal Douglas-fir DPA or other tools that can provide resources, incentives and other support for stewardship by private landowners;
- Develop an interagency, multi-stakeholder team to ensure that forest management strategies reduce fire vulnerabilities, promote local economic development and job creation, and encourage the preservation and restoration of forests on public and private lands.
- Develop a publicly funded plan to provide and maintain up-to-date data about fire risks, including areas of highest vulnerability (e.g., maps and fire break corridors). Ecological systems are changing rapidly as a result of climate change and development and a lack of up-to-date data results in poor decision-making leading to unintended consequences.

Forest Indicators

Metrics		Baseline		Where we Are		2030 Target	Notes
Emissions							
Land clearing and logging	t/CO ₂ e	16,000	2007	16,000	2018	8,000	
Annual carbon sequestration from SSI forests	t/CO ₂ e	Unknown	Unknown	49,514	2019	Increase	Equivalent to removing 10,459 passenger vehicles off the road each year.
Forest Protection & Growth							
Land base forested	Ha	14,000	1998	13,914	2023	Increase	86 hectares cleared between 2009-2017.
Ecosystem disturbance from deforestation	Ha	Unknown	Unknown	202.29	2014	Decrease	Between 2004-2014.
Sensitive ecosystems in the SSI Local Trust Area protected	%	Unknown	Unknown	27	2019	Increase	
Mature forests protected	%	Unknown	Unknown	7.6	2019	Increase	Of the 27% of sensitive ecosystems protected.
Red listed species at risk	#	Unknown	Unknown	48	2019	Decrease	



Photos right & above: Rob Lowrie

Freshwater Ecosystems

Salt Spring already has freshwater challenges that impact our drinking water supplies, farms and gardens, forest health, and water-sensitive ecosystems.

Spring droughts are becoming an increasing concern - in 2020, the island was under conservation drought measures and burning had been banned. We can expect warmer and drier summers and more intense winter precipitation, which will worsen freshwater conditions in the coming decades

Progress!

Watershed Planning. The Salt Spring Island Watershed Protection Plan has been developed to guide watershed management for the next ten years and is in the final stages of review. If implemented, the plan could revitalize a collaborative commitment to action by numerous agencies working on watershed protection, including Islands Trust, CRD, NSSWD, and the province.

- The SSI LTC is working to align watershed protection activities with the Islands Trust's work on the implementation of the 2021 Freshwater Sustainability Strategy.

Limited Progress

Lake Allocation. The Lake Weston Water Availability Study and Climate Change Assessment was completed and, as with similar assessments undertaken by NSSWD for St. Mary and Maxwell Lakes, found that lake water is fully or near fully allocated. The report recommends that any expansion of the Fulford Water Service Area should not be granted without further study that would provide more information than this one model.

Updating strategies to store more water on the island. Historically, many properties have been logged and wetlands have been drained for various land use activities. This has increased the speed at which water moves across land to the sea, and reduces the amount of water held in watersheds for the drier hotter summer months. To manage this increasing imbalance, we need:



“Nearly half (41%) of respondents to a 2018 survey of Islands Trust residents indicated that they worry about their household running out of fresh water.”

Islands Trust
Freshwater Sustainability Strategy

- A freshwater infiltration strategy that identifies key areas in need of water retention through evidence-based regulatory measures such as Drinking Water or Groundwater Recharge DPAs to retain forests and vegetation, as well as restoration of wetlands and ponds and green cover planting (e.g., forests). Currently we have a Lakes, Streams, and Wetlands DPA (4) and a Community Well Capture Zones DPA (5), and recharge mapping is being updated.
- Increased incentives and educational support for private landowners to retain water through berms, swales, or stormwater ponds, increased vegetation cover and restored wetlands.
- Identification and acceleration of wastewater treatment strategies like constructed wetlands to retain ‘waste’ water from Dissolved Air Flotation plants that keep it in the watershed.

Needs Work

Local capacity for watershed management.

Watershed management, protection, water supply and treatment all need to be considered in an integrated fashion. The next phase of watershed protection requires reworking at the local government level, as well as resourcing and financial commitment for the 10-year Watershed Protection Plan.

Improving our understanding of watershed hydrology to manage increasing development-driven water demand.

Ways to do this include:

- Creating an integrated island-wide water utility.
- Creating an integrated watershed protection service, which will ideally be one of the outcomes of the 10 year Watershed Protection Plan.
- Water reclamation at the Ganges sewage treatment plant.
- Creating a water quality monitoring program modelled after the volunteer-based program in the Regional District of Nanaimo.
- Strengthening water protection in recharge areas within island watersheds through an Islands Trust DPA (e.g., through regulation, incentives and stewardship programs).
- Including allowances for greywater reuse in areas that cannot support housing or increased water withdrawals.

Developing water conservation regulations for retrofits and new buildings to support long-term water availability. Even without the extremes of climate change, it is expected that we will see declines in drinking water availability. Many of our lakes are already over-allocated, meaning more people are taking water from them than is going in.

One of the key barriers to densifying housing options in Ganges is water supply. Currently, there is no bylaw to support residents, businesses or institutions with rainwater harvesting.

To manage this we need to:

- Incentive and minimize the barriers to rainwater harvesting and storage for multi-family, commercial, and institutional sources.
- Develop local water conservation regulations for rainwater storage and grey water reuse on all new buildings.
- Rainwater cisterns, ponds or constructed wetlands need to be mainstreamed through front-end CRD and water district support.

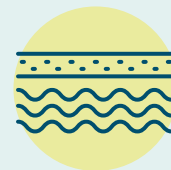
Figure 8: Where does rainwater go?



54%
Surface water
runoff



34-36%
Evapotranspiration



10-12%
Groundwater
recharge available
for drinking water

Groundwater budgets for bedrock aquifers. This data shows that only 10-12% of average annual precipitation is absorbed into the ground for drinking water. Source: Gorski, N. G. and J. P. Sacré. (2019). Aquifer mapping and monthly groundwater budget analysis for aquifers on Salt Spring Island

Freshwater Ecosystem Indicators

Metrics		Baseline		Where we Are		2030 Target	Notes
Water Quality and Quantity							
Rainwater Harvesting Systems	#	Unknown	Unknown	80 homes signed up for water catchment rebates with TSS	2022	Increase	
Rainwater rebate approvals	#	Unknown	Unknown	17	2022	Increase	
Water consumed per day per resident	Litres	Unknown	Unknown	93 litres per capita for groundwater systems and 208 litres per capita for surface water systems	2020	Decrease	Dependent on the system.
SSI Households that get drinking water from wells	%	Unknown	Unknown	47	2018	Decrease	Decrease groundwater withdrawals.
Historical Metered Consumption - Maxwell Lake	Imperial Gallons	47,403,310	2013	43,418,871	2022	Decrease	
Historical Metered Consumption - St. Mary Lake	Imperial Gallons	61,847,749	2013	54,600,648	2022	Decrease	
Water Loss Percentage from Water Audit - Maxwell Lake	%	23	2013	4	2018	Decrease	Water loss percentages from 2020-22 are currently being worked on. NSSWD is working on reducing water loss from their systems by finding and repairing leaks and automating their systems, which has resulted in a total water loss of 13% in 2018, down from 19% in 2013.
Water Loss Percentage from Water Audit - St. Mary Lake	%	16	2013	19	2018	Decrease	
Water extraction (water production) from Cusheon Lake (Beddis)	m ³	27,304	2016	24,241	2020	Decrease	
Water extraction (water production) from Weston Lake (Fulford)	m ³	29,506	2014	27,302	2019	Decrease	
Groundwater recharge of bedrock aquifers from annual average precipitation	%	Unknown	Unknown	10-12%	2019	Increase	54% surface water runoff, 34-36% evapotranspiration.

Conclusion

Overall, Salt Spring Island is not on track to meet the emissions reduction and climate change adaptation goals set out in the 2021 Climate Action Plan 2.0. While there has been notable progress in several areas like transportation electrification, forest stewardship, and food and agriculture, it is clear that we are not ready for the multiplying threats that come with the accelerating impacts of climate change.

We are learning that the impacts of climate change work together to create negative feedback loops, making adequate responses more difficult, risky, and costly. In short, the less we prioritize bold (and even unpopular) action on climate change, the more costly the impacts will be on public and private property, the island economy, community physical and mental well-being, and the ecosystems we depend on for many critical services.

All planning for our islands - be it for infrastructure, transportation, land use, economic development, health care or social services - needs to fully take into account climate change risks now. We can no longer afford business-as-usual decision-making on everything from promoting conventional tourism to land use that permits development within reach of the next decade's sea levels.

Instead, we must urgently work together across traditional silos and interests to build a thriving, diverse, and equitable community that can withstand the many increasingly disruptive stressors we have already committed ourselves to through decades of inaction. We can create green jobs on an island that is actively restoring and improving its forest and freshwater ecosystems for the mutual benefit of the human and non-human creatures who have their homes here.

Transition Salt Spring will use this first Climate Action Report Card to mobilize Salt Spring residents, organizations, and levels of government behind new policies, programs and practices that can make our community safer in the challenging decades to come.

We look forward to working with a broad coalition to help make this happen.

Huy tseep q'u – Thank you – HÍSWK̓E

**The Board of Directors and Staff at
Transition Salt Spring**

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