Salt Spring Commons is an affordable housing project that opened in 2021. © SSI COMMUNITY SERVICES SOCIETY/ MOBIUS ARCHITECTURE

9. CLIMATE ACTION PLAN FOR LAND USE & SETTLEMENT PATTERNS

Land use and accompanying settlement patterns play a key role in Salt Spring's long-term ability to lower emissions and adapt to the dramatic changes being brought about by the climate crisis. Scattered settlements in forested areas are more difficult and expensive to protect from forest fire, while roads that serve scattered development are costly and GHG-intensive to build and maintain.

This pattern of development also contributes to a degradation of the 'ecological services' provided by healthy ecosystems, such as fire resistance and temperature moderation, and to a cascade of other negative impacts including unnecessary forest loss, compromised water quality, and diminished wildlife. Furthermore, external economic pressures contribute to concerns about affordable housing, which is needed to foster community diversity, social equity, resilience, and self-sufficiency.

Local sea levels are forecast to rise relative to those in the year 2000, with changes accelerating this century. While the degree of rise is uncertain, the most recent study suggests planning for a relative sea level rise (RSLR) of 0.5 metre by 2055, one metre by 2115 and 2 metres by 2225 (Associated Engineering, 2020). Shoreline roads, buildings, and infrastructure on Salt Spring Island will see an increase in the frequency and magnitude of seawater inundation events, saltwater intrusion into potable water supplies, and permanent inundation (AECOM, 2015).

Along with losses to coastal ecosystems, sea level rise will result in significant physical and economic damage and disruption for Salt Spring Island if adequate adaptation action is not taken. Washouts of major roads such as Fulford-Ganges at Isabella Point Road are highly likely within the next 50 years as a result of sea level rise and storm surge. If not proactively addressed, this type of damage to critical infrastructure will affect emergency services access, interrupt the movement of people and goods, impede tourism, and negatively impact the local economy. A CRD study highlights potential impacts to scores of buildings and pieces of infrastructure, including ferry terminals and water- or wastewater-related infrastructure (AECOM, 2015).

In July 2020, the CRD published a series of reports, maps, and recommendations in its Capital Region Coastal Flood Inundation Mapping Project. The project provides comprehensive information about the expected risks of rising sea levels and tsunamis throughout the Capital Region, including Salt Spring Island (CRD, 2020). It makes detailed recommendations about the implications for future development, including revised flood construction levels (FCL) for new buildings and infrastructure. The reality of the climate risks needs to be taken into account today in everything from our Official Community Plan to development decisions by government and individuals. Decisions need to be made now about the location and specifications of infrastructure that will be able to withstand the changes that are underway.

While settlement pattern policies in the current OCP (SSILTC, 2008) focus on the protection of specific areas and the reduction of future sprawl and greenhouse gas emissions, the following also require consideration in the next OCP update:

- Enhanced efforts to address gaps in the affordable housing spectrum, to foster a diverse, equitable, and self-sufficient community, with a reduced need for a workforce that commutes from other communities (Gauthier, 2015)
- Increasing pressures to accommodate climate refugees, who may increasingly wish to relocate from regions with more significant climate change impacts (Becklumb, 2013)
- Reconsidering future development in areas at risk due to documented and forecast sea level rise. This includes parts of Ganges and Fulford villages, currently identified in the Salt Spring OCP as preferred locations for new higher-density development (SSILTC, 2008).
- Considering diminishing water supplies and the availability of alternatives such as rainwater harvesting and greywater recycling, and how these will influence policies and practices governing how and where we build
- Considering higher housing densities closer to services to support clustered and affordable housing that encourages self-reliance and active transportation and reduces the need for people to commute from off-island locations to work
- Carefully considering development in areas at high risk of forest fire, wind, high temperatures due to solar gain, or storm water run-off
- Protecting additional groundwater recharge areas, beyond those that are currently protected
- Identifying incentives to encourage property owners to lower emissions associated with building materials or operations, or to incorporate features that decrease both environmental impacts and climate risks
- Ensuring planning for emergency services takes sufficient account of climate risk, such as rebuilding the Fire Hall away from a future inundation area that may be prone to subsidence

Achievements

- Salt Spring's land use policies, described in the OCP, support a shift in the traditional low-density settlement patterns to reduce GHGs and servicing costs.
- Specific goals and policies regarding Climate Change and Energy Efficiency were included in the OCP in 2010 to provide a lens in local land use decisions (SSILTC, 2008).
- While legacy zoning on Salt Spring will allow a few more large lot subdivisions (especially south of the Fulford Valley), OCP policies adopted in 1998 have prohibited the spread of such zoning for over two decades. Instead, the OCP directs most new residential density increases (primarily approved to facilitate development of affordable and special-needs housing) and key community destinations (such as the library, swimming pool, and large commercial land

uses) to existing service areas (e.g., villages) or within walking distance of a transit route, and provides for the voluntary transfer of densities into these areas (SSILTC, 2008).

- Since 1998, OCP policies have restricted upzoning of vacant land parcels close to village services to projects for affordable and special-needs housing, rather than market-level multi-unit development. This has given Salt Spring a distinct advantage over many similar communities in the potential to build affordable housing in appropriate areas (SSILTC, 2008).
- Due to the efforts of Salt Spring non-profit organizations, the number of social housing units per capita on Salt Spring in 2015 was only slightly lower than in the rest of the Capital Regional District (Gauthier, 2015) and was much higher than levels in many similar BC communities. Over 100 additional social housing units were close to or under construction in mid-2020.
- The SSI's Local Trust Committee changed land use regulations recently to permit secondary suites and secondary cottages in climate-smart areas (those not prone to undue climate risks) that support public transit development.
- The CRD produced regional maps that illustrate anticipated sea level rise in select locations and provided details about potential risks and adaptation tools (AECOM, 2015). It recently completed a significant new project about coastal flooding risks and recommended a Flood Construction Level (FCL) in July 2020 (CRD, 2020).

CHRIS BARBALIS VIA UNSPLASH

Priorities

Review of the OCP and all associated land-use processes and procedures needs to be made a priority in light of the climate risks faced by our community. The priorities for this section are:

- Review the OCP and all policies to address climate risk, reduce emissions, address affordable housing, and integrate ecosystem-based planning
- Revise all land-use processes and procedures, especially as they relate to permitting, to encourage and facilitate climate-smart development
- Implement plans, policies, and procedures to ensure that our local governments and other agencies prepare Salt Spring for projected risks due to sea level rise (CRD, 2020)

Goal 1: Update settlement pattern objectives to reduce risk and emissions

Clustered settlement, including residential development, services, and most employment types, has many advantages from climate action and community economic perspectives (e.g., reduced infrastructure costs; reduced risks and costs from forest fire, flooding, and storm damage; reduced automobile reliance), provided that the right parameters are applied.

Strategy 1: Review, update, and consolidate settlement pattern information and policies

These actions are critical to helping levels of government assess climate risks and guide climate-smart development, including considerations for transit and active transportation.

Land Use Goal 1, Strategy 1 Actions	Leading organizations					
	BC	CRD	IT	ID	BCT	TSS
1. Develop detailed mapping of climate change risks that should be considered for settlement pattern policy revisions (some preliminary work is presented in CAP 2.0)	■	■	■	■		■
2. Undertake transit-supportive land-use planning with BC Transit to optimize the relationship between future development and transit routes			■		■	
3. Identify modified areas suitable for future densification that would avoid areas subject to greatest risk due to climate change			■			
4. Update the 2007 report, The GHG implications of different settlement patterns on Saltspring Island [sic], with the additional consideration of freshwater availability and climate change risks. (Sustainability Solutions Group and Holland Barrs Group, 2007)			■			
5. Undertake a joint land-use planning and lifecycle infrastructure costing program with service providers to show the lifecycle infrastructure costs of various settlement patterns (BC MMAH, n.d.)		■	■	■		

Strategy 2: Communicate climate risks associated with settlement patterns

We all need to know the risks associated with existing settlement patterns. But we also need to know the benefits of climate-smart settlement patterns which reduce risk and GHG intensity in the building and maintenance of built infrastructure. Common knowledge builds consensus for bold action to protect our communities and enables property owners to take appropriate actions.

Land Use Goal 1, Strategy 2 Actions	Leading orgs	
	CRD	IT
1. Develop and distribute public information about climate change risks and GHG reduction strategies that should be considered in policies about settlement patterns	■	■
2. Host public meetings to review, discuss, and amend proposed settlement pattern policies		■

Strategy 3: Update Salt Spring's Official Community Plan

Salt Spring needs an OCP update that guides changes to relevant bylaws to reflect revised settlement pattern goals that reduce GHG intensity and climate risks.

Land Use Goal 1, Strategy 3 Actions	Leading orgs
	IT
1. Include maps of climate change risk areas in OCP	■
2. Update OCP policies to direct new development away from future climate change risk areas and towards clustered areas with fewer future risks. Undertake comprehensive planning for villages to address climate change risks and GHG emissions	■
3. Update OCP policies to reduce GHG emissions associated with new development and to support expanded transit	■
4. Update related bylaws to reflect OCP changes, including transit-supportive regulations	■

Goal 2: Reduce barriers to climate-adaptive and lower-emissions settlement patterns

Lack of data and information, a multiplicity of regulations from all levels of government, infrastructure issues, and time-consuming development approval processes tend to make clustered development in villages less attractive to developers than low-density rural development. Public information and supporting policies, plans, and incentives are needed to facilitate climate-sensitive settlement patterns which reduce exposure to climate risks such as forest fire, storm-water run-off, and sea level rise.

Strategy 1: Simplify climate-smart land use and development policies and approval processes

Make it simple and it's easier to get on board. The Trust and CRD, with assistance from the province, need to simplify density transfers, remove barriers to climate-smart settlement pattern policy, and incentivize development with higher sustainability performance.

Land Use Goal 2, Strategy 1 Actions	Leading organizations		
	BC	CRD	IT
1. Simplify and better incentivize density transfer provisions (e.g., avoid the need for rezoning by creating an amenity bylaw that automatically conveys a bonus density when the amenity is provided)	■		■
2. Review and update the land-use bylaw for barriers and inconsistencies affecting climate-adaptive development			■
3. Review and amend the building bylaw for barriers and inconsistencies affecting climate-adaptive development		■	
4. Fast-track approvals and reduce fees for development applications that meet or exceed a higher performance threshold in a strengthened and mandatory Sustainability Checklist	■	■	■
5. Simplify approvals for secondary suites and cottages in areas permitted by zoning, through a review and amendment of regulations, procedures, and fees		■	■
6. Review and amend provincial government laws, policies and practices that act as disincentives to rental of affordable housing or development of owned affordable housing	■	■	

Strategy 2: Incentivize increased densities and more affordable housing

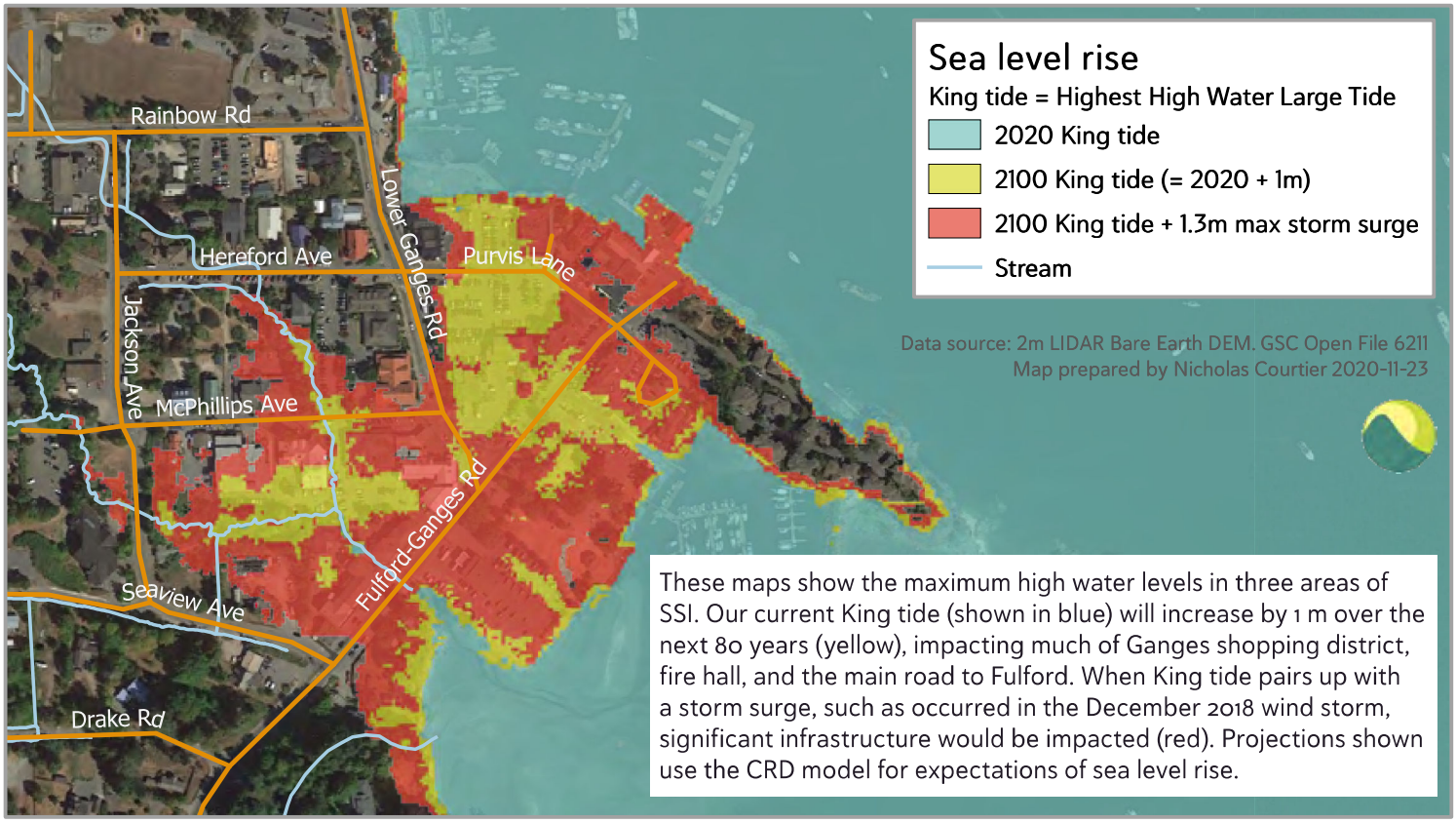
A key objective here is discouraging and disincentivizing development that has higher GHG intensity or increased climate risk. In some cases, the Province needs to amend its legislation to facilitate this type of change at our local level.

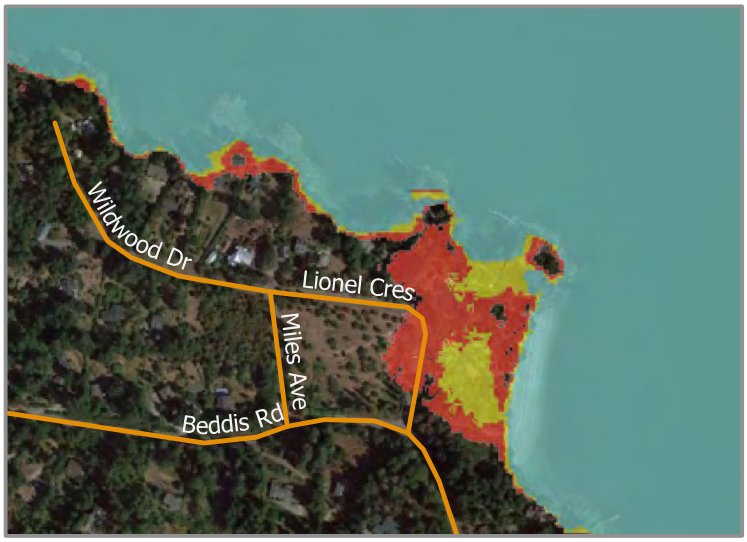
Land Use Goal 2, Strategy 2 Actions	Leading organizations				
	BC	CRD	IT	ID	OWNER*
1. Undertake a cost-benefit study to identify potential incentives that could be integrated into Transfer of Development Potential policies and adopt identified incentives (and amend provincial legislation, where required)	■		■		
2. Investigate incentives and remove barriers to encourage diverse forms of affordable housing such as multi-unit projects, secondary suites, and cottages in areas where they are already allowed; do this for innovative forms such as eco-villages in climate-smart areas	■	■	■		
3. Increase/decrease permitting costs for developments based on environmental performance such as embodied energy of building materials and estimated modeled performance		■	■		
4. Adopt policies and plans to minimize the construction of key community assets in future climate change risk areas	■	■	■	■	■
5. Increase permitting costs for residences over a certain size and implement a tax on vacant homes over a certain size, with the proceeds used to fund affordable housing and climate action projects	■	■	■		

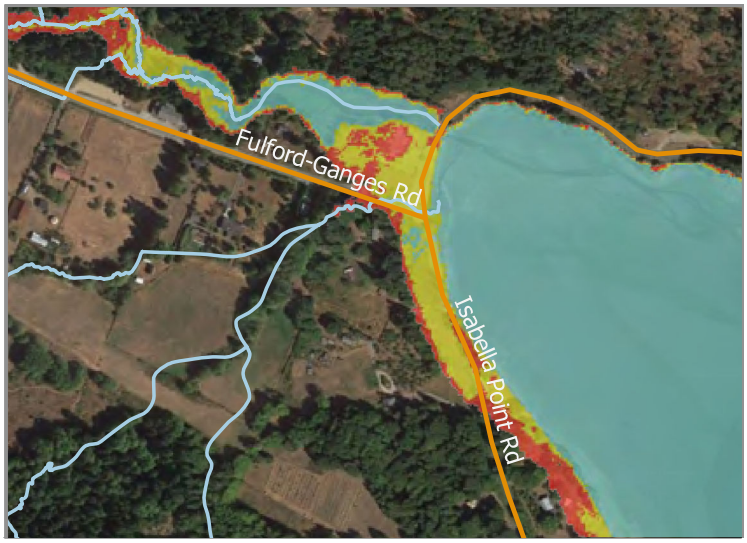
* Owners include SD64 and Island Health

Goal 3: Maximize community resilience to predicted sea level rise

With a one-metre sea level rise (SLR) forecast for 2100, now is the time to figure out what to do with downtown Ganges and Fulford Harbour, to name two areas of the island. This will protect the future of those community assets that are critical to our everyday life and economic health. The following maps are also available in the Appendices, and were created using publicly available data and the methodology employed by the CRD in its recent sea level rise study (CRD, 2020).







Strategy 1: Implement a SLR research strategy to inform local government actions

Without a plan, we have no destination. If we don't plan for sea level rise, the only known destination is saltwater inundation.

Land Use Goal 3, Strategy 1 Actions	Leading organizations				
	BC	CRD	IT	ID	OWNER*
1. Develop a public information campaign about inundation risks, based on the most recent science-based mapping (Associated Engineering, 2020)	■	■	■		
2. Revise building regulations based on new recommendations for Flood Construction Level (FCL) (CRD, 2020) [15]		■	■		
3. Develop an SLR adaptation strategy including protection, mitigation, and relocation strategies to protect or move existing development and key community assets from future inundation areas	■	■	■	■	■

*Owners include SD64, Island Health

15 A FCL establishes the minimum elevation for habitable buildings in relation to anticipated flood levels and may be established by the SSILTC as per s.910 of the Local Government Act.

Strategy 2: Change policies and practices to prepare for risk of sea level rise

Land Use Goal 3, Strategy 2 Actions	Leading organizations				
	BC	CRD	IT	ID	OWNER*
1. Upload flooding mitigation, management, and coordination from local governments back to the Province (Hunter, 2020)	■				
2. Include inundation maps in the SSI OCP to communicate risks to property owners and managers			■		
3. Amend OCP policies to direct new development and densification away from future inundation areas			■		
4. Adopt a Building Permit Inundation Policy to require flood-proofing, restrictive covenants, and indemnification agreements when building permits are issued in future inundation areas		■			
5. Require that potential impacts and adaptation measures related to SLR be reviewed for new development applications; require restrictive covenants and indemnification agreements when allowing greater development in inundation zones			■		
6. Identify and accommodate any feasible new structures and non-structural strategies (e.g., shoreline parkland acquisition) necessary to protect existing development from the impacts of future SLR			■		
7. Identify areas where existing development cannot be feasibly protected from the impacts of future SLR; identify areas where it could be moved			■		
8. Minimize the construction of key community assets in future inundation areas through land-use and zoning changes and through decisions of public agencies	■	■	■	■	■
9. Require that new land parcels (created through subdivision) have suitable building areas outside of inundation areas; require shoreline easements to buffer new development from SLR impacts	■		■		
10. Create a SLR Development Permit Area to protect new development from hazards related to inundation			■		
11. Create an SLR Adaptation Fund Reserve for land purchases and other capital-intensive long-term planning steps necessary to protect existing development from the impacts of SLR or to move existing development and community assets	■	■		■	■
12. Support adaptive land uses (parks, green space, temporary land uses) in future inundation areas, and integrate mitigation plans into strategic, capital, and service plans for these land uses	■	■	■	■	■
13. Integrate flood-proofing best practices and requirements into new construction in future inundation areas		■		■	■

*Owners include SD64, Island Health and other asset managers

Development Permit Areas

This plan contains recommendations that the Salt Spring Island Local Trust Committee (SSILTC) create or amend Development Permit Areas (DPAs) with various objectives, in addition to the seven DPAs already in our OCP. DPAs can be created with several integrated objectives, where appropriate. While they do not change the use or density of use permitted on a property by the Land Use Bylaw*, DPAs can be used to guide the way that new construction, subdivision, and land alteration (including tree-cutting) take place, to support specific community objectives.

The BC Local Government Act permits local governments to use DPAs for the objectives listed below (BC, 2015). The table shows the types of objectives our existing DPAs are working towards, and some recommended additions and changes:

Objective	Existing SSI DPA Numbers (SSILTC, 2008)	Additional or amended DPA recommended
Protect the natural environment, its ecosystems and biological diversity	3, 4, 5, 6, 7	Protection of Coastal Douglas-fir ecosystem, groundwater recharge areas, stream uplands, and wildlife diversity and corridors
Protect development from hazardous conditions (e.g., flooding, erosion, land slip, forest fire)	1, 3, 6	Protection of development from sea level rise flooding, hazards of tree-cutting on steep slopes, and fire hazards
Protection of farming	1, 2	
Revitalization of an area in which a commercial use is permitted	n/a	
Form and character of intensive residential development	n/a	
Form and character of commercial, industrial, or multi-family residential development	1, 2, 3	
Promote energy conservation	n/a	Energy-efficient building construction
Promote water conservation	n/a	
Promote the reduction of greenhouse gas emissions	n/a	Carbon sequestration by trees

* Provincial legislation prohibits this, unless an extreme natural hazard exists that cannot be mitigated