

Salt Spring Island Watershed Protection Plan

2023 to 2032

March 2023



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Executive Summary

Watershed stewardship on Salt Spring Island is complicated. Responsibility is shared among Federal, Provincial, Indigenous, and local governments, water service providers, conservation and stewardship groups, the private sector, and residents. With this complex jurisdictional context, combined with water availability challenges and development pressure, it is vital that organizations work together effectively.

This document sets out a multi-agency watershed protection plan for Salt Spring Island. It is jointly endorsed by the agencies that are responsible for its implementation – the Capital Regional District, Islands Trust, and North Salt Spring Waterworks District (the “partner agencies”).

The plan builds on a number of strategies completed by various organizations and entities over the past two decades. It strives to chart a new course toward concerted and collaborative watershed protection effort. What makes it different is that it has been jointly developed and endorsed by the partner agencies, presenting a unified approach to collective action. It also sets out several governance reforms that will further improve water stewardship coordination.

Plan Goals

Plan goals and objectives are adapted directly from Islands Trust’s Freshwater Sustainability Strategy and were developed in 2021 with input from all the partner agencies. The overarching goals – the results we aim to achieve - are as follows:

- Protect ecosystems and the overall health of watersheds and groundwater on Salt Spring Island.
- Collaborate with First Nations and Indigenous organizations to create understanding of cultural and spiritual values about water and how they interrelate with ecosystems and community well-being in decision making.
- Preserve or enhance the quantity and quality of Salt Spring Island’s drinking water sources.
- Enable residents and visitors to enjoy the island’s freshwater for recreation, aesthetic, and spiritual purposes.

Actions to Protect Salt Spring Island’s Watersheds

The plan sets out 19 actions to protect Salt Spring Island’s watersheds under the following five categories:

1. Watershed Ecosystem Science
2. Groundwater Science
3. Community Water Use Efficiency and Stewardship
4. Watersheds and Drinking Water Protection Planning
5. Watershed Protection Governance and Coordination

The full list of actions is found in the table on the following page.

Consolidated List of Watershed Protection Actions

Watershed Ecosystem Science

1. Implement or continue flow and level monitoring for priority lakes and streams.
2. Implement or continue water quality monitoring for priority lakes and streams that addresses nutrients and contaminants of concern.
3. Update hydrology and watershed ecosystem base maps and datasets.
4. Develop or update availability assessments for priority lake watersheds.

Groundwater Science

5. Improve management of groundwater data to inform decision making.
6. Continue to develop a coordinated long-term groundwater monitoring program, including monitoring saline intrusion along coastal zones.
7. Continue groundwater recharge potential mapping and delineate areas likely to have hydraulic connectivity with surface water.
8. Continue groundwater availability assessments including delineating well catchment areas and identifying aquifer supply capability.

Community Water Use Efficiency and Stewardship

9. Support the freshwater stewardship and outreach efforts of Salt Spring community and volunteer organizations.
10. Improve access to relevant water use efficiency resources for residents and businesses.
11. Continue to deliver education and provide incentives to promote rainwater harvesting.
12. Continue to improve water use accounting procedures and regularly conduct water system consumption surveys.

Watersheds and Drinking Water Protection Planning

13. Integrate water availability and vulnerability information into land use policies and regulations.
14. Establish groundwater regions as a focus for land use planning on Salt Spring Island.
15. Develop local guidelines, policies, and regulations for proof of sufficient water requirements for development applications.

Watershed Protection Governance and Coordination

16. Collaborate with First Nations with territorial interests in Salt Spring Island and waters and with Indigenous organizations.
17. Complete governance review to ensure that watershed protection and stewardship administrative and coordination arrangements are optimized.
18. Encourage the Provincial Government to investigate potential use of regulatory instruments including water objectives, area-based management plans, and drilling authorizations.
19. Continue to convene a multi-organization forum for communication and coordination about watershed protection activities.

This strategy will be delivered between 2023 and 2032. More detailed operational plans will be developed for each action by lead agencies through their respective program and project approval processes. All the actions set out in this plan are important, but initial emphasis will focus on 19 identified priority projects.

Each partner agency is responsible for implementation and governance of the actions, programs, and projects that they will lead. The partners are also committed to completing the governance review of watershed protection coordination that commenced in 2022, recognizing that this may result in shifts to current responsibilities and administrative/regulatory arrangements. Communication and coordination will take place through a multi-organization forum that will build on the success that the Salt Spring Island Watershed Protection Alliance has had in this capacity since 2013.

The multi-agency nature of this plan reflects the importance of collaboration and partnerships in understanding, stewarding, and planning for water sustainability for tomorrow.

1.0 Introduction

This document sets out a multi-agency watershed protection plan for Salt Spring Island. It is jointly endorsed by the agencies that are responsible for its implementation – the Capital Regional District, Islands Trust, and North Salt Spring Waterworks District (the “partner agencies”).

The plan builds on a number of strategies completed by various organizations and entities in recent years. It strives to chart a new course toward concerted and collaborative watershed protection effort. What makes it different is that it has been jointly developed and endorsed by the partner agencies, presenting a unified approach to collective action.

Following this introduction, this document has four sections, as follows:

- section 2 describes the policy context;
- section 3 sets out goals and objectives;
- section 4 sets out the plan’s actions, grouped under five categories; and,
- section 5 discusses implementation, including scheduling, governance, and resourcing.

The time horizon for this plan is ten years, covering the decade from 2023 to 2032. Its scope is limited to freshwater on Salt Spring Island and surrounding small islands, including both groundwater and surface water. Marine waters are out of scope, as are other islands in the Capital Regional District or Islands Trust Area.

How This Plan Was Developed

This plan was created in 2022/23. It was funded by Islands Trust and prepared under the Salt Spring Island Watershed Protection Alliance. It was developed by an interagency working group with representatives from all partner agencies. It also benefited from input from the chair of the Alliance’s Technical Advisory Committee and a representative from the Provincial Ministry of Forests’ Water Protection Branch. The project was supported by Econics, a Victoria-based consulting firm that specializes in water sustainability, and the Salt Spring Island Watershed Protection Alliance coordinator.



2.0 Partners in Watershed Stewardship

Watershed stewardship on Salt Spring Island is complicated. Partner agencies share responsibility with Indigenous Nations, the Federal Government, The Provincial Government, other water service providers, conservation and stewardship groups, the private sector, and residents. Table 1, below, provides an extensive but still incomplete list of involved organizations, agencies, and sectors. Appendix 1 provides an overview of how responsibility is distributed.

Table 1: Water Management Partners on Salt Spring and Surrounding Islands

First Nations

- BOKÉĆEN (Pauquachin) First Nation
- Cowichan Tribes
- Halalt First Nation
- Lake Cowichan First Nation
- Lyackson First Nation
- MÁLEXEL (Malahat) Nation
- Penelakut Tribe
- SEMYOME (Semiahmoo) First Nation
- STÁUTW (Tsawout) First Nation
- Stz'uminus (Chemainus) First Nation
- Tsawwassen First Nation
- WJOLELP (Tsartlip) First Nation
- WSIKEM (Tseycum) First Nation

Federal Government

- Fisheries and Oceans Canada
- Natural Resources Canada
- Geological Survey of Canada
- Water Survey of Canada

Provincial Government

- Ministry of Agriculture and Food
- Ministry of Environment and Climate Change Strategy
- Ministry of Forests
- Ministry of Health
- Ministry of Land, Water and Resource Stewardship
- Ministry of Municipal Affairs
- Ministry of Transportation and Infrastructure

Regional/Local Government

- Capital Regional District (including Beddis, Cedar Lane, Cedars of Tuam, Fulford, & Highland/Fernwood water service areas)
- Islands Trust
- Island Health
- Improvement districts: North Salt Spring Waterworks, Harbour View, Mt. Belcher, and Scott Point

Non-Government Entities

- Stratas and other water service providers
- Community and stewardship groups

Other

- Agricultural sector
- Development sector
- Education sector
- Hydrogeologists, hydrologists, and other technical professionals
- Irrigation and landscaping sector
- Planning sector
- Water service sector
- Private landowners

Source: adapted from Islands Trust (2021)

With this complex jurisdictional context, combined with freshwater availability challenges and development pressure, it is vital that the partner agencies and other organizations work together effectively.

At the same time, this arrangement also offers the chance to magnify effort by bringing together the expertise, authority, information, and tools of many organizations, and the opportunity to leverage additional resources and energy for specific projects and initiatives.

Since 2013, multi-agency effort has been coordinated through the Salt Spring Watershed Protection Alliance. It was created by Islands Trust under Council Bylaw 154. It receives funding under a special property tax requisition, which supports water-related policy and planning activity that is not included within general operations of the Local Trust Committee. Other agencies contribute additional funding and resources for joint projects. The Alliance has grown to include over 15 provincial, regional, or local agencies, and community organizations. It has advanced public awareness about the need for stewardship and fosters innovative policy development, cross-agency information sharing, and better data collection and management.

The partner agencies have also independently advanced important strategic planning activities on their own in recent years. For example:

- also in 2022, Islands Trust completed its Freshwater Sustainability Strategy to identify the actions it will take over the next decade to protect water resources over the long term across the entire Islands Trust Area;
- in 2021, North Salt Spring Waterworks District developed a three-year Strategic Plan to advance its vision for the provision of its services in an environmentally, economically, and socially sustainable manner to its customers.

These efforts sit in the context of broader initiatives to improve watershed protection. For example, in early 2022, the BC Provincial Government initiated development of a new Watershed Security Strategy for the entire province. In early 2023, it also committed \$100 million to a Watershed Security Fund to support wild salmon health, clean drinking water, biodiversity, flood resilience, economic opportunities, and reconciliation with First Nations.

These examples followed previous strategic planning by the partner agencies and other organizations dating back to 2007. These earlier efforts greatly informed development of this current plan. Drawing from them ensured that we build on, rather than repeat, past effort. A list of these documents can be found in Section 6 (References), below.

Despite individual endeavors such as previous strategic planning and the necessary coordination offered through the Salt Spring Island Watershed Protection Alliance, fragmentation of effort remains a challenge, as does effective project development and delivery. While jurisdictional responsibility is reasonably well established, it is not always completely clear which agency should take the lead on specific initiatives or projects.

This plan provides a foundation for more directed and efficient action in the future. It also sets out several governance reforms below under Action 17 that will further improve coordination.

Indigenous Nations' Role in Freshwater Stewardship

Salt Spring and its surrounding islands have been home to Indigenous Peoples since time immemorial. As Table 1 highlights, the area is situated in the treaty and territorial lands and waters of many Indigenous People. Freshwater is subject to Indigenous rights and title. The partner agencies commit to collaborating with Indigenous Nations to develop understanding of their goals and to integrating their participation and interests into decision making. The partner agencies will also collaborate with Indigenous Nations and organizations to increase broader community awareness of water-related cultural values, interests, and inherent rights.



3.0 Plan Goals and Objectives

This section outlines the overarching goals and objectives for this plan. These are adapted from Islands Trust's Freshwater Sustainability Strategy, which was developed in 2021 with input from all the partner agencies – Capital Regional District, Islands Trust, and North Salt Spring Waterworks District.

3.1 Plan Goals

The Salt Spring Island Watershed Protection Plan's overarching **goals** – the results it aims to achieve - are as follows:

- Protect ecosystems and the overall health of watersheds and groundwater on Salt Spring Island.
- Collaborate with First Nations and Indigenous organizations to create understanding of cultural and spiritual values about water and how they interrelate with ecosystems and community well-being in decision making.
- Preserve or enhance the quantity and quality of Salt Spring Island's drinking water sources
- Enable residents and visitors to enjoy the island's fresh water for recreation, aesthetic, and spiritual purposes.

3.2 Plan Objectives

Supporting **objectives** are the means by which the goals will be met. Plan objectives are as follows:

- Understand and respect Indigenous ways of knowing and community knowledge about water resources; weave together different ways of understanding to improve water management.
- Improve information and knowledge about the quality and quantity of water resources.
- Use the most updated and comprehensive information to protect Salt Spring Island's watersheds and water resources in land use planning and development decisions.
- Increase public awareness of water efficiency, stewardship, groundwater, and the importance of watersheds.
- Improve coordination of effort among the various governments and agencies with authority over freshwater stewardship.
- Enable integrated decision-making that considers the cumulative effects of human activities and climate change impacts on the island's water resources.

4.0 Actions to Protect Salt Spring Island's Watersheds

Watershed Ecosystem Science

Attaining sufficient, high quality, and statistically defensible data on water resources is an essential pre-requisite to successful future management. Agencies will work together to improve water quality and quantity monitoring, particularly at drinking sources and fish-bearing streams. Better data and information will support robust, ongoing watershed characterization and provide a baseline for land use planning and water management.

Action 1. ➤ Implement or continue flow and level monitoring for priority lakes and streams.

This action builds on lake level monitoring currently undertaken by Islands Trust as well as monitoring at St. Mary Lake and Lake Maxwell by North Salt Spring Waterworks District. Provincial monitoring of priority streams such as Fulford Creek and community-based hydrological monitoring of many watersheds by Salt Spring Island Water Preservation Society may also contribute key datasets. Agencies will collaborate to develop an integrated surface water monitoring program under the lead of a single agency, then continue data collection accordingly. Outputs will be held in appropriate public-facing repositories, preferably hosted by the Province. Effort will be invested in uploading historical data that is currently held by individual agencies but not readily accessible. This will include data collected by trained stewardship group volunteers who follow Provincial guidelines.

Action 2. ➤ Implement or continue water quality monitoring for priority lakes and streams that addresses nutrients and contaminants of concern.

Agencies will collaboratively identify priority lakes, streams, and aquifers where quality problems may threaten aquatic ecosystem health and drinking water. CRD will develop and implement a monitoring program jointly with partner agencies. This program will harmonize and integrate monitoring effort already underway by the Capital Regional District and North Salt Spring Waterworks District, and ideally Island Health. Focus will continue to be on drinking water lakes (St. Mary, Maxwell, Cusheon, and Weston) and fish-bearing streams. As with quantity data, effort will be invested in ensuring information is held in publicly accessible repositories and that effort of trained volunteers is incorporated. Key goals include understanding risk of contamination of drinking sources, informing protection of wells, and ensuring that each watershed's ability to assimilate wastes is not over-taxed.

Action 3. ➤ Update hydrology and watershed ecosystem base maps and datasets.

To improve understanding of the nature of island watershed hydrology, drainage network mapping and stream mapping need to be updated. Tasks include:

- review application of existing riparian areas mapping for Development Permit Area 7;
- update/expand mapping for Development Permit Area 4 (Lakes, Streams, Wetlands), currently based on outdated Terrain Resource Information Management data;
- create watershed resiliency maps to determine how the landscape is adapting to climate change and identify risk of wildfire, drought, and flooding;
- create a freshwater atlas and data dashboard; and,
- harmonize watershed mapping used by partner agencies.

Action 4. Develop or update availability assessments for priority lake watersheds.

Partner agencies will collaboratively assess current and future water availability using an ecosystem-based mapping, modelling, and management approach.

A water budget is a tool to assess a watershed's ability to support the community and the environment. It is an accounting of the volume of precipitation that recharges the landscape, the amount consumed (licensed use and assumed extraction rates), and what flows out at that level of consumption. The goal is to develop thresholds or objectives for informing land use and supply planning. Having these for Salt Spring Island will improve understanding of where supplies are sufficiently constrained that planning needs to be modified or development needs to be redirected.

This work will build on surface water budget work already completed for Salt Spring Island, notably assessments of St. Mary Lake and Maxwell Lake undertaken by North Salt Spring Waterworks District, and the Lake Weston water availability and climate change assessment recently completed by Capital Regional District and Islands Trust. Where possible, it will also incorporate data from the Water Preservation Society FreshWater Catalog project.

Watershed Ecosystem Science: Priority Projects

- Complete wet areas and wetland mapping for Development Permit Area 4
- Complete watershed resilience mapping (including wildfire risk and extent of contiguous forest).
- Develop a lake monitoring data dashboard with automated telemetry.
- Complete stormwater and flood management mapping.

Groundwater Science

Actions in this area involve primary research and mapping to improve information and knowledge about groundwater quantity and quality.

Action 5. Improve management of groundwater data to inform decision making.

Access to reliable and current data and information about groundwater is essential to understanding drinking water and ecosystem vulnerability. Agencies will collaborate to improve systems for uploading, storing, analyzing, and accessing data. Wherever feasible, publicly accessible, open, Provincial Government systems will be used.

Action 6. Continue to develop a coordinated long-term groundwater monitoring program, including monitoring saline intrusion along coastal zones.

Water monitoring must be continuous and coordinated among agencies that have existing programs and regulatory responsibilities. Partner agencies will continue to collect and collate groundwater data pertaining to quality, quantity, and aquatic ecosystems.

Action 7. ➤ Continue groundwater recharge potential mapping and delineate areas likely to have hydraulic connectivity with surface water.

Understanding recharge potential is necessary to determine how much groundwater is available for environmental and human needs. By developing, running, and ground-truthing models customized to local conditions, this action will spatially identify intrinsic recharge potential in aquifers.

Action 8. ➤ Continue groundwater availability assessments including delineating well catchment areas and identifying aquifer supply capability.

Agencies will continue to estimate how much groundwater is available to support demand. This is determined through groundwater budget assessments that consider recharge potential, climate-related data, estimated human consumption, hydrogeochemistry, contaminant risk, and hydrological modelling. Models will be 'ground-truthed' through calibration with surface water and well data. Results will be presented in publicly available dashboards.

Groundwater Science: Priority Projects

- Continue the ongoing groundwater wells and lake level monitoring program.
- Continue development of availability assessments for key groundwater management units.
- Assess environmental flow needs of groundwater dependent ecosystems and waterbodies, integrated with priority stream hydrological monitoring.
- Complete groundwater productivity mapping.
- Characterize aquifer geochemistry and isotopic dating of groundwater.

Community Water Use Efficiency and Stewardship

Partner agencies have a key role in stewardship but cannot do the job alone. Responsibility is shared with other government agencies, community groups, and residents (see Table 1, above). For example, volunteer and non-profit groups such as Transition Salt Spring Society and the Water Preservation Society deliver vital public outreach and stewardship projects that in turn contribute to the success of many of the actions and goals in this plan. Partner agencies will continue to support these groups.

As well, establishing and achieving best practices for efficient water use will reduce the need to tap into new supplies and leave water in the environment for fish and ecosystems.

Action 9. ➤ Support the freshwater stewardship and outreach efforts of Salt Spring community and volunteer organizations.

Salt Spring Island's stewardship groups and volunteers play a pivotal role in watershed enhancement projects. They collect data on quality and quantity. They manage privately owned land protected by conservation covenants. They spearhead scientific studies and research. They promote public awareness of the value of water. Community volunteers are valuable partners in sustainability. Partner agencies will support these efforts across the island, focusing on projects that are already underway and attaining results.

Action 10. Improve access to relevant water use efficiency resources for residents and businesses.

Salt Spring Island's culture already fosters wise use of water. However, there are still opportunities to promote installation of efficient fixtures and appliances in homes and businesses and simple behaviour change both indoors and outdoors (for example, with minimizing irrigation of lawns or using rainwater on gardens). Agencies will provide additional education and incentives to residents, including leveraging and adapting resources the Capital Regional District already provides to residents in the Greater Victoria Supply Area.

Action 11. Continue to deliver education and provide incentives to promote rainwater harvesting.

Rainwater harvesting is already a common activity on Salt Spring Island and builds individual and community resilience to climate change and drought. Agencies will continue to provide tours, guidance, and incentives to promote this technology. This will build on the guidance provided in the Salt Spring Island Watershed Protection Alliance's 2020 *Non-Potable Rainwater Harvesting Best Practices Guidebook*, as well as the rainwater system rebate program offered by Transition Salt Spring Society with funding from Capital Regional District in recent years.

Action 12. Continue to improve water use accounting procedures and regularly conduct water system consumption surveys.

Building on the 2020 *Salt Spring Island Water System Survey*, agencies will survey the 16 private and public water systems that serve Salt Spring Island residents who are not on private groundwater wells. The survey will be conducted again by 2025 at the latest, and will collect data about system operation, production, consumption, and rate structures. Results will improve understanding of demand and promote improved system loss management and conservation-oriented pricing.

Community Water Use Efficiency and Stewardship: Priority Tasks

- Promote existing video resources and support the development of new video resources to reach increasingly digital local audiences.
- Support the development and distribution of water use efficiency outreach educational materials adapted specifically to the Gulf Islands.
- Support and contribute resources towards an expanded rainwater system rebate program for residential users on any type of groundwater or surface primary water source.

Watersheds and Drinking Water Protection Planning

The science actions listed above will improve understanding of the balance between groundwater recharge, surface water availability, and human and ecological demand, as well as the impacts of climate change and other factors. Resulting availability assessments will provide better information to facilitate improved protection through better land and water use planning.

Action 13. Integrate water availability and vulnerability information into land and water use policies and regulations.

New information about availability and vulnerability from the Watershed Ecosystem Science and Groundwater Science actions listed above will be incorporated into partner agency planning to reduce risks to watersheds and aquifers.

13.1 Integrate water availability and vulnerability information into land use policies and regulations.

The Salt Spring Islands Local Trust Committee is the lead land use planning decision making body Salt Spring Island, guided by the “preserve and protect” mandate under the *Islands Trust Act*. Regulatory mechanisms available include restrictive covenants, development permit areas, zoning, and subdivision servicing requirements. See Appendix 2 for more information on these tools. Over the term of this plan, the Local Trust Committee will consider the following activities:

- use new information about water availability and vulnerability to inform the Salt Spring Island Official Community Plan policies and other local land use bylaws as they are updated;
- consider changes to zoning that support density in areas with sufficient water availability and lower risk;
- ensure that decisions to increase development density are guided by the outcomes of the groundwater and surface water availability assessments (i.e., water budgets; see Actions 4 and 8);
- protect groundwater aquifer recharge zones and critical aquifer areas through development permit areas and other planning tools;
- investigate the potential role of source substitution for non-potable purposes including rainwater, greywater, and recycled water;
- require freshwater storage cisterns in new development and redevelopment.

13.2 Integrate water availability and vulnerability information into policies and regulations of other agencies.

New information about availability and vulnerability will also be used to inform the policies, regulations, and decisions of other partner agencies in this plan. This includes the following:

- both Capital Regional District and North Salt Spring Waterworks District's decisions to authorize new connections to their systems under their authority under the *Local Government Act*.
- Capital Regional District's activities under the Salt Spring Island Stormwater Quality Management Bylaws (Bylaws 2454 and amendments in Bylaw 4178) and other relevant bylaws.

Wherever possible, water availability and vulnerability information will be made available in publicly accessible repositories so it can also guide the actions and decisions of other agencies, including Federal, Provincial and First Nation Governments, and other island water service providers. For example, Provincial agencies may use this information for water allocation planning, licensing, and approval decisions under the *Water Sustainability Act* and for subdivision application decisions under the *Land Title Act* and other relevant legislation.

Action 14. Establish groundwater regions as a focus for land use planning on Salt Spring Island.

Based on characteristics such as drainage areas, bedrock geology, mapped aquifers, structural geology, and the distribution and characteristics of wells, 17 groundwater sub-regions have been identified on Salt Spring Island (GW Solutions, 2019). This information and additional research will be used to establish groundwater regions as the primary and natural geographic management units for freshwater allocation and land use planning purposes.

Action 15. Develop local guidelines, policies, and regulations for proof of sufficient water requirements for development applications.

Decision makers in partner agencies need dependable information that shows whether sufficient water is available to support new and existing development. Under this plan, proof-of-water requirements will be updated. This will provide certainty to developers and residents and ensure available freshwater resources are effectively managed.

Consistent with direction in its Freshwater Sustainability Strategy (2021, Action GWSS 10), Islands Trust will incorporate Salt Spring Island-specific proof-of-water requirements into its land use bylaws for subdivision and develop parallel requirements for rezoning applications. These will account for the most recent climate change projections and other emerging information. This action will be guided by comparable requirements currently under development for other Islands Trust Areas (notably Galiano Island). Policy developed under this action will include consideration of the role of rainwater, other non-potable sources, and cistern storage in meeting an individual development's water requirements.

Upon completion, Islands Trust will share these guidelines and policies with other agencies to inform their own regulatory requirements and decision-making guidelines. This includes subdivision applications administered by the Ministry of Transportation and Infrastructure, Ministry of Forest water allocation decisions, decisions to issue new connections by water service providers, and multi-connection water system operating permits issued by the Ministry of Health.

Watersheds and Drinking Water Protection Planning: Priority Projects

- Develop updated proof-of-water requirements for Islands Trust's land use development decisions.
- Establish groundwater regions as a focus for land use planning through appropriate policy instruments such as Official Plan amendments.
- Integrate water availability and vulnerability information into land use policies and regulations.



Watershed Protection Governance and Coordination

Given the complex jurisdictional structure of water management in British Columbia, partner agencies recognize that, for this plan to work, they will need to cooperate. They will also need to collaborate with other agencies and organizations with interests and responsibilities in this area, both on and off the island. It is also noted that achieving the goals set out in Section 3 may require reform to existing governance arrangements.

Action 16. Collaborate with First Nations with territorial interests in Salt Spring Island and waters and with Indigenous organizations.

Implementation of this plan provides an opportunity to recognize and elevate Indigenous perspectives and First Nations interests in stewardship. As noted in Section 2.0, Salt Spring Island is located within the treaty and territorial lands and waters of many First Nations. Partner agencies are committed to the significant undertaking of building understanding of local First Nations' diverse history, knowledge, perspectives, and interests in watershed protection and freshwater ecosystem management. This provides an opportunity to demonstrate commitment to reconciliation and to celebrate the richness of Coast Salish history, knowledge, and culture.

Action in this area will be guided in the first place by the priorities and capacities of First Nations whose unceded territories include what is now known as Salt Spring Island. It will also be informed by partner agencies' existing projects, policies and commitments to reconciliation including Islands Trust's Reconciliation Action Plan and the Capital Regional District's Reconciliation Statement.

Action 17. Complete governance review to ensure that watershed protection and stewardship administrative and coordination arrangements are optimized.

In early 2022, Islands Trust commissioned a review of watershed protection coordination arrangements for Salt Spring Island (see Eonics, 2022). A key recommendation from this process was that agencies should develop consensus on preferred longer term governance reforms by selecting from seven identified options.

Agencies will work together to implement the recommendations of this governance review. It is recognized that reform will include challenges, including possible shifts to current responsibilities and amendments to legislative, regulatory, and bylaw authorities. Agencies will also examine long term funding and project resourcing arrangements for the actions identified in this plan, recognizing that all partners must contribute to ensure success.



Action 18. Encourage the Provincial Government to investigate potential use of regulatory instruments including water objectives, area-based management plans, and drilling authorizations for all or part of Salt Spring Island.

The partner agencies play key roles in watershed protection, but it is recognized that the Provincial Government regulates extraction and use of both surface and groundwater on Salt Spring Island, not only for private and public water systems, but also for other uses including agricultural, industrial, and natural resources development. The Province also has various authorities to manage existing use, for example in the event of an emergency or chronic shortages resulting from seasonal drought or long-term climate change.

The Province has the ability to trigger several regulatory instruments under existing legislation that may be effective for addressing specific and acute challenges on Salt Spring Island. Instruments include water objectives (enabled under s.43 of the Water Sustainability Act) and water sustainability plans and/or area-based regulations (provided for in Part 3 and Part 6 of the Act respectively).

For example, water objectives could be used to establish quality or quantity thresholds for sensitive aquifers or watersheds that must be taken into consideration by local, regional, and provincial agencies when making decisions governing land and resource use.

Through administrative and political channels, the partner agencies will encourage the Province to investigate which, if any, of these new instruments make sense for the situation on Salt Spring Island.

Concurrently, the partners will also work with the Province to seek funding opportunities for important and relevant projects under the recently announced Watershed Security Strategy and Fund.

Action 19. Continue to convene a multi-organization forum for communication and coordination about watershed protection activities.

Multiple players have roles in watershed stewardship and protection on Salt Spring Island. Since 2013, coordination has been driven by the Salt Spring Island Watershed Protection Alliance under the leadership of Islands Trust. Partner agencies are committed to continuing an interagency forum to advise on regional, local, and provincial government policies. The way that coordination is currently structured will be re-evaluated as part of implementation of the governance review in order to ensure that this effort is efficient, effective, and satisfying for the organizations and individuals involved.

Watershed Protection Governance and Coordination: Priority Projects

- Complete review of current governance arrangements for watershed protection coordination building on work commenced in 2022 including review of funding arrangements and interagency coordination mechanisms.
- Work with interested First Nations to identify their priority projects and interests related to watershed protection on Salt Spring Island.

5.0 **Implementation**

5.1 **Schedule**

This strategy will be delivered between 2023 and 2032. Table 3, below, provides a high-level schedule noting that more detail is required for many actions before implementation can commence. Comprehensive operational plans will be developed by each action's lead agency through their respective program and project approval processes.

All the actions set out in this plan are important, but initial emphasis will focus on the priority projects listed throughout Section 4 and summarized in Table 4, below.

5.2 **Coordination and Governance**

Each partner agency is responsible for implementation and governance of the actions, programs, and projects that they will lead as set out in Table 3, below. The partners are also committed to completing the governance review that commenced in 2022, recognizing that this may result in shifts to current responsibilities and administrative/regulatory arrangements (see Action 19). The multi-organization forum described under Action 19 will provide a mechanism for communication and coordination on progress, building on the successful role that Salt Spring Island Watershed Protection Alliance has played in this capacity since 2013.

5.3 **Resourcing**

Successful execution of the actions in this plan will require sustained financial and personnel resources from the partner agencies. Without this support, implementation will be at risk. In some cases, the work of existing staff may need to be re-allocated to enable delivery, or new personnel may need to come on board. Other anticipated resourcing needs include contracted services for specialized skills like scientific analysis, technological products, and public engagement.

Some actions may be eligible for grant funding opportunities. However, core program funding must come through tax requisitions and base operating budgets to meet timelines and develop a sustainable program.

Table 3, below, provides an indication of anticipated funding needs for each action. Budgets for individual programs and projects will be developed as part of detailed implementation planning.

5.4 **Updating the Plan**

At the end of 2032, results will be assessed, and a renewed plan will be developed for the next operational period. Progress will be continuously reviewed through an adaptive management approach. This means adapting implementation based on empirical evidence and the views of stakeholders in partner agencies. Change in direction may be driven by monitoring results, impacts of climate change, evolving perspectives among residents, or new partner agency priorities.

Table 2: Responsibility and Cost Matrix

Action	Lead Agency*	Estimated Cost**
Watershed Ecosystem Science		
1. Implement or continue flow and level monitoring for priority lakes and streams.	CRD	\$\$\$
2. Implement or continue water quality monitoring for priority lakes and streams that addresses nutrients and contaminants of concern.	CRD	\$\$\$
3. Update hydrology and watershed ecosystem base maps and datasets.	CRD	\$
4. Develop or update availability assessments for priority lake watersheds.	CRD	\$\$\$
Groundwater Science		
5. Improve management of groundwater data to inform decision making.	IT	\$\$
6. Continue to develop a coordinated long-term groundwater monitoring program, including monitoring saline intrusion along coastal zones.	IT	\$\$\$
7. Continue groundwater recharge potential mapping and delineate areas likely to have hydraulic connectivity with surface water.	IT	\$\$
8. Continue groundwater availability assessments including delineating well catchment areas and identifying aquifer supply capability.	IT	\$\$\$
Community Water Use Efficiency and Stewardship		
9. Support the freshwater stewardship and outreach efforts of Salt Spring community and volunteer organizations.	CRD	\$\$
10. Improve access to relevant water use efficiency resources for residents and businesses.	CRD	\$\$
11. Continue to deliver education and provide incentives to promote rainwater harvesting.	CRD	\$\$\$
12. Continue to improve water use accounting procedures and regularly conduct water system consumption surveys.	CRD/ NSSWD	\$
Watersheds and Drinking Water Protection Planning		
13. Integrate water availability and vulnerability information into land use policies and regulations.	IT	\$
14. Establish groundwater regions as a focus for land use planning on Salt Spring Island.	IT	\$
15. Develop local guidelines, policies, and regulations for proof of sufficient water requirements for development applications.	IT	\$\$
Watershed Protection Governance and Coordination		
16. Collaborate with First Nations with territorial interests in Salt Spring Island and waters and with Indigenous organizations.	All	\$\$
17. Complete governance review to ensure that watershed protection and stewardship administrative and coordination arrangements are optimized.	CRD/IT	\$
18. Encourage the Provincial Government to investigate potential use of regulatory instruments including water objectives, area-based management plans, and drilling authorizations	All	\$
19. Continue to convene a multi-organization forum for communication and coordination about watershed protection activities.	CRD	\$\$\$

* CRD: Capital Regional District IT: Islands Trust NSSWD: North Salt Spring Waterworks District

** \$ = < \$50,000, \$\$ = \$50,000 - \$100,000, \$\$\$ = >\$100,000

- includes staff time, contractors, capital, and overhead
- reflects anticipated total cost over 10 years

Table 3: Implementation Schedule

	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032
Watershed Ecosystem Science										
1. Flow and level monitoring for priority lakes and streams										
2. Water quality monitoring for priority lakes and streams										
3. Update hydrology and watershed ecosystem base maps and datasets										
4. Develop or update availability assessments for priority watersheds										
Groundwater Science										
5. Improve management of groundwater data to inform decision making										
6. Long-term groundwater monitoring program										
7. Groundwater recharge potential mapping										
8. Continue groundwater availability assessments										
Community Water Use Efficiency and Stewardship										
9. Support community stewardship and outreach efforts										
10. Improve access to relevant water use efficiency resources										
11. Promote rainwater harvesting										
12. Conduct water system consumption surveys										
Watersheds and Drinking Water Protection Planning										
13. Integrate availability and vulnerability information into decisions										
14. Establish groundwater regions as a focus for land use planning										
15. Develop proof of sufficient water requirements										
Watershed Protection Governance and Coordination										
16. Collaborate with First Nations with territorial interests in SSI										
17. Complete governance review										
18. Encourage the Provincial to investigate use of regulatory instruments										
19. Continue to convene a multi-organization forum										

	Initiating activity
	Ongoing activity

Table 4: Summary of Priority Projects

<p>Watershed Ecosystem Science</p> <ul style="list-style-type: none"> • Complete wet areas and wetland mapping for Development Permit Area 4. • Complete Watershed resilience mapping (including wildfire risk and extent of contiguous forest). • Develop a lake monitoring data dashboard with automated telemetry. • Complete stormwater and flood management mapping.
<p>Groundwater Science</p> <ul style="list-style-type: none"> • Continue volunteer observation wells network groundwater monitoring. • Continue development of availability assessments for key groundwater management units. • Assess environmental flow needs of groundwater dependent ecosystems and waterbodies, integrated with priority stream hydrological monitoring. • Complete likelihood of groundwater productivity mapping. • Characterize aquifer geochemistry and isotopic dating of groundwater.
<p>Community Water Use Efficiency and Stewardship</p> <ul style="list-style-type: none"> • Promote existing video resources and support the development of new video resources to reach increasingly digital local audiences. • Support the development, annual deployment, and bi-annual updates of freshwater conservation in the Gulf Island 101 public education station. • Support the development and distribution of adapted water use efficiency outreach educational materials specific to the Gulf Islands. • Support and contribute resources towards an expanded rainwater rebate program for residential users on any type of water system.
<p>Watersheds and Drinking Water Protection Planning</p> <ul style="list-style-type: none"> • Develop updated proof-of-water requirements for Islands Trust’s land use development decisions. • Establish groundwater regions as a focus for land use planning through appropriate policy instruments such as Official Plan amendments. • Integrate water availability and vulnerability information into land use policies and regulations.
<p>Watershed Protection Governance and Coordination</p> <ul style="list-style-type: none"> • Complete review of current governance arrangements for watershed protection coordination building on work commenced in 2022 including review of funding arrangements and interagency coordination mechanisms. • Work with interested First Nations to identify their priority projects and interests related to watershed protection on Salt Spring Island.

This document outlines how the partner agencies will implement, facilitate, and support joint and individual initiatives to safeguard and restore Salt Spring Island’s drinking water sources and watersheds. The multi-agency nature of this plan reflects the importance of collaboration and partnerships in understanding, stewarding, and planning for water sustainability for tomorrow.

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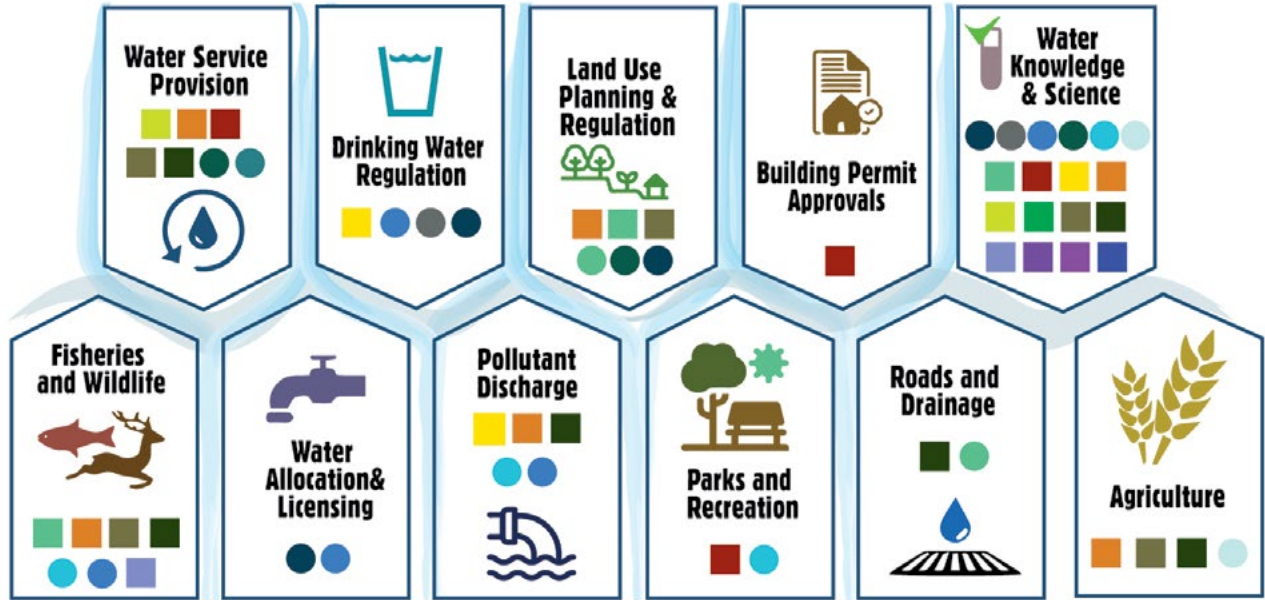
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Appendix 1: Freshwater Sustainability Jurisdictional Responsibilities



- Islands Trust
- Capital Regional District
- Island Health/Vancouver Coastal Health
- First Nations Governments
- Federal - Fisheries and Oceans Canada
- Federal - Natural Resources Canada
- Federal - Geological Survey of Canada
- Federal - Water Survey of Canada
- Improvement districts and other water service provider
- Community and stewardship groups
- Private sector
- Residents
- BC Ministry of Agriculture and Food
- BC Ministry of Environment & Climate Change Strategy
- BC Ministry of Municipal Affairs
- BC Ministry of Transportation and Infrastructure
- BC Environmental Assessment Office
- BC Ministry of Forests
- BC Ministry of Health
- BC Ministry of Land, Water & Resource Stewardship

Appendix 2: Planning-related Regulatory Instruments

This appendix briefly summarizes planning instruments that can be used to advance the objectives of this plan. This information is adopted from Islands Trust's Freshwater Sustainability Strategy (2021, p. 21).

The Salt Spring Island Official Community Plan provides a vision, goals, objectives, and policies for how the community will manage change. It guides planning and decision making about land use and related community priorities. Developed in consultation with community members and organizations, First Nations, and Provincial Government agencies, the Official Community Plan also reflect the Islands Trust preserve and protect mandate.

Covenants enabled under S. 219 of the Land Title Act can be used in conjunction with rezoning applications to reduce the direct impacts of development on Indigenous culturally sensitive areas as well as vulnerable and valuable water features (e.g., riparian areas and those with high groundwater vulnerability or low recharge potential). Covenants can be used to secure commitments from property owners for things such as the use of stormwater management features like permeable pavers or green infrastructure, or for monitoring and reporting of private well levels. Interagency discussion is encouraged regarding covenant subjects, duration, and appropriate use.

Development permit area (DPA) regulations can be established under S. 488 of the Local Government Act to enable an elevated level of protection for sensitive areas (e.g., vulnerable groundwater areas) or to promote water conservation. While covenants are used only in conjunction with rezoning applications, DPAs would additionally apply to applications for renovations, alterations, construction of accessory buildings, and to subdivisions, which are adjudicated by the Ministry of Transportation and Infrastructure.

Zoning regulates what, where and how much of, activities may occur on specific parcels of land. Zoning can limit site coverage, including placing maximums on square footage covered by buildings and limiting impermeable surface. Zoning can limit density thereby limiting the demand on groundwater supply. Zoning can also be used to increase setbacks from watercourses.

Density bonusing enables provision of additional density in exchange for a community amenity and could be used to encourage lot clustering focused on preserving important aspects of the watershed.

Subdivision servicing regulations can establish standards for the subdivision of land that maximize infiltration of water and minimize impervious surfaces. They can also be used to evaluate the sustainability of new groundwater withdrawal from a specific aquifer. They can require each proposed lot to have a reliable source of potable water and specify potable water quality and quantity standards.

Incorporating impervious surface limits into the servicing requirements contained in land use bylaws could advance water quality objectives related to improving groundwater recharge for both rezoning and subdivision applications.