BRIEFING

To:	**Regional Planning Committee**	**For the Meeting of:**	February 6, 2026
From:	**William Shulba, P.Geo** **Senior Freshwater Specialist**	**Date Prepared:**	February 3, 2026
SUBJECT:	Freshwater Sustainability Strategy Implementation Status		

PURPOSE

The purpose of this briefing is to provide the Regional Planning Committee a historical analysis and implementation review of the Islands Trust Freshwater Sustainability Strategy (FWSS). This report demonstrates that the FWSS is the result of a decade-long, evidence-based progression—from ad-hoc coordination to multi-disciplinary and integrated regulatory framework.

This briefing is intended to clarify that FWSS actions were not selected arbitrarily but were the output of a logical work plan for specialized freshwater staff capacity funded by Trust Council in 2017 to address critical data, knowledge, and regulatory gaps. This briefing details how this capacity enabled the development of the FWSS and its subsequent research and regulatory outcomes, and outlines the strategic pivot required to align future implementation of the FWSS with the provincial Watershed Security Strategy and Fund.

BACKGROUND

The Islands Trust Freshwater Sustainability Strategy (FWSS) is a comprehensive initiative recognizing the critical importance of freshwater to ecological health, community well-being, and the long-term sustainability of the Islands Trust Area. The current implementation of the FWSS is the result of a deliberate, multi-term progression to modernize the Islands Trust's approach to freshwater governance, moving from initial coordination and capacity building to evidence-based policy and regulation.

2014–2018 Term: Building Technical Capacity

The 2014–2018 Trust Council identified the protection of freshwater quality and quantity as a strategic priority. This period began with the operationalization of the Salt Spring Island Watershed Protection Alliance (SSIWPA), formed after Trust Council delegated specific powers to the Salt Spring Island Local Trust Committee in 2013 (Bylaw 154). While SSIWPA created a necessary forum for inter-agency coordination regarding St. Mary Lake and other watersheds, it exposed a critical vulnerability: the Islands Trust relied heavily on external consultants and lacked the in-house expertise to translate technical watershed data into enforceable planning policy and lacked operational assistance with land-use applications.

The introduction of the provincial Water Sustainability Act in 2016 introduced a new era of water policy in the province with the addition of groundwater protection regulation and groundwater licensing for non-domestic uses including multi-family housing. This advancement in provincial policy highlighted the need to expand the technical expertise of the Islands Trust to effectively engage with the Province and support Local Trust Committees with respect to freshwater sustainability.

In response, Trust Council approved funding in the 2017/2018 budget for a Senior Freshwater Specialist. This strategic decision allowed the organization to transition from relying primarily on external consultants to developing internal scientific capacity, enabling the Trust to better interpret hydrogeological data for land-use decision-making. The job description of the Senior Freshwater Specialist is attached.

2018–2022 Term: Strategy Consolidation and Climate Response

The 2018–2022 Council term focused on integrating freshwater sustainability into the organization's response to the climate crisis. Following the March 2019 declaration of a Climate Change Emergency, Trust Council directed staff to include a central focus on mitigation and adaptation in strategic planning. Recognizing that freshwater resources are the primary indicator of climate resilience in the Trust Area, the Senior Freshwater Specialist position was made permanent in 2020 to safeguard institutional knowledge and to continue on freshwater research and regulatory support.

Leveraging funding from the provincial Healthy Watersheds Initiative, staff consolidated years of island-specific research into the unified Freshwater Sustainability Strategy (FWSS), received by Trust Council in December 2021. Crucially, the FWSS was not just a retrospective report; it established a clear implementation roadmap for the next Council term. The strategy explicitly identified "Early Priorities" based on organizational capacity and logical sequencing, setting the agenda for 2022 and beyond.

These priorities included:

- Governance: Developing an organizational plan for implementation, including identifying options for a coordinator;
- Science: Continuing the Groundwater Sustainability Science Program, specifically recharge potential mapping and availability assessments;
- Policy: Integrating new water availability data into Official Community Plans and land use bylaws;
- Reconciliation: Continuing the Cultural Heritage Mapping Project to identify sites of cultural and spiritual significance to First Nations; and
- Outreach: Implementing a freshwater stewardship outreach plan, identified as a critical need by the Strategy Advisory Roundtable.

By establishing these specific targets, the 2018–2022 term ensured that the FWSS would transition immediately from a strategic document to an operational directive for the incoming council in the absence of a formal implementation plan.

2022–2026 Term: Implementation and Regulatory Application

The current term represents the operationalization of the strategy, where foundational data is applied to create tangible planning tools. Science developed under the FWSS is now directly informing regulatory updates, such as the Galiano Island Groundwater Protection Development Permit Area and modernized "Proof of Water" bylaws for subdivision on Salt Spring and North Pender Islands. These initiatives move beyond the historical reliance on point-in-time assessments toward standards based on the long-term carrying capacity of aquifers. Furthermore, the launch of the Freshwater Atlas has operationalized this data, providing planners with centralized decision-support tools. As this term concludes, the strategic focus is aligning the FWSS with the Province's Watershed Security Strategy and Fund to secure long-term support for watershed governance and reconciliation initiatives.

2026–2030 Term: Strategic Harmonization and Financial Stability

As the Freshwater Sustainability Strategy approaches the mid-point of its ten-year implementation window (2022–2032), the focus for the 2026–2030 term must focus on long-term financial stability, governance alignment and advancement of the tools developed in the FWSS thus far. The upcoming external review will serve as the critical business case to harmonize the Trust's technical achievements with the province's Watershed Security Strategy and Fund.

ANALYSIS

Science-to-Policy Process

The early implementation of the Freshwater Sustainability Strategy (FWSS) is defined by a deliberate "Science-to-Policy" process. This strategic framework recognizes that defensible land-use regulation cannot be supported by the precautionary principle alone; it requires a robust evidentiary basis that evolves from data collation to complex modeling, and finally to decision-support tools. The FWSS was developed in consultation with the Strategic Advisory Roundtable, which identified goals and objectives resulting in actions to guide programs and projects to build the necessary knowledge base to advance evidence-based watershed governance. The Strategic Advisory Roundtable, was an ad hoc advisory body, composed of 23 individuals representing a diverse cross-section of watershed interests, including delegates from provincial government agencies, regional districts, improvement districts, community stewardship groups, Indigenous Cultural Knowledge Holders, and Islands Trust elected officials and staff. The Roundtable provided critical input throughout the FWSS development process. Members engaged in structured dialogue to identify data gaps and define roles under the Water Sustainability Act, and they collaboratively created the specific Actions contained within the final strategy.

This approach was informed by the support and coordination of the Salt Spring Island Watershed Protection Alliance (SSIWPA). While SSIWPA established a necessary forum for inter-agency coordination, it highlighted a critical internal capacity gap: the Islands Trust lacked staff capacity with technical expertise to interpret complex water resource considerations for land-use applications and sustainability in general. This realization directly supported the creation of the Senior Freshwater Specialist position, enabling the organization to transition from passive observation to active research. The early work plan of the Senior Freshwater Specialist was framed around groundwater, which is a primary water supply for most residents of the Islands Trust and plays a significant role in environmental health. The hydrogeological framework in which these projects were undertaken deeply informed the development of the FWSS, demonstrating that the goals and objectives of freshwater sustainability require a technically informed knowledge base and standardized data foundation.

FWSS Projects and Actions

The implementation of the FWSS is not a collection of isolated studies, but a cascading "Science-to-Policy" pipeline. The projects listed below were designed so that the output of one becomes the mandatory input for the next, systematically addressing the Actions defined in the Strategy to move the organization from data scarcity to regulatory readiness. Details of each project are located in the appendix.

Groundwater Sustainability Science Program:

The foundation of the FWSS was built by collating, organizing, and processing data to define a hydrogeological framework of the Islands Trust Area. The Aquifer Conceptualization and Groundwater Region Mapping projects consolidated over 20,000 well records to create standardized 3D models of the subsurface. These initiatives satisfied the need for a data inventory (Action GWSS 3) and established "Groundwater Regions" (Action GWSS 6) as a water management unit. The Groundwater Recharge Mapping project utilized these data to address Action GWSS 4 by introducing an ecosystem-based approach by linking forest cover to water supply. Simultaneously, the Seawater Intrusion Risk assessment (partnered with the Province) identified coastal zones where water quality acts as a limiting factor, addressing Action CAOA 2 (Work with Province to employ regulatory instruments).

These layers were harmonized in groundwater availability assessment utilized in the Freshwater Footprint methodology. By integrating aquifer structure, recharge inputs, and intrusion risks with human demand, a groundwater budget method was created fulfilling Action GWSS 5. To ground-truth these theoretical models, the Volunteer Observation Well Monitoring project (Salt Spring Pilot) provided essential time-series data on actual aquifer levels, satisfying Action GWSS 2 (Coordinated long-term monitoring) and this was applied in the *Lake Weston Water Availability and Climate Change Assessment*.

Watershed Sustainability Science Program

Recognizing that groundwater and surface water are a single resource, this program focuses on watershed ecosystems and hydrology. The Watershed Boundary and Watercourse Mapping project used LiDAR to correct erroneous provincial datasets, creating the accurate spatial baseline required for all surface analysis (Action WSS 1). The Watershed Resiliency project assesses ecological robustness to guide conservation planning and land analysis (Action WSS 1).

Smaller, targeted projects filled specific data gaps: Wet Areas Mapping is an isolated outcome of recharge mapping utilized satellite remote sensing to identify wetlands, while the Hydraulic Connection Assessment (Denman/Hornby) evaluated stream-aquifer interactions. These projects are underpinned by climate vulnerability assessments, a component embedded across all FWSS projects rather than a standalone study, ensuring climate metrics are integrated into all decision-support tools (Action GWSS 7). The Freshwater Footprint with Gabriola Island as a pilot represents a "capstone" of this program and integrates many of the objectives of the FWSS. It ingests all previous mapping and undertook social science analysis to approximate carrying capacity for development, fulfilling the ultimate goal of integrating science into planning (Action GWSS 7).

Planning and Reporting

This program translates technical data into enforceable tools. The FWSS itself provides the governance framework (Action GWSS 1). To operationalize the data, the Land Information Screening Tool (LIST) (previously SLA) aggregates the scientific layers into a desktop tool for planners, directly addressing Action GWSS 9 to improve availability of information for application review. Regulatory implementation has been realized through Subdivision Proof of Water LUB Updates, which use the Availability Assessments to customize water supply requirements (Action GWSS 10). Similarly, the Groundwater Recharge Protection Development Permit Area (Galiano) utilizes the Recharge Mapping to legally protect critical infiltration zones (Action GWSS 8). Stormwater Management Planning has been considered to promote rainwater harvesting as a conservation strategy (Action WSS 2).

Cultural Knowledge and Engagement Program

Recognizing that long-term sustainability depends as much on relationships as it does on data, the Cultural Knowledge and Engagement Program focuses on advancing reconciliation and building a water-literate culture by weaving together science with the "spirit of water" articulated by Indigenous Knowledge Holders and youth during the strategy's development and in the hopes to foster future connection. The Strategic Advisory Roundtable facilitated coordination with Indigenous Knowledge Holders to ensure strategic planning was informed by cultural values, while a parallel initiative engaged Indigenous youth to ground the strategy in intergenerational stewardship responsibilities. Listening and consulting with First Nations directly addresses the Islands Trust Reconciliation Declaration, which commits the organization to establishing mutually respectful relationships and recognizing that the lands and waters of the Trust Area have been home to Indigenous Peoples since time immemorial. While this program has had limited progress in establishing formal co-governance frameworks to date, this integration must be the central theme of the FWSS going forward.

The Islands Trust Freshwater Atlas serves as the public interface for all FWSS data, satisfying Action GWSS 1 and Action CKE 3 relating to stewardship outreach. To build internal and external capacity, the Trust delivered the Islands Trust Area Freshwater Forum, Trust Programs Committee Continuing Education Workshops, and the Planning Services Pro-D Day Freshwater Sustainability Workshop. Public education was further delivered through Our Groundwater and Wells Workshops directly addressing Action CKE 3. High-level advocacy was achieved through Trust Council Presentations on the Water Sustainability Act and Groundwater Licensing, as well as the Salish Sea Conference Freshwater Presentation, satisfying Action CKE 4 and Action CAOA 2. Drinking Water and Watershed Protection Program Coordination ensures alignment with regional districts, fulfilling Action CAOA 1. This body of work sets the stage for the next phase of the strategy implementation.

IMPLEMENTATION AND NEXT STEPS

The Groundwater Sustainability Science Program has largely achieved its primary goals and objectives, successfully establishing the "golden thread" of the science-to-planning process through logical and strategic alliance between staff, elected officials, partner agencies, and professionals. This achievement is evidenced by the adoption of regulatory bylaws and Official Community Plan amendments that are directly grounded in the hydrogeological knowledge produced by the FWSS. The organization has moved beyond reliance of the precautionary principle to a state where robust scientific evidence now underpins land-use decision-making, demonstrating that the theoretical frameworks developed in early phases have been effectively operationalized into enforceable planning tools.

Looking to the upcoming fiscal year, the top priority for the organization will be undertaking a formal external review of the FWSS. This review should be directed by an informed Regional Planning Committee and staff to ensure that the necessary political support and organizational structures are in place to successfully apply for and accept provincial Watershed Security Funding. This pivot is critical given that a previous application to the fund was not awarded, and a recent application initiative was withdrawn by management due to a lack of organizational capacity. To remedy this, the review must be led by an external water sustainability expert—possessing skills similar to the consultant who originally led the development of the FWSS to provide a clear implementation pathway. This pathway must explicitly connect the technical legacy of the FWSS to the future requirements of the Watershed Security Strategy context.

While the foundational groundwater science is complete, the Senior Freshwater Specialist will focus on the operational maintenance and refinement of these assets. This ongoing work will include the continuous support of local planning services land-use applications in addition to updating of the Islands Trust Freshwater Atlas, refinement of watercourse and wet areas mapping, and the modernization of proof of water bylaws. Additionally, ongoing coordination with regional districts and Bowen Island Municipality remains essential to ensure cross-jurisdictional alignment, ensuring that the technical capacity built during the strategy's development continues to serve the Trust's mandate**.**

ATTACHMENT(S):

- Senior Freshwater Specialist Job Profile
- Freshwater Sustainability Strategy Program Actions
- Freshwater Sustainability Strategy Program Fiscal Timelines
- Freshwater Sustainability Strategy Program LTC Coverage
- Freshwater Sustainability Strategy Project Details

FOLLOW-UP:

Staff will assimilate the specific direction provided by the Regional Planning Committee regarding the strategic pivot toward watershed governance and reconciliation. This guidance will be explicitly incorporated into the Request for Proposals (RFP) for the external review of the Freshwater Sustainability Strategy. The RFP will be structured to retain a qualified water sustainability expert, capable of delivering an implementation pathway that secures alignment with the provincial Watershed Security Strategy and Fund, ensuring the organization is positioned to transition from technical research to collaborative watershed governance.

Prepared By: William Shulba, Senior Freshwater Specialist

Reviewed By/Date: Stefan Cermak, Director, Planning Services / February 4, 2026

JOB PROFILE
Current Position #00115434

TITLE: SENIOR FRESHWATER SPECIALIST

CLASSIFICATION: LICENSED SCIENCE OFFICER
GEOSCIENTIST 3

MINISTRY: ISLANDS TRUST,
MINISTRY OF MUNICIPAL AFFAIRS AND HOUSING

WORK UNIT: LOCAL PLANNING SERVICES

SUPERVISOR TITLE: DIRECTOR, LOCAL PLANNING SERVICES

SUPERVISOR POSITION #: 00036528

PROGRAM

Located in Coast Salish territory, the Islands Trust is a special purpose government responsible for protecting the unique amenities and environment of more than 450 islands and surrounding waters in the southern Strait of Georgia and Howe Sound. Created by the Province via the Islands Trust Act, Islands Trust plans and regulates local land use, coordinates with other level of government and First Nations on key issues impacting the area, and protects land through the Islands Trust Conservancy.

JOB OVERVIEW

The Senior Freshwater Specialist is a leadership position providing expertise on freshwater issues related outreach, and engagement with government agencies. The Senior Freshwater Specialist provides professional advice to the elected officials for 13 local trust committees (local governments), the Islands Trust Council Executive Committee, Trust Council, the Chief Administrative Officer, Directors, Regional Planning Managers, Island Planners, and other staff on a variety of freshwater issues and initiatives.
As the freshwater expert of the Islands Trust, the position is responsible for providing expert technical advice, education, and advocacy to elected officials, planners, program managers, ministry staff, communities, and other government agencies to ensure that the Islands Trust preserve and protect mandate is upheld. The position participates in the review of applications for water resources for re-zoning applications and provides professional services on freshwater sustainability plans and exercises statutory authority under current legislation.

The primary function of this position is to develop, lead and implement planning associated with the Islands Trust Strategic Plan priorities for freshwater management and objectives. The position functions as the Islands Trust leading technical authority as a Licensed Scientific Officer. The position advises Islands Trust staff on freshwater policy and resource requirements and initiates and facilitates partnerships with agencies, local governments and other organizations. The position leads the development of innovative freshwater management tools and technologies and supervises professional and technical contractors and staff on a variety of freshwater initiatives and programs. The position will report to the Director of Local Planning Services.

Date: May 11, 2023

KEY ACCOUNTABILITIES

Develops, leads and implements planning associated with the Islands Trust freshwater sustainability Initiatives and objectives by:

- Developing and/or leading the development of freshwater strategies for the Islands Trust.
- Evaluating and monitoring performance of freshwater management programs and projects.
- Developing new programs for freshwater management.
- Developing plans for the delivery of the scientific component of the program.
- Working with other provincial agencies to integrate freshwater strategies into the Islands Trust strategy.
- Recommending and/or developing proposed changes and amendments to legislation, regulations and policy.
- Providing strategic advice and recommendations to the ministry executive on Provincial water management policy and issues management.
- Working with federal and provincial agencies on water resource use allocation issues, riparian
- Management and environment protection.
- Representing the ministry on various provincial, inter provincial and national committees.

Policy Development, Inter-Agency Relations, and Freshwater Sustainability Initiatives

- Conducts research and provides liaison with other government agencies, First Nations and non-profit organizations with interest or expertise in freshwater in the Trust Area to collect and develop reference materials, tools and systems to assist local trust committees when making land use planning decisions.
- Provides professional and expert leadership, guidance, education and orientation to local trust committees, Islands Trust senior staff and island planners on all matters related to freshwater including freshwater hydrology and ecosystems.
- Provides professional expert advice to senior management and Executive Committee on advocacy opportunities regarding freshwater regulation, management and education.
- Prepares and recommends strategies and priorities for local trust committees' consideration with respect to potential and emerging freshwater issues.
- Provides technical advice to Islands Trust Council, directors, managers, planners, and government agencies.
- Defining terms of reference for studies to resolve complex and/or controversial land-water interface and water resource applications and issues.
- Compiling, estimating and analyzing freshwater data to assess watershed protection associated with complex water applications.
- Works with regional planning managers, planners and other staff to identify and respond to freshwater issues, including providing professional expert advice to local trust committees on advocacy to other agencies in support of official community plan policies.
- Developing and/or adapting complex hydrologic computer design models,
- Consulting with research agencies, hydro-technical experts, geo-morphologists, hydro-geologists, geotechnical engineers and other specialists.
- Developing solutions and writing and presenting technical reports.
- Evaluating, analyzing and interpreting data and information.
- Designing, organizing and delivering workshops for Islands Trust staff, politicians, and communities.

- Writing procedural manuals and handbooks.
- Representing the Islands Trust on inter-governmental and other technical committees.
- Providing expert advice on the implementation of proposed freshwater data collection programs.
- Assessing the freshwater risk implications on design and operation of works associated with major projects.
- Leading and directing negotiations required to resolve complex water use problems and conflicts.
- Developing, maintaining and distributing freshwater databases.
- Issuing or supporting staff in the process of issuing complex or controversial approvals and licenses for water use under the BC Water Sustainability Act.
- Representing the Islands Trust as the regional freshwater expert in often high profile, contentious and/or politically sensitive meetings.
- Advising on the appropriate equipment, specific site conditions, collection, analysis and interpretation of freshwater data.
- Attending seminars, workshops and national/international symposia.

Participates in the review of applications for water resources for Islands Trust Area and a variety of other plans and planning exercises by:

- Ensuring water availability issues and opportunities for water use are clearly identified within the planning area.
- Preparing and updating new/existing water bylaws and policies.
- Providing water source plans to applicants, staff and other agencies to preserve and protect unique amenities, diversity, growth and opportunity.

KNOWLEDGE AND EXPERIENCE

- A degree in a related field (e.g. Physical geography, Earth Sciences, or Environmental Sciences) or equivalent as accepted by the appropriate professional association.
- Experience in watershed hydrology, geomorphology, engineering hydrology, resource management and planning, or experience in applied water resources, hydrology and/or fluvial geomorphology with specific experience in field and stream based assessments.
- Experience interpreting and analyzing maps and data related to resource and water management.
- Experience working cooperatively with agencies, other levels of government and the public.
- Experience coordinating participating in interdisciplinary projects.
- Experience coordinating or participating in complex integrated resource management plans.
- Experience conducting water investigations, including watershed and hydrology assessments and water monitoring.
- Experience producing technical reports.
- Specific experience in stream, river and lake hydraulics and assessment of impacts from development proposal and activities.
- Specific experience in riparian ecosystem and habitat assessment methodology, and potential impacts that could occur from development proposals and activities.

EDUCATION AND SKILLS

- Registration or eligible for registration with a professional association in British Columbia.

- Advanced knowledge of water resource management, water quality and water use.
- Understanding of BC legislation on land use planning is desired.

BEHAVIOURAL COMPETENCIES

- **Planning, Organizing and Coordinating** involves proactively planning, establishing priorities and allocating resources. It is expressed by developing and implementing increasingly complex plans. It also involves monitoring and adjusting work to accomplish goals and deliver to the organization's mandate.
- **Information Seeking** is driven by a desire to know more about things, people or issues. It implies going beyond the questions that are routine or required in the job. It may include "digging" or pressing for exact information; resolution of discrepancies by asking a series of questions; or less-focused environmental "scanning" for potential opportunities or miscellaneous information that may be of future use.
- **Concern for Order** reflects an underlying drive to reduce uncertainty in the surrounding environment. It is expressed as monitoring and checking work or information, insisting on clarity of roles and functions, etc.
- **Service Orientation** is the desire to identify and serve customers/clients, who may include the public, co-workers, other branches/divisions, other ministries/agencies, other government organizations and non-government organizations. It means focusing one's efforts on discovering and meeting the needs of the customer/client.
- **Teamwork and Co-operation** the ability to work co-operatively within diverse teams, work groups and across the organization to achieve group and organizational goals. It includes the desire and ability to understand and respond effectively to other people from diverse backgrounds with diverse views.

INDIGENOUS RELATIONS BEHAVIOURAL COMPETENCIES

- **Open Listening** is letting go of conventional means of listening. It means listening to and valuing the telling of stories, and letting pauses in conversation extend into silence rather than jumping in to dispute, agree, question, or move on. It is an awareness of personal bias or judgment and its effect on one's ability to hear. It is the desire and ability to set aside physical, mental, and emotional distractions in order to be fully focused and listening respectfully and openly. It is staying open to the message even when conversations are filled with raw emotions like sadness or anger, and believing that each person's knowledge and reality is legitimate and valuable. Finally, it requires a willingness to reflect upon a story or message and to derive meaning from it based upon the situation in which it is shared.
- **Empathy** is the ability to recognize, understand and directly experience the emotion of another. It involves listening with heart, accepting their message and staying focused on their experience rather than reacting. It means understanding that the behaviour may be connected to something outside of the immediate situation. (Sympathy is not empathy. Sympathy means feeling pity and sorrow for someone's misfortune, or the tendency to want to help them with what you see as something negative. This can send a message that you believe that others cannot arrive at their own solutions.)

FRESHWATER SUSTAINABILITY STRATEGY ACTION LIST	
Groundwater Sustainability Planning Program (GWSS)	
GWSS 1	Improve data management to inform decision making
GWSS 2	Develop a coordinated long-term water monitoring program
GWSS 3	Continue groundwater data and information inventory
GWSS 4	Continue groundwater recharge potential mapping
GWSS 5	Continue groundwater availability assessments
GWSS 6	Establish groundwater regions as a focus for land use planning for all Islands
GWSS 7	Integrate water availability and vulnerability information into land-use policies and regulations
GWSS 8	Implement appropriate planning and regulatory tools to protect vulnerable aquifers and sensitive aquatic ecosystems
GWSS 9	Improve the availability of water-related information to support development application reviews
GWSS 10	Customize water supply requirements for new development to local circumstances
Watershed Sustainability Science Program (WSS)	
WSS 1	Inventory and understand the status of watersheds and aquatic ecosystems
WSS 2	Continue to explore the potential for rainwater harvesting and other alternatives to supplement water supplies and promote this as conservation and resilience strategy
Cultural Knowledge and Engagement Program (CKE)	
CKE 1	Identify freshwater sites of cultural and spiritual significance to First Nations
CKE 2	Collaborate with First Nations and Indigenous organizations to increase community awareness of water-related cultural values, interests, and inherent rights
CKE 3	Develop and implement a freshwater stewardship outreach plan
CKE 4	Develop and implement water-focussed training for new Trustees and Trust staff
CKE 5	Use market research methods to understand and monitor change in attitudes and behaviours related to water
CKE 6	Support water purveyors' adoption of sustainable water management practices
Freshwater Sustainability Reporting Program (FSR)	
FSR 1	Publish 'state of freshwater' report for the Islands Trust
Collaboration and Advocacy with Other Agencies (CAOA)	
CAOA 1	Collaborate with First Nations and Indigenous organizations to develop understanding and integrate their participation, perspectives, and interests into water related decision making by all agencies
CAOA 2	Work with the Provincial Government to employ appropriate regulatory instruments in areas with acute water challenges
CAOA 3	Work with partner regulatory agencies to harmonize approval processes and integrate Freshwater Sustainability Strategy goals and objectives into decisions
CAOA 4	Work with partner agencies to manage water use and quality impacts from existing users, particularly in areas experiencing supply constraints

PROGRAM	PROJECTS	ACTIONS																					
		GWSS										WSSS		CKE						CAOA			
		1	2	3	4	5	6	7	8	9	10	1	2	1	2	3	4	5	6	1	2	3	4
Groundwater Sustainability Science Program	Aquifer Conceptualization																						
	Groundwater Region Mapping																						
	Groundwater Recharge Mapping																						
	Groundwater Availability Assessments																						
	Seawater Intrusion Risk																						
	Volunteer Observation Well Monitoring																						
Watershed Sustainability Science Program	Freshwater Footprint																						
	Climate Vulnerability																						
	Watershed Boundary and Watercourse Mapping																						
	Watershed Resilliency																						
	Wet Areas Mapping																						
	Hydraulic Connection Assessment																						
Planning and Reporting	Islands Trust Freshwater Sustainability Strategy																						
	Land Information Screening Tool (LIST) (Previously SLA)																						
	Subdivision Proof of Water LUB Updates																						
	Groundwater Recharge Protection Development Permit Area																						
	Stormwater Management Planning																						
Cultural Knowledge and Engagement Program	Islands Trust Freshwater Atlas																						
	Islands Trust Area Freshwater Forum																						
	Trust Programs Committee Continuing Education Workshops																						
	Planning Services Pro-D Day Freshwater Sustainability Workshop																						
	Our Groundwater and Wells Workshops																						
	Salish Sea Conference Freshwater Presentation																						
	Trust Council Presentation: Water Sustainability Act																						
	Trust Council Presentation: Groundwater Licencing																						
	Freshwater Drawings and Illustrations																						
	Drinking Water and Watershed Protection Program Coordination																						

		Unfinished								Proposed							
		Delivered								On-Going							
PROGRAM	**PROJECTS**	**FISCAL TIMELINES**															
		14/15 - 17/18				**18/19 - 21/22**				**22/23 - 25/26**				**26/27 - 29/30**			
		2014/15	**2015/16**	**2016/17**	**2017/18**	**2018/19**	**2019/20**	**2020/21**	**2021/22**	**2022/23**	**2023/24**	**2024/25**	**2025/26**	**2026/27**	**2027/28**	**2028/29**	**2029/30**
Groundwater Sustainability Science Program	Aquifer Conceptualization																
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	Unfinished		Proposed
	Delivered		On-Going

PROGRAM	PROJECTS	LOCAL TRUST AREAS													
		BE	BO	DE	GB	GL	GM	HO	LA	MA	NP	SA	SP	SS	TH
Groundwater Sustainability Science Program	Aquifer Conceptualization														
	Groundwater Region Mapping														
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	Drinking Water and Watershed Protection Program Coordination														

Project	**Freshwater Sustainability Strategy Development Project**
Program	Freshwater Sustainability Strategy (Foundational Governance and Integration)
Status	Completed and adopted; implementation ongoing
Fiscal Span	FY 2018/19 – FY 2021/22 (development)
Project Link	FWSS Report
Project Summary	The Islands Trust Freshwater Sustainability Strategy established a Trust-wide, coordinated framework for understanding, managing, and protecting freshwater resources in support of land-use decision-making and the preserve and protect mandate. The Strategy consolidated years of fragmented freshwater initiatives into a coherent governance, science, and planning structure that now underpins freshwater-related policy, regulation, and project delivery across the Islands Trust Area.
Delivery Context	The FWSS was developed under the direction of Trust Council, with oversight from the Trust Programs Committee and coordination through the Regional Planning Committee. Technical leadership was provided by the Senior Freshwater Specialist, with substantive contributions from Planning Services, GIS and Information Services, and Local Trust Committees. A Strategic Roundtable was convened as a central mechanism for coordination, bringing together provincial agencies, regional districts, First Nations representatives, professional practitioners, academics, and community-based organizations. This forum enabled structured dialogue on roles, responsibilities, data gaps, and implementation pathways under the Water Sustainability Act and related legislation. The Strategy was informed by extensive engagement with Local Trust Committees, reflecting on-the-ground planning pressures, community priorities, and emerging climate risks. The FWSS functioned as a synthesis and alignment exercise rather than a standalone technical study.
Funding Context	Strategy development was supported through the Healthy Watersheds Initiative, which served as a provincial case study for coordinated watershed governance and directly informed the creation of the Watershed Security Strategy and Fund. Islands Trust staff time, consultant support, and in-kind contributions from partner organizations were integrated into delivery.
Challenges and Opportunities	Freshwater governance across the Islands Trust Area is characterized by jurisdictional fragmentation, uneven data availability, and limited regulatory tools at the local level. The FWSS addressed these constraints by emphasizing coordination, shared evidence bases, and incremental implementation rather than prescriptive regulation. The Strategy created a platform for aligning disparate projects, funding sources, and governance mechanisms over time.
Methods and Technical Basis	The development of the FWSS employed a collaborative governance methodology. The strategy was built through an iterative process involving a literature review of water policy and governance, semi-structured interviews with internal and external agencies, and virtual workshops with Islands Trust staff. Central to this methodology was the convening of the Strategic Advisory Roundtable, an ad hoc advisory body established in the spring of 2021 to co-create the strategy. The Roundtable was composed of 23 individuals representing a diverse cross-section of watershed interests, including delegates from provincial government agencies, regional districts, improvement districts, community stewardship groups, Indigenous Cultural Knowledge Holders, and Islands Trust elected officials and staff. The Roundtable provided critical input throughout the development process. Members engaged in structured dialogue to identify data gaps and define roles under the Water Sustainability Act, and they collaboratively created the specific Actions contained within the final strategy. This work was supported by a parallel engagement process with Indigenous Cultural Knowledge Holders, who conducted internal workshops and hosted a special session for Roundtable members to ground the strategy in Indigenous ways of knowing and the cultural values of water.
Planning and Policy Relevance	The FWSS provides the organizing framework for freshwater-related work across the Islands Trust, informing Official Community Plan updates, Development Permit Areas, development review processes, and inter-agency coordination. It establishes the rationale and structure for subsequent FWSS programs, including groundwater sustainability science, freshwater planning tools, monitoring initiatives, and policy development.
Deliverables and Outcomes	Key outcomes include formal adoption of the Freshwater Sustainability Strategy, establishment of enduring coordination mechanisms such as the Strategic Roundtable, and alignment of Trust-wide freshwater projects under a single strategic framework. The FWSS enabled subsequent implementation projects—including aquifer conceptualization, recharge mapping, freshwater footprint analysis, and regulatory initiatives—to proceed in a coordinated and cumulative manner rather than as isolated efforts.

Project	**Islands Trust Area Aquifer Conceptualization Project**
Program	Groundwater Sustainability Science Program
Status	Completed; foundational FWSS science
Fiscal Span	FY 2017/18 – FY 2021/22 (over three phases)
Project Link	GW Solutions (2021)
Project Link	GW Solutions (2023)
Project Summary	The project collated, cleaned, and standardized groundwater datasets across the Trust Area, including well records, geological mapping, and hydrostratigraphic information. These data were synthesized into three-dimensional aquifer conceptual models that establish a consistent structural framework for groundwater sustainability assessment, recharge analysis, and planning-scale land-use decision-making, forming the foundation for subsequent FWSS groundwater projects and tools.
Delivery Context	Initial phases of the project were delivered through Southern Gulf Islands Local Trust Committees. Subsequent phases covering the Northern Gulf Islands and Howe Sound were delivered under the direction of the Regional Planning Committee, with technical leadership provided by the Senior Freshwater Specialist. Consultant hydrogeologists supported island-specific analyses within a Trust-wide standardized framework.
Funding Context	Aquifer conceptualization was funded as an embedded component of the Islands Trust Area Groundwater Recharge Potential Mapping Project. This structure intentionally paired conceptual understanding with recharge analysis to provide essential hydrogeological work.
Challenges and Opportunities	The project addressed inconsistent, incomplete, and non-standardized groundwater datasets across the Trust Area that limited planning-scale analysis and cumulative effects assessment. Site-specific hydrogeological studies were not transferable or scalable to Trust-wide needs. By prioritizing data collation and standardization, the project established a reusable structural framework for groundwater interpretation. The resulting aquifer conceptual models became a foundational dataset for subsequent FWSS projects, including groundwater recharge mapping, freshwater availability assessment, and the Freshwater Atlas, enabling coordinated and cumulative application of groundwater science across planning and policy contexts.
Methods and Technical Basis	Conceptual models were developed using well records, geological mapping, surface water datasets, consultant studies, and professional hydrogeological interpretation. The approach prioritized system understanding over numerical groundwater modelling, reflecting island-scale planning needs and data limitations.
Planning and Policy Relevance	The project provides the baseline groundwater system knowledge required for evidence-based freshwater planning. Outputs support interpretation of recharge mapping, groundwater availability assessments, and the application of groundwater science in OCPs, DPAs, and development review.
Deliverables and Outcomes	The project delivered the first Trust-wide, standardized aquifer conceptual framework. It established a common technical reference for groundwater conditions across Local Trust Areas and enabled consistent integration of groundwater science into FWSS implementation and planning tools.

Project	**Islands Trust Area Groundwater Recharge Mapping Project**
Program	Groundwater Sustainability Science Program
Status	Completed; foundational FWSS science
Fiscal Span	FY 2017/18 – FY 2021/22 over three phases
Project Link	GW Solutions (2021)
Project Link	GW Solutions (2023)
Project Summary	The Islands Trust Area Groundwater Recharge Potential Mapping Project quantified and spatially mapped relative groundwater recharge potential across the Trust Area using a GIS-based methodology. The project translated conceptual hydrogeological understanding into a consistent, planning-scale recharge framework capable of informing land-use decisions, cumulative effects analysis, and groundwater sustainability assessment.
Delivery Context	The project was delivered in coordinated phases aligned with aquifer conceptualization work. Early phases focused on the Southern Gulf Islands, followed by Northern Gulf Islands (Denman, Hornby, Gabriola), and later Howe Sound and remaining islands. Technical leadership was provided by the Senior Freshwater Specialist, with consultant support for methodology development and validation. A formal collaboration with the Province supported stream–groundwater connectivity analysis on Denman Island.
Funding Context	Project funding was embedded within FWSS groundwater science allocations and delivered through multi-year consultant contracts. Provincial contributions supplemented work related to hydraulic stream connection assessment. The project leveraged prior investments in aquifer conceptualization, reducing duplication and enabling cumulative value across FWSS initiatives.
Challenges and Opportunities	Direct measurement of groundwater recharge at Trust-wide scales was not feasible due to limited long-term hydrometric and subsurface data. Traditional numerical groundwater models required data density unavailable for most islands. The project addressed this constraint by reframing recharge estimation through landscape, soil, geology, and ecosystem function. This approach enabled Trust-wide coverage at high spatial resolution and introduced ecosystem processes—particularly precipitation interception and infiltration capacity—as central components of groundwater sustainability analysis.
Methods and Technical Basis	Recharge potential was estimated using a GIS-based multi-criteria framework integrating precipitation, surficial geology, soil permeability, slope, land cover, and ecosystem interception characteristics. A novel appraoch was to consider the role of ecosystems rather than land use/type. Outputs were generated at 20 m × 20 m resolution. Approximately 100,000 hectares across 20 islands have been assessed for recharge potential. The methodology emphasized relative recharge potential rather than absolute volumetric estimates, supporting comparative planning analysis and cumulative assessment.
Planning and Policy Relevance	Recharge mapping provided a defensible spatial basis for integrating groundwater considerations into land-use planning. Outputs directly informed Development Permit Area work, Land Information Screening Tool (LIST), freshwater vulnerability assessment, and the Islands Trust Freshwater Atlas. The project shifted groundwater planning from site-specific studies toward island-scale and Trust-wide evidence.
Deliverables and Outcomes	Key deliverables include Trust-wide groundwater recharge potential rasters, island-specific interpretation products, and documented methodology. The project established a foundational dataset used by subsequent FWSS initiatives, including freshwater footprint analysis, groundwater availability assessment, and climate vulnerability work, and remains a core scientific input to freshwater-related planning and regulatory decisions.

Project	**Southern Gulf Islands Groundwater Availability Assessment**
Program	Groundwater Sustainability Science Program
Status	Completed; was subject to a formal external review; applied in planning contexts
Fiscal Span	FY 2019/20 – FY 2021/22
Project Link	GW Solutions (2021)
Project Summary	The Southern Gulf Islands Groundwater Availability Assessment Report evaluated groundwater availability across the Southern Gulf Islands region using a planning-scale approach. The work integrated recharge potential mapping, aquifer conceptual understanding, and estimated water demand to produce comparative indicators of groundwater availability suitable for land-use decision-making across multiple Local Trust Areas. This project was a test of methodology and the project underwent a formal external review of professionals and academics. That review facilitated changes and update to the methodology and applied in future projects.
Delivery Context	The project was endorsed and funded by five Local Trust Committees: Galiano, Mayne, North Pender, South Pender, and Saturna. Technical leadership was provided by the Senior Freshwater Specialist. Consultant hydrogeologists supported regional analysis and interpretation. The project functioned as a coordinated regional assessment initiated through LTC governance rather than RPC direction.
Funding Context	Funding was provided through Local Trust Committee project budgets. The project did not rely on direct business cases to Trust Council typical of RPC-led regional initiatives. This funding pathway represents a distinct governance pattern: regional-scale groundwater assessment delivered through joint LTC priority-setting and pooled project funding.
Challenges and Opportunities	Groundwater availability could not be expressed as fixed sustainable yield values due to data limitations, spatial heterogeneity, and uncertainty in recharge and demand estimates. Yield-threshold approaches risked false precision and inappropriate planning interpretation. The project established a scalable regional assessment model endorsed directly by multiple LTCs. This created a repeatable governance and delivery approach for other regional FWSS science initiatives requiring local political legitimacy.
Methods and Technical Basis	The assessment integrated recharge potential mapping outputs, aquifer conceptual interpretation, groundwater vulnerability indicators, and estimated demand derived from land-use patterns. Analysis was delivered through GIS-based synthesis and professional hydrogeological interpretation rather than numerical flow modeling.
Planning and Policy Relevance	The report provided a technical basis for incorporating groundwater availability into Official Community Plan updates, Development Permit Area policy development, subdivision review, and freshwater vulnerability discussions across the Southern Gulf Islands. It supported a shift from application-by-application groundwater debate to regionally consistent evidence.
Deliverables and Outcomes	The project produced regionally consistent groundwater availability indicators, mapped outputs, and interpretive guidance suitable for planning-scale application across the Southern Gulf Islands. A formal technical review identified methodological limitations and areas requiring refinement, particularly related to demand assumptions and uncertainty representation. Findings from the review were embedded into subsequent FWSS groundwater initiatives. Methodological lessons informed refinements in the methodological updates to the Islands Trust Area Groundwater Recharge Potential Mapping Project and learnings in groundwater demand assessments were incorporated into the Freshwater Footprint Project methodology. As a result, the project delivered lasting structural value by strengthening the technical foundation, assumptions, and analytical coherence of later FWSS projects, despite recognized constraints in the original assessment approach.

Project	**Seawater Intrusion Risk to Aquifers Assessment**
Program	Groundwater Sustainability Science Program
Status	Completed (provincial report delivered); ongoing use as risk dataset
Fiscal Span	FY 2019/20 – FY 2020/21 (delivery window; ongoing use thereafter)
Project Link	Western Water Associates (2021)
Project Summary	The Seawater Intrusion Risk Mapping project assessed susceptibility of coastal aquifers to saline intrusion along the British Columbia coast, including the Southern Gulf Islands. The work produced GIS-based risk mapping intended to support water management decisions under groundwater pumping pressure and coastal hazards.
Delivery Context	The project was Province-led. Islands Trust participated as an external supporting organization through the Senior Freshwater Specialist and Planning Services. The project was described internally as work undertaken by the Province with Islands Trust support, with a planned delivery by end of FY 2019/20.
Funding Context	Islands Trust provided $10,000 toward the provincial work program through the Regional Planning Committee contribution, with funding approved and work undertaken by the Province.
Challenges and Opportunities	The project scope and methodology were defined by the Province, limiting Islands Trust control over input parameters and planning-specific outputs. The dataset provides a Trust-wide baseline for saltwater intrusion risk screening and supports prioritization of local follow-on analysis where coastal aquifers are vulnerable. An issue was resolution of the dataset and fitment to the coast. In addition, it appears that the dataset underrespresents the risk in the Islands Trust Area.
Methods and Technical Basis	GIS modelling was used to map susceptibility and reflect risk drivers including groundwater pumping and coastal hazards. The study recommends monitoring and periodic updates to maintain management value.
Planning and Policy Relevance	The dataset supports identification of coastal areas where groundwater resources are vulnerable to salinization and can inform planning discussions, best management practices, and subsequent FWSS projects that integrate hazard layers into broader freshwater sustainability analysis.
Deliverables and Outcomes	The project delivered the Provincial Water Science Series report and a comprehensive suite of GIS risk mapping products, covering Aquifer Susceptibility, Pumping Threat, and Overall Seawater Intrusion Risk. This output established a consistent, Trust-wide baseline for coastal aquifer hazards, replacing disparate localized studies with a unified provincial dataset. Functionally, the assessment identified high-priority "hotspots" vulnerable to salinization, such as the East Point of Saturna and Long Harbour on Salt Spring Island. However, a critical outcome was the determination by staff that the regional-scale methodology likely underrepresents risk in specific fractured bedrock contexts due to data gaps in the provincial wells database. Consequently, this dataset was operationalized as the screening-level "Hazard Layer" input for the Freshwater Footprint, where it is now further refined using local water quality monitoring data to define carrying capacity limits.

Project	**Volunteer Observation Well Monitoring (Salt Spring Island Case Study**
Program	Groundwater Sustainability Science Program
Status	Pilot completed; monitoring ongoing in modified form
Fiscal Span	FY 2018/19 – FY 2023/24
Project Link	
Project Summary	The Volunteer Observation Well Monitoring project established a community-based groundwater level monitoring network on Salt Spring Island to generate empirical time-series data for understanding seasonal and interannual groundwater behaviour. The project provided the first coordinated, island-scale groundwater monitoring dataset collected outside of provincial regulatory networks.
Delivery Context	The project was led by the Salt Spring Island Local Trust Committee, with technical leadership from the Senior Freshwater Specialist. Implementation was supported through collaboration with volunteer well owners and Planning Services. The work was coordinated alongside other Salt Spring Island freshwater initiatives and informed by emerging FWSS groundwater science.
Funding Context	Project delivery was supported through Salt Spring Island Local Trust Committee project funding and staff resources. The project leveraged in-kind contributions from participating well owners and avoided reliance on external consultant contracts for data collection.
Challenges and Opportunities	Reliance on volunteer participation introduced variability in spatial coverage and monitoring continuity. Despite these limitations, the project demonstrated the feasibility and value of community-based groundwater monitoring and highlighted opportunities to integrate local datasets with professional groundwater science and planning tools.
Methods and Technical Basis	Water level data were collected using pressure transducers installed in volunteer domestic wells. Data were retrieved periodically and quality-controlled for use in trend analysis, seasonal response evaluation, and correlation with climate variables.
Planning and Policy Relevance	The monitoring data provided empirical grounding for Salt Spring Island groundwater discussions, supported interpretation of groundwater recharge and availability studies, and informed subsequent FWSS projects that required real-world validation of modelled groundwater behaviour.
Deliverables and Outcomes	The project produced a multi-year groundwater level dataset for Salt Spring Island, improved local understanding of aquifer response to climate variability, and influenced the design of later FWSS projects by reinforcing the importance of monitoring to complement modelling. Lessons learned from the pilot informed refinements in subsequent groundwater monitoring and analysis efforts across the Trust Area

Project	**Islands Trust Area Groundwater Region Mapping Project**
Program	Groundwater Sustainability Science Program
Status	Completed
Fiscal Span	FY 2020/21 – FY 2021/22
Project Link	
Project Summary	The Islands Trust Area Groundwater Region Mapping Project established a standardized spatial framework for delineating groundwater regions across the Trust Area. The project translated hydrogeological structure and surface water context into planning-scale groundwater regions suitable for regional analysis and integration with subsequent FWSS groundwater science projects. These regions are used as a water management unit.
Delivery Context	The project was delivered as a distinct phase embedded within the Islands Trust Area Aquifer Conceptualization Project. Technical leadership was provided by the Senior Freshwater Specialist, with consultant hydrogeologists supporting interpretation and regional delineation. Coordination occurred through Trust Area Services to ensure applicability across Local Trust Areas.
Funding Context	Project costs were embedded within Aquifer Conceptualization project funding and staff resources. No standalone business case or separate funding stream was established for this phase.
Challenges and Opportunities	Groundwater regions required simplification of complex subsurface conditions to ensure usability at the regional planning scale. The resulting framework created opportunities for consistent island-to-island comparison and supported later groundwater availability, recharge, and footprint analyses.
Methods and Technical Basis	Groundwater regions were delineated using integrated geological mapping, aquifer conceptual models, watershed boundaries, and hydrographic context. Regions were defined to reflect shared hydrogeological characteristics, recharge–discharge behaviour, and surface water connectivity.
Planning and Policy Relevance	The groundwater region framework enabled region-based groundwater assessment and reporting, supported cumulative effects analysis, and provided a consistent spatial unit for applying FWSS groundwater science in land-use planning and policy development.
Deliverables and Outcomes	The project produced Trust Area–wide groundwater region mapping used directly in groundwater recharge potential mapping, groundwater availability assessments, freshwater footprint analysis, and Freshwater Atlas development. The framework established a durable spatial reference that continues to underpin FWSS groundwater science and planning applications.

Project	**Islands Trust Area Freshwater Footprint Methodology Project (Gabriola Case Study)**
Program	Watershed Sustainability Science Program / Gabriola OCP Project
Status	Active pilot; methodology development underway
Fiscal Span	FY 2024/25 – FY 2025/26
Project Link	
Project Summary	The Islands Trust Area Freshwater Footprint Project is a planning-scale methodology project designed to characterize freshwater conditions at the island scale by integrating water availability, water quality considerations, land use, and hazard exposure. The Gabriola Island pilot represents the first application of this approach and is intended to inform future Trust-wide implementation.
Delivery Context	The project is led by Islands Trust staff under the Freshwater Sustainability Strategy implementation framework. Technical direction is provided by the Senior Freshwater Specialist, with consultant support for model development and analysis. The pilot is being delivered in parallel with Gabriola Island OCP and LUB review processes, with structured engagement involving community representatives, First Nations, and provincial agencies.
Funding Context	The pilot is funded through the Gabriola Island OCP and LUB revision project budget. The work leverages prior FWSS investments in aquifer conceptualization, groundwater recharge potential mapping, and groundwater availability analysis, without duplicating those studies.
Challenges and Opportunities	The project operates within the constraints of existing data and avoids new field data collection, requiring careful interpretation of uncertainty. The pilot creates an opportunity to test how FWSS science outputs can be translated into planning-relevant indicators and decision-support tools.
Methods and Technical Basis	The project integrates existing groundwater monitoring data, water quality information, hydrogeological mapping, recharge potential, and hazard indicators into a gridded water balance and vulnerability framework. The methodology focuses on cumulative conditions rather than parcel-level determinations and is explicitly planning-scale.
Planning and Policy Relevance	The Freshwater Footprint Project is intended to support Official Community Plan updates, land-use decision-making, and future regulatory tools by providing an integrated picture of freshwater pressures and constraints. Outputs are designed to complement Suitable Land Analysis and other FWSS-derived planning tools rather than replace them.
Deliverables and Outcomes	This project represents the operational synthesis of the FWSS science program, delivering a documented freshwater footprint methodology and island-scale analytical results for the Gabriola Island pilot. Unlike previous studies that looked at single variables, this initiative successfully integrated water quantity (water balance models), water quality (chloride and TDS trends), and hazard indicators (seawater intrusion risk) into a unified "carrying capacity" metric. Key outputs included a dashboard-style presentation of results and community-facing communication materials, designed to make complex hydrogeological constraints accessible for the parallel Official Community Plan review. Crucially, the pilot established a transferable framework. By standardizing how "footprint" inputs—such as recharge potential and development density—are calculated, this methodology can now be refined and applied to other Local Trust Areas, serving as the standard mechanism for implementing the FWSS across the Federation.

Project	**Climate Vulnerability (Integrated FWSS Component)**
Program	Watershed Sustainability Science Program
Status	Embedded and ongoing across FWSS projects
Fiscal Span	FY 2019/20 – present
Project Link	
Project Summary	Climate Vulnerability is addressed through the systematic integration of climate-sensitive variables into multiple FWSS science and planning projects. Rather than being delivered as a discrete study, climate vulnerability is operationalized through groundwater recharge analysis, freshwater footprint methodology, and public-facing atlas products to support climate-resilient land use and water management decisions.
Delivery Context	Climate vulnerability considerations were incorporated by Islands Trust staff as a response to the Trust Council climate emergency declaration and subsequent direction to integrate climate change into land-use planning and resource management. Technical leadership was provided by the Senior Freshwater Specialist, with analytical implementation occurring across consultant-delivered and in-house FWSS projects. Coordination occurred through Regional Planning Committee priorities and FWSS implementation work.
Funding Context	No stand-alone funding envelope was established for climate vulnerability. Analytical work was embedded within funded FWSS projects, including the Islands Trust Area Groundwater Recharge Potential Mapping Project, the Freshwater Footprint Project, and development of the Islands Trust Freshwater Atlas. This approach maximized value from existing project investments while ensuring climate considerations were consistently applied.
Challenges and Opportunities	The absence of downscaled, island-specific climate projections limited direct quantification of future conditions, requiring the use of proxy indicators and sensitivity-based approaches. The embedded model created an opportunity to integrate climate risk across multiple datasets and planning tools without delaying FWSS implementation or duplicating studies.
Methods and Technical Basis	Climate vulnerability was addressed through variables and assumptions incorporated into FWSS projects, including precipitation variability, evapotranspiration sensitivity, land cover and ecosystem function, recharge resilience, drought susceptibility, saltwater intrusion risk, and cumulative demand pressures. These elements were analyzed using GIS-based spatial methods suitable for planning-scale application rather than predictive hydrodynamic modeling.
Planning and Policy Relevance	Embedding climate vulnerability across FWSS projects ensured that freshwater planning tools directly support climate adaptation objectives. Outputs inform Official Community Plan updates, development permit area considerations, suitable land analysis, and future regulatory approaches by explicitly identifying areas where freshwater systems are more sensitive to climate stressors.
Deliverables and Outcomes	Key outcomes include climate-informed groundwater recharge mapping, vulnerability-weighted freshwater footprint outputs, and climate-relevant layers and narratives within the Islands Trust Freshwater Atlas. Collectively, these deliverables operationalize the Trust's climate emergency response within freshwater planning and establish a defensible basis for climate-resilient land-use decisions. The Role of Climate in the Freshwater Atlas The Islands Trust Freshwater Atlas functions as the central knowledge mobilization platform for the FWSS, designed to transform complex climate modeling into an accessible educational web experience. Rather than simply hosting static data, the Atlas features unique "climate narratives" that guide the viewer through the technical outcomes of the climate assessments. This interactive experience allows users to visualize how specific climate stressors—such as altered precipitation patterns and increased drought severity—impact local groundwater recharge and watershed health,. By embedding these climate vulnerability indicators directly into the spatial interface, the Atlas bridges the gap between raw scientific data and public understanding. It functions similarly to the BC Drought Information Portal, enabling residents and decision-makers to navigate through "climate-informed" layers to understand how the "carrying capacity" of their specific island is projected to shift under future climate scenarios,. This narrative-driven approach ensures that climate data is not merely archived in technical reports, but is actively interpreted to support community stewardship and regulatory planning.

Project	**Watershed Boundary and Watercourse Mapping**
Program	Watershed Sustainability Science Program
Status	Ongoing application and refinement
Fiscal Span	FY 2019/20 – present
Project Link	Freshwater Atlas
Project Summary	The Watershed Boundary and Watercourse Mapping Project established consistent, high-resolution watershed and stream network datasets across the Islands Trust Area using LiDAR-derived terrain models and in-house hydrologic analysis. The project addressed long-standing inconsistencies in mapped watercourses and watershed extents that constrained land-use planning, development review, and bylaw enforcement.
Delivery Context	The project was delivered by Islands Trust Planning Services with technical leadership from the Senior Freshwater Specialist. Analysis was undertaken in-house using LiDAR, digital elevation models, and hydrologic flow modelling, allowing rapid iteration and direct alignment with FWSS projects. Outputs were coordinated with FWSS implementation priorities and applied across multiple Local Trust Areas.
Funding Context	Project delivery was supported through Planning Services staff resources and FWSS program funding. The work leveraged previously acquired LiDAR datasets and avoided reliance on consultant-led mapping, reducing costs while increasing internal analytical capacity.
Challenges and Opportunities	Historic watercourse datasets were incomplete, inconsistent, and often misaligned with on-the-ground conditions, creating uncertainty in regulatory application. The project created an opportunity to establish a defensible, Trust-wide baseline for hydrologic features that supports both planning certainty and enforcement clarity.
Methods and Technical Basis	Watershed boundaries and watercourses were delineated using LiDAR-based digital elevation models, flow direction and accumulation modelling, and hydrologic threshold analysis. Outputs were reviewed and refined to ensure suitability for planning-scale decision-making rather than fine-scale engineering design.
Planning and Policy Relevance	The project directly supports development permit area implementation, subdivision and development review, riparian and watershed protection policies, and enforcement of land-use bylaws. It provides a consistent spatial foundation for groundwater recharge analysis, freshwater footprint assessment, and climate vulnerability work.
Deliverables and Outcomes	The project directly supports development permit area implementation, subdivision and development review, riparian and watershed protection policies, and enforcement of land-use bylaws. It provides a consistent spatial foundation for groundwater recharge analysis, freshwater footprint assessment, and climate vulnerability work.

Project	**Watershed Resiliency Mapping**
Program	Watershed Sustainability Science Program
Status	Delivered; methodology applied and extended within FWSS
Fiscal Span	FY 2020/21 – FY 2024/25
Project Link	
Project Summary	The Watershed Resiliency Mapping Project adapted and applied a watershed resiliency assessment methodology originally developed by Cedar Shore Consulting for the Sooke Watershed to support community water planning within the Capital Regional District. Within the Islands Trust Area, the methodology was implemented and extended to support freshwater sustainability analysis, climate adaptation, and land-use planning.
Delivery Context	The project was delivered through Planning Services with technical leadership from the Senior Freshwater Specialist. Cedar Shore Consulting provided the original methodology framework, which was subsequently adapted for Trust Area conditions and integrated with FWSS groundwater and watershed science projects. The work was coordinated to ensure alignment with FWSS implementation priorities and climate emergency response objectives.
Funding Context	Project delivery was supported through FWSS-related project funding and Planning Services staff resources. The Islands Trust implementation leveraged prior investment in methodology development by external jurisdictions, reducing development costs while enabling adaptation to island-scale planning needs.
Challenges and Opportunities	Island watersheds face compounded pressures from climate variability, limited storage, ecological sensitivity, and development demand. The project addressed the absence of a consistent framework for assessing watershed capacity to absorb and recover from stress. It created an opportunity to integrate ecological condition, hydrologic function, and land-use pressure into a single planning-relevant assessment.
Methods and Technical Basis	The methodology integrates landscape condition indicators, hydrologic function, ecological integrity, and disturbance sensitivity to produce relative watershed resiliency scores. Inputs include terrain, land cover, hydrologic connectivity, groundwater recharge indicators, and climate exposure metrics. The approach is designed for comparative planning analysis rather than predictive hydrologic modelling.
Planning and Policy Relevance	Watershed resiliency mapping informs Official Community Plan updates, development permit area policy, freshwater footprint analysis, and climate adaptation planning. It provides a defensible framework for identifying watersheds with limited capacity to absorb additional stress, supporting precautionary land-use decisions consistent with the preserve and protect mandate.
Deliverables and Outcomes	Key deliverables include watershed resiliency maps and associated analytical layers suitable for integration with FWSS planning tools. The project strengthened the Trust's ability to consider climate impacts, cumulative effects, and ecological limits in freshwater-related decision-making and provided a transferable framework applicable across multiple Local Trust Areas.

Project	**Wet Areas Mapping**
Program	Watershed Sustainability Science Program
Status	Method developed; internally applied and evolving
Fiscal Span	FY 2021/22 – FY 2024/25
Project Link	
Project Summary	Wet Areas Mapping is an internally developed analytical method derived from the Islands Trust Area Groundwater Recharge Potential Mapping Project. Using satellite-based remote sensing and GIS processing, the method identifies areas of persistent surface wetness and shallow saturation that are hydrologically significant for groundwater recharge, ecosystem function, and watershed resilience.
Delivery Context	The method was developed and implemented in-house by Planning Services under the technical leadership of the Senior Freshwater Specialist. It emerged as a secondary analytical product of the groundwater recharge mapping workflow, rather than as a standalone consultant-led project. The work supports ongoing FWSS research and coordination with island-based conservation organizations.
Funding Context	No dedicated project funding was allocated. Development relied on existing FWSS staff capacity, GIS infrastructure, and data products generated through prior recharge mapping investments. This approach maximized the value of earlier consultant-led projects by extending their analytical outputs.
Challenges and Opportunities	The Trust Area lacked a consistent, spatially explicit method for identifying hydrologically sensitive wet areas outside of formally mapped wetlands. The absence of such information constrained ecological protection, land-use planning, and cumulative effects assessment. The method creates an opportunity to bridge scientific analysis, conservation priorities, and future land-use regulation without requiring immediate regulatory change.
Methods and Technical Basis	Wet areas are identified through multi-temporal analysis of Sentinel satellite imagery, combined with terrain derivatives and recharge mapping outputs. The approach highlights areas of recurrent moisture expression, including seasonally saturated soils and shallow groundwater discharge zones. The method is exploratory and adaptive, intended to inform further research and validation rather than serve as a regulatory boundary.
Planning and Policy Relevance	Wet Areas Mapping supports FWSS objectives related to watershed resiliency, climate adaptation, and ecosystem protection. Outputs are suitable for informing Official Community Plan updates, development review screening, conservation planning, and potential future Development Permit Area considerations focused on hydrologically sensitive landscapes.
Deliverables and Outcomes	Deliverables include wet area spatial layers and associated analytical documentation for internal use. The work has expanded the Trust's freshwater science toolkit, strengthened collaboration with on-island conservation groups, and established a foundation for future research, policy exploration, and potential regulatory integration.

Project	**Hydraulic Connection Assessment**
Program	Watershed Sustainability Science Program
Status	Completed (Province-collaborated); methodology embedded in FWSS projects
Fiscal Span	FY 2021/22 – FY 2024/25
Project Link	
Project Summary	The Hydraulic Connection Assessment evaluated the degree of hydraulic connectivity between surface watercourses and underlying aquifers on Denman and Hornby Islands. Delivered as a Province-led initiative, the project established a defensible, island-scale approach for identifying stream–groundwater interactions that are critical to groundwater sustainability, ecological flow protection, and cumulative effects assessment.
Delivery Context	The project was led by the Province of British Columbia, with technical execution by consultant hydrogeologists. Islands Trust participated as a project partner, contributing local context, coordination support, and alignment with FWSS science objectives. The work was undertaken in collaboration with regional partners and informed subsequent Trust-led freshwater projects. The methodology was later adapted and embedded within the Islands Trust Freshwater Footprint Project.
Funding Context	Primary funding was provided by the Province. Islands Trust contributed limited financial support and staff time through Regional Planning Committee coordination. This co-funded arrangement enabled access to advanced hydrogeological analysis without requiring the Trust to independently resource a comparable standalone project.
Challenges and Opportunities	Directly assessing hydraulic connectivity at the island scale is technically complex and resource-intensive. Incorporating this work into the Freshwater Footprint Project would have exceeded that project's scope and budget. The Province-led assessment created an opportunity to address this foundational scientific question independently, allowing later FWSS projects to focus on applied planning analysis while relying on established connectivity insights.
Methods and Technical Basis	The assessment integrated hydrogeological mapping, stream network analysis, aquifer characteristics, and field-based interpretation to classify surface water–groundwater connectivity. Outputs identified areas where groundwater withdrawals have a higher likelihood of affecting streamflow and aquatic ecosystems, particularly during low-flow periods.
Planning and Policy Relevance	Hydraulic connectivity is a critical parameter in groundwater sustainability assessment and a key risk factor for cumulative freshwater impacts. Embedding this methodology into the Freshwater Footprint Project strengthened its analytical rigor, particularly in evaluating development pressure near hydrologically connected streams. The work supports land-use planning, water licensing dialogue, and ecosystem protection objectives under the FWSS.
Deliverables and Outcomes	Deliverables included island-scale hydraulic connectivity assessments for Denman and Hornby Islands. The lasting outcome was methodological rather than geographic: the approach informed FWSS analytical frameworks and was later applied within the Freshwater Footprint Project. This project demonstrates the strategic value of coordinated, multi-agency freshwater science investments that yield dividends across successive FWSS initiatives.

Project	**Land Information Screening Tool (LIST)**
Program	Freshwater Planning and Decision Support
Status	Operational; iterative refinement ongoing
Fiscal Span	FY 2021/22 – present
Project Link	
Project Summary	The Land Information Screening Tool (LIST) provides an integrated spatial screening framework to support early-stage land-use planning and development review across the Islands Trust Area. The tool consolidates freshwater, ecological, and hazard-related datasets into a single analytical interface to support consistent, evidence-informed planning decisions.
Delivery Context	The project was delivered through Trust Area Services with technical leadership from the Senior Freshwater Specialist and GIS Services. Development was coordinated with Planning Services to ensure usability for Local Trust Committees and staff. LIST evolved from earlier Site-Level Analysis work and was progressively expanded as FWSS science outputs became available.
Funding Context	Development was supported through internal staff resources and incremental project funding. The tool leveraged prior FWSS investments, including aquifer conceptualization, groundwater recharge mapping, freshwater footprint analysis, and watershed mapping, minimizing the need for standalone funding. The Senior Freshwater Specialist managed a small contract for Cedar Shore Consulting to bridge a staffing gap in information services.
Challenges and Opportunities	Early iterations were constrained by uneven data coverage and evolving groundwater science. As FWSS projects matured, LIST became an effective mechanism for translating complex freshwater datasets into planning-relevant information, creating a scalable platform for future regulatory and policy applications
Methods and Technical Basis	LIST integrates multiple GIS-based datasets, including aquifer extents, recharge potential, freshwater footprint indicators, watercourse and watershed mapping, and environmental sensitivity layers. The tool functions as a screening and flagging system rather than a deterministic model, supporting professional judgment in planning review.
Planning and Policy Relevance	LIST supports Official Community Plan implementation, Development Permit Area screening, suitable land analysis, and development application review. The tool operationalizes FWSS science within day-to-day planning workflows, strengthening alignment between freshwater sustainability objectives and land-use decision-making.
Deliverables and Outcomes	The project delivered a Trust-wide spatial screening tool used by planners and decision-makers to assess freshwater and environmental considerations early in the planning process. LIST has improved consistency, transparency, and efficiency in planning review and provides a foundation for future regulatory integration as FWSS implementation advances.

Project	**Islands Trust Freshwater Atlas**
Program	Planning and Reporting / Information Systems and Public Access
Status	Active and evolving implementation platform
Fiscal Span	FY 2020/21 – ongoing
Project Link	
Project Summary	The Islands Trust Freshwater Atlas is a centralized spatial information platform that consolidates FWSS groundwater, surface water, and watershed datasets into an accessible, planning-scale reference tool. The Atlas translates technical freshwater science into a form usable by planners, decision-makers, applicants, and the public, supporting consistent and transparent land-use decision-making across the Trust Area.
Delivery Context	The Freshwater Atlas was developed under the direction of Trust Area Services with technical leadership from the Senior Freshwater Specialist and Information Services. It draws directly from FWSS science projects delivered through Regional Planning Committee initiatives and Local Trust Committee–supported studies. Development emphasized consistency, reproducibility, and alignment with planning workflows rather than standalone scientific analysis.
Funding Context	Atlas development leveraged FWSS project funding and internal staff resources rather than a standalone capital project. The platform aggregates outputs from multiple externally funded FWSS science projects, maximizing return on prior investments in groundwater and watershed research.
Challenges and Opportunities	The primary challenge has been balancing scientific complexity with usability for non-technical audiences. At the same time, the Atlas provides a durable opportunity to institutionalize FWSS knowledge, reduce reliance on ad hoc technical interpretation, and support equitable access to freshwater information for applicants, trustees, and communities.
Methods and Technical Basis	The Atlas integrates aquifer conceptual models, groundwater recharge potential mapping, groundwater availability assessments, watershed and watercourse mapping, wet areas mapping, and climate-related indicators using GIS-based web services. Data are standardized, versioned, and documented to support consistent interpretation at multiple scales.
Planning and Policy Relevance	The Freshwater Atlas underpins FWSS implementation by providing a common evidentiary base for OCP policy development, Development Permit Area designation, suitable land analysis, subdivision review, and housing-related planning initiatives. It supports defensible decision-making and reduces information asymmetry between applicants, staff, and elected officials.
Deliverables and Outcomes	The Atlas has become the primary freshwater information reference for the Islands Trust, supporting both strategic planning and day-to-day regulatory work. It enables cross-project integration, supports cumulative-effects thinking, and provides a scalable platform for incorporating future FWSS outputs, including freshwater footprint analysis and climate vulnerability indicators.

Project	**Subdivision Proof of Water – Land Use Bylaw Updates**
Program	Freshwater Planning and Regulatory Implementation
Status	Adopted and implemented (island-specific application)
Fiscal Span	FY 2022/23 – FY 2024/25
Project Link	
Project Summary	The Subdivision Proof of Water LUB Updates project strengthened subdivision approval requirements by embedding freshwater sustainability considerations directly into land-use regulation. The project translated FWSS groundwater science into enforceable bylaw provisions requiring applicants to demonstrate water availability at the time of subdivision.
Delivery Context	The project was led by Local Trust Committees, with Salt Spring Island serving as the primary case study, and supported by Planning Services and the Senior Freshwater Specialist. Technical inputs were derived from FWSS groundwater projects, including aquifer conceptualization, groundwater recharge mapping, monitoring data, and freshwater footprint analysis. Coordination occurred through Trust Area Services to ensure consistency with FWSS objectives and provincial regulatory frameworks.
Funding Context	Project delivery was supported through Local Trust Committee project funding and Planning Services staff resources. The work leveraged existing FWSS science investments and monitoring programs, avoiding the need for new regional-scale business cases.
Challenges and Opportunities	Concerns were raised regarding jurisdictional overlap with provincial groundwater regulation and potential impacts on housing supply. The project created an opportunity to clarify the role of land-use planning in freshwater sustainability, emphasizing risk-informed decision-making rather than duplicating provincial permitting.
Methods and Technical Basis	The bylaw updates rely on hydrogeological assessment, groundwater monitoring data, recharge potential mapping, and established freshwater quality thresholds. Proof of water requirements are structured to allow multiple supply options, including groundwater and rainwater catchment, subject to demonstrated suitability.
Planning and Policy Relevance	The project operationalizes FWSS objectives within subdivision regulation, supporting the Islands Trust preserve and protect mandate. It provides a defensible framework for integrating freshwater capacity into subdivision decisions and aligns with Official Community Plan water policies
Deliverables and Outcomes	The project resulted in amended subdivision approval requirements requiring proof of water at the time of subdivision. It established a precedent for evidence-based freshwater regulation, improved applicant clarity, and strengthened the linkage between FWSS science and land-use decision-making.

Project	**Groundwater Recharge Protection Development Permit Area (DPA)**
Program	Planning and Reporting / Regulatory Implementation
Status	Adopted and implemented (Galiano Island); transferable framework
Fiscal Span	FY 2020/21 – FY 2024/25
Project Link	Groundwater Sustainability Project - Bylaw Nos. 283 and 284 – Bylaw Adoption Report
Project Summary	The Groundwater Recharge Protection Development Permit Area project translated FWSS groundwater recharge science into land-use regulation through the establishment of a recharge-focused DPA on Galiano Island. The project provides a planning and regulatory mechanism to protect areas critical to groundwater recharge from adverse development impacts.
Delivery Context	The project was led by the Galiano Island Local Trust Committee, with technical leadership from Planning Services and the Senior Freshwater Specialist. Scientific inputs were drawn directly from the Islands Trust Area Groundwater Recharge Potential Mapping Project and the Aquifer Conceptualization Project. Planning support ensured alignment with Official Community Plan policy and Development Permit Area authorities.
Funding Context	Project development was funded through Galiano Island Local Trust Committee project budgets and Planning Services staff resources. The project relied heavily on existing FWSS groundwater science outputs, minimizing additional consultant requirements.
Challenges and Opportunities	Advancement of recharge protection through a DPA occurred only on Galiano Island, reflecting varying levels of readiness, political support, and planning priorities across Local Trust Areas. The project demonstrates a viable regulatory pathway that may be adapted to other islands, either as a groundwater recharge protection DPA, a watershed protection DPA, or through integrated watershed management planning tools.
Methods and Technical Basis	The DPA is underpinned by GIS-based groundwater recharge potential mapping, hydrogeological interpretation, and watershed analysis. Recharge areas were identified using standardized FWSS methodologies, providing a defensible spatial basis for development permit triggers and guidelines.
Planning and Policy Relevance	The project represents a direct implementation of FWSS objectives within land-use regulation. It operationalizes the preserve and protect mandate by explicitly recognizing groundwater recharge as a planning constraint and aligns with climate adaptation and freshwater sustainability policy directions.
Deliverables and Outcomes	This project translated the theoretical data from the Groundwater Recharge Potential Mapping into enforceable land-use regulation, resulting in the adoption of a Groundwater Recharge Protection DPA on Galiano Island. By overlaying the high-resolution recharge data with parcel boundaries, staff identified critical infiltration zones where development density or impervious surfaces could threaten the aquifer's long-term sustainability. The primary outcome was the establishment of specific development guidelines that require the retention of natural vegetation and the implementation of rainwater management plans to maintain pre-development infiltration rates. Crucially, this work produced a transferable regulatory model. The methodology used to define "Critical Aquifer Recharge Areas"—based on specific geological and ecological metrics—provides a standardized framework that can now be adapted to establish similar protections or watershed planning initiatives in other Local Trust Areas.

Project	**Stormwater Management Planning (Foundational / Future Program)**
Program	Planning and Reporting / Climate Adaptation and Hydrologic Integration
Status	Potential FWSS implementation
Fiscal Span	
Project Link	
Project Summary	Stormwater management planning has not been implemented as a Trust-wide program and has been addressed only indirectly through site-specific development applications and limited planning exercises. Despite this absence, the FWSS has established much of the scientific and spatial foundation required to support integrated stormwater management planning at both island and watershed scales.
Delivery Context	To date, stormwater considerations have arisen primarily through development review, subdivision applications, and ad hoc planning discussions rather than through a coordinated program. No dedicated Trust Council or Regional Planning Committee stormwater initiative has been undertaken. However, existing FWSS groundwater, watershed, and climate-related projects provide the technical basis for future program development.
Funding Context	No dedicated funding has been allocated to stormwater management planning. Future work could leverage existing FWSS datasets and methodologies, reducing startup costs and allowing incremental implementation through pilot projects, Local Trust Committee initiatives, or external grant programs.
Challenges and Opportunities	The absence of a coordinated stormwater framework represents a gap in freshwater sustainability and climate adaptation. At the same time, the Trust Area now possesses recharge mapping, watershed boundaries, aquifer conceptual models, wet areas mapping, and climate vulnerability indicators that collectively reduce the technical barriers to initiating stormwater planning. This presents an opportunity to move from reactive, application-based consideration toward proactive watershed-scale stormwater management.
Methods and Technical Basis	Potential stormwater planning could draw directly from existing FWSS outputs, including groundwater recharge potential mapping, aquifer conceptualization, watershed and watercourse mapping derived from LiDAR and hydrologic modelling, wet areas mapping, and climate vulnerability analyses. These datasets are suitable for supporting infiltration-based design, runoff attenuation strategies, and cumulative hydrologic effects assessment without requiring full hydrodynamic modelling at the outset.
Planning and Policy Relevance	Stormwater management planning would strengthen implementation of the preserve and protect mandate by addressing land-based hydrologic alteration, a key driver of both groundwater and surface water impacts. It would support climate adaptation objectives, inform OCP policy development, and provide a consistent framework for development permit areas, subdivision review, and infrastructure planning.
Deliverables and Outcomes	No formal deliverables have been produced to date. The FWSS has, however, created a mature technical foundation that enables future stormwater management planning to be advanced efficiently through pilot studies, watershed-based planning, or integration with groundwater recharge protection and watershed protection DPAs.

Project	**Islands Trust Area Freshwater Advocacy and Capacity-Building Initative**
Program	Trust Programs / Education, Advocacy, and Organizational Capacity
Status	Delivered and ongoing through discrete initiatives
Fiscal Span	FY 2016/17 – ongoing
Project Link	
Project Summary	The Islands Trust Area Freshwater Advocacy and Capacity-Building Program consolidates a series of coordinated education, outreach, and professional development initiatives that supported the development, adoption, and implementation of the Freshwater Sustainability Strategy. The program focused on building shared understanding of groundwater governance, freshwater science, and planning implications across trustees, staff, partner agencies, and island communities.
Delivery Context	The program was delivered through Trust Programs Committee leadership in coordination with Trust Area Services and Planning Services, with substantive technical contributions from the Senior Freshwater Specialist. Activities were designed to support Trust Council, Local Trust Committees, and staff by improving institutional literacy on freshwater sustainability and aligning emerging FWSS science with governance and planning practice.
Funding Context	Program delivery relied on Trust Programs Committee project budgets, staff time, and targeted contracts rather than standalone Trust Council business cases. Several activities were integrated into existing conferences, professional development days, or externally hosted forums to maximize reach and minimize duplication.
Challenges and Opportunities	A persistent challenge was sustaining continuity between episodic workshops and long-term institutional change. The program nevertheless created durable opportunities by embedding freshwater literacy within trustee education, staff practice, and inter-agency relationships, directly supporting FWSS development and later implementation.
Methods and Technical Basis	Program activities combined facilitated workshops, formal presentations, panel discussions, and technical briefings grounded in FWSS science outputs. Content drew from aquifer conceptualization, groundwater recharge mapping, groundwater availability assessment, and regulatory interpretation under the Water Sustainability Act.
Planning and Policy Relevance	The program supported informed decision-making at Trust Council, Trust Programs Committee, Regional Planning Committee, and Local Trust Committee tables. It helped normalize freshwater sustainability as a core planning consideration and reduced barriers to advancing FWSS-aligned policies, bylaws, and implementation tools.
Deliverables and Outcomes	Key initiatives delivered under this program include the Islands Trust Area Freshwater Forum (World Water Day 2018), Trust Programs Committee continuing education sessions, Planning Services professional development workshops, the Our Groundwater and Wells community workshop series, and freshwater presentations at regional forums such as the Salish Sea Conference. Collectively, these efforts strengthened institutional readiness, informed FWSS design, and supported coordinated implementation across governance levels.

Project	**Trustee Orientation and Education on Groundwater Governance**
Program	Trust Programs / Governance Education and Capacity Building
Status	Delivered (with ongoing relevance)
Fiscal Span	FY 2017/18 – FY 2021/22
Project Link	
Project Summary	This project delivered targeted trustee education on groundwater governance, focusing on the Water Sustainability Act and the provincial groundwater licensing framework. The presentations were designed to improve Trust Council's understanding of jurisdictional roles, regulatory boundaries, and the implications of provincial groundwater regulation for Islands Trust land-use decision-making.
Delivery Context	The project was delivered through Trust Council presentations coordinated by Trust Programs Committee and Trust Area Services, with technical leadership from the Senior Freshwater Specialist. Content was developed in response to trustee requests for clarity on groundwater regulation following enactment of the Water Sustainability Act and increasing freshwater-related planning pressures across the Trust Area.
Funding Context	The project was delivered using internal staff resources and did not require a standalone budget request. Preparation and delivery were embedded within Trust Council meeting agendas and ongoing FWSS-related staff work.
Challenges and Opportunities	A key challenge was translating complex provincial groundwater regulation into planning-relevant concepts without overstating Islands Trust authority. The project created an opportunity to clearly delineate jurisdictional responsibilities, reducing governance risk and supporting more defensible planning decisions aligned with FWSS objectives.
Methods and Technical Basis	The project relied on structured presentations interpreting the Water Sustainability Act, the provincial groundwater licensing regime, and associated regulatory guidance. Emphasis was placed on practical implications for land-use planning, subdivision review, water availability considerations, and inter-agency coordination.
Planning and Policy Relevance	The presentations strengthened Trust Council's understanding of how groundwater licensing, regulation, and enforcement intersect with Islands Trust planning authority. This literacy directly informed subsequent FWSS development, policy discussions on proof of water, rainwater catchment, and groundwater protection, and coordination with provincial agencies.
Deliverables and Outcomes	Key deliverables included Trust Council presentations on the Water Sustainability Act and on provincial groundwater licensing. Outcomes included improved trustee confidence in navigating groundwater-related planning decisions, clearer articulation of Islands Trust's role relative to the Province, and stronger institutional alignment during FWSS development and early implementation.

Project	**Drinking Water and Watershed Protection Program Coordination (Regional District Partnerships)**
Program	Trust Programs / Inter-Agency Coordination and Watershed Governance
Status	Ongoing
Fiscal Span	FY 2017/18 – Present
Project Link	
Project Summary	This project formalized coordination between Islands Trust freshwater work and regional district drinking water and watershed protection programs, with a focus on the Regional District of Nanaimo (RDN) and the Cowichan Valley Regional District (CVRD). The coordination ensured alignment between FWSS science, regional watershed planning, and drinking water protection initiatives operating beyond Islands Trust jurisdiction.
Delivery Context	Coordination occurred through participation in regional technical advisory committees, including the RDN Drinking Water and Watershed Protection (DWWP) Technical Advisory Committee, and engagement with CVRD watershed and drinking water staff. The Senior Freshwater Specialist represented Islands Trust interests and integrated FWSS priorities into inter-regional discussions. This work operated outside formal Islands Trust project charters but directly informed FWSS development and implementation.
Funding Context	The project was delivered using staff time and did not rely on dedicated Islands Trust project funding. Regional district programs were funded independently through parcel taxes, service fees, and regional budgets. Islands Trust participation leveraged these external investments to inform FWSS science and planning.
Challenges and Opportunities	A key challenge was aligning regional-scale drinking water and watershed initiatives with the Islands Trust preserve and protect mandate, given differing governance structures and service boundaries. The coordination created opportunities to share methods, avoid duplication, and import applied watershed and groundwater science into FWSS projects without requiring Islands Trust to independently fund equivalent work.
Methods and Technical Basis	Engagement included technical committee participation, review of watershed assessments, exposure to GIS-based recharge and hydrologic analysis, and knowledge exchange on monitoring, demand management, and watershed vulnerability. Presentations and discussions within these forums directly influenced FWSS approaches to recharge mapping, cumulative effects assessment, and climate vulnerability.
Planning and Policy Relevance	The coordination strengthened FWSS alignment with regional drinking water protection programs and improved Islands Trust understanding of watershed-scale governance beyond its regulatory authority. It supported defensible planning by ensuring FWSS outputs were compatible with regional water planning frameworks and provincial expectations.
Deliverables and Outcomes	Outcomes included strengthened inter-agency relationships, early exposure to recharge-focused GIS methodologies later adapted for FWSS projects, and improved institutional capacity to coordinate groundwater and watershed planning across jurisdictions. This work contributed indirectly to the development of the Aquifer Conceptualization Project, Groundwater Recharge Potential Mapping Project, and subsequent FWSS implementation tools.