

# Salt Spring Island Watershed Protection Alliance

## **ISLANDS TRUST 2018-19 SPECIAL PROPERTY TAX REQUISITION:**

The Salt Spring Island Local Trust Committee (SSI LTC) is requesting Islands Trust Council collect a \$98,500 Special Property Tax Requisition from the Salt Spring Island Local Trust Area for the 2018-2019 fiscal year. This tax will enable the SSI LTC to continue coordination<sup>1</sup> of the Salt Spring Island Watershed Protection Alliance (SSIWPA). The Salt Spring Island Local Trust Committee has received special property tax requisitions to support watershed management since 2014; this funding has provided essential support for the collaborative and innovative work of SSIWPA.

## **SALT SPRING ISLAND WATERSHED PROTECTION ALLIANCE:**

Formerly called the Salt Spring Island Watershed Protection Authority, the Alliance is comprised of member agencies from local, regional and provincial governments. The Salt Spring Island Watershed Protection Alliance (SSIWPA) is a leader in collaborative watershed governance in the province of British Columbia. SSIWPA serves as a forum for the sharing of information and alignment of approaches between agencies responsible for related, but distinct areas of watershed management. SSIWPA engages multiple stakeholders to support evidence-based decision-making by each agency, working towards freshwater sustainability while taking into account local values and ecosystem health.<sup>2</sup>

## **COLLABORATION:**

SSIWPA is a framework for collaboration; it provides coordination for integrated watershed and water resource planning, research, and policy development to be implemented by member agencies. SSIWPA provides a structured and transparent public means for member agencies to:

- talk to one another, which increases knowledge, understanding and capacity;
- share information and collectively determine strategic, coordinated actions that fill data gaps and improve resource management effectiveness and efficiency;
- develop a holistic perspective to manage the shared water resource, on an island-scale;
- avoid duplication of effort, or working in silos;
- pool resources for projects;
- leverage pooled resources in order to compete for external funding for needed investigations and water research (For example: Real Estate Foundation funding).

SSIWPA practices “collaborative watershed governance;” this is leading edge in Canada where water resources may be put at risk by water planning that is not well coordinated between all the different users, purveyors, and law makers<sup>3</sup>.

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<sup>1</sup> Through [Bylaw 154](#) (2013) Islands Trust Council has delegated the SSI LTC additional authorities which enable coordination of SSIWPA.

<sup>2</sup> Current SSIWPA member agencies include: Salt Spring Island Local Trust Committee; Capital Regional District; Ministry of Forests, Lands and Natural Resources and Rural Development; Ministry of Agriculture; North Salt Spring Waterworks District; Highland and Fernwood Water Service Commission; Beddis Water Service Commission.

<sup>3</sup> <https://beta.theglobeandmail.com/news/national/canada-fresh-water-review-1/article35262579/>.

SSIPWA's collaborative governance is an ongoing process of committed engagement based on respect, trust and ongoing diplomacy with multiple stakeholders (including indigenous governments) as equal partners in decision-making.

### **St. MARY LAKE**

SSIWPA was created initially in response to the toxic algal blooms and eutrophication of St. Mary Lake that were linked to an excess of phosphorus. In 2014, SSIWPA coordinated a successful grant application to the Real Estate Foundation of British Columbia and received funding to undertake a *Structured Decision Making* process. This process provided a systematic methodology to better understand the complexity of the problem, engage stakeholders and local expertise, and consider solutions. It was found that it is not feasible to remove excess nutrients without upsetting the natural balance of the lake system, and that the algal blooms and nutrient cycles are part of the lake's natural ecological cycles. This finding answered a longstanding question about the impacts of the septic systems that exist around the lake - it was found that septic systems contribute only minimally to the phosphorus load on the lake, and although phosphorus content varies seasonally, there is no need to incur the very significant cost that would be necessary to construct a central sewage system to serve properties around the lake.

SSIWPA released the St. Mary Lake Integrated Watershed Management Plan in 2015 and member agencies are in the final stages of implementing this plan. The Salt Spring Island Local Trust Committee has considered legislative changes that might be needed to enable the components of the plan and was advised that no amendments are needed at this time.

### **INTEGRATED WATER MANAGEMENT PROGRAM**

SSIWPA member agencies are working together to undertake the [Salt Spring Island Integrated Water Management Program](#) (IWMP). The program aims to ensure a sustainable supply of freshwater is available for human use and to protect against over-demand and degradation of the resource and the natural systems that depend on it. The IWM program addresses the need to:

- quantify the volume of freshwater available (in a renewable manner) for human use;
- measure and optimize the efficiency of potable water resource uses/demand;
- if necessary, adjust bylaws and regulations to limit further densification in areas where water quantity sensitivities exist to sustainable levels.

SSIWPA member agencies provide support and expertise in data collection, Geographical Information Systems (GIS) management, funding, including in-kind contributions, data analysis, reporting, and contractor supervisory roles. This multi-year program is unfolding in phases; current projects being undertaken as part of this program are discussed below – more information is available at [www.ssiwatersheds.ca](http://www.ssiwatersheds.ca).

### **GROUNDWATER**

One current focus of SSIWPA is to establish a better understanding of Salt Spring Island's groundwater systems. SSIWPA member agencies are working together to compile years of disparate hydrogeological data, to inventory and map private wells, create a groundwater budget, and to establish a monitoring program for target groundwater regions. This work will improve understanding of hydrogeological information, location, and status, helping SSIWPA agencies meet resource management goals.

Well Inventory and Monitoring:

The *Salt Spring Island Groundwater Wells Inventory Project* is a Salt Spring Island Local Trust Committee (SSI LTC) led initiative that began in early summer 2017<sup>4</sup>. This project involves the collection and analysis of individual domestic well hydrogeological data and community water system well data. Deliverables for this project include:

- Catalogue of 30 years of groundwater data found in individual hydrology and hydrogeology reports filed at Islands Trust (complete 2017)
- Georeferenced map of well data and information (complete 2017)
- Registration of wells in provincial database (2017-18) (FLNRO and MoE)
- Survey and monitoring program (2018)

The results of this program will identify potential domestic, non-domestic, and/or abandoned groundwater wells as candidates for the *Salt Spring Island Groundwater Wells Monitoring Project*.

#### Salt Spring Island Aquifer Mapping and Monthly Groundwater Budget

The *Salt Spring Island Aquifer Mapping and Monthly Groundwater Budget* is a two year project (2016-2018) funded by the Ministry of Forests, Lands, Natural Resources and Rural Development (FLNR) and the Ministry of Environment (ENV); the work is being undertaken by Golder and Associates. This project revises the mapping and classification of aquifers on Salt Spring Island and develops groundwater budgets at the aquifer-scale. Deliverables of this project include technical memorandums, revised aquifer worksheets, aquifer maps, and hydrogeological modeling. SSIWPA supports this work with coordination, data provision and collaboration on the interpretation of results. This work is complemented by the well monitoring and inventory, which make this scientific research relevant to the neighbourhood scale for land use planning.

#### Salt Spring Island Groundwater Wells Monitoring Program

The Salt Spring Island Groundwater Wells Monitoring Program is a collaboration between FLNR and the SSI LTC that will select a number of wells for monitoring seasonal changes in groundwater conditions. This program addresses the need for neighbourhood scale information and will improve knowledge of groundwater conditions in targeted aquifers, supplementing the existing groundwater monitoring resources provided by the provincial [Groundwater Observation Well Network](#). The program may lead to the development of a long term community groundwater monitoring program on Salt Spring Island, and may serve as a model for similar community groundwater monitoring programs throughout the Islands Trust Area.

To further support this project, in September 2017, SSIWPA submitted a request for funding from the Real Estate Foundation of BC's Water Sustainability Fund. The funding request includes matching financial contributions from SSIWPA member agencies. If successful, the funds will assist in the design, management, and delivery of the proposed project under the general umbrella of the [Salt Spring Island Integrated Water Management Program](#).

#### Agricultural Land Use Inventory

The 2017 *Salt Spring Island Agricultural Land Use Inventory and Water Demand Project* (ALUI) is being undertaken by the Ministry of Agriculture, with coordination and financial support by SSIWPA and other member agencies. The purpose of the ALUI is to inform agricultural area planning and provide a baseline to help measure success. The ALUI includes Agricultural Water Demand Estimates for the

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<sup>4</sup> The SSI LTC Well Inventory and Monitoring Program is guided by a [project charter](#).

island and for more regional agricultural water demand estimates, using an Agricultural Water Demand Model (AWDM). The Agricultural Water Demand Model (AWDM) calculates the current and future water requirements for agriculture based on current land use and historical climate data, as well as potential changes in land use and projected climate change models. This work fits within SSIWPA's [Salt Spring Island Integrated Water Management Program](#) and will supply supporting data to the *Aquifer Mapping and Monthly Groundwater Budgets and the Groundwater Wells Monitoring Pilot Project*. Draft deliverables have been received, with the final expected by the end of 2017.

#### Royal Roads University Rainwater Study

In February 2017, SSIWPA engaged students from Royal Roads University to investigate the potential for rainwater harvesting to offset or contribute to potable and/or non-potable consumption needs in specific Salt Spring Island scenarios. The project surveyed Salt Spring residents and businesses to compile rainwater harvesting information, which will be used by SSIWPA to guide further water management recommendations. The completed deliverable was received in September, 2017<sup>5</sup>.

#### **GOVERNANCE**

SSIWPA is committed to continuous improvement and self-evaluation. In the time since SSIWPA was created, it has completed the St. Mary Lake Watershed Management Plan, and expanded its scope to include all the island's watersheds, including both groundwater aquifers and surface water reservoirs. SSIWPA is currently amending its Terms of Reference to incorporate lessons that have been learned over the past four years of work. The goal is to ensure the Terms of Reference provide a reasonable framework for coordination and that there is mutual support for the objectives and decision making structure of the collective. The amendments improve the clarity, purpose, and role of SSIWPA, and ensure the overall work of SSIWPA is providing workable solutions for effective implementation by SSIWPA member agencies. At the same time, SSIWPA is considering amendments to the Terms of Reference of its Technical Working Group to ensure the direction given to this advisory group meets the needs of SSIWPA member agencies.

For More Information:  
<http://www.ssiwatersheds.ca/>

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<sup>5</sup> Anderson et al. Royal Roads Environmental Science B.Sc. Major Project "Rainwater Harvesting: An Investigation of the Current Use on Salt Spring Island" completed for SSI Local Trust Committee under oversight by SSIWPA Conservation and Efficiency Working Group. August 31, 2017.

