



DATE OF MEETING: December 1, 2016
TO: Saltspring Island Local Trust Committee
FROM: Justine Starke, Island Planner
Victoria Office
SUBJECT: Watershed Management – Update Report

RECOMMENDATION

1. That the Saltspring Island Local Trust Committee endorses the Project Charter Version 8, dated November 10, 2016.

REPORT SUMMARY

The purpose of this report is to update the Salt Spring Island Local Trust Committee (LTC) on the watershed management project, to consider next steps, and to consider the updated Project Charter Version 8.

BACKGROUND

The Salt Spring Island Local Trust Committee (LTC) has identified watershed management as one of its top priorities. The Watershed Management Program was initiated in 2012 and involves a multi-jurisdictional approach to the protection and management of freshwater resources on Salt Spring Island. The work program involves coordination of the Salt Spring Island Watershed Protection Authority (SSIWPA) as well as consideration of land use planning tools that will support the implementation of SSIWPA's work.

SSIWPA has embarked on an "integrated watershed management program" to ensure a sustainable supply of fresh water by quantifying the volume of freshwater available for human use on Salt Spring Island, and to identify efficiencies to protect against over-demand. Currently, one aspect of the integrated watershed management program is to address the limits of St Mary and Maxwell lakes to continue to supply additional properties within the service boundaries of North Salt Spring Waterworks District.

It is within this context that the SSI LTC's planning work in 2016 has attempted to respond to the moratorium on new connections in the North Salt Spring Waterworks District (NSSWD) by commissioning the, "Water Conservation Supply and Demand Management Plan for Salt Spring Island," dated May 6, 2016 by OPUS DaytonKnight Consultants Ltd. The report identified a key concern for the community, which is in meeting peak water consumption during the summer months when lake levels are at their lowest due to negligible rainfall recharge. The report recommended that because of the infrastructure limitations and summer drought conditions, a drought risk analysis including a detailed peak day/month "supply versus demand" analysis should be conducted to determine the current available yield of the two lakes during peak summer demand periods.

However, this assessment was outside the scope of that study. With critical feedback from NSSWD and SSIWPA, the LTC considered the report on July 21, 2016 and decided it should be updated. The updated report would include reconsideration and possible refinement of recommendations, and provide a peak day/month supply versus demand analysis to determine the current available yield of St. Mary Lake and Maxwell Lake during peak summer demand periods. The LTC directed staff to draft a terms of reference for this work.

At the meeting of September 23, 2016, the SSI LTC received a draft Terms of Reference for updating the OPUS report and passed the following resolution:

It was MOVED and SECONDED,

that the Salt Spring Island Local Trust Committee request that staff consult with the Salt Spring Island Watershed Protection Authority to review the terms of reference for services relating to a drought risk analysis and a detailed peak day / month supply versus demand analysis to determine the current available yield of St. Mary Lake and Maxwell Lake during peak summer demand periods.

CARRIED

Over the last months, SSIWPA, its member agencies, and the Technical Working Group (TWG), have considered the Terms of Reference and submitted the attached response (see Appendix 2), drafted by the TWG and endorsed by member agency representatives and the SSIWPA steering committee.

In the meantime, planning staff have been reviewing the project as a whole and refined the project charter to bring it up to date.

ANALYSIS

Project Charter Version 8:

The SSI LTC's Project Charter has been updated and is provided in Appendix 1 as *Watershed Management Project Charter Version 8*. The updated project charter has removed completed tasks and refined the objectives, deliverables, and scope to reflect the evolution of the project over recent months and years. Some elements, such as the "work break down structure," was removed because it is too detailed for this level of reporting. It will be retained by planning staff to be used internally as needed. The purpose of this project charter is to provide a framework for the whole watershed project, which is expected to continue on an ongoing basis, spanning years to come. The overall project deliverables are as follows:

- Ongoing coordination of the Salt Spring Island Watershed Protection Authority, managed through a third party contact.
- Annual Salt Spring Island Special Property Tax Requisition requests to Trust Council for SSIWPA coordination services.
- Creation of coordination agreements/memorandums of understanding with other member agencies of the Salt Spring Island Watershed Protection Authority.
- Identification of land use planning and other tools to protect and manage watershed health, including groundwater and surface water.
- Update Official Community Plan, Land Use Bylaw, and any other relevant policies or regulations to implement the results of the integrated watershed management program.
- Coordinate the implementation of the St. Mary Lake Integrated Watershed Management Plan and the future updated Cusheon Lake Watershed Management Plan, including amendments to the Official Community Plan and Land Use Bylaw as appropriate.

- Coordinate implementation of other Salt Spring Island watershed management plans, as appropriate.
- Assist with the development of a Salt Spring Island Water Conservation and Water Demand Management Plan for the NSSWD area.

Individual, one page project charters that address different components or deliverables within the over all work program will be created as needed, to guide planning work over shorter time frames (within a given fiscal year or political term).

It is too early in SSIWPA’s integrated watershed management planning program for the LTC to consider changes to the land use regulations that impact watershed management. For example, the OPUS report recommends not considering changes to the OCP Section C.3 (NSSWD Supply) until the ability for NSSWD systems to meet peak demands during summer months is clearly established. The other recommendations of the OPUS report are very relevant to LTC regulations, but are questioned by SSIWPA (more below). However, the work plan for the Conservation and Efficiency Working Group is currently being developed. Within this work plan is to analyse the policy framework related to rainwater storage and re-use. Staff will be working with the CEWG as they refine their work plan and look for opportunities to contribute land use planning expertise; this work can then be fleshed out with a one page LTC project charter.

Salt Spring Island Water Conservation and Water Demand Management Plan:

The intent of the OPUS report was to provide information that would support updating water supply and demand standards found in the Land Use Bylaw and the Official Community Plan. Feedback from SSIWPA indicates there is more work to be done to amend the Terms of Reference (ToR) for an updated OPUS report. The Technical Working Group recommends comprehensive changes to the OPUS report, suggesting the water supply of the NSSWD is not currently known, and recommends the focus of the ToR be a request for OPUS to better quantify demand in a statistically relevant way. Staff are continuing to consult with SSIWPA, the TWG, and NSSWD to develop a ToR that will meet the needs of SSIWPA and NSSWD. It does not seem likely this work will be complete before Christmas. Staff will aim to bring an updated ToR to the LTC on December 22, so the contract can be let in the New Year.

ALTERNATIVES

The LTC may choose to not endorse the amended project charter version 8.

| | | |
|---------------|----------------|-------------------|
| Submitted By: | Justine Starke | November 19, 2016 |
| Concurred By: | Stefan Cermak | November 21, 2016 |

ATTACHMENTS

1. Salt Spring Island Watershed Management Project Charter Version 8
2. SSIWPA Technical Work Group response to the Terms of Reference for an addendum to the “Water Conservation Supply and Demand Management Plan for Salt Spring Island,” dated May 6, 2016 by OPUS DaytonKnight Consultants Ltd.



Salt Spring Island Local Trust Committee

Project Charter: Watershed Management

Creation Date: April 25, 2013

Last Updated: November 19, 2016

Version: 8

Purpose

This project aims to address water quality and quantity issues on Salt Spring Island. The purpose of this Project Charter is to guide the overall program for watershed management on Salt Spring Island. Individual project charters will be developed to support components of this work.

1. Coordination of the Salt Spring Island Watershed Protection Authority:
 - The Salt Spring Island Local Trust Committee (SSI LTC) coordinates and participates in the Salt Spring Island Watershed Protection Authority, which entails collaborating with a number of different agencies that have a responsibility for watershed management and potable water supply.
 - Funding for this coordination is through a Special Property Tax Requisition from the Salt Spring Island Local Trust Area.
2. Land Use Planning for Watershed Management:
 - Consider the Local Trust Area's regulatory and policy framework applicable to watershed management in drinking watersheds, and consider appropriate Salt Spring Island Official Community Plan and Land Use Bylaw amendments.
 - Funding for the land use planning is through the Trust Council budget for Salt Spring Island Local Trust Committee Projects.

Background

In 2012, the Salt Spring Island Local Trust Committee (LTC) identified watershed management as one of its top priorities. This project is supported by the Islands Trust Council 2014-2018 Strategic Plan Strategy 4.1 "Coordinate with other agencies to protect water quality and quantity."

The Salt Spring Island Local Trust Committee has received additional powers from Trust Council (under Bylaw 154), to enable it to take a leadership role in coordinating the multiple agencies involved in watershed management. Bylaw 154 delegates the SSILTC the powers (from *Islands Trust Act* section 8.2(b)) to:

- *coordinate* and *assist* in the *determination* of regional, improvement district and government of British Columbia policies;
- *coordinate* the *implementation* and *carrying out* of regional, improvement district and government of British Columbia policies.

Under this authority, the LTC coordinated the establishment of the Salt Spring Island Watershed Protection Authority (SSIWPA) in 2012. The [Salt Spring Island Watershed Protection Authority](#) is composed of a steering committee, a technical working group, and a conservation and efficiency working group. It relies on advice from public advisory committees from time to time to address issue specific objectives. The work of SSIWPA is guided by its [Terms of Reference](#), which includes the following mission statement, "To cooperate on the development and implementation of policies and initiatives for improved raw water quality, and coordinated management of quantity of Salt Spring island water sources."

SSIWPA was originally created in response to severe water quality problems in St. Mary Lake. It undertook technical analysis and community engagement, and adopted the [St. Mary Lake Integrated Watershed Management Plan](#) in 2015.

SSIWPA has initiated an “integrated watershed management program,” in recognition Salt Spring Island’s need for sustainable water use. The program aims to quantify the volume of freshwater available for human use and to identify ways to maximize the efficiency, with the overall purpose “to ensure a sustainable supply of fresh water, and to protect against over-demand and degradation of the resource and the natural systems that depend on it” (SSIWPA website: <http://ssiwatersheds.ca/water-supply-conservation/>). This may include recommendations to amend Salt Spring Island’s Official Community Plan and Land Use Bylaw, and perhaps to limit further densification in areas where water quantity sensitivities exist.

SSIWPA brings together the individual authorities of representative agencies that have responsibility for water management, environment, land use planning, public health, and the delivery of potable drinking water, but SSIWPA does not have any formal authority itself. As a participant in SSIWPA, the Salt Spring Island Local Trust Committee can offer its authority to use planning to regulate land use on Salt Spring Island.

Project Objectives

- Coordinate and resource the work of the Salt Spring Island Watershed Protection Authority.
- Formalize the Salt Spring Island Watershed Protection Authority to ensure agency commitment.
- Implement the results of the “integrated watershed management program” on an incremental basis, as appropriate.
- Coordinate the implementation of individual watershed management plans for Salt Spring Island’s surface water supplies.
- Coordinate the protection and sustainable use of Salt Spring Island’s groundwater supplies.

Project Deliverables

- Ongoing coordination of the Salt Spring Island Watershed Protection Authority, managed through a third party contact.
- Annual Salt Spring Island Special Property Tax Requisition requests to Trust Council.
- Creation of coordination agreements/memorandums of understanding with other member agencies of the Salt Spring Island Watershed Protection Authority.
- Identification of land use planning and other tools to protect and manage watershed health, including groundwater and surface water.
- Update Official Community Plan, Land Use Bylaw, and any other relevant policies or regulations to implement the results of the integrated watershed management program.
- Coordinate the implementation of the St. Mary Lake Integrated Watershed Management Plan and the updated Cusheon Lake Watershed Management Plan, including amendments to the Official Community Plan and Land Use Bylaw as appropriate.
- Coordinate implementation of other Salt Spring Island watershed management plans, as appropriate.
- Assist with the development of a Salt Spring Island Water Conservation and Water Demand Management Plan for the North Salt Spring Waterworks District.

Project Scope

| In Scope | Out of Current Project Scope |
|---|---|
| <ul style="list-style-type: none"> • <i>Coordinate and assist</i> in the determination of the policies of a regional district, improvement district or the government of British Columbia; and to <i>coordinate</i> (not assist) in the implementation, and carrying out of the policies of a regional district, improvement district or the government of British Columbia (Bylaw 154). • Coordinate the Salt Spring Island Watershed Protection Authority (SSIWPA). • Contract manage coordination of SSIWPA and other third party contracts required to carry out the work. • Oversee the Terms of Reference for SSIWPA, the Technical Advisory Committee (TWG), the Conservation and Efficiency Working Group (CEWG). • Facilitate a Special Property Tax Requisition for the Salt Spring Island Local Trust Area to fund coordination on an annual basis. • Facilitate multi-stakeholder watershed management planning process. • Consider land use planning tools to improve groundwater and surface watershed management. • Facilitate cooperation agreements and letters of agreement with other member agencies. • Support the development of a Water Conservation and Demand Management Plan in the North Salt Spring Water District area. • Coordinate collaborative broader policy development to be implemented by SSIWPA and its member agencies. | <ul style="list-style-type: none"> • Carrying out capital works or the implementation of other agencies' policies • Assisting in the implementation and carrying out of the policies of a regional improvement district or the government of British Columbia • consideration of the SSI LTC's Rural Watershed Program |

Stakeholders

Technical Working Group

The Salt Spring Island Watershed Protection Authority created a Technical Advisory Committee in October 2013 to objectively assess research to date, identify gaps in the information, and research solutions. The committee was reformed as a Technical Working Group in September 28, 2015.

Conservation and Efficiency Working Group

In October 2014, the Salt Spring Island Watershed Protection Authority began drafting Terms of Reference for a Water Quantity Committee. The purpose of the Water Quantity Committee is to assess quantity of potable water supply from Salt Spring Island surface and ground watersheds as well as design and evaluate improvements as directed by SSIWPA.

Public Advisory Committees

The Salt Spring Island Watershed Protection Authority establishes Public Advisory Committees (PAC) on an as needed basis. The Salt Spring Island Watershed Protection Authority created a Public Advisory Committee in October 2014 to advise SSIWPA on the St. Mary Lake Integrated Watershed Management Plan. The committee was disbanded upon delivery of the IWMP. Other PACs will be convened at appropriate times.

Salt Spring Island Community

Community participation in reviewing and prioritizing watershed management goals and objectives is central to the success of this project.

First Nations

The Salt Spring Island Watershed Protection Authority has recognized that First Nations are more than stakeholders in this work and that this is a project which may generate interest by First Nations. The SSIWPA has invited membership on the SSIWPA by First Nations.

Project Budget

- Activities related to land use planning are resourced through the Trust Council annual project budget. For certainty, activities that are customarily associated with land use planning processes include community consultation sessions where regulatory and land use planning tools are being considered.
- The SSI LTC has \$5000 remaining in the 2016-17 project budget for watershed management. It has requested \$20 000 for the 2017/18 fiscal year.
- SSIWPA coordination is funded through the annual Salt Spring Island property tax requisition, administered by Islands Trust.
- Please the attached SSIWPA Draft Budget for 2017-18.

Project Team Resources

| Name | Role | Responsibility |
|----------------------------------|---------------------------|--|
| <i>Stefan Cermak, RPM</i> | <i>Project Supervisor</i> | <i>Ensures project aligns with strategic goals, provide adequate project resources.</i> |
| <i>SSI Local Trust Committee</i> | <i>Project Sponsor</i> | <i>Provides support through maintaining the project as a work program priority.</i> |
| <i>Island Planner</i> | <i>Project Manager</i> | <i>All project management of the project, lead/ direct all project work.</i> |
| <i>Consultant</i> | <i>Coordinator</i> | <i>Overall coordination of SSIWPA, including supporting budget planning, work plan, community consultation, facilitation, meeting arrangements and other requirements such as agendas, minutes and webposting etc.</i> |
| <i>Mark Van Bakel</i> | <i>GIS Support</i> | <i>In house, Islands Trust and CRD- as needed</i> |
| <i>Contractor</i> | <i>Minute Taking</i> | <i>Secretarial Service to SWIPPA including agenda circulation and minute taking.</i> |
| <i>Planning Team Assistant</i> | <i>Admin support</i> | <i>Minimal in house supplemental support</i> |
| <i>SSIWPA</i> | <i>Steering Committee</i> | <i>Provide in-kind resources and funding towards achieving project objectives.</i> |

Endorsements:

| Role | Name | Endorsement Date |
|--------------------|---------------------------|-------------------|
| Project Supervisor | Regional Planning Manager | November 21, 2016 |
| Project Manager | Island Planner | November 19, 2016 |
| Project Sponsor | SSI Local Trust Committee | |

MEMORANDUM

To: George Grams, Chair, SSIWPA
Date: October 23, 2016
Subject: Comments on Terms of Reference for Opus Dayton Knight
Project: SSIWPA TWG
Submitted by: SSIWPA Technical Working Group

The following comments are provided by the Technical Working Group (TWG) of SSIWPA at the request of the Steering Committee. The comments are based on Terms of Reference for a second phase to the study *Water Conservation and Demand Management Plan for Salt Spring Island*. In addition, the final draft of the Opus report, dated March 24, 2016, was re-reviewed.

Recommendations:

1. That the terms of reference be expanded and made explicit, and that a scope of work and methods be prepared and reviewed before issuing the contract. Outside expertise should be obtained as needed.
2. That the study report focus specifically on (i) the characteristics of water consumption and demand within the District, and (ii) actions/incentives to reduce consumption.
3. That the report places emphasis on water conservation (essentially chapters 4 and 5 with edits) and Trust/NSSWD actions to achieve/support it. Determine the penetration of conservation technologies on Salt Spring.
4. That the study eliminates a comparison of consumption and demand with renewable supply because reliable estimates of supply do not yet exist.

Recommendations 2 and 3 require consideration of the scope of work involved: at one end, simply cleaning up the analyses done to date; or at the other expanding the analyses to provide a statistical description of consumption and related demand matched to zoning (see further below re Sec. 3.3).

Review Comments - Overview

The stated purpose of the study is to “*develop strategic water conservation measures and tools to support existing water supply infrastructure and network demands and plan for future growth and development*”. Only bullet 3 under Objectives references evaluation of supply and demand. This objective requires that supply is known, annually and during the dry season, which is currently not the case. Consequently, it is our opinion that this objective cannot be met at this time.

Terminology: confusing use of demand, consumption and supply: suggest *consumption* be used exclusively for water delivered through a connection (metered consumption), *demand* be used for the amount of water that must be supplied to meet consumption (equivalent to water produced from the lakes) and *supply* be used solely for the renewable amount of water from each lake (if supply is to be included).

Use one consistent set of units throughout (metric).

The report requires a thorough edit by a senior engineer in the contractor’s organization. The draft report is poorly written and contains a great deal of irrelevant information.

Review Comments by Section:

- Sec. 2.1-2.3 deal with groundwater resources in a superficial way and note that a quantitative assessment is not possible given the paucity of data. It is unclear why this topic is being considered in the report since NSSWD draws water only from surface resources, not groundwater. The weakness of the conclusions undermines the effectiveness of the report. [This aspect is being dealt with by SSIWPA, and BCMOE/FLNRO in separate investigations currently underway.]
- Sec. 2.3 unsatisfactory – major editing required
- Sec 3.1-3.2 retain
- Sec 3.3 deficient and important – this section should determine the actual consumption **statistics** for the billing categories used by NSSWD; a far more thorough analysis is recommended, one that separates those institutional and commercial users that are unique, or nearly so, from residential connections for which there is much more data. Consideration of seasonal variations is of critical importance. The outcome is important because it allows (i) proper comparison (mean and variance) with standards, and (ii) provides a sound basis for extrapolating future growth of water consumption. It would also allow incorporating the benefits of conservation measures in a quantitative model.
- Sec 3.4 deficient – cannot reconcile Table 3-10 (consumption?) with 3-7 (demand). Confusing wording between supply, demand and consumption.
- Sec 3.5 remove
- Sec 3.6-3.7 recast in terms of consumption for all zoned properties within District, and ICI users, with estimates of variance. Relate results to number of properties/users currently served by NSSWD and number yet to be served. Scale up to give estimates of demand with seasonal variation.
- Sec 3-8 remove
- Chapter 4 this should be the key objective of the study
- Sec 4.1 recast in terms of results from consumption/demand analysis
- Sec 4.3 retain with editing (review comments from NSSWD)
- Chapter 5 retain with editing – meets key objective