

Date: April 14, 2015

File No.: 6500-20. Watershed
Management

To: Salt Spring Island Local Trust Committee: For the meeting of April 16, 2015

From: Stefan Cermak, Island Planner

Re: Watershed Management

Purpose

The Salt Spring Island Local Trust Committee (LTC) has identified watershed management on Salt Spring Island as one of its top priorities. The Watershed Program involves a multi-jurisdictional approach to the protection and management of freshwater resources on Salt Spring Island.

The purpose of this report is to update the LTC on advancement of the Watershed Management Program with respect to:

- Trust Councils approved 2015/16 budget including Salt Spring Island Local Trust Area Special Property Tax Requisition,
- Renewal of the Salt Spring Island Watershed Protection Authority Coordinator Contract,
- Developing an Integrated Watershed Management Plan for St. Mary Lake, and
- Consultations with the Salt Spring Island Watershed Protection Authority to assist preparing terms of reference, scope of work, and qualifications for services relating to water conservation and water demand management measures.

Background and Discussion

Special Property Tax Requisition

On March 11, 2015, Trust Council adopted a final budget bylaw for 2015/16 which has been forwarded to the Ministry of Community, Sport, and Cultural Development for approval. The 2015/16 Trust Council budget includes the proposed special property tax requisition which funds the additional operations the LTC has undertaken via its delegated authority to work with other agencies to develop and carry out policies that will improve source water quality on the island, starting with St. Mary Lake. The special property tax requisition amount requested is \$119,500 as outlined in previous staff reports.

Salt Spring Island Watershed Protection Authority activities are managed by a coordinator. The Coordinator's contract may be renewed annually for up to five years, contingent upon funding and satisfactory provision of services. These conditions have been met and the Coordinator's contract has thus been extended for 2015/16 with minor amendments including:

- Total Contract: \$85,000

- Rate of pay: \$47/hr; \$35 for subcontract administration
- Assist with the administrative needs of the SSIWPA Advisory Committees as needed (deleted are specific references to which ones)

Integrated Watershed Management Plan for St. Mary Lake

On March 2, 2015, the Salt Spring Island Watershed Protection Authority completed the first of three Structured Decision Making Process (SDM) workshops. The SDM is an organized and transparent framework for identifying, evaluating, and making defensible choices in management actions that may improve the raw lake water quality of St. Mary Lake.

The following items in the workshop minutes (Appendix 1) are noted here for their significance:

- The Technical Advisory Committee reported emerging preliminary results including:
 - St. Mary Lake naturally produces algal blooms, preventing all algal blooms is not feasible
 - There is no clear trend over 40 years of data collection of increased algal blooms
 - Septic systems are unlikely the cause of high phosphorus
- Preliminary Objectives and Management Actions were drafted and include:
 - The Ministry of Environment will not support dredging or any chemical or biological approaches
 - Neither water diversion or flushing are feasible options
- The few public members in attendance expressed appreciation for the process being undertaken.

The second and final workshops are scheduled for May 1, 2015 and May 25, 2015 respectively. The Integrated Watershed Plan for St. Mary Lake is anticipated for the Fall of 2015.

Water Conservation and Water Demand Management Measures

The Salt Spring Island Local Trust Committee (LTC) passed the following resolutions at their February 5, 2015 regular business meeting:

It was MOVED and SECONDED,
that the Salt Spring Island Local Trust Committee direct staff in consultation with the Salt Spring Island Watershed Protection Authority to prepare terms of reference, scope of work, and qualifications for services relating to water conservation and water demand management measures.
CARRIED

Staff began consultations with the Salt Spring Island Watershed Protection Authority (SSIWPA) on Feb. 20, 2015. SSIWPA members brainstormed what tools could be used to implement water conservation / demand management on Salt Spring Island followed by discussing a draft Terms of Reference for services relating to water conservation and water demand management measures. Minutes from that meeting, and from the January 14, 2015 meeting, are attached in the Appendices (Appendix 1). A follow up discussion with SSIWPA members was scheduled for March 20, 2015. However, the item was deferred due to an error of omission in the agenda package. The next scheduled SSIWPA meeting is April 17, 2015.

The draft Terms of Reference for services relating to water conservation and water demand management measures are attached (Appendix 2). SSIWPA's comments on the current draft remain outstanding; however, SSIWPA members did discuss in general the purpose and scope of work including identification

of geographically critical areas to focus on water quantity issues. Various SSIWPA members provided resources for staff consideration after the meeting. Staff will report to LTC with a final draft Terms of Reference following the next SSIWPA meeting.

RECOMMENDATIONS:

That the Salt Spring Island Local Trust Committee RECEIVE the Salt Spring Island Watershed Protection Authority minutes dated January 14, 2015, February 20, 2015, and March 2, 2015 for information.

Prepared and Submitted by:

Stefan Cermak, Island Planner

Date

Concurred in by:

Name

Date

Appendices

Appendix 1: SSIWPA Minutes dated February 20, 2015, March 2, 2015 and March 20, 2015

Appendix 2: Draft Terms of Reference for Salt Spring Island Water Conservation and Demand Management Plan, Dated April 14, 2015



Salt Spring Island Watershed Protection Authority

Minutes of a Regular Meeting

Date of Meeting: Friday, February 20, 2015
Location: School District #64 Boardroom
 112 Rainbow Road, Salt Spring Island

Members Present: Wayne McIntyre, Vice-Chair, Capital Regional District (CRD) Director
 Shannon Cowan, Coordinator
 Erwin Dyck, Vancouver Island Health Authority Supervisor of Health Protection (via web conferencing)
 Deb Epps, Ministry of Environment, Section Head, Environmental Quality Management Program (via web conferencing)
 Dale Green, Capital Regional District, Integrated Watershed (via web conferencing)
 Lorrie Hunt, Fernwood Water District Commissioner

Members Regrets: George Grams, Chair, Islands Trust Local Trustee
 Jeff Thompson, North Salt Spring Waterworks District (NSSWD) Trustee

Staff Present: Stefan Cermak, Island Planner
 Sarah Shugar, Recorder

Technical Advisory Committee Liaison: Don Hodgins, Technical Advisory Committee Chair

Media and Others Present: Marshall Heinekey, North Salt Spring Waterworks District Trustee
 Maxine Leichter, member of the Public Advisory Committee (PAC)

These minutes follow the order of the agenda although the sequence may have varied.

1. CALL TO ORDER

Alternate Chair McIntyre called the meeting to order at 10:26 a.m.

2. APPROVAL OF AGENDA

By general consent the agenda was adopted.

3. MINUTES

3.1 Draft Minutes of the January 16, 2015 Salt Spring Island Watershed Protection Authority Regular Meeting

By general consent the Salt Spring Island Watershed Protection Authority Minutes of January 16, 2015 were amended by replacing "Wayne McIntyre was elected Chair by acclamation" with "Wayne McIntyre was elected Vice-Chair by

acclamation” in item 4.5 and that the minutes be adopted as amended.

4. BUSINESS ITEMS

4.1 Chair’s Report

Alternate Chair McIntyre reported that the Capital Regional District has received information that a building code review for Salt Spring Island and the Southern Gulf Islands would involve legislative amendments and further options are being assessed. Water collection incentives for Salt Spring Island and the Southern Gulf Islands are under review by Director McIntyre and Director Howe. The first phase may be to develop an inventory of water collection initiatives.

Planner Cermak volunteered to assist with the Water Collection Initiatives Inventory.

4.2 St. Mary Lake Water Quality Update – North Salt Spring Waterworks District - none

4.3 Coordinator’s Report

Coordinator Cowan reviewed the Coordinator’s Report for January 17, 2015 to February 20, 2015.

Erwin Dyck arrived at 10:47 a.m.

4.4 Technical Advisory Committee Chair’s Report

Don Hodgins presented Technical Advisory Committee (TAC) progress and the following highlights were presented:

- TAC Capabilities:
 - Maggie Squires has submitted a letter dated February 20, 2015 regarding her resignation from TAC;
 - Meghan McKee has advised that her field support work will continue to the end of March;
 - TAC recommends recruitment of new members;
 - Ongoing field studies will be the focus of the next TAC meeting and TAC will make recommendations to SSIWPA by the end of March.
- Monitoring Program:
 - Monthly well monitoring is ongoing and will continue to the end of April;
 - In-lake monthly sampling by NSSWD will continue to the end of March;
 - Data analysis for the P-runoff modeling is ongoing. Lisa Rodgers has applied the model and preliminary results are forthcoming.
- Structured Decision Making (SDM):
 - TAC has provided input to the Remedial Measures and Influence Diagram and the next step is the first SDM workshop followed by an assessment of remedial options;
 - Final Reports will be complete in the Fall 2015.
- Budget

- a budget update was presented.

Coordinator Cowan reported the Structured Decision Making consultant has requested to have TAC's preliminary conclusions to be presented at the March 2, 2015 SDM workshop.

Further to discussion, the following resolutions were introduced.

By general consent the Salt Spring Island Watershed Protection Authority received the correspondence from Maggie Squires dated February 20, 2015 and will send a letter of thanks for her contribution to the Technical Advisory Committee.

By general consent the Salt Spring Island Watershed Protection Authority will advertise for a limnology specialist as a new member to the Technical Advisory Committee.

By general consent the Salt Spring Island Watershed Protection Authority agreed that the preliminary data is sufficient to go ahead with the Structured Decision Making Workshop Schedule.

4.5 Structured Decision Making

Coordinator Cowan presented the Structured Decision Making (SDM) Workplan Update dated February 12, 2015.

Marshall Heineky arrived at 11:08 a.m.

4.6 None

4.7 Terms of Reference for Consultant to Develop Islands Trust Water Conservation Bylaw

Planner Cermak presented the Terms of Reference for a Consultant to Develop an Island Trust's Water Conservation Bylaw dated February 18, 2015 and the following highlights were presented:

What tools could be used to implement water conservation / demand management on Salt Spring Island?

- a Groundwater Catchment Development Permit Area tool;
- Education. Dale Green has a contact at the Capital Regional District for liaisons with CRD Staff on education;
- The exclusion on total home floor plan area for water catchment infrastructure as an incentive. Could this offer a tax shelter?;
- City of Victoria stormwater utility bylaw – cisterns, etc.;
- Rebates and incentives – look for liaisons;
- Nanaimo, North Vancouver.

Scope of Work for Water Management Bylaw Consulting work:

- Objective: To encourage greater use of rainwater catchment and reduce demand on groundwater resources;

- Where? Who? Is North Salt Spring Waterworks District a priority?;
- The differences in a bylaw depending on whether residents are on a well primarily or on municipal/community water district provisions, or already catching and treating rainwater for potable uses;
- an inventory might be important first before deciding;
- Chair Grams forwarded the need for an inventory at the Salt Spring Island Local Trust Committee meeting;
- Could the consultant's initial work be to bring together the information into one place?
- Salt Spring Island approach as opposed to North Salt Spring Waterworks District.

Please send feedback regarding the Terms of Reference for a Consultant to Develop an Island Trust Water Conservation Bylaw to Planner Cermak.

4.8 Process for PAC Meeting Notes and Recording

Coordinator Cowan introduced the process for Public Advisory Committee meeting notes and recording.

Further to discussion, the following resolution was introduced.

By general consent the Salt Spring Island Watershed Protection Authority approved that the Public Advisory Committee Adopted Minutes will be published on the Salt Spring Island Watershed Protection Authority web site.

4.9 NSSWD Announcement

Alternate Chair McIntyre presented the North Salt Spring Waterworks District letter dated January 22, 2015.

Further to discussion, the following resolution was introduced.

By general consent the Salt Spring Island Watershed Protection Authority received the North Salt Spring Waterworks District letter dated January 22, 2015 and will acknowledge Meghan McKee's contribution to the Salt Spring Island Watershed Protection Authority with a card and a gift.

4.10 Meeting Schedule – Updates Only

Coordinator Cowan presented the following meeting schedule updates:

November 27, 2015 - 2:00 p.m. to 4:00 p.m., team building and dinner 4:00 p.m. to 6:00 p.m., Open house 7:00 p.m. to 9:00 pm – Lion's Hall (replaces November 20, 2015 previously)

SDM Workshop:

SDM I – March 2, 2015 – Lion's Hall 103 Bonnet Avenue

Next SSIWPA meeting:

March 20, 2015 10:30 am to 12:30 pm - School District #64, 112 Rainbow

Road Portable

Next PAC Meeting:
Monday March 16, 2015 4:30 to 6:30 pm - Golf Course Clubhouse 805A
Lower Ganges Road

5. CLOSED MEETING RESOLUTION

At 11:24 a.m., it was **MOVED** and **SECONDED** that the Salt Spring Island Watershed Protection Authority closes this meeting to the public subject to Community Charter Section 90(1) k for discussions respecting a municipal service that is at its preliminary stage. **CARRIED**

6. OPEN MEETING RESOLUTION

At 11:59 a.m., it was **MOVED** and **SECONDED** that the Salt Spring Island Watershed Protection Authority re-opens this meeting to the public subject to Section 89 of the Community Charter. **CARRIED**

Dale Green and Erwin Dyck left the meeting at 11:59 a.m.

7. RISE AND REPORT - none

8. OTHER BUSINESS

8.1 Questions and Comments from Public - none

8.2 SSIWPA co-hosts Water Fair on SSI with Water Council and Water Preservation Society and Cusheon Lake Stewardship Committee.

Coordinator Cowan presented the Salt Spring Water Fair 2015 information. Please contact the volunteer coordinator, Maxine Leichter to volunteer.

Date: Sunday March 22, 2015

Time: 10:00 a.m to 3:00 p.m.

Location: Farmer's Institute, Rainbow Road

"Every Drop Counts" Rainwater Tour on Saturday, March 21 12:00 p.m. to 4:00 p.m.

Lorrie Hunt volunteered for the 9:45 a.m. to 11:45 a.m. time slot.

9. ADJOURNMENT

By general consent the meeting adjourned at 12:03 p.m.

Wayne McIntyre, Alternate Chair

CERTIFIED CORRECT:

Sarah Shugar, Recorder



Salt Spring Island Watershed Protection Authority

Minutes of a Structured Decision Making Workshop

Date of Meeting: Monday, March 2, 2015

Location: Lions Club, Hart Bradley Memorial Hall
103 Bonnet Avenue, Salt Spring Island, BC

Members Present: Wayne McIntyre, Vice-Chair, Capital Regional District (CRD) Director
Shannon Cowan, Coordinator
Erwin Dyck, Vancouver Island Health Authority Supervisor of Health Protection
Peter Grove, Islands Trust Local Trustee
Dale Green, Capital Regional District, Integrated Watershed
Don Hodgins, Technical Advisory Committee Chair
Lorrie Hunt, Fernwood Water District Commissioner
Michelle Kehler, Ministry of Environment
Jeff Thompson, North Salt Spring Waterworks District (NSSWD) Trustee

Members Regrets: George Grams, Chair, Islands Trust Local Trustee
Deb Epps, Ministry of Environment, Section Head, Environmental Quality Management Program

Staff Present: Stefan Cermak, Island Planner
Sarah Shugar, Recorder

Others Present: David Angus, Compass Resource Management
Michael Harstone, Compass Resource Management
Kristin Aasen, Islands Trust Planner 2
Anna Haltrecht, member of the Public Advisory Committee (PAC)
Maxine Leichter, member of the Public Advisory Committee (PAC)
Cate McEwen, member of the Public Advisory Committee (PAC)
Craig Nowakowski, Island Health, Senior Environmental Health Officer
Usha Rautenbach, Water Preservation Society
Justine Starke, Islands Trust Planner for Pender Island

These minutes follow the order of the agenda although the sequence may have varied.

1. Call to Order

The meeting was called to order at 9:05 a.m. Introductions were carried out. The agenda was approved as presented.

2. Overview of Planning Process

Michael Harstone reviewed the meeting objectives and the key aspects of the decision charter and the planning approach. He presented a refresher on Structured Decision

Making. The ground rules were set for this meeting: Strive for inclusion and respect, speak to your interests, not positions; challenge ideas not people; seek common ground and aim for consensus; stay focused on topic at hand.

3. Technical Advisory Committee (TAC) Process Update of St Mary Lake Monitoring and Historical Data Analysis.

Don Hodgins presented an update on TAC progress and the following highlights were noted:

- In November 2013 the Technical Advisory Committee began with the assumption that there was too much phosphorus in the lake and the question was how is this affecting algal blooms? The main focus of TAC has been to quantify the sources and sinks of phosphorus in the system. The external loads were identified: septic, storm water runoff, rain and dust, and groundwater. The internal processes were identified: P release from bottom sediments and decomposition. The sinks were identified: sedimentation/ burial, export via streams, export via withdrawals.
- The next step was to quantify the phosphorus sources and sinks (see presentation slides for amounts)
- The emerging preliminary results include:
 - St. Mary Lake is a naturally productive lake and algal blooms will occur as normal lake processes. Preventing all algal blooms is not feasible.
 - There is no clear trend in four decades of data that indicates conditions are getting worse over time. It is likely that some of the inter-annual variations evident in the data record are due to weather and timing of rainfall/runoff and imbalances between the amount entering the lake from all sources compared with amount exported and buried.
 - Plankton and sediment data are still forthcoming, and septic data are preliminary – data collection for septic will continue until summer 2015.

Don Hodgins acknowledged contributions to the work of TAC by all of the TAC members, North Salt Spring Waterworks District for logistical, staff and office support for the field program and CRD and VIHA for funding the field program.

The following questions and comments were noted:

- Is phosphorus availability the correct assumption? Is there something else that drives the algal blooms? Do we need more information regarding what are the key drivers

in the algal lifecycle?

- Do we have long-term weather data? Answer: We have temperature and rainfall data that goes back to the 1970's.
- Does John Sprague support the conclusion that septic systems are not the cause of years, or times during the year, when phosphorus is in the high range? Answer: Yes, he is supportive of the preliminary findings.
- Did the TAC consider turbidity? Answer: Yes, Secchi disk data have been analyzed. Maggie Squires is in the process of further research on turbidity.
- Has the TAC determined the effect of the plankton eaten by fish? No, effects on fish are not part of the current TAC mandate.
- Could a fishery be established in the lake? Answer: There was a bass fishery in the 1940's until the bass were outcompeted by perch.
- Do cutthroat trout eat perch? Answer: Yes, they eat juvenile perch.
- Are perch levels the same as when Rick Nordin did his study? Answer: TAC does not have the data at this time. TAC would need Department of Fisheries data.
- Is phosphorus the limiting agent for an algal bloom? Answer: Yes, mostly.
- Is storm water runoff targeted as a source? Answer: Stormwater runoff was not targeted, it has emerged as a source. Most of the stormwater runoff goes over private property and there has been no formal program of sampling for stormwater runoff in this monitoring cycle.
- Did TAC differentiate between ditches and creeks? Answer: Yes. Even if half of the water from ditches could be intercepted (ie. removal of P and/or solids that might contribute to eutrophication and turbidity issues), it is unclear whether it would make a significant difference based on the analysis TAC has done.
- Are three well sites sufficient to provide enough data regarding the septic effect on the lake? Answer: They are representative of the variation around the lake, because we chose different soil areas. The area that may need more data collection is along Bradbury Road. If septic drain fields are working properly they can remove over 90% of phosphorus and it appears that property owners are concerned with properly maintaining their drain fields.
- Comment by Jeff Thompson: The proposed NSSWD DAF (Dissolved Air Flotation) Treatment Plant will remove toxins from all treated water. (Editor's note: Fernwood-Highland Treatment Plant is also a DAF plant)
- Comment: Do not downplay the toxicity of algal blooms to the public.

4. Setting Objectives

David Angus presented a review of the Integrated Water Management Plan (IWMP) – Preliminary Issues and Objectives. It was noted the key objective for this exercise is to determine what are the issues and to have a wide scope at this point. It is the time to do due diligence to develop a fulsome list of issues and then scope the issues later. The following comments were highlighted:

Tourism and Recreation:

- there is a community interest in additional lake access;
- the weeds that grow in the water;
- this is all algal blooms not just cyano blooms;
- that the watershed is an unhindered environment;
- there are other aspects that affect water quality such as fishing docks, public accesses;
- the Salt Spring Island image and brand – the image of our lake;
- confidence in the safety of the raw water for swimming.

Could you envision yourself developing riparian areas to restrict access to the lake? Is part of the IWMP to provide access for recreation?

- education will become a focal point, if you control access you could educate more effectively;
- to engage taxpayers.

Should there be a sub area under tourism and recreation: lake access?

Environment:

- Are there other areas that we should be considering?
- Aquatic habitat and terrestrial habitat overlap;
- The stocking of cutthroat trout – in the past there were runs of cutthroat trout, they do not increase because they do not breed (sterile);
- Sticklebacks are a native species of fish;
- Duck Creek is managed by the federal Department of Fisheries and Oceans (DFO).
- Coho Salmon can use Duck Creek;
- Water quantity needs to be included as how it affects quality;

- Water quality may come into play with TAC findings and some may be showstoppers.

Health:

- drinking water should be at the top of the list;
- how many houses draw drinking water directly from the lake? a few – most use for grey water but buy their drinking water- it was estimated that there are 40 water licenses;
- there are safety perceptions beyond the taste – people who do not want to buy properties that use SML water;
- to focus on other bacteria including all kinds of fecal contamination;
- do these actions affect costs to water districts?
- conservation needs to be slotted in wherever it can – conservation first, remediation (treatment) second;
- are the fish toxic to consume by humans? further data is needed.

Costs:

- the amount of waste material generated by St Mary Lake treatment plants requiring disposal is one area that could have costs reduced;
- ongoing maintenance costs could be reduced;
- to change this section (i.e. reduce costs of IWMP) to something else

Social:

- to include an educational component such as the CRD septic program

David Angus led a review and discussion of the Preliminary Objectives and Management Actions document. The following changes/comments were noted:

- do not delete items because there is no representation at the table;
- the enforcement of Riparian Bylaws is an issue;
- NSSWD turned off the aerators because they were not effective;
- Island Health has no authority for geographic-specific bylaws;
- oil tank education and awareness could be useful to avoid potential lake contaminants/soil contaminants from leakage or damaged tanks;

Physical Works:

- remove Storm Water Management – piped grey water – it is covered under public outreach;
- comment: bird deterrents – to deter Canada Geese and cormorants but not the native species;
- add Riparian Planting Program;
- delete weed removal;

Chemical Treatment:

- remove sediment oxidation;
- expand nitrogen to: Nitrogen addition (gas? Aerosol?);

Biological Approaches

- add floating reed beds to Sewers row

Water Authorizations:

- delete column;

Land Use:

- change Modify Zoning to promote sustainable dev. to modify Land Use Bylaws and regulations to promote green infrastructure – xeriscaping, roof catchment, percentage of effective impervious areas;
- add to Increase Water retention on land – ponds, tanks, infiltration;
- add to Modify Water Use permits – motorized bans;
- add environmental farm plans – advocate and educate. Riparian setbacks for agriculture;
- add identify and protect groundwater and aquifer recharge areas (quantity issue);

Public Policy:

- delete increase septic field standards and replace with promote best practices in onsite sewage treatment and maintenance;
- add pass bylaws to enforce certain standard of septic field (construction and maintenance);
- add real estate transaction – similar to oil tank upgrades (Province related to EMA) - look into current regulations ;

- add local treatment of septic effluent – CRD bylaw for septic;
- add provide incentives (real or in kind) to improve land use practices;

Public Outreach:

- educate and advocate septic field maintenance information;
- delete grey water management;
- change general public awareness campaign;

Add new column:

Research and Monitoring:

- add algal research to Dredging row;
- add Food Web Dynamics to Sewers row;
- add Zoo Plankton to Sewers row;
- add fish and fish stocking to Sewers row;

Action Item: The Consultants will amend the Preliminary Objectives and Management Actions document and Shannon Cowan will circulate the document to the committees.

5. Options Assessment

Michael Harstone presented the suggested approach for screening potential management actions and presented the Initial screening of options that would not be suitable for St. Mary Lake.

The following items were determined to be showstoppers:

- Dredging: Ministry of Environment will not endorse;
- Sewers; not necessary with nil septic phosphorus input, as reported
- Chemical Treatment - Ministry of Environment does not endorse the addition of anything into a habitat;
- Periphyton – may be ineffective on such a large scale

- Dilutional flushing – do not have the water to do it
- Diversion – not possible
- Biological Approaches – trophic cascades / bio manipulation – Ministry of Environment will not support. Could be a conversation with Department of Fisheries.

Action Item: TAC to summarize rationale for options that are removed from the list in writing.

Action Item: The Consultants will document rationale for options that are removed and/or remain on the list as part of the SDM process.

6. Building Strategies

Michael Harstone presented the Performance Measures for objectives. The following comments were noted:

- We need some sort of measure of days of cyano-toxic algae per year. Including the measure of unacceptable algal and the measure of unacceptable aesthetic conditions.
- The management actions that remain will outline a fair picture of effectiveness
- IWMP likely to be an “adaptive management” plan
- We need to identify data gaps
- What assessment tools would be helpful to pull together the pieces for the plan and then go out for public engagement?
- Taking no action is an option. If selected, then the important thing becomes documentation of the rationale for the process and selection.

7. Next Steps

Next steps for the Salt Spring Island Watershed Protection Authority Steering Committee:

1. Confirm the list of Objectives for the IWMP.

2. Review and provide any post meeting edits to the objectives
3. Review and add to the list of Candidate Management Actions that should be considered during the SDM process.

Next steps for the Technical Advisory Committee:

1. Document the results, conclusions, and implications from the field studies for the SDM process.
2. Conduct initial screening of management actions and document why the management action is Not Suitable or is not a Best Management Practice.
3. Recommend performance measures that should be used to assess the technical performance of actions.
4. Recommend any additional studies or analyses needed to better evaluate the management actions.
5. Review and comment on the objectives.

Next steps for the Public Advisory Committee:

1. Review and comment on the objectives.
2. Review and comment on the preliminary influence diagram.
3. Review and comment on the preliminary list of management actions.
4. Identify any best management practices that should be considered.

Compass Management will write an executive summary of the Integrated Watershed Management Plan (IWMP) based on three SDM workshops. The IWMP will be written by SSIWPA. The target date for the draft IWMP is August 1, 2015 for public consultation and the target date for the final IWMP is Sept. 20, 2015.

The next Structured Decision Making Workshop is scheduled on April 20, 2015.
The next meeting of the Technical Advisory Committee is scheduled on March 9, 2015.
The next meeting of the Public Advisory Committee is scheduled on March 16, 2015.
The next meeting of the Steering Committee is scheduled on March 20, 2015.

8. Adjourn

Shannon Cowan thanked Hips and Haws Cookery for catering the event and the BC Real Estate Foundation for providing the grant for the Structured Decision Making process. She announced the Salt Spring Water Fair on March 22, 2015.

By general consent, the meeting adjourned at 2:58 p.m.



Salt Spring Island Watershed Protection Authority

Minutes of a Regular Meeting

Date of Meeting: Friday, January 16, 2015
Location: All Saint's By The Sea Upper Church Hall
110 Park Drive, Salt Spring Island

Members Present: George Grams, Chair, Islands Trust Local Trustee
Shannon Cowan, Coordinator
Dale Green, Capital Regional District, Integrated Watershed Management Program (via web conferencing)
Lorrie Hunt, Fernwood Water District Commissioner
Jeff Thompson, North Salt Spring Waterworks District (NSSWD) Trustee
Meghan McKee, North Salt Spring Waterworks District Water Quality Specialist

Members Regrets: Erwin Dyck, Vancouver Island Health Authority Supervisor of Health Protection
Deb Epps, Ministry of Environment, Section Head, Environmental Quality
Wayne McIntyre, Vice-Chair, Capital Regional District (CRD) Director

Staff Present: Stefan Cermak, Island Planner
Sarah Shugar, Recorder

Media and Others Present: Peter Grove, Islands Trust Local Trustee
Peter Lake, Alternate Capital Regional District (CRD) Director
Robert Hubert, member of the Public Advisory Committee (PAC)
Maxine Leichter, member of the Public Advisory Committee (PAC)
1 member of the public

These minutes follow the order of the agenda although the sequence may have varied.

1. CALL TO ORDER

Chair Grams called the meeting to order at 10:33 a.m.

2. APPROVAL OF AGENDA

By general consent the agenda was approved.

3. MINUTES

3.1 Draft Minutes of the November 28, 2014 SSI Watershed Protection Authority Regular Meeting

By general consent the minutes of the November 28, 2014 Salt Spring Island Watershed Protection Authority Regular Meeting were adopted.

4. BUSINESS ITEMS

4.1 Chair's Report

Chair Grams reported that the Salt Spring Island Watershed Protection Authority Open House was a success and he thanked Maggie Squires for the excellent presentation and Shannon Cowan for organizing a successful event. He has been working with staff and the coordinator to develop the Water Quantity Committee. A draft invitation to the committee has been prepared and is awaiting approval. The Capital Regional District has initiated a building code review for Salt Spring Island and the Southern Gulf Islands. At the January 8, 2015 Salt Spring Island Local Trust Committee meeting, Chair Grams was appointed the representative to the Salt Spring Island Watershed Protection Authority for the term 2014-2018.

4.2 St. Mary Lake Water Quality Update - NSSWD, Meghan McKee

Meghan McKee reported on the latest test results for St. Mary Lake. The water quality is in relatively good condition. The lake completed mixing on approximately December 7, 2014. The phosphorus level is 20 µg per litre. There is a visible, non toxic algal bloom that has spread to most of the deep parts of the lake. The lake is full and overflowing.

4.3 Coordinator's Report

Coordinator Cowan reviewed the Coordinator's Report for November 29, 2014 to January 16, 2015.

4.4 Technical Advisory Committee Chair's Report

Megan McKee presented Technical Advisory Committee (TAC) progress. The following highlights were presented:

- Septic monitoring and lake monitoring have continued through November and December 2014 and will continue to the end of March. One well site remains dry. This is important information regarding the understanding of the groundwater;
- New lake data combined with historical dataset is being analyzed for causal relationships between times of high and low phosphorus and phosphorus balance. There has been great progress leading to a more complete understanding of the lake;
- TAC is making progress regarding the P-runoff modelling. The early results have been reviewed by TAC and compared with independent estimates. TAC is in general agreement with the results.
- TAC is creating and reviewing the Structured Decision Making (SDM) Influence Diagram showing the impact pathways for St. Mary Lake Objectives. The target date for completion is February 2, 2014.

4.5 Chair and Vice Chair Election – Coordinator

Coordinator Cowan explained the election procedures and called for nominations for Chair.

George Grams was nominated.

Coordinator Cowan called three times for further nominations. Hearing none, she declared the nominations closed.

George Grams was elected Chair by acclamation.

Coordinator Cowan explained the election procedures and called for nominations for Vice Chair.

Wayne McIntyre was nominated.

Coordinator Cowan called three times for further nominations. Hearing none, she declared the nominations closed.

Wayne McIntyre was elected Vice Chair by acclamation.

4.6 SSI LTC Watershed Program Proposed Charter update (ver. 6)

Planner Cermak presented the Project Charter dated November 22, 2014.

Further to discussion, the following resolution was introduced.

By general consent the Salt Spring Island Watershed Protection Authority agreed that North Salt Spring Waterworks District (NSSWD) would forward their comments regarding the Project Charter amendments to Coordinator Cowan following the next NSSWD board meeting.

4.7 Water Quantity Committee Feasibility Staff Report

Planner Cermak presented the Islands Trust staff comments regarding proposed Quantity Committee dated January 9, 2015.

Further to discussion, the following resolution was introduced.

By general consent the Salt Spring Island Watershed Protection Authority agreed to receive the Islands Trust Staff Comments Regarding Proposed Quantity Committee document dated January 9, 2015 for information.

4.8 2014-2015 Deferred Expenditures of \$30,000

Chair Grams presented the deferred expenditure (surplus) in the Salt Spring Island Watershed Protection Authority budget 2014-2015 - \$30,000 document for consideration.

Further to discussion, the following resolution was introduced.

By general consent the Salt Spring Island Watershed Protection Authority request that "deferred expenditures" be used for the Salt Spring Island Local Trust Committee to undertake a new program.

Chair Grams called a recess at 11:28 a.m. The meeting reconvened at 11:32 a.m.

4.10 Structured Decision Making Workplan to end March 2015

Coordinator Cowan presented the Structured Decision Making (SDM) Workplan dated January 8, 2015.

4.10.1 List of issues/concerns that should be considered in the St Mary Lake Integrated Watershed Management Plan

Coordinator Cowan presented the St. Mary Lake Planning Process: Issues and Concerns draft document for consideration.

Further to discussion, the following resolution was introduced.

By general consent the Salt Spring Island Watershed Protection Authority agreed to amend the St. Mary Lake Planning Process: Issues and Concerns as follows:

- remove the comment: IWMP by SDM might be a waste of time and money”;
- remove the comment: “cost of sewer system, is it necessary?”;
- add “invasive species – fish and plants”;
- add “a review of grant and financial assistance resources”.

Please forward comments to Coordinator Cowan. It was noted that there may be opportunity for the Islands Trust Grant Administrator to assist with the review of grant and financial assistance resources.

4.11 Public Advisory Committee

4.11.1 Draft Public Advisory Committee Agenda January 31, 2015

Coordinator Cowan presented the Draft Public Advisory Committee Agenda for consideration.

Further to discussion, the following resolution was introduced.

By general consent the Salt Spring Island Watershed Protection Authority approved the Draft Public Advisory Committee Agenda for January 31, 2015.

4.12 Letters to Salt Spring Island Watershed Protection Authority

4.12.1 Mike Larmour - December 1, 2014

By general consent the Salt Spring Island Watershed Protection Authority agreed to defer the correspondence as a Water Quantity Committee item.

4.12.2 Scott Simmons - December 2, 2014

Further to discussion, the following resolutions were introduced.

By general consent the Salt Spring Island Watershed Protection Authority agreed to add that technical questions regarding the St. Mary Lake weir be directed to the North Salt Spring Waterworks District.

By general consent the Salt Spring Island Watershed Protection Authority agreed to seek permission from the Public Advisory Committee regarding audio recording and posting the recording on the website.

It was noted the Islands Trust Tascam recording equipment may be an option for recording the meetings.

4.12 Website Committee Member Bios:

Chair Grams will post the committee member biographies on the web site.

4.13 Watermark Newsletter Writing Schedule

Deadline:

January 10, 2015	George Grams for Islands Trust
February 10, 2015	Lorrie Hunt for Fernwood-Highland Water Service Area
March 10, 2015	Maggie Squires for TAC / Shannon Cowan
April 10, 2015	Dale Green for CRD
May 10, 2015	Meghan McKee for NSSWD
June 10, 2015	Deb Epps for MOE
July 10, 2015	Erwin Dyck for Island Health
Aug 10, 2015	Wayne McIntyre for CRD
Sept 10, 2015	Shannon Cowan, management plan release
Oct 10, 2015	George Grams for Islands Trust
Nov 10, 2015	TBD

It was noted that Coordinator Cowan will check with the Public Advisory Committee to see if they would like to contribute to the newsletter.

4.14 Meeting Schedule

SSIWPA Regular Meetings

February 20, 2015	10:30 am – 12:30 pm	SD64 112 Rainbow Rd Portable
March 20 2015	10:30 am – 12:30 pm	SD64 112 Rainbow Rd Portable
April 17, 2015	1:30 pm – 3:30 pm	SD64 112 Rainbow Rd Portable
May 15, 2015	10:30 am – 12:30 pm	SD64 112 Rainbow Rd Portable
June 19, 2015	10:30 am – 12:30 pm	SD64 112 Rainbow Rd Portable
optional: Team Building Field Trip		
July 17, 2015	10:30 am – 12:30 pm	SD64 112 Rainbow Rd Portable
August 21, 2015	10:30 am – 12:30 pm	SD64 112 Rainbow Rd Portable
September 18, 2015	10:30 am – 12:30 pm	

October 16, 2015 10:30 am – 12:30 pm
November 20, 2015 2:00 pm – 4:00 pm
Team building 4-6pm, Open house 7-9pm

Public Advisory Committee Meetings:

January 31, 2015	10:00 am – 12:00 pm	Lion's Hall (setup 9:30)
February 16, 2015	4:30 pm – 6:30 pm	Golf Course Clubhouse
March 16, 2015	4:30 pm – 6:30 pm	Golf Course Clubhouse
May 4, 2015	4:30 pm - 6:30 pm	Library Program Room
June 8, 2015	4:30 pm - 6:30 pm	Library Program Room

Strucuted Decision Making Workshops

1. SDM I – March 2, 2015 – Lion's Hall 103 Bonnet Ave
2. SDM II – April 20, 2015 - Lion's Hall 103 Bonnet Ave
3. SDM III – May 25, 2015 – All Saints-By-The-Sea 110 Park Drive

5. CLOSED MEETING RESOLUTION

At 12:04 p.m., it was **MOVED** and **SECONDED** that the Salt Spring Island Watershed Protection Authority closes this meeting to the public subject to Community Charter Section 90(1) k for discussions respecting a municipal service that is at its preliminary stage. **CARRIED**

6. OPEN MEETING RESOLUTION

At 12:08 p.m., it was **MOVED** and **SECONDED** that the Salt Spring Island Watershed Protection Authority re-opens this meeting to the public subject to Section 89 of the Community Charter. **CARRIED**

7. RISE AND REPORT

7.1 Public Advisory Committee Appointments

By general consent the Salt Spring Island Watershed Protection Authority agreed that the following persons be appointed to the Public Advisory Committee: Susan Grace and Murray Nurse.

8. OTHER BUSINESS

8.1 Questions and Comments from Public

The following comments and questions were noted:

- It is important to target Water Quantity Committee efforts to specific areas of concern because water quantity problems are specific to areas of Salt Spring Island. North Salt Spring Waterworks District is capable of dealing with water quality in their jurisdiction.

- “Demand Management” is a preferable term to replace “Conservation” due to negative and restrictive associations. The Water Council published the Soft Path report that provides an extensive list of Demand Management strategies.
- It was noted the Soft Path report is provided as a link on the SSIWPA web site.
- Could SSIWPA ask the Driftwood to publish the Watermark Newsletter for community information? Answer: Coordinator Cowan will look into this.
- A number of Salt Spring Island residents are living entirely off of water catchment systems successfully.
- Does North Salt Spring Waterworks District have any concerns regarding water quality resulting from raising the weir? Answer: North Salt Spring Waterworks District will be conducting a public consultation process prior to raising the weir.

9. ADJOURNMENT

By general consent the meeting adjourned at 12:10 p.m.

George Grams, Chair

CERTIFIED CORRECT:

Sarah Shugar, Recorder

Terms of Reference for Salt Spring Island Water Conservation and Demand Management Plan
April 14, 2015

Purpose / Deliverable

- To draft and implement a potable water conservation / water demand management plan for Salt Spring Island

Objectives

- Summarize current and future long-term potable water supply and demand scenarios on SSI
- Reduce demand for ground or surface water
- Collaborate with agencies to conserve island water resources
- Encourage greater use of rainwater catchment systems
- Consider what values to include for water demand based on varying types of use

Scope of Work

- Background work: Preliminary Report detailing supply and demand
 - Inventory existing water supply
 - Lakes and streams:
 - Update source availability
 - licenced withdrawals
 - Review and update Community Surface Water Systems Remaining Supply Capacity
 - identify areas of water supply deficit
 - Identify data gaps, level of certainty
 - Groundwater:
 - Review and update Community Groundwater Systems Remaining Supply Capacity
 - summarize known groundwater supply
 - summarize groundwater vulnerability and community catchment areas
 - Identify areas of groundwater supply deficit (example increasing water delivery to well users)
 - Identify data gaps, level of certainty
 - Research Water Demand Management Options
 - Research and recommend potable water demand standards (volume) for different types of users including:
 - a. residential users
 - b. industrial/commercial/institutional users
 - Research projected water demand for undeveloped lands based on current permitted principle and accessory uses
 - Estimate projected water demand for build-out of undeveloped lands based on projected rate of growth, including density transfer potential and amenity zoning for:
 - a. surface water systems

Terms of Reference for Salt Spring Island Water Conservation and Demand Management Plan
April 14, 2015

- b. groundwater systems
 - Research existing SSI Community Water System Demand Management strategies
- Analyze Results
 - Recommend water conservation priorities based on supply and demand analysis
 - Set water consumption reduction targets by sector
 - Review measures and tools
 - Select measures and tools
 - Recommend water conservation priorities based on respective agency jurisdictional authority on SSI to implement results
 - Water Improvement Districts
 - Capital Regional District (ex; Building Permits and stormwater management)
 - Islands Trust (ex: land use and siting)
 - other
- Draft Water Conservation / Water Demand Bylaw (Islands Trust) based on selected measures and tools

Timing

- April/May 2015 – March 2016

Resources

- \$30,000 from unspent 2014/15 special property tax requisition (unspent due to delay in SDM process)
- Salt Spring Island Local Trust Committee trustees may be able to direct further funds from Watershed Project budget for 2015/16
- Islands Trust staff to manage contract

Qualifications

- Expert in drafting and implementing water conservation / water demand management plans
- Expert communicator/coordinator with multiple agencies or departments
- Procurement Policies require the Services to go through a Request for Proposal process
- Potential Vendors invited to bid may include:
 - CH2M Hill
 - CTQ CONSULTANTS
 - DILLON CONSULTING LIMITES
 - GOLDR ASSOCIATES LTD.
 - STANTEC
 - URBAN SYSTEMS LTC
 - WORLEYPARSONS

Terms of Reference for Salt Spring Island Water Conservation and Demand Management Plan
April 14, 2015

Examples of feasible amendments to **Islands Trust bylaws** to address water quantity issues:

OCP Amendments:

- update section C.3.2 Table 1 (NSSWD Supply and Demand) and Table 2 (Other Water Systems Supply Capacity)
- incorporate groundwater vulnerability mapping into policies, for example certain areas (areas with high groundwater vulnerability) may require a thorough study of groundwater sources, wastewater treatment, and rainwater management
- new general policy supporting an island-wide water conservation policy
- **consider community water supply deficit impacts on other OCP policies such as amenity and density transfers to village cores**

Development Permit Area: (establishment of objectives to promote water conservation)

- Create a new DPA for protection of community water system supply watersheds
- Amend DPA5, community well capture zones to include increased use of rainwater catchment and increased area of permeability
- Amend other DPA's to include Integrated Rainwater Management and Infrastructure Servicing

Zoning amendment:

- Require water storage such as cisterns (useful for stressed community wells or to limit surface water withdrawals)
- Decrease permitted lot coverage/maximize total structure footprints in Rural Upland and Rural Watershed zones
- Exclude water catchment infrastructure from the total floor area permitted in buildings or structures
- Consider updating amenity zoning to include enhanced water conservation measures; consider incentive zoning tools (example 3 storeys with "purple piping")

Subdivision Standards:

- proof of water, may require ongoing monitoring when warranted in sensitive aquifers of groundwater-limited areas
- improve standards for well testing (ex: time of year)
- amend potable water supply standards for subdivision (both required volume per use and quality)
- require onsite capture of water
- limit non pervious lot coverage

Terms of Reference for Salt Spring Island Water Conservation and Demand Management Plan
April 14, 2015

Preliminary input into table listing Water Conservation Measure, corresponding jurisdictional authority and current level of implementation.

Water Conservation Measures (USEPA)		
Title of Measure	Authority / Jurisdiction	Implementation
Level 1 Measures		
Universal Metering <ul style="list-style-type: none"> Source water metering, service connection metering, meter public use-water, fixed interval meter reading, meter accuracy analysis, test calibrate, repair and replace meters 	Water Improvement Districts (WID)	Various measures applied in NSSWD
Water Accounting and Loss Control <ul style="list-style-type: none"> Account for water, repair known leaks, analyze non-account water, water system audit, leak detection and repair strategy, loss prevention strategy 	WID	Various measures applied in NSSWD
Costing and Pricing <ul style="list-style-type: none"> Cost of service accounting, user charges, metered rates, cost analysis, nonpromotional rates, advanced pricing methods 	WID	Various measures applied in NSSWD
Information and Education <ul style="list-style-type: none"> Understandable water bill, information available, informative water bill, water bill inserts, school programs, public education program, workshops, advisory committee 	WID	Various measures applied in NSSWD
Level 2 Measures		
Water Use Audits <ul style="list-style-type: none"> Audits of large-volume users, large-landscape audits, selective end use audits 	WID	Various measures applied in NSSWD
Retro-fits <ul style="list-style-type: none"> Retrofit kits available, distribution of retrofit kits, targeted programs 	WID	Various measures applied in NSSWD
Pressure Management <ul style="list-style-type: none"> System wide pressure management, selective use of pressure reducing valves 	WID	Various measures applied in NSSWD
Landscape efficiency <ul style="list-style-type: none"> Promotion of landscape efficiency, selective irrigation submetering, landscape planning and renovation, irrigation management 	WID / Islands Trust	Done in various DPA's
Level 3 Measures		
Replacements and Promotions	WID / CRD	CRD proposal / Provincial rebate programs
Reuse and Recycling <ul style="list-style-type: none"> Industrial applications, large volume irrigation applications, selective residential applications 	WID	
Water Use Regulation <ul style="list-style-type: none"> Water-use standards and regulations, requirements for new development 	WID / CRD / Islands Trust /	Various measures applied in NSSWD/ Amenity Zoning – Islands Trust
Integrated resource management <ul style="list-style-type: none"> Supply side technologies, demand-side technologies 	WID / CRD / Islands Trust /	