Thetis Island Local Trust Committee
Regular Meeting Revised Agenda

Date: April 17, 2018
Time: 9:45 am
Location: Thetis Island Community Centre (Forbes Hall)
North Cove Road, Thetis Island, BC

10.2 TH-RZ-2016.1 (WVYC) - Verbal Update

--BREAK - 11:30 - 11:45--

11. LOCAL TRUST COMMITTEE PROJECTS 11:45 AM - 12:00 PM

11.1 Riparian Areas Regulation Implementation - Verbal Update

11.2 Building Relationships with Local First Nations - Staff Report 41 - 44

12. REPORTS 12:00 PM - 12:30 PM

12.1 Work Program Reports

12.1.1 Top Priorities Report dated April 10, 2018 45 - 45

12.1.2 Projects List Report dated April 10, 2018 46 - 47

12.2 Applications Report dated April 10, 2018 48 - 50

12.3 Trustee and Local Expense Report dated February, 2018 51 - 51

12.4 Adopted Policies and Standing Resolutions - None

12.5 Local Trust Committee Webpage

12.6 Chair's Report

12.7 Trustee Reports

12.8 Electoral Area Director's Report - None

12.9 Trust Fund Board Report dated April, 2018 *52 - 53*

13. NEW BUSINESS 12:30 PM - 1:00 PM

13.1 New Nature Reserve on Thetis Island - Fairyslipper Forest - Memorandum 54 - 55

13.2 Land-use Planning Implications of Fisheries and Oceans Canada Integrated Geoduck Management Framework 2017 - Briefing 56 - 75

13.3 Approval Process for Water Supply Systems on Salt Spring Island - Memorandum 76 - 105

14. UPCOMING MEETINGS

14.1 Next Regular Meeting Scheduled for Tuesday, May 22, 2018 at 9:45 am at the Thetis Island Community Centre (Forbes Hall), North Cove Road, Thetis Island, BC

15. TOWN HALL 1:00 PM - 1:15 PM

16. CLOSED MEETING - None

17. **ADJOURNMENT** 1:15 PM - 1:15 PM

Thetis Island Local Trust Committee
Minutes of Regular Meeting

Date: February 27, 2018
Location: Thetis Island Community Centre (Forbes Hall)
North Cove Road, Thetis Island, BC

Members Present: Susan Morrison, Chair
Peter Luckham, Local Trustee
Ken Hunter, Local Trustee

Staff Present: Marnie Eggen, Island Planner
Fiona XETXÁTTEN MacRAILD, Senior Intergovernmental Policy Advisor Marine and First Nations Issues (arrived at 11:30)
Emily Kozak, Recorder

Others Present: Four Members of the Public

1. CALL TO ORDER

"Please note the order of agenda items may be modified during the meeting. Times are provided for convenience only and are subject to change."

Chair Morrison called the meeting to order at 9:44am. She acknowledged that the meeting was being held in territory of the Coast Salish First Nations.

2. APPROVAL OF AGENDA

By general consent the agenda was approved as presented.

3. TOWN HALL AND QUESTIONS

A Ruxton Island resident asked about phrasing in the Thetis Associated Islands Land Use Bylaw Amendment - Ruxton Island Private Moorage Structures.

A Thetis Island resident asked what the difference is between temporary use permits and rezoning.

4. COMMUNITY INFORMATION MEETING - None

5. PUBLIC HEARING - None

6. MINUTES

6.1 Local Trust Committee Minutes dated December 12, 2017 for Adoption

The following amendments to the minutes were presented for consideration:

- Remove “approximately” before the number of members of the public in attendance.
- Item 10.2 remove “Bowen Island Municipality”

By general consent the minutes were adopted as amended.

6.2 Section 26 Resolutions-Without-Meeting Report dated February 19, 2018

Received.

6.3 Advisory Planning Commission Minutes - None

7. BUSINESS ARISING FROM MINUTES

7.1 Follow-up Action List dated February 19, 2018

Planner Eggen provided an update.

8. DELEGATIONS - None

9. CORRESPONDENCE

(Correspondence received concerning current applications or projects is posted to the LTC webpage)

9.1 Valdes Island Conservancy December, 2017 Update

Received.

9.2 Correspondence received from Olaf Knezevic - February 18, 2018

Received.

10. APPLICATIONS AND REFERRALS

10.1 TH-RZ-2017.1 (Velez) – Memorandum

Planner Eggen presented the memorandum and advised that the Advisory Planning Committee will be meeting on March 1st.

10.2 TH-DVP-2015.2 (Trincomali Holdings Ltd.) – Memorandum

Planner Eggen presented the memorandum.

TH-2018-001
It was MOVED and SECONDED
that the Thetis Island Local Trust Committee request staff to ensure that the Penelakut Tribe has received the Harrison report with regard to the Trincomali Holdings Development permit.

CARRIED

10.3 North Pender Island Local Trust Area Referral Request for Response for Bylaw Nos. 216 & 217

TH-2018-002
It was MOVED and SECONDED
that the Thetis Island Local Trust Committee advise the North Pender Local Trust Committee that our interests are unaffected in regards to Bylaws 216 and 217.

CARRIED

11. LOCAL TRUST COMMITTEE PROJECTS

11.1 Ruxton Island Private Moorage & Community Docks Review – Memorandum

Planner Eggen presented the memorandum for information. It was noted that there will be two separate projects: Ruxton private moorage and Ruxton community docks, and that a project charter will be available in April.

11.2 Relationship Building with Lyackson First Nation - Staff Report

Fiona MacRaild, Senior Intergovernmental Policy Advisor, Marine and First Nations Issues, presented the report.

TH-2018-003
It was MOVED and SECONDED
that the Thetis Island Local Trust Committee request staff to expand the scope of the relationship building with Lyackson first nation to include all local area First Nations and provide a revised project charter and bring it back to the LTC.

CARRIED

TH-2018-004
It was MOVED and SECONDED
that the Thetis Island Local Trust Committee request staff to apply to the Union of BC Municipalities for funding to hold a Community to Community (C2C) Forum in 2018/19.

CARRIED

TH-2018-005
It was MOVED and SECONDED
that the Thetis Island Local Trust Committee request staff to explore the possibility of gaining more information about the treaty negotiations of the Hul'qumi'num treaty group.

CARRIED

--BREAK – 10:55 - 11:30

12. REPORTS

12.1 Work Program Reports

12.1.1 Top Priorities Report dated February 19, 2018

Received, discussion ensued.

12.1.2 Projects List Report dated February 19, 2018

Received.

12.2 Applications Report dated February 19, 2018

It was noted that the Hardy Island Granite project is complete and should be removed from the list.

12.3 Trustee and Local Expense Report dated December, 2017

Received.

12.4 Adopted Policies and Standing Resolutions - None

12.5 Local Trust Committee Webpage

12.6 Chair's Report

Trustee Morrison reported on:

- Financial Planning Committee meetings
  - Budget going to Trust Council in March with a proposed 2% tax increase
- Trust Council Climate Change Workshop
- Intergovernmental engagement meetings with K'omoks First Nation
- Lasqueti fresh water workshop that was well attended.

12.7 Trustee Reports

Trustee Hunter reported on:

- Bylaw enforcement and complaints on the Island.

Trustee Luckham reported on:

- His recent visit to Ottawa regarding the issue of derelict vessels.
- Discussion with Members of Parliament regarding anchorages, and the Islands Trust as a whole.
- Attending the Trust Fund Board celebration at Fairy Slipper Forest.

12.8 Electoral Area Director's Report - None

12.9 Trust Fund Board Report dated November, 2017

Received.

12.10 Trust Fund Board Report dated January, 2018

Received.

13. NEW BUSINESS

13.1 Housing Agreement Administration – Briefing

Received.

13.2 CVRD's Ruxton Island Civic Address Project - For Information

Planner Eggen summarized the CVRD project, for information.

13.3 Thetis Community Association - Invoice for Islands Trust Link on Webcam 2018

TH-2018-006
It was MOVED and SECONDED
that the Thetis Island Local Trust Committee continue to pay for the Islands Trust advertising on the webcam link and pay the invoice 2018012922 as presented.

CARRIED

13.4 Farm Industry Review Board - Memorandum - For Information

Received.

13.5 CVRD Proposed New Regional Tax - Water Service Function - for Discussion

Planner Eggen presented the information and discussion ensued.

TH-2018-007
It was MOVED and SECONDED
that the Thetis Island Local Trust Committee request staff to communicate with the Cowichan Valley Regional District with respect to their drinking water proposal and tax levy to the community when it appears that there is a duplication of service to the Thetis Island community.

CARRIED

13.6 Agenda Format – Discussion

TH-2018-008
It was MOVED and SECONDED
that the Thetis Island Local Trust Committee advise the Executive Committee to reconsider regular meeting agenda policy format to allow for delegations, town hall, chair and director reports, and Trust Fund Board reports to be presented earlier in all agendas.

CARRIED

14. UPCOMING MEETINGS

14.1 Next Regular Meeting Scheduled for Tuesday, April 17, 2018 at 9:45 am at the Thetis Island Community Centre (Forbes Hall), North Cove Road, Thetis Island, BC

15. TOWN HALL

A Ruxton Island resident asked whether the Cowichan Valley Regional District regional water tax/water function will apply to Ruxton. Trustees responded that it is proposed to apply to all of the Thetis Local Trust Area, including the associated islands.

16. CLOSED MEETING

16.1 Motion to Close the Meeting

TH-2018-009
It was MOVED and SECONDED
that the meeting be closed to the public in accordance with the Community Charter, Part 4, Division 3, s.90(1)(d)for adoption of In-Camera Meeting Minutes dated December 12, 2017 AND that the recorder and staff attend the meeting.

CARRIED

16.2 Recall to Order

16.3 Rise and Report

17. ADJOURNMENT

By general consent the meeting was adjourned at 12:18pm.

_____
Susan Morrison, Chair

Certified Correct:

_____
Emily Kozak, Recorder

Minutes of the Thetis Island Advisory Planning Commission

Date of Meeting: **Thursday, March 1, 2018**

Location: **Thetis Island Community Centre (Forbes Hall)**
North Cove Road, Thetis Island, BC

APC Members Present: **Doug Fenton**
Mary Forbes
Anne-Marie Koeppen
Patrick Mooney

Staff Present: **Marnie Eggen, Island Planner, Recorder**
Teresa Rittemann, Planner 2

Others Present: **Raymumdo Velez, applicant**
22 members of the public, including 4 employees of BC Ferries
Trustees Luckham and Hunter sent regrets

1. CALL TO ORDER

Planner Rittemann called the meeting to order at 12:30 pm. She acknowledged that the meeting was being held in territory of the Coast Salish First Nations. She introduced the APC and staff.

2. APPROVAL OF AGENDA

The following additions were presented for consideration:

Add new section 3: Elections of Chair, Vice-Chair, and Secretary.

Add new section 4: Selection of standard date and time of APC meetings.

6.1 Letter dated February 28, 2018 from Terry and Janice Hamilton regarding Application to Rezone Property to Permit Temporary Rental Housing at 49 Harbour Road, Thetis Island

By general consent, the agenda was approved as amended.

3. Elections of Chair, Vice-Chair, and Secretary

Patrick Mooney was nominated as Chair and selected by vote.
Doug Fenton was nominated as Vice-Chair and selected by vote.
Ann-Marie Koeppen was nominated as Secretary and selected by vote.

4. Selection of standard date and time of APC meetings

Discussion ensued and the second Thursday of the month was agreed upon and that it should be held in the evening.

5.0 MINUTES – None

6.0 Proposed Rezoning Application TH-RZ-2017.1 (Velez)

6.1 Letter dated February 28, 2018 from Terry and Janice Hamilton regarding Application to Rezone Property to Permit Temporary Rental Housing at 49 Harbour Road, Thetis Island

Received.

6.2 APC discussion to provide recommendations to the Local Trust Committee on the proposed rezoning of this property for use as temporary rental housing.

Planner Rittemann summarized the application and introduced the Applicant.

The Applicant was invited to speak to his application. He explained that his application was based on the need in the community for affordable accommodation. He was approached by ferry workers for an occasional place to stay overnight because the ferry docks on Thetis ever night. Further, the workers are not in a position to pay full rent as they reside elsewhere. He stated that his application is supported by Official Community Plan residential policies.

The Applicant was asked questions by the APC and he clarified the following:

- that he is looking to legalize two trailers and one cabin that he will own, renting only to BC Ferry workers;
- expecting a maximum number of guests of three in those buildings;
- has an existing B & B in addition;
- has an approved sewerage plan, and drinking water well that produces 1.5 g/min.; and
- a rainwater collection system.

Discussion ensued regarding the change of the land use to commercial use. Concern was raised regarding moving forward to rezone the property permanently to commercial use. Discussion ensued regarding temporary use permits and whether a new temporary use permit would be an alternative to a permanent change to commercial use.

Discussion ensued regarding accommodation options for BC ferry workers on Thetis Island. Ferry workers explained their housing situation.

Comments from the public:

- suggest that this is an issue between BC Ferries and workers;
- suggest a change to the existing temporary use permit provisions to allow accommodation for ferry workers;
- do not want to see a permanent change to the zoning;
- concern about the use of a temporary use permit and how the use could be expanded if not careful;
- planners provided clarity around the temporary use permit as a tool;
- concern regarding the environmental damage that has taken place on the property.
- new neighbour explained that he supports ferry worker accommodation on subject property.

Discussion ensued regarding the next steps in the rezoning process after the APC meeting and the role of the APC in the public process. Thanks were expressed to the APC for taking on this role.

Planners provided further clarity regarding application, renewal and re-application for a TUP and fees.

Discussion ensued regarding the issues that would be associated with permanently rezoning the property to a commercial use. Concern was also raised regarding the environmental impact of the current use on the property and that restoration is needed.

Recognition was given to the need for BC ferry workers accommodation and affordable housing. Discussion ensued regarding the BC ferry workers accommodation issue, including whether it was really an Islands Trust issue.

TH-2018-APC-001
It was MOVED and SECONDED
that the Thetis Island Advisory Planning Commission recommends to the Thetis Island Local Trust Committee to proceed no further with rezoning application TH-RZ-2017.1 (Velez) based on the following reasons:

- that the use is more appropriate to be considered under a temporary use permit;
- that there was public support for this approach; and
- that any future development on the property be in accordance with the Islands Trust Policy Statement.

CARRIED

TH-2018-APC-002
It was MOVED and SECONDED
that the Thetis Island Advisory Planning Commission recommends to the Thetis Island Local Trust Committee to pursue the process required to develop a temporary use permit that includes accommodation for BC ferry workers, to be aware of the requirements as per the Islands Trust Policy Statement with

respect to ecology preservation and protection, and that the existing Tourist Accommodation Temporary Use Permit conditions be included.

CARRIED

5. ADJOURNMENT

By general consent, the meeting was adjourned at 2:58 pm.

_____
Patrick Mooney, Chair

Certified Correct:

_____
Marnie Eggen, Recorder

Follow Up Action Report

Thetis Island

11-Oct-2016

Activity	Responsibility	Target Date	Status
Staff to contact MFLNRO and provide a Staff Memo regarding options for the LTC with regard to issues that arise in changes in mariculture/aquaculture operations under licences of occupation, including changes in species.	Marnie Eggen	18-Nov-2016	On Going

29-Aug-2017

Activity	Responsibility	Target Date	Status
Staff to work with Ministry to facilitate and gain clarification from Aquaparian Consultants Ltd. with regard to the classification of Ralston Creek as a stream as per the provincial Riparian Areas Regulation or hire a different QEP to undertake the same.	Marnie Eggen	29-Sep-2017	On Going

17-Oct-2017

Activity	Responsibility	Target Date	Status
Chair to write to ACT, thanking them for letter and their advocacy.	Marnie Eggen	27-Oct-2017	On Going
Staff to write to Susan Randall, MOTI, requesting an update on Road Safety Report as previously requested, status of ferry terminal improvements, and bring to her attention the pedestrian safety concerns regarding Harbour Rd. at the corner of Foster Pt. cc: Andy Newall	Marnie Eggen	27-Oct-2017	On Going

12-Dec-2017

Activity	Responsibility	Target Date	Status

Follow Up Action Report

Staff to refer TH-RZ-2017.21 (Velez) to the Thetis APC, BC Ferries Corp., & Thetis Ferry Advisory Committee in order to solicit feedback on the proposed use of Strata Lt B, District Lot 1, Thetis Isld as temporary rental housing.	Teresa Rittemann	26-Jan-2018	Done
Staff to prepare draft bylaw to amend the Thetis Associated Islands LUB to remove ambiguities regarding the regulation of private moorage structures & to create a new project charter for community private docks.	Marnie Eggen		On Going
Staff to amend Top Priorities list to say Lyackson First Nation Relationship Building with added bullet items & staff to develop a Project Charter as per Staff Report for Dec. 12, 2017 LTC mtg.	Marnie Eggen Fiona MacRaild		Done

27-Feb-2018

Activity	Responsibility	Target Date	Status
Staff to inform North Pender LTC that Thetis LTC interests are unaffected regarding Bylaws 216 and 217.	Marnie Eggen	28-Feb-2018	Done
Staff to expand the scope of Lyackson First Nation project to include all local First Nations and bring back a revised project charter. To include exploration of the possibility of gaining further info about the Hulquminum Treaty negotiations.	Marnie Eggen Fiona MacRaild		On Going
Staff to apply to the UBCM for funding to hold a Community to Community Forum in 2018-19.	Marnie Eggen Fiona MacRaild		On Going
Staff to pay Thetis Community Association invoice #2018012922 for Islands Trust ad on thetisisland.net	Wil Cottingham		Done
Staff to communicate with CVRD regarding water protection services and tax levy where there appears that there is a duplication of service to residents of Thetis LTA.	Marnie Eggen		On Going
Staff to advise EC to reconsider regular meeting agenda policy format to allow for delegations, town hall, chair and director reports and TFB reports to be presented earlier in all agendas.	Marnie Eggen		On Going

Follow Up Action Report

DRINKING WATER and WATERSHED PROTECTION SERVICE

Island Trust – Thetis Island – April 17, 2018

CVRD

DRINKING WATER and WATERSHED PROTECTION

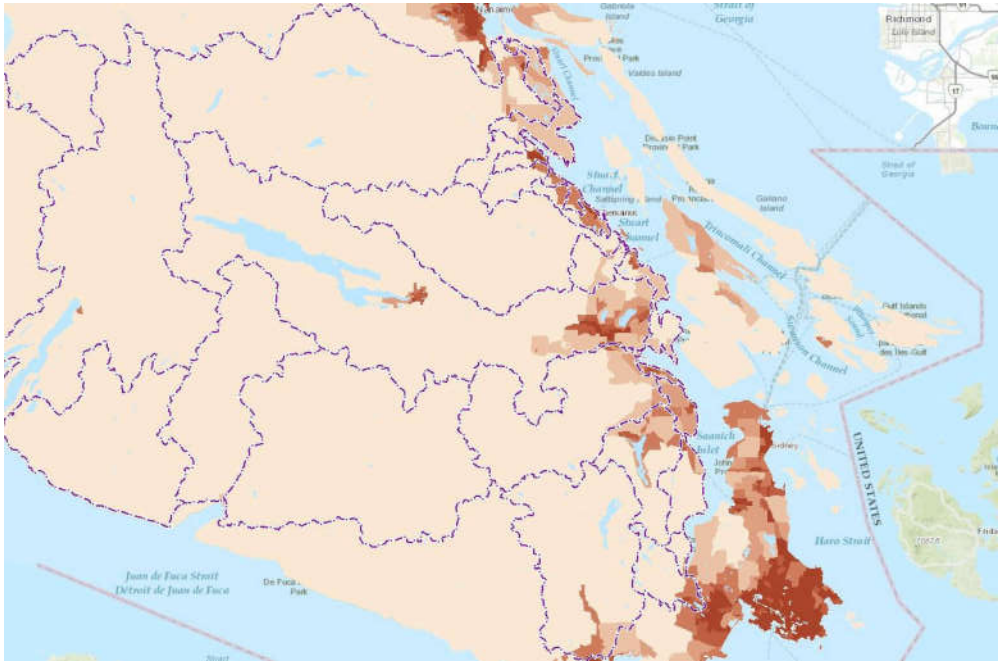
A-made-for-Cowichan solution

Our story of “cat herding”

DRINKING WATER and WATERSHED PROTECTION

A-made-for-Cowichan solution

- 16 watershed groupings
- More than 50% of population takes from ground
- Major surface water deficits
- Key regulated species
- First Nations interests



DRINKING WATER and WATERSHED PROTECTION

A-made-for-Cowichan solution

Our story to date – we are not with out a plan

- Riparian Areas Regulation
- Cowichan Watershed Management Plan
- Regional Environmental Initiatives Service
- Environment Commission
- Regional Environmental Strategy – Plan 12
- South Cowichan Watershed Management Plan
- Development of the Cowichan Watershed Board
- Cowichan Koksilah Integrated Flood Management Strategy
- Regional Water Governance Study
- Cowichan Flood Service

DRINKING WATER and WATERSHED PROTECTION

A-made-for-Cowichan solution

Focus on:

- Risk based priorities and continues improvement
- Partnerships, at multiple levels
- Skills and capacity development,
- Supporting and enabling and development of a community watershed ethic.
- Science based decisions
- Recognize current state but future focused.
- Little G
- Case studies and projects

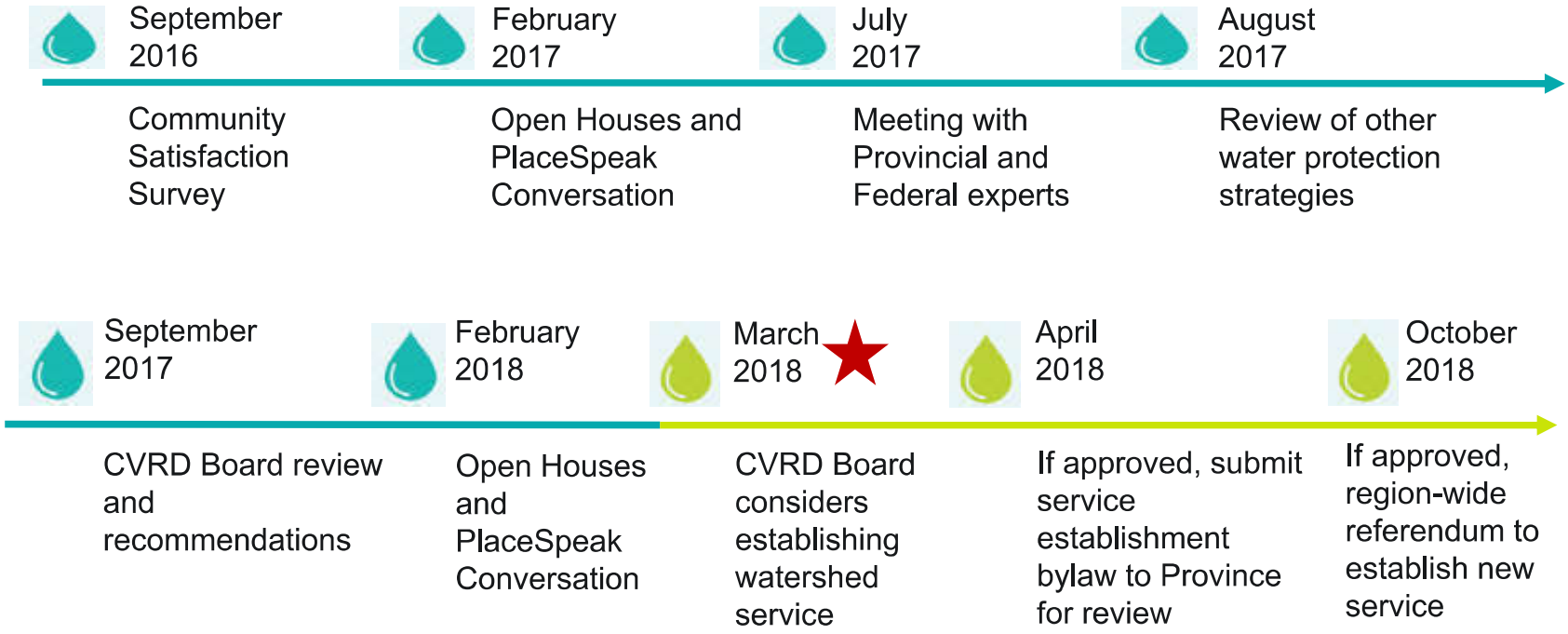
DRINKING WATER and WATERSHED PROTECTION

A-made-for-Cowichan solution

Here's what we know:

- The region is growing rapidly
- Water issues are complex, fast-changing
- Climate change is and will affect the regions water resources - substantially
- Water quality and quantity are at risk in many areas
- Current, fragmented water protection is not good enough
- Region-wide approach is more cost-effective

Reaching out to community – Our Roadmap



PUBLIC FEEDBACK

Here's what we've heard:

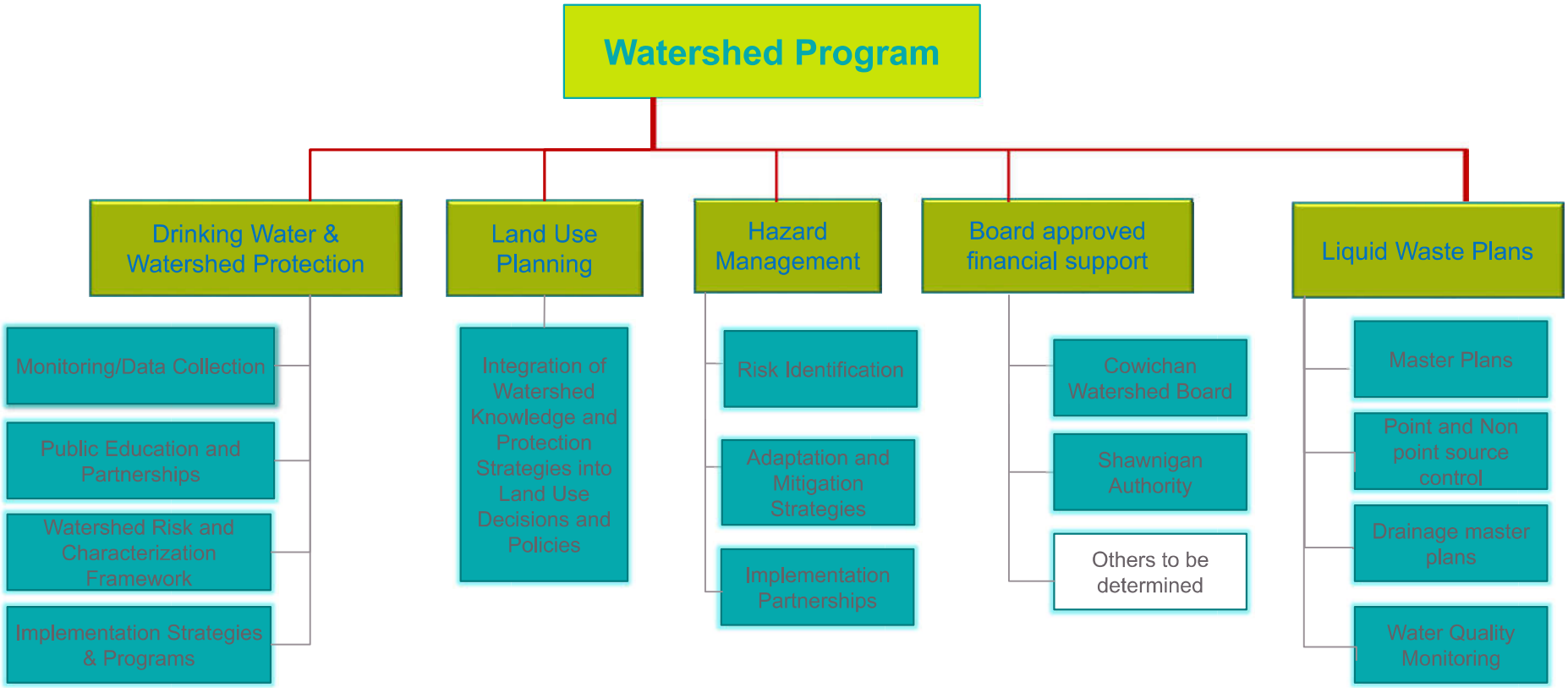
- The public is busy and assumes some level of oversight is happening
- Regional District legal structures not understood by public
- Assumption that individual water utilities services includes watershed protection.
- Focus on action and implementation, not just plans and strategies.
- Land use decisions need to balance growth and development with the capacity to provide water now and into the future.
- Concerns with lack of provincial oversight but also downloading and the financial impact on property owners.
- Water is vital to the future of the region and measures need to be taken to protect the resource.

- *138 people attended the public open houses,*
- *22 people shared their thoughts on PlaceSpeak through 79 comments*
- *Presentations to all Local Government Mayors and Councils*
- *Presentations to Cowichan Watershed Board and Cowichan Stewardship Roundtable*

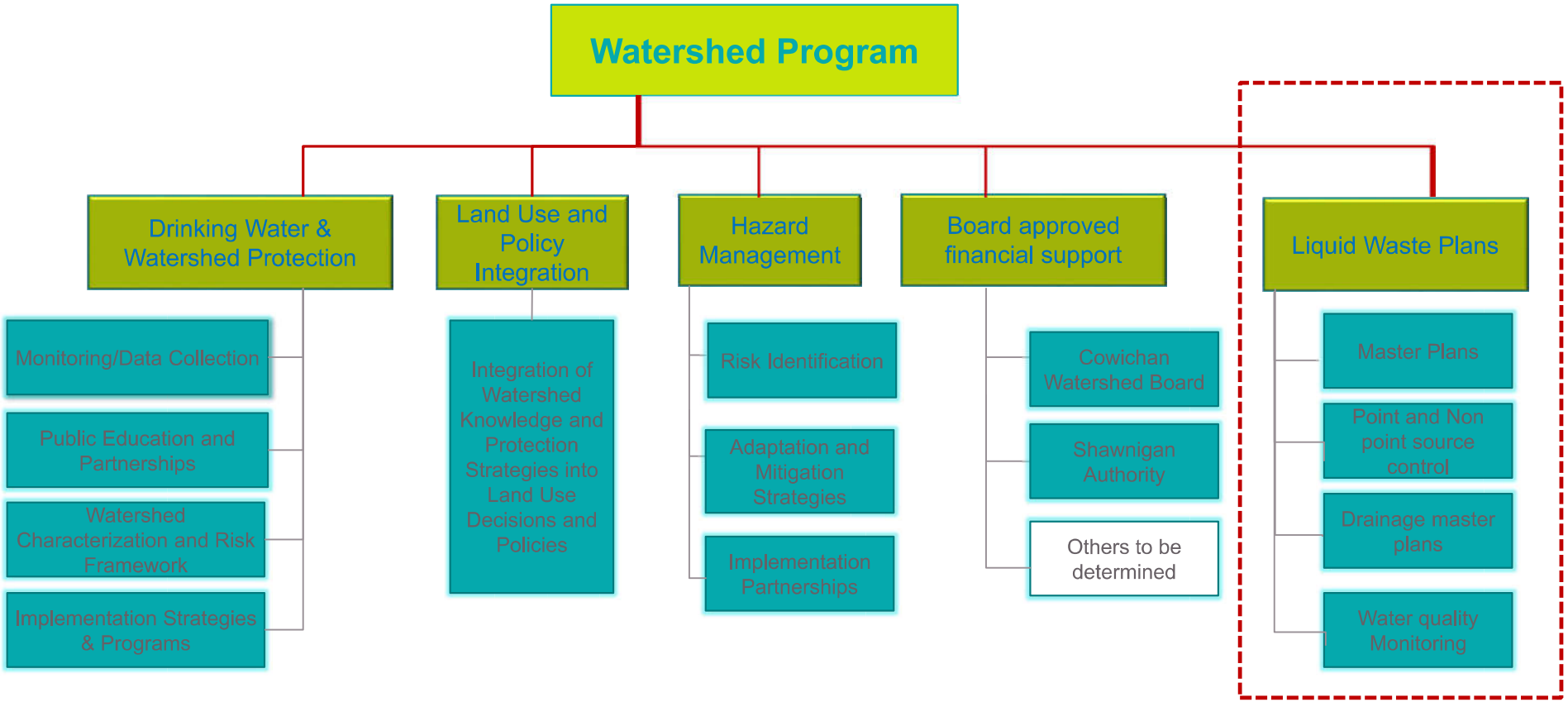
Options:

- Full program as previously described
  - Includes development of liquid waste management plans and corresponding programs as well as integrated watershed management and education programs to address water supply and quality issues.
- Reduced scope
  - Focus on watershed protection programs, education, risk management and support to watershed governance groups
- No new function at this time
  - No standalone watershed focused program, continuation of limited projects under the environmental initiatives and South Cowichan Water Planning functions. No funding support for watershed based entities.

Option 1 – Full Program



Option 2 – Focused Program



Costs

Option 1

- Maximum annual requisition based on full program implementation- $12.60 per $100,000 of residential property taxation

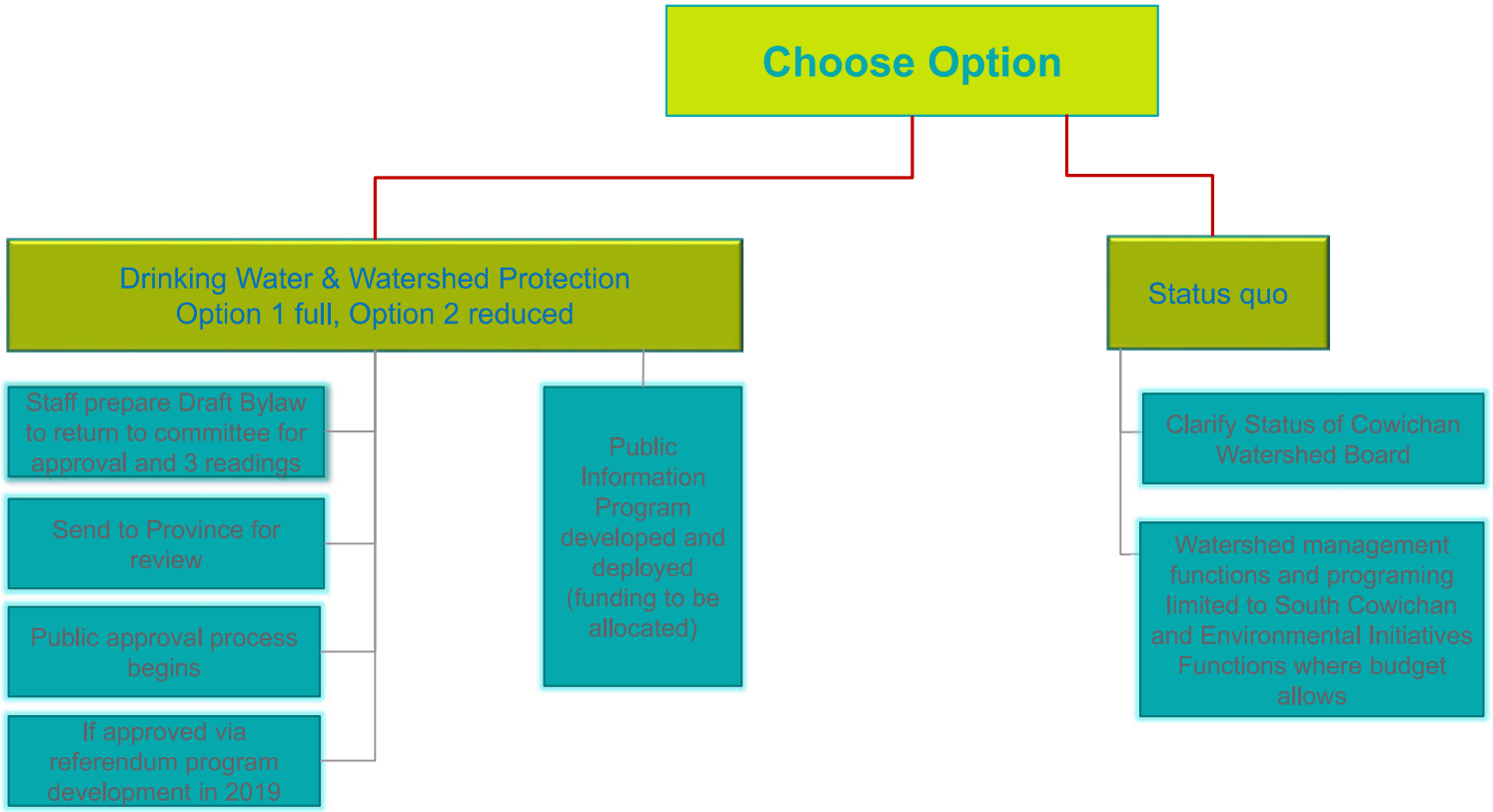
Option 2

- Maximum annual based on full program build out - $7.06 per $100,000 of residential property taxation

Option 3

- Status quo. Maximum annual max requisition - $3.97 per $100,000 of residential property taxation

Next steps


Choose Option
Drinking Water & Watershed Protection
Option 1 full, Option 2 reduced
Status quo
Staff prepare Draft Bylaw to return to committee for approval and 3 readings
Send to Province for review
Public approval process begins
If approved via referendum program development in 2019
Public Information Program developed and deployed (funding to be allocated)
Clarify Status of Cowichan Watershed Board
Watershed management functions and programing limited to South Cowichan and Environmental Initiatives Functions where budget allows

Next steps – Draft bylaw

. **SERVICE BEING ESTABLISHED**

The service being established under the authority of this bylaw is a service for the purpose of protecting drinking water and watersheds by:

a) Increasing the level of knowledge regarding drinking water sources to support the long term sustainability of the water resource;
b) Coordinating the efforts of provincial and local governments and non-governmental organizations with respect to drinking water source protection;
c) Increasing the level of public awareness regarding drinking water and watershed protection requirements and strategies;
d) Obtaining and holding water licenses;
e) Promoting and undertaking water conservation initiatives and programs;
f) Developing and implementing water management plans;
g) Entering into agreements as needed to accomplish the objectives of this service;
h) Assessing needs and planning for infrastructure and natural system improvements to maintain or enhance water quality or water supply; and,
i) Providing grants and financial support to entities approved by the Board for the purpose of water and watershed protection.

Next steps – Area to be covered by Service

Option 1

- Regional Service
  - The region as a whole, regional count for referendum
  - The region as a whole, count by electoral area

Option 2

- Electoral areas and municipalities opting in to bylaw
  - As a whole
  - Or individually

Option 3

- Status quo. No current movement towards assent process. Cessation of some current activities (initiatives vs programs) including support to Cowichan Watershed Board

STAFF REPORT

File No.: TH-RZ-2017.1 (VELEZ)

DATE OF MEETING: April 17, 2018

TO: Thetis Island Local Trust Committee

FROM: Teresa Rittemann, Planner 2
Northern Team

SUBJECT: **Application to Rezone Property to Permit Temporary Rental Housing**
Applicant: Raymundo Velez
Location: **49 Harbour Road, Thetis Island**

Strata Lot B, District Lot 1, Thetis Island, Cowichan District, Strata Plan EPS644; Together with an interest in the Common Property shown in proportion to the unit entitlement of the Strata Lot as shown on Form V.
PID 028-987-691

RECOMMENDATION

1. **That the Thetis Island Local Trust Committee proceed no further with rezoning application TH-RZ-2017.1 (Velez) to rezone Strata Lot B, District Lot 1, Thetis Island (PID 028-987-691) for the proposed use of as temporary rental housing.**

2. **That the Thetis Island Local Trust Committee add to the Projects List, a review of the Temporary Use Permit section of the Thetis Island Official Community Plan, with respect to a potential amendment to permit Temporary Use Permits to be issued for temporary non-tourist accommodation use.**

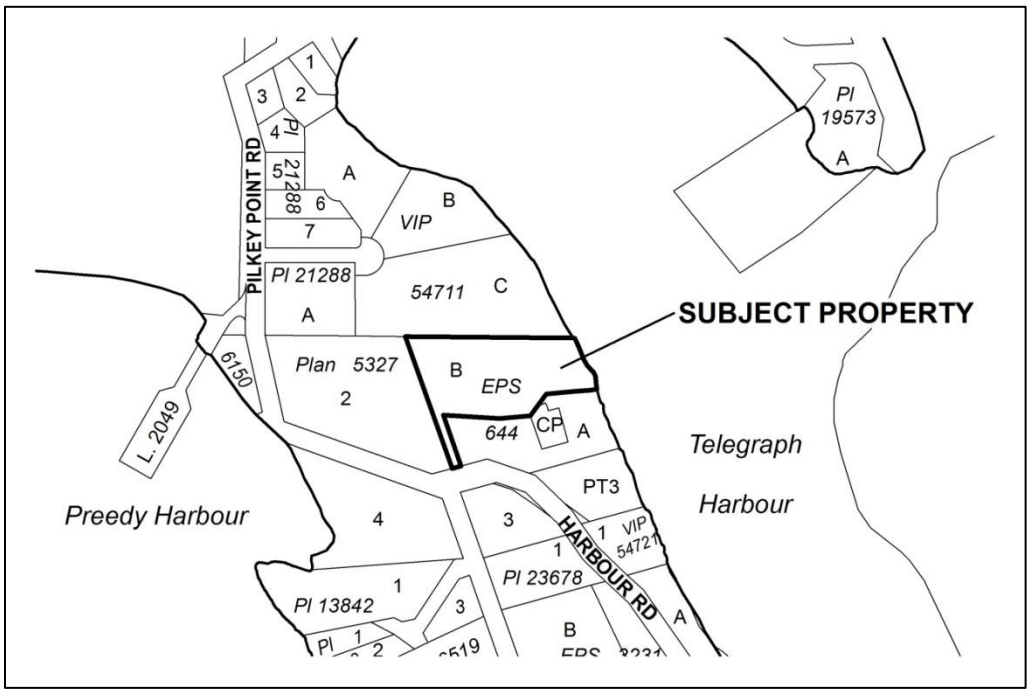
REPORT SUMMARY

The purpose of this report is to update the Thetis Island Local Trust Committee (LTC) on the status of this application, and to provide recommendations for next steps in the rezoning process. For the reasons discussed in the remainder of this report, Staff are recommending that the LTC proceed no further with this rezoning application.

BACKGROUND

As mentioned in the Preliminary Staff report dated December 12, 2017, temporary accommodation is not a permitted use on the subject property. However, the applicant has been occasionally using three travel trailers to provide temporary accommodation for BC Ferries workers while the ferry is docked on Thetis Island. The applicant originally submitted an application for a Temporary Use Permit (TUP); however, staff's review of the TUP application determined that a TUP for this type of commercial use is not supported under the current TUP framework in the Thetis Island Official Community Plan (OCP). A TUP may only be issued for "temporary tourist accommodation", and the applicant is not providing accommodations for "tourists". Therefore, the applicant has alternatively applied for a permanent zoning change.

Figure 1: Subject Property Map



Following the Staff Report dated December 12, 2017 and the Memorandum dated February 13, the Thetis Island Advisory Planning Commission (APC) held a public meeting to consider the referral of this rezoning application. The draft minutes from that meeting can be found as Attachment 1, though an excerpt of the (draft) recommendations are as follows:

TH-2018-APC-001
It was MOVED and SECONDED
that the Thetis Island Advisory Planning Commission recommends to the Thetis Island Local Trust Committee to proceed no further with rezoning application TH-RZ-2017.1 (Velez) based on the following reasons:

- that the use is more appropriate to be considered under a temporary use permit;
- that there was public support for this approach; and
- that any future development on the property be in accordance with the Islands Trust Policy Statement.

CARRIED

TH-2018-APC-002
It was MOVED and SECONDED
that the Thetis Island Advisory Planning Commission recommends to the Thetis Island Local Trust Committee to pursue the process required to develop a temporary use permit that includes accommodation for BC ferry workers, to be aware of the requirements as per the Islands Trust Policy Statement with respect to ecology preservation and protection, and that the existing Tourist Accommodation Temporary Use Permit conditions be included.

CARRIED

ANALYSIS

Policy/Regulatory

For reference, Staff reiterate the following analysis taken from the December 12, 2017 Staff Report.

Islands Trust Policy Statement (ITPS):

The following Islands Trust Policy Statement (ITPS) Directive Policies appear to be contrary to the proposal:

Increasing density in an area where groundwater vulnerability is moderate to moderately-high, is contrary to **ITPS Directive Policy 4.4.2 (to protect freshwater resources)**, as an increase in density may have a negative impact on water quality and quantity.

Furthermore, as the application is proposing an increase in the density limits defined in the OCP, this may be contrary to ITPS Directive Policy 5.2.5, and begs the question of whether or not ITPS Directive Policies 5.2.3 and 5.2.4 are being addressed. **ITPS Directive Policies 5.2.3 – 5.2.5** speak to the need for LTC bylaws to address:

- Policies related to the aesthetic, environmental and social impacts of development;
- Any potential growth rate and strategies for growth management that ensure that land use is compatible with preservation and protection of the environment, natural amenities, resources and community character; and
- The means for achieving efficient use of the land base without exceeding any density limits defined in their official community plans.

The proposed use is also more commercial in nature and scale, whilst surrounding land uses are characteristic of a rural residential neighbourhood. **ITPS Directive Policy 5.7.2** speaks to the need for LTC bylaws to address economic opportunities that are compatible with conservation of resources and protection of community character. In Staff's view, the proposal may impact the rural residential community character by introducing a commercial use to the neighbourhood.

Finally, **ITPS Directive Policy 5.8.6** includes the need for LTC bylaws to address their community's current and projected housing requirements. Thus, the LTC must consider whether or not this proposed permanent change would appropriately and adequately address the current or long-term housing needs of the community.

Official Community Plan (OCP):

The following OCP objectives and policies are most relevant to this rezoning application. Given that this proposal would result in a permanent increase in the density of the property, OCP Residential Policy 2.1.6 notes that "*overall residential density on Thetis Island should not increase beyond that permitted by existing zoning except that a small increase may be considered to accommodate zoning amendments that would result in affordable housing, special needs housing, or conservation of lands with conservation value*."

OCP Residential Policy 2.1.15 also notes that "*The zoning for the provision of housing for affordable, rental and special needs should be considered if a community need can be demonstrated*." The applicant is suggesting adding rental opportunities to meet a community need (providing temporary living spaces for BC Ferry workers). However, the LTC must consider whether or not this permanent change is appropriate for the community in the long-term, given the short-term and temporary need for housing for off-island commuters. A permanent change to the zoning may not ensure that the increased density is indeed "affordable".

The applicant also suggests that this proposal can provide a community service on Thetis Island, as it is offering to address a temporary housing need for current BC Ferry workers. OCP Community Service Land Use Objectives 1 and 2, as well as Policy 2 are particularly pertinent to this rezoning proposal, to "*meet the needs of the Thetis Island Community*", ensure that "*community facility development and services [are provided] for Thetis Island at a scale consistent with the Island's rural character and [which] can be sustained by the population*", and that "*rezoning applications for additional Community Service lands should be considered with a view to concentrating compatible developments*". As the community centre, fire hall and school are currently in close proximity, consideration should be given to locating possible future facilities nearby. The location of the property is also in close proximity to the ferry terminal.

Still, some community members have concerns whether this type of proposed development (multiple trailers being used for temporary overnight accommodation) is acceptable given the rural character of the island, and whether this proposed use would be more appropriate contained within a dwelling unit or an accessory building.

The proposal is consistent with OCP Water Transportation Services Objective 1, which aims to maintain "*a level of ferry service adequate and affordable for the Thetis Island Community*", as well as Advocacy Policy 2 e) and f), which requests the BC Ferry Corporation to "*continue to berth the ferry at Preedy Harbour overnight*" and "*support consultation with the ferry advisory committees*." Moreover, given the scale of the proposed use is over and above what might be considered as "accessory" to a residential use, and is rather more "commercial" in nature, OCP Commercial Land Use Policies 12 and 14 also apply. Should this rezoning proposal advance, the applicant should be asked to provide supplemental information to demonstrate that Policies 12 and 14 have been addressed in their proposal.

Land Use Bylaw:

The property is zoned R-1 – Rural Residential, which only permits principal residential uses. The applicant is proposing a bylaw amendment to permanently change the zoning of the property to permit a number of accessory buildings to be used for temporary accommodation.

Issues and Opportunities

As noted in Staff's recommendations on page 1 of this report, the LTC may wish to add to the Projects List, a review of the Temporary Use Permit section of the Thetis Island Official Community Plan, with respect to a potential amendment to permit TUPs to be issued for temporary non-tourist accommodation use. Doing so would then provide an avenue for the applicant (or anyone else) to apply for such a temporary use in the future.

Consultation

Should the application proceed to draft bylaw amendment stage, and if the application would involve an OCP amendment, the LTC is required by the *Local Government Act* to consider opportunities for consultation with persons, organizations and authorities it considers will be affected. The LTC should consider if it wishes to undertake additional consultation to that identified above and direct staff accordingly (i.e. which agencies and First Nations will need to be referred for comment). Furthermore, the LTC should hold a minimum of one Community Information Meeting during the bylaw amendment process, which would be held prior to consideration of first reading, so that any feedback may be incorporated into the bylaw amendment.

Rationale for Recommendation

The (draft) recommendations of the Thetis Island APC for this application indicate that there is public support for the approach that the proposed use is more appropriate to be considered under a Temporary Use Permit application rather than a permanent Rezoning application. Moreover, given the policy and regulatory analysis with regards to the Islands Trust Policy Statement and the Thetis OCP, it is the opinion of Staff that the rezoning application proceed no further. Staff are also recommending, as per page 1 of this report, that the LTC add to the Projects List, a review of the Temporary Use Permit section of the Thetis OCP, with respect to a potential amendment to permit TUPs to be issued for temporary non-tourist accommodation use.

ALTERNATIVES

1. **Request further information**

   The LTC may request further information prior to making a decision. If selecting this alternative, the LTC should describe the specific information needed and the rationale for this request.

2. **Consider Potential OCP Amendments**

   Should the LTC wish to proceed with rezoning application TH-RZ-2017.1 (Velez), potential amendments to the Thetis Island OCP would be explored, in order to allow for the proposed use of temporary rental accommodation on the subject property.

NEXT STEPS

Should the LTC proceed with Staff's recommendation, this rezoning application would be closed and a partial refund of the application fee would be returned to the applicant. The current use as temporary rental housing would then need to cease; thus, Staff will inform the applicant, and contact the CVRD Building Inspection department to update them on the LTC's decision. Staff have confirmed with Bylaw Enforcement, that if the LTC does not proceed with this rezoning application, Bylaw Enforcement will resume its efforts to seek compliance by first providing the applicant with a reasonable timeframe to cease the temporary rental housing use.

If, at a point in time in the future, an OCP amendment permitted TUPs to be issued for temporary non-tourist accommodation, the applicant could re-apply for a TUP under those guidelines.

Submitted By:	Teresa Rittemann, MCIP, RPP Planner 2	April 3, 2018
Concurrence:	Ann Kjerulf, MCIP, RPP Regional Planning Manager	April 4, 2018

ATTACHMENTS

1. Thetis Island Advisory Planning Commission – Draft Meeting Minutes – March 1, 2018

Minutes of the Thetis Island Advisory Planning Commission

Date of Meeting: **Thursday, March 1, 2018**

Location: **Thetis Island Community Centre (Forbes Hall)**
North Cove Road, Thetis Island, BC

APC Members Present: **Doug Fenton**
Mary Forbes
Anne-Marie Koeppen
Patrick Mooney

Staff Present: **Marnie Eggen, Island Planner, Recorder**
Teresa Rittemann, Planner 2

Others Present: **Raymumdo Velez, applicant**
22 members of the public, including 4 employees of BC Ferries
Trustees Luckham and Hunter sent regrets

1. CALL TO ORDER

Planner Rittemann called the meeting to order at 12:30 pm. She acknowledged that the meeting was being held in territory of the Coast Salish First Nations. She introduced the APC and staff.

2. APPROVAL OF AGENDA

The following additions were presented for consideration:

Add new section 3: Elections of Chair, Vice-Chair, and Secretary.

Add new section 4: Selection of standard date and time of APC meetings.

6.1 Letter dated February 28, 2018 from Terry and Janice Hamilton regarding Application to Rezone Property to Permit Temporary Rental Housing at 49 Harbour Road, Thetis Island

By general consent, the agenda was approved as amended.

3. Elections of Chair, Vice-Chair, and Secretary

Patrick Mooney was nominated as Chair and selected by vote.
Doug Fenton was nominated as Vice-Chair and selected by vote.
Ann-Marie Koeppen was nominated as Secretary and selected by vote.

4. Selection of standard date and time of APC meetings

Discussion ensued and the second Thursday of the month was agreed upon and that it should be held in the evening.

5.0 MINUTES – None

6.0 Proposed Rezoning Application TH-RZ-2017.1 (Velez)

6.1 Letter dated February 28, 2018 from Terry and Janice Hamilton regarding Application to Rezone Property to Permit Temporary Rental Housing at 49 Harbour Road, Thetis Island

Received.

6.2 APC discussion to provide recommendations to the Local Trust Committee on the proposed rezoning of this property for use as temporary rental housing.

Planner Rittemann summarized the application and introduced the Applicant.

The Applicant was invited to speak to his application. He explained that his application was based on the need in the community for affordable accommodation. He was approached by ferry workers for an occasional place to stay overnight because the ferry docks on Thetis ever night. Further, the workers are not in a position to pay full rent as they reside elsewhere. He stated that his application is supported by Official Community Plan residential policies.

The Applicant was asked questions by the APC and he clarified the following:

- that he is looking to legalize two trailers and one cabin that he will own, renting only to BC Ferry workers;
- expecting a maximum number of guests of three in those buildings;
- has an existing B & B in addition;
- has an approved sewerage plan, and drinking water well that produces 1.5 g/min.; and
- a rainwater collection system.

Discussion ensued regarding the change of the land use to commercial use. Concern was raised regarding moving forward to rezone the property permanently to commercial use. Discussion ensued regarding temporary use permits and whether a new temporary use permit would be an alternative to a permanent change to commercial use.

Discussion ensued regarding accommodation options for BC ferry workers on Thetis Island. Ferry workers explained their housing situation.

Comments from the public:

- suggest that this is an issue between BC Ferries and workers;
- suggest a change to the existing temporary use permit provisions to allow accommodation for ferry workers;
- do not want to see a permanent change to the zoning;
- concern about the use of a temporary use permit and how the use could be expanded if not careful;
- planners provided clarity around the temporary use permit as a tool;
- concern regarding the environmental damage that has taken place on the property.
- new neighbour explained that he supports ferry worker accommodation on subject property.

Discussion ensued regarding the next steps in the rezoning process after the APC meeting and the role of the APC in the public process. Thanks were expressed to the APC for taking on this role.

Planners provided further clarity regarding application, renewal and re-application for a TUP and fees.

Discussion ensued regarding the issues that would be associated with permanently rezoning the property to a commercial use. Concern was also raised regarding the environmental impact of the current use on the property and that restoration is needed.

Recognition was given to the need for BC ferry workers accommodation and affordable housing. Discussion ensued regarding the BC ferry workers accommodation issue, including whether it was really an Islands Trust issue.

TH-2018-APC-001
It was MOVED and SECONDED
that the Thetis Island Advisory Planning Commission recommends to the Thetis Island Local Trust Committee to proceed no further with rezoning application TH-RZ-2017.1 (Velez) based on the following reasons:

- that the use is more appropriate to be considered under a temporary use permit;
- that there was public support for this approach; and
- that any future development on the property be in accordance with the Islands Trust Policy Statement.

CARRIED

TH-2018-APC-002
It was MOVED and SECONDED
that the Thetis Island Advisory Planning Commission recommends to the Thetis Island Local Trust Committee to pursue the process required to develop a temporary use permit that includes accommodation for BC ferry workers, to be aware of the requirements as per the Islands Trust Policy Statement with

respect to ecology preservation and protection, and that the existing Tourist Accommodation Temporary Use Permit conditions be included.

CARRIED

5. ADJOURNMENT

By general consent, the meeting was adjourned at 2:58 pm.

_____
Patrick Mooney, Chair

Certified Correct:

_____
Marnie Eggen, Recorder

STAFF REPORT

File No.: TH-6500-20
Relationship Building with Local First Nations

DATE OF MEETING: April 17, 2018

TO: Thetis Island Local Trust Committee

FROM: Fiona MacRaild, XETXÁTTEN MacRaild, First Nations and Marine Issues
Marnie Eggen, Island Planner
Northern Team

COPY: Ann Kjerulf, Regional Planning Manager
Miles Drew, Bylaw Enforcement Manager

SUBJECT: Relationship Building with Local First Nations

RECOMMENDATION

1. **That the Thetis Island Local Trust Committee endorse the revised draft Project Charter for "Relationship Building with Local First Nations" dated April 17, 2018.**

2. **That the Thetis Island Local Trust Committee request the release of $1,800 from the Local Trust Committees' Projects Reserve Fund to support "Relationship Building with Local First Nations".**

REPORT SUMMARY

The purpose of the report is to introduce the revised draft Project Charter that expands the previous project of building a relationship with Lyackson First Nation to include other First Nations with asserted interests in the lands and water of the Thetis Island Local Trust Area.

BACKGROUND

On February 27, 2018, at their regular business meeting, the Thetis Local Trust Committee (LTC) passed the following resolutions (draft):

> **TH-2018-003**
> **It was MOVED and SECONDED**
> that the Thetis Island Local Trust Committee request staff to expand the scope of the relationship building with Lyackson first nation to include all local area First Nations and provide a revised project charter and bring it back to the LTC.
> **CARRIED**
>
> **TH-2018-004**
> **It was MOVED and SECONDED**
> that the Thetis Island Local Trust Committee request staff to apply to the Union of BC Municipalities for funding to hold a Community to Community (C2C) Forum in 2018/19.
> **CARRIED**
>
> **TH-2018-005**
> **It was MOVED and SECONDED**

that the Thetis Island Local Trust Committee request staff to explore the possibility of gaining more information about the treaty negotiations of the Hul'qumi'num treaty group.

CARRIED

Staff have prepared and submitted a Community to Community Forum grant application. For more background on this project, please see the project website:

www.islandstrust.bc.ca/islands/local-trust-areas/thetis/projects-initiatives/first-nations-relationship-building/.

Rationale for Recommendation

The revised Project Charter is a practical approach to address the many issues discussed on November 5, 2017 with Lyackson First Nation and to expand the project to include other local first nations with interests in the Thetis Local Trust Area.

ALTERNATIVES

The LTC may consider the following alternatives to the staff recommendation.

1. **Request further information.**

   The LTC may request further information prior to approving the Project Charter. Staff advise that the implications of this alternative are possibly delaying action on items discussed at the November 5, 2017 Community to Community Forum with Lyackson First Nation. If selecting this alternative, the LTC should describe the specific information needed and the rationale for this request. Recommended wording is as follows:

   That the Thetis Local Trust Committee request staff/Lyackson First Nation to report back on/provide [insert requested information].

2. **Approval of Project Charter with changes.**

   The LTC may decide to make changes to the Project Charter. Recommended wording is as follows:

   That the Thetis Local Trust Committee request staff to make the following changes to the Project Charter: [insert requested change(s)].

   If the LTC chooses to make changes, staff recommends approving the Project Charter as amended.

3. **Receive for information.**

   The LTC may receive the report for information.

NEXT STEPS

Staff will begin communications with the CVRD and FLNRORD, which may necessitate letters from the LTC, in which case draft letters will be brought to the LTC for review. Also, staff will begin coordinating a boat trip to Valdes Island.

Submitted By:	Marnie Eggen, MCIP, RPP Island Planner	Fiona MacRaild, XETXÁTTEN MacRaild, First Nations and Marine Issues	April 4, 2018

Concurrence:	Ann Kjerulf, MCIP, RPP Regional Planning Manager	April 4, 2018

Attachment 1: Revised Draft Project Charter, dated April 17, 2018

Thetis Relationship Building with Local First Nation - **Charter** v2

Thetis Island LTC Date:18-04-17

Purpose *For Thetis Island Local Trust Committee to develop a mutually respectful long term relationships with local First Nations with asserted interests in the lands and water of the Thetis Local Trust Area.*

Background In December 2016 Islands Trust Council adopted the First Nations Engagement Principles Policy. Trustees and staff met with Lyackson Chief, Council and key staff on November 5, 2017. Many potentially shared interests were brought to light and positive ideas were discussed about how to develop a mutually respectful relationship between parties. The Project Charter outlines activities, including those that were discussed at that meeting, that will deepen the meaningfulness of the relationship with Lyackson First Nation and other First Nations who have asserted interests in the Thetis Local Trust area.

Objectives

- *Increase understanding and respect for Indigenous connections to the islands.*
- *Seek meaningful ways to acknowledge Local First Nations' connections to the LTA*
- *Advance topics raised at November 5, 2017 meeting between Lyackson First Nation and Thetis LTC*
- *Explore the possibility of discussing how to prepare for and respect the imminent Agreement in Principle (AIP) of the Hul'quimi'num Treaty Group (HTG)*

In Scope

- *Encouraging community associations and events to include and honour Indigenous participation.*
- *Work with Lyackson FN & CVRD to address bylaw contraventions.*
- *Investigate wrongful log salvaging on Valdes Island.*
- *Work with Lyackson FN to improve bylaw referral process.*
- *Develop a shared narrative of place.*
- *Explore co-governance/co-management opportunities.*
- *Ask HTG participants about the possibility of discussions re the AIP*

Out of Scope

- *Follow-through of activities from community associations and events.*
- *Compliance of other government agencies to requests by Lyackson First Nation.*
- *Activities outside of the legislative constraints of the Thetis Local Trust Committee (e.g. funding for referrals without the Province's approval).*

Workplan Overview

Deliverable/Milestone	Date
Communicate with CVRD , Ministry of Forests Lands and Natural Resource Operations , Robert Morales of HTG and Ministry of Indigenous Relationships and Reconciliation	April 2018
Letter to Lyackson with suggested signage wording for reserve lands for review	May 2018
Coordination of in-person visit to Valdez Island with CVRD, IT and Lyackson leaders	June 2018
Map of Hul'quimi'num place names, with pronunciation guides, for OCP inclusion	July 2018
Second C2C meeting with Lyackson Council to review progress and next activities	August 2018

Project Team

Fiona MacRaild	Project Manager
Thetis Planner	Planning support

RPM Approval:
Ann Kjerulf
Date:

LTC Endorsement:
Resolution #:
Date:

Budget Budget Sources: Thetis & Islands Trust FN Budgets

Fiscal	Item	Cost
2018/19	Boat day trip to Valdez Island	$1000.00
2018/19	Second C2C meeting	$800.00
Total 2018/19		**$1800.00**

Islands Trust

Top Priorities

Thetis Island

No.	Description	Activity	R/Initiated	Responsibility	Target Date
1	Riparian Areas Regulation Implementation	Ensure protection of freshwater ecosystems in the Ralston Creek watershed through review of current regulation and covenants, and possible bylaw amendment.	07-Sep-2011	Marnie Eggen	15-Nov-2014
2	Ruxton Island Private Moorage Review	Review regulation regarding private moorage related structures and community docks.	11-Jan-2017	Marnie Eggen	
3	Relationship Building with Local First Nations	Potential topics to explore: Bylaw referrals; Land & marine use on & around Lyackson Island; Shared Narrative of Place; Co-governance/co-management; follow up from Associated OCP/LUB review:land use considerations for clam gardens; explore private docks as a permitted use; potential impacts of ocean geothermal loops; switchback fencing in setback to the sea	27-Feb-2018	Marnie Eggen Fiona MacRaild	

Projects

Thetis Island

Description	Activity	R/Initiated
LUB Amendments	- short-term vacation rentals of principle dwellings in the R-2 zone - rainwater storage requirements	07-Sep-2011
Island-wide watershed protection	TBD	21-Nov-2012
Pilkey Point / Marina Drive Slough Support for Habitat Restoration		20-Nov-2013
Sensitive ecosystems education and engagement	Environmental education and engagement efforts, in particular with owners on the Associated Islands, to explore ways to protect sensitive ecosystems in the Area.	19-Mar-2014
Associated Islands OCP and LUB	Develop new OCP and LUB to replace Ruxton Island Zoning Bylaw, 1982, CVRD Bylaw 110, and to include other islands with no zoning. Scope does not include Valdes Island, but includes establishing a Memo of Understanding with the Stzuminus Nation for a stakeholder process regarding Bute and Dunsmuir Islands.	07-Sep-2011
Letter of Understanding between the Thetis LTC and the Cowichan Valley Regional District.	Planning staff to begin drafting once project progresses to Priorities.	24-Nov-2015

Projects

Thetis Island

Description	Activity	R/Initiated
Amendments to Thetis Island OCP and LUB; staff to provide staff report when time permits.	Moved back to Projects List: - (housekeeping)4.3(d) amend to say: In addition to s. 4.3(a), (b), and (c)... - (housekeeping) objectives and policies re sea level rise (was resolution to include in draft but did not make it in to adopted OCP). - OCP/LUB amendments to consider ocean loop geothermal exchange systems. - explore measures to address impacts of wharf related structures.	12-Jan-2017
Review of Development Permit Areas and development of a Development Approval Information Bylaw on Thetis Island		21-Feb-2017
Consolidating lots for community benefit of Ruxton Island.		17-Oct-2017

Applications

Development Variance Permit

File Number	Applicant Name	Date Received	Purpose
TH-DVP-2015.2	Trincomali Holdings Ltd. **Planner:** Ann Kjerulf	03-Sep-2015	204 PILKEY POINT RD \request for variance to authorize a previously constructed seawall

Planning Status

Status Date: 29-Aug-2017

Staff requested to refer the new survey to the Crown, First Nations and the Arch Branch with respect to the location of the natural boundary of the sea, asking if interests are unaffected.

Status Date: 26-May-2017

Letter sent to applicant requesting valid survey be submitted by July 15, 2017

Status Date: 29-Nov-2016

LTC considered application; will reconsider pending completion of mitigation measures, confirmation that First Nations concerns have been addressed, and provision of a valid survey

Rezoning

File Number	Applicant Name	Date Received	Purpose
TH-RZ-2016.1	WEST VANCOUVER YACHT CLUB **Planner:** Marnie Eggen	02-Feb-2016	Proposed reconstruction and/or maintenance of breakwater on crown land north of Kendrick Island, south is Valdes Island.

Planning Status

Status Date: 03-Nov-2017

No change

Status Date: 29-Aug-2017

LTC passed resolution to hold in abeyance to allow for 30 first nation review period of Arch Report and receipt of comments from Lyackson FN, and request applicant to meet with Lyackson FN.

Status Date: 29-Aug-2017

LTC passed resolution to hold in abeyance to allow for 30 first nation review period of Arch Report and receipt of comments from Lyackson FN, and request applicant to meet with Lyackson FN.

File Number	Applicant Name	Date Received	Purpose
TH-RZ-2017.1	VELEZ, RAYMUNDO	13-Sep-2017	PID: 028-987-691 Building roofs over travel trailers for accommodation to ferry workers. Civic: 49 Harbour Road, Thetis Island, BC.

Planner: Teresa Rittemann

Planning Status

Status Date: 04-Apr-2018

Staff Report to appear on April 17 agenda for LTC consideration

Status Date: 30-Jan-2018

LTC postponed consideration of application until the February meeting. Memo from Staff will be on the 13-Feb-2018 LTC meeting agenda.

Status Date: 27-Nov-2017

Planner completed review. Staff Report to appear on agenda for Dec 12 2017 LTC meeting

Subdivision

File Number	Applicant Name	Date Received	Purpose
TH-SUB-1998.1	TRAX DEVELOPMENT LTD C/O WRIGHT FOCUS ENGINEERING LTD	25-Sep-1998	Phased Strata Subdivision 'Meadow Valley Propreties' phased strata to create 21 strata lots from 4 parent parcels

Planner: Marnie Eggen

Planning Status

Status Date: 19-Jul-2016

MOTI issued 1 yr. extension.

Status Date: 18-Dec-2015

Staff comments provided to MOTI.

Status Date: 14-Sep-2015

Applicant seeking comments on Phase III. Planner reviewing file.

Applications

File Number	Applicant Name	Date Received	Purpose
TH-SUB-2014.1	J.E. Anderson & Associates	23-Jun-2014	Ruxton Island to create 2 parcels from 3 existing lots

Planner: Teresa Rittemann

Planning Status

Status Date: 04-Apr-2018

No change in status.

Status Date: 02-Oct-2017

Require final subdivision plans before IT can issue final letter.

Status Date: 13-Jun-2017

MOTI letter stating they are willing to accept a 10 metre setback, as in the LUB, instead of 15 metres as in the original PLA.

File Number	Applicant Name	Date Received	Purpose
TH-SUB-2015.1	Polaris Land Surveying Inc.	19-Aug-2015	PID:007-818-459 The proposed subdivision will create 2 parcels (including remainders) and the intended use of the land and/or buildings and structure is residential.

Planner: Marnie Eggen

Planning Status

Status Date: 19-Sep-2017

Final letter of approval sent to MOTI

Status Date: 25-May-2017

Covenant approved by RWM

Status Date: 25-May-2017

Awaiting final plan of subdivision before giving final approval.

Islands Trust

LTC EXP SUMMARY REPORT F2018

Invoices posted to Month ending February 2018

670 Thetis	Invoices posted to Month ending February 2018	Budget	Spent	Balance
65000-670	LTC "Trustee Expenses"	750.00	457.44	292.56
LTC Local				
65200-670	LTC - Local Exp - LTC Meeting Expenses	1,000.00	1,484.95	-484.95
65210-670	LTC - Local Exp - APC Meeting Expenses	500.00	0.00	500.00
65220-670	LTC - Local Exp - Communications	1,000.00	35.00	965.00
65230-670	LTC - Local Exp - Special Projects	500.00	0.00	500.00
TOTAL LTC Local Expense		3,000.00	1,519.95	1,480.05
Projects				
73001-670-2009	Thetis OCP/LUB	1,500.00	0.00	1,500.00
73001-670-3008	Thetis RAR	1,500.00	1,409.67	90.33
73001-670-4072	Thetis First Nations Relations	500.00	17.70	482.30
73001-670-4090	Thetis Ruxton Island Private Moorage	3,500.00	401.62	3,098.38
TOTAL Project Expenses		7,000.00	1,828.99	5,171.01

'Salish View' Acquisition Project, Lasqueti Island

Following the successful conclusion of the Fairyslipper Forest acquisition partnership on Thetis Island, our next joint campaign is underway on Lasqueti Island. The Trust Fund Board and Lasqueti Island Nature Conservancy have signed an agreement to frame the campaign to purchase and protect "Salish View", an 11.6 hectare property contiguous to Squitty Bay Provincial Park. Look out for the upcoming official launch of this campaign and visit the Lasqueti Island Nature Conservancy website (http://www.lasqueti.ca/LINC) to learn how you can support this small community's ambitious project.

Opportunity Fund Grant for Saturna Wetland Conservation Project

The Trust Fund Board is contributing a grant from the Opportunity Fund to support a phase one environmental assessment for a property containing wetland ecosystems on Saturna Island. This is the first step towards the possible securement of this land, which supports valuable biodiversity. The project is being spearheaded by neighbourhood residents.

Dragonfly Commons Conservation Proposal, Salt Spring Island

There are times when the Trust Fund Board makes the difficult decision to decline a conservation proposal. The Trust Fund Board decisions must balance the protection of biodiversity values in accordance with the Regional Conservation Plan, with potential risks and long-term costs, such as property management challenges. TFB considered a proposal to covenant approximately half of a property to be developed as a high density affordable housing project. The small size, landscape context and complexity of eventual ownership were factors that led to a TFB decision to decline this proposal

Fairyslipper Forest Nature Reserve, Thetis Island

Negotiations are beginning with Thetis Island Nature Conservancy and Cowichan Community Land Trust to establish a conservation covenant on Fairyslipper Forest.

Medicine Beach Nature Sanctuary, North Pender Island

Public consultation for the Medicine Beach nature reserve is now complete and the management plan for this nature reserve is being finalized.

Morrison Marsh Nature Reserve, Denman Island

Public consultation for the Medicine Beach nature reserve is now complete and the management plan for this nature reserve is also being finalized.

First Nations – Regional Conservation Plan

A goal of our new Regional Conservation Plan (RCP) is to strengthen relationships with First Nations to identify and collaborate on shared conservation goals. Letters are being sent to all First Nations with traditional territory in the Trust Area to provide information about the RCP and offer available mapping for sharing. The Islands Trust Fund would like to connect with First Nations that might have an interest in the RCP. If local trust committees or Bowen Island Municipality are developing relationships with First Nations, it would be helpful to explore how ITF can use this opportunity to connect.

Regional Conservation Plan and Local Trust Committees and BIM

The RCP contains a lot of valuable information for local trust committees and Bowen Island Municipality, but it is a large, comprehensive document. Islands Trust Fund will be extracting information and maps pertinent to each local trust area and BIM that can be included on local website pages. The Trust Fund Board encourages LTCs and BIMs to identify how Official Community Plans can be updated to reflect new information contained in the RCP and associated data and mapping. ITF will also be producing a summary brochure on the RCP.

Please feel free to contact members of the Trust Fund Board or Islands Trust Fund staff for more details.

Tony Law, Chair tlaw@islandstrust.bc.ca
Islands Trust Fund itfmail@islandstrust.bc.ca

ISLANDS TRUST FUND
A Conservancy for Canada's Islands in the Salish Sea

Memorandum

200-1627 Fort Street Victoria BC V8R 1H8
Telephone **(250) 405-5186** FAX: (250) 405-5155
Toll Free via Enquiry BC in Vancouver 660-2421. Elsewhere in BC **1.800.663.7867**
itfmail@islandstrust.bc.ca www.islandstrustfund.bc.ca

Date February 28, 2018

To Thetis Island Local Trust Committee

From Jennifer Eliason, Manager
Islands Trust Fund

Re: New Nature Reserve on Thetis Island – Fairyslipper Forest

Fairyslipper Forest on Thetis Island is now permanently protected as a nature reserve, the result of a partnership between the Islands Trust Fund, the Thetis Island Nature Conservancy, and the Cowichan Community Land Trust.

In 2014, the Thetis Island Nature Conservancy initiated a community campaign to purchase the property on lower Burchell Hill. Over three years, Thetis Island residents and other individual supporters raised over half the purchase amount. The campaign also received generous contributions from the Sitka Foundation, the Ministry of Transportation and Infrastructure's Environmental Enhancement Fund, and the Gosling Foundation. The campaign finally reached its goal through a generous contribution by the Cowichan Community Land Trust from an endowment fund created by a bequest from the estate of Syd Watts and Barbara Dowd.

A section 99 subdivision was approved by the Registrar of BC Land Title and Survey Authority to create the 16.6 hectare nature reserve, leaving one of the vendors a 1.2 hectare remainder lot (see copy of survey, attached). The remainder lot is slightly smaller than previously negotiated as the vendors agreed to include additional land in the protected area that was previously proposed as a "buffer" covenant area. All parties agreed to the increase in the amount of land in the protected area in exchange for removing the requirement for a small covenant area on the boundary of the remainder lot.

The property is Thetis Island's first publicly accessible nature reserve, offering residents and visitors opportunities for walking and hiking on nature trails through the forest. To maintain the natural features of the land, only low-impact activities will be permitted.

Several species at risk have already been identified on the property, and the new nature reserve includes suitable habitat for several other species of concern.

A conservation covenant will be registered on the land in favour of the Thetis Island Nature Conservancy and the Cowichan Community Land Trust, offering another layer of protection. The Islands Trust Fund will collaborate with the Thetis Island Nature Conservancy, the Cowichan Community Land Trust, First Nations and community members to develop a comprehensive management plan for the reserve to address trail location, signage and protection of ecological features.

The Islands Trust Fund looks forward to its continued collaboration with the Thetis Island Nature Conservancy, the Cowichan Community Land Trust and the community of Thetis Island on the long-term stewardship of Fairyslipper Forest and Moore Hill Nature Reserves.

REFERENCE PLAN OF PART OF LOT 1, DISTRICT LOTS 6 AND 10, THETIS ISLAND, COWICHAN DISTRICT, PLAN VIP84714

PURSUANT TO SECTION 99 (1) (h) OF THE LAND TITLE ACT

BCGS 92B. 092

PLAN EPP76866

50 0 50 100 150 metres

The intended plot size of this plan is 432mm in width by 560mm in height (C size) when plotted at a scale of 1:2500

LEGEND

All distances are in metres.

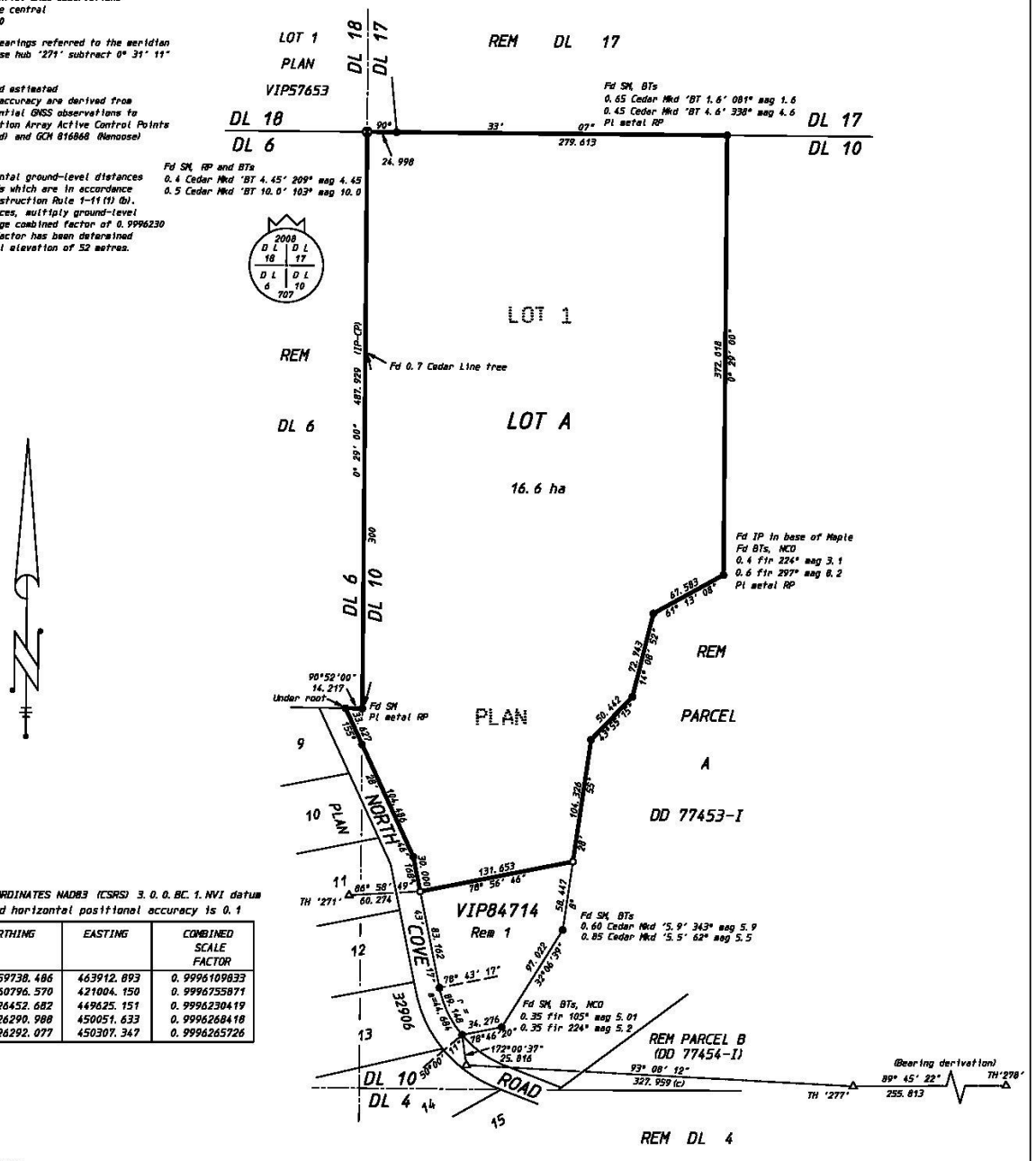
- denotes standard capped post found
- denotes standard iron post found.
- denotes standard iron post placed.
- denotes traverse hub placed

Grid bearings are derived from dual frequency differential GNSS observations and are referred to the central meridian of UTM zone 10

To obtain astronomic bearings referred to the meridian passing through traverse hub '271' subtract 0° 31' 11"

The UTM coordinates and estimated horizontal positional accuracy are derived from dual frequency differential GNSS observations to Western Canada Deformation Array Active Control Points GCM 534933 (Albert Head) and GCM 816868 (Nanoose)

This plan shows horizontal ground-level distances except for those to BTs which are in accordance with General Survey Instruction Rule 1-11 (1) (b). To compute grid distances, multiply ground-level distances by the average combined factor of 0.9996230 The average combined factor has been determined based on an ellipsoidal elevation of 52 metres.



UTM ZONE 10 COORDINATES NAD83 (CSRS) 3.0.0.BC.1.NVI datum
Estimated horizontal positional accuracy is 0.1

GNSS OBSERVED POINT	NORTHING	EASTING	COMBINED SCALE FACTOR
534933	5359738.486	463912.893	0.9996109833
816868	5460796.570	421004.150	0.9996755871
TH 271	5426452.682	449625.151	0.9996230419
TH 277	5426290.988	450051.633	0.9996268418
TH 278	5426292.077	450307.347	0.9996265726

KENYON WILSON
PROFESSIONAL LAND SURVEYORS
221 CORONATION AVE.
DUNCAN, B.C. V9L 2T1 (250) 746-4745
FILE 01-5299.RF2

This Plan lies within The Cowichan Valley Regional District.

The field survey represented by this plan was completed on the 17th day of October, 2017.
EDWIN J. WILSON, BCLS 707

BRIEFING

To:	Local Trust Committees	**For the Meeting of:**	Various
From:	David Marlor, LPS Karen Hurley, TAS	**Date Prepared:**	March 2, 2018

SUBJECT: **Land-use planning implications of Fisheries and Oceans Canada *Integrated Geoduck Management Framework 2017***

PURPOSE: To inform local trust committees about the land-use implications of the of Fisheries and Oceans Canada *Integrated Geoduck Management Framework 2017*

BACKGROUND:

At the November 2, 2017 meeting the Executive Committee requested that:

> Local Planning Services and Trust Area Services staff collaborate on the preparation of a briefing for local trust committees about the land-use planning implications of the DFO 2017 Integrated Geoduck Management Framework.

The Fisheries and Oceans Canada (DFO) *Integrated Geoduck Management Framework 2017* (IGMF) guides the management of geoduck clam aquaculture, including siting guidelines for new applications for inter-tidal and sub-tidal geoduck aquaculture, as well as for applications for size increases to existing shellfish aquaculture operations.

Currently in the Islands Trust Area, most shellfish aquaculture tenures are limited to Baynes Sound because this area has the best conditions for the raising of these types of shellfish. Wild geoduck clams are more widespread in the Islands Trust marine areas, and, under the IGMF, there is potential for geoduck clam aquaculture operations to be installed in wild geoduck habitats. As a result, staff expects that Geoduck clam aquaculture tenures could be applied for in many other locations throughout the Trust Area but would be influenced and/or limited by:

- appropriate ecological/substrate conditions;
- zoning; and
- the DFO IMGF 2017, which identifies areas available for geoduck clam aquaculture applications.

With release of the DFO Integrated Geoduck Management Framework 2017, applicants are now able to apply for aquaculture licenses throughout the B.C. coast, including the Trust Area. Shellfish aquaculture is now under the exclusive jurisdiction of DFO to manage the fishery and provide licenses to operators. The province issues tenures for the sites and manages the harmonized application process.

There are existing aquaculture licenses that include geoduck clams among many possible species that could be implemented at this time on many Gulf Islands, including: Lasqueti, Hornby, Salt Spring, and Denman. There are also many islands that have existing aquaculture licenses that do not currently include geoduck clams; however, operators could apply to have them added to the license, including: Thetis (5), Gabriola (1), Salt Spring (4 including one at Burgoyne Bay) and many near Denman.

Attached are maps of the Islands Trust Area, indicating areas that currently permit aquaculture and/or limited aquaculture.

Under IGMF 2017, there is also the potential for the opening up of wild geoduck areas to DFO applications for both intertidal and subtidal geoduck clam aquaculture licenses in various sites in the Trust Area by First Nations (red zones) and all operators (yellow and non-colour areas on attached maps).

DFO staff, however, is not expecting a large number of new or amendment applications for geoduck clam aquaculture and have advised that throughout BC there "are currently 57 facilities licensed for geoduck. Of this, 25 are licensed for intertidal, of which only 6 have approved harvest plans, and only 2 have ever reported production, the last being in 2015." DFO staff has also confirmed that "the addition of geoduck to an existing licence requires an amendment with full DFO review. Any proposed addition of non-standard infrastructure (including geoduck tubes) would also trigger a review of the application by the BC government.

Implications of the IGMF

In British Columbia, the province has responsibility for issuing tenures for aquaculture and the federal government has responsibility for issuing licenses for the operation and management of aquaculture.

Under s.479 of the *Local Government Act,* local trust committees have the authority to zone the surface of the marine areas. However, aquaculture is a federally regulated industry and local zoning cannot infringe on the federal authority. Therefore, local trust committees are limited to determining the location that it deems suitable for aquaculture operations but cannot restrict the species grown in the tenure area. Local trust committees could regulate siting and size of buildings and structures as part of its s.479 authority, provided that such regulations do not restrict the aquaculture operations as licensed by the federal government.

Any areas suitable for geoduck clam aquaculture that are already zoned for aquaculture uses could be used to grow and harvest geoduck. Operator licenses may already include geoduck clams, or they could be added to the aquaculture license, likely without a referral process.

Areas that are not zoned for aquaculture would require a rezoning application before they could be used for aquaculture (including geoduck clams).

ATTACHMENT(S):

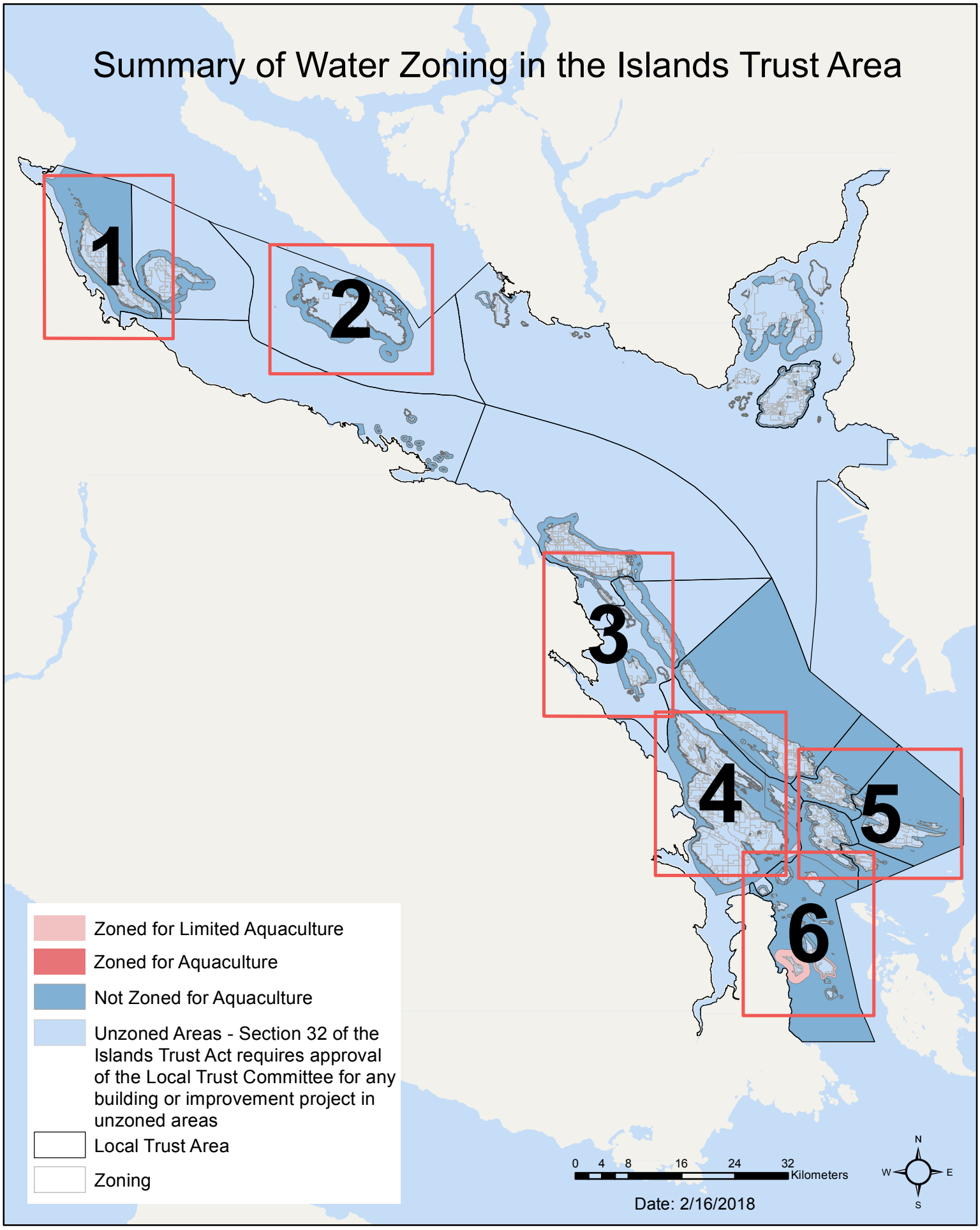
1. 2018 Island Trust water zoning maps (with index map)
2. Staff report on potential impacts associated with geoduck clam aquaculture in the Islands Trust Area, November 12, 2017
3. Fisheries and Oceans Canada *Integrated Geoduck Management Framework 2017* (IGMF)
4. IGMF Maps associated with Islands Trust Area -- Pacific Fisheries Management Areas: attached and at DFO website
    a. 14 South - Denman, Hornby, Lasqueti, N. Thormanby Islands
    b. 16 - Denman, Hornby, Lasqueti, N. Thormanby Islands
    c. 17 - Gabriola, Galiano, Mudge and Thetis Islands
    d. 18 - Saturna, Salt Spring Islands (all SSI Conditional Closure)
    e. 19 - James, Sidney Islands

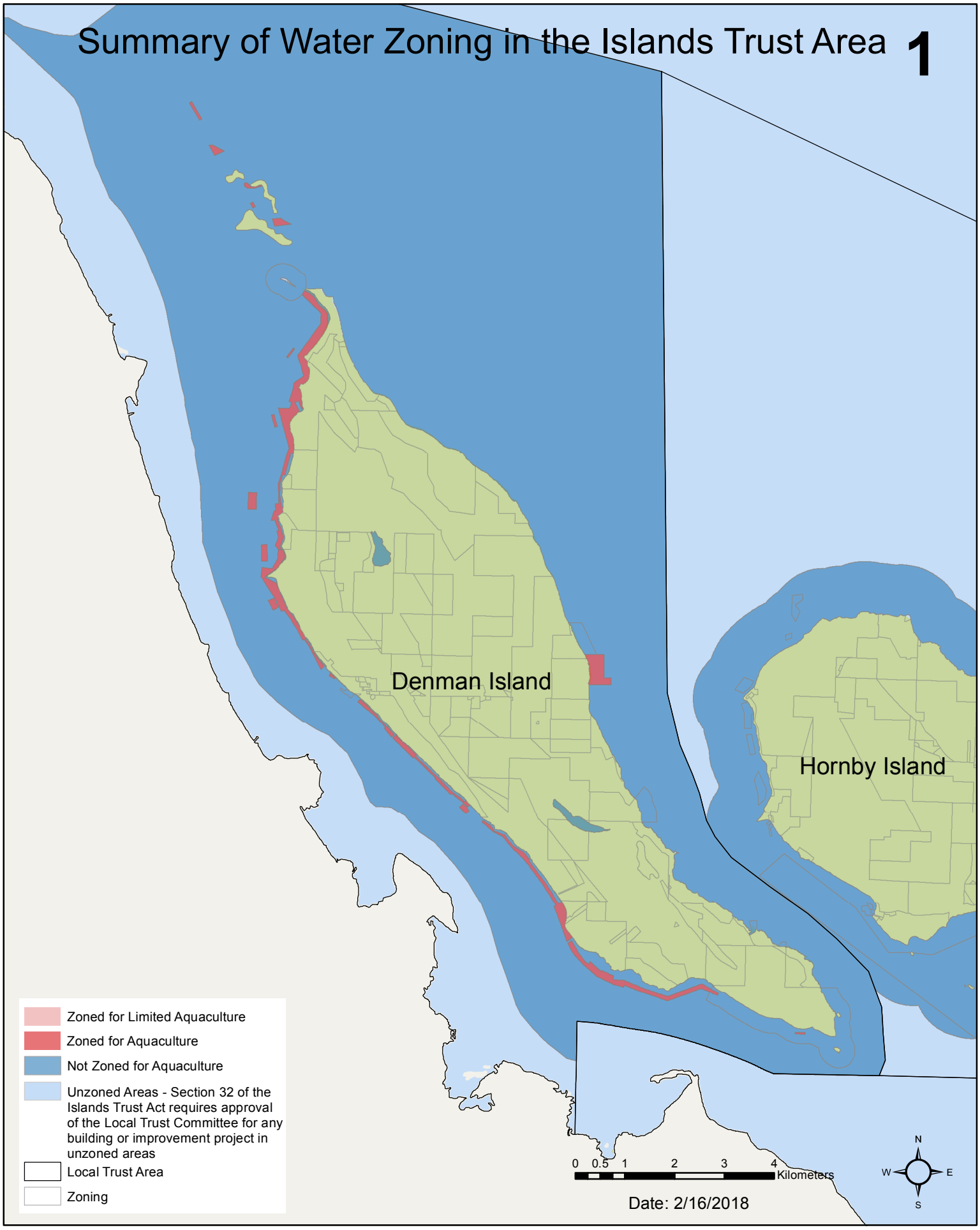
FOLLOW-UP:

TAS staff will continue to monitor any new information on geoduck clam aquaculture. Further follow-up at the direction of Local Trust Committees.

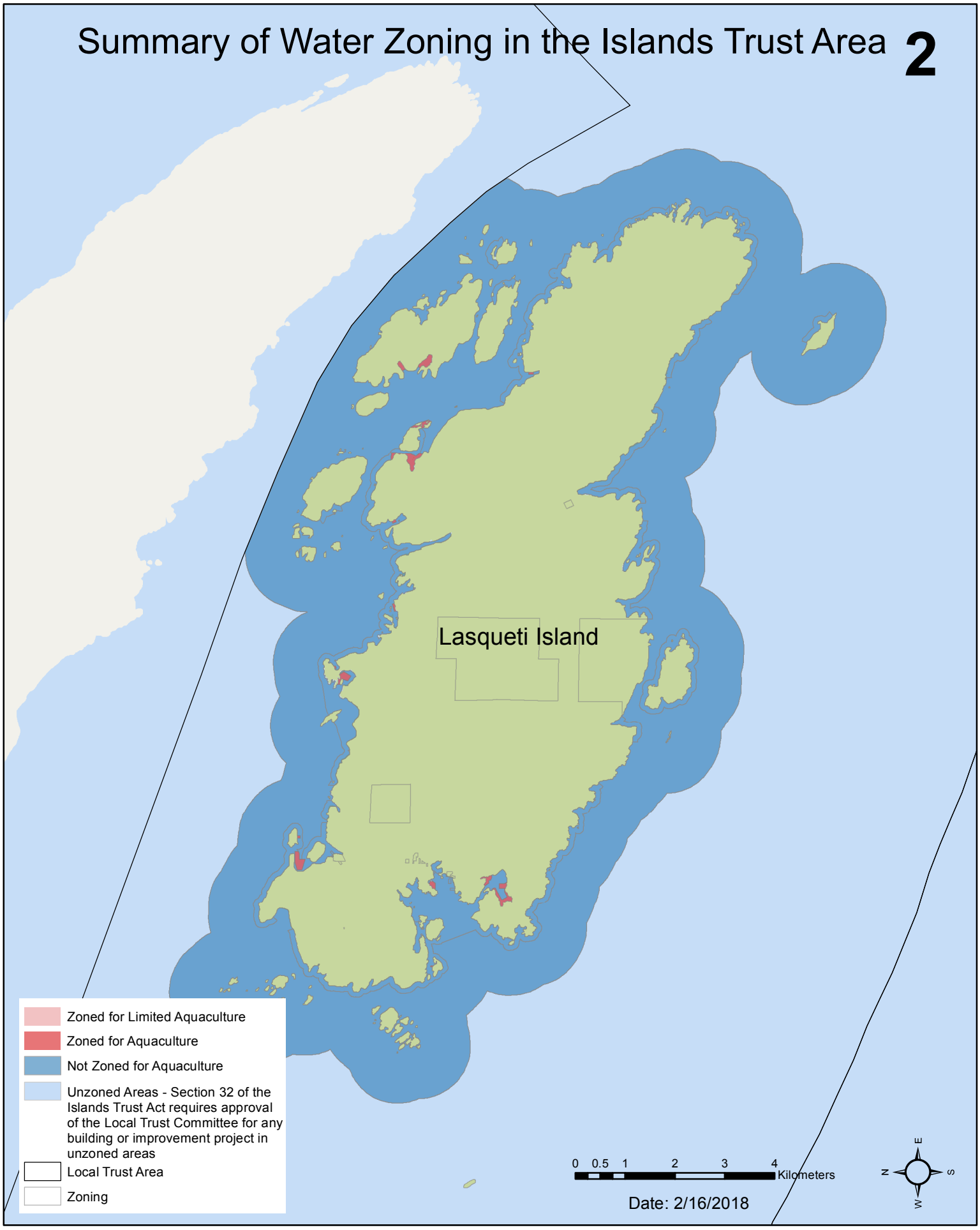
Prepared By: **David Marlor, Local Planning Services**
Karen Hurley, Trust Area Services

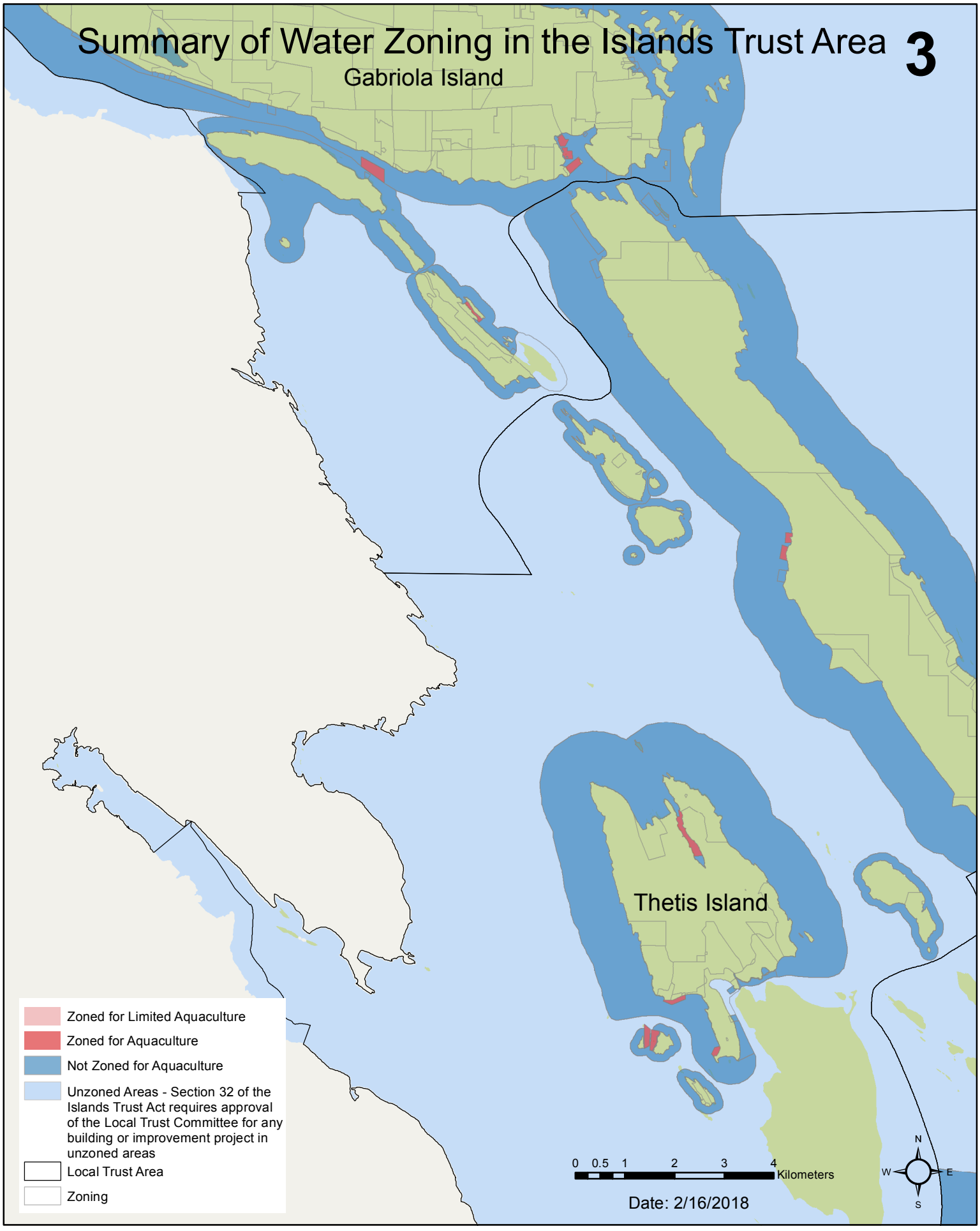
Reviewed By/Date: Clare Frater, Trust Area Services, March 5, 2018


Summary of Water Zoning in the Islands Trust Area
1
2
3
4
5
6
Zoned for Limited Aquaculture
Zoned for Aquaculture
Not Zoned for Aquaculture
Unzoned Areas - Section 32 of the Islands Trust Act requires approval of the Local Trust Committee for any building or improvement project in unzoned areas
Local Trust Area
Zoning
0 4 8 16 24 32
Kilometers
Date: 2/16/2018
N
W
E
S


Summary of Water Zoning in the Islands Trust Area
1
Denman Island
Hornby Island
Zoned for Limited Aquaculture
Zoned for Aquaculture
Not Zoned for Aquaculture
Unzoned Areas - Section 32 of the Islands Trust Act requires approval of the Local Trust Committee for any building or improvement project in unzoned areas
Local Trust Area
Zoning
0 0.5 1 2 3 4
Kilometers
N
W
E
S
Date: 2/16/2018

Summary of Water Zoning in the Islands Trust Area 2




Summary of Water Zoning in the Islands Trust Area
3
Gabriola Island
Thetis Island
Zoned for Limited Aquaculture
Zoned for Aquaculture
Not Zoned for Aquaculture
Unzoned Areas - Section 32 of the Islands Trust Act requires approval of the Local Trust Committee for any building or improvement project in unzoned areas
Local Trust Area
Zoning
0 0.5 1 2 3 4
Kilometers
Date: 2/16/2018
N
W
E
S

Staff report on potential impacts associated with geoduck clam aquaculture in the Islands Trust Area

By Karen Hurley, PhD, Senior Policy Advisor
November 12, 2017

On June 21, 2017, the Islands Trust Council requested Executive Committee to investigate the potential impacts associated with geoduck aquaculture in the Islands Trust Area and, as appropriate, initiate advocacy.

This report has been produced using review of the latest scientific peer-reviewed research on impacts from geoduck clam aquaculture, as well as conversations and meetings with staff from the Department of Fisheries and Oceans (DFO), the BC Ministry of Agriculture, the BC Ministry of Forests, Lands and Natural Resources Operations and Rural Development (FLNRORD), Vancouver Aquarium and members of the Association of Denman Island Marine Stewards. *Given the limited staff time available for this project, and the lack of definitive science, this report offers only an overview of potential impacts and highlights area worthy of further study.*

During a review of the issue, two major themes emerged: there is uncertainty as to the expected scale of the industry now that DFO's 2017 Geoduck Integrated Management Framework is in force and therefore there is uncertainty about the, scale of the potential impacts. There is also uncertainty about the extent to which geoduck aquaculture might occur in the intertidal zone.

The potential impacts discussed in this report include damage to habitat vital to other species including herring, reduced bird foraging, microplastic contamination, human health, chemical contamination, garbage and ocean acidification.

It is worth noting at the outset that, to date, there are no studies that evaluate the potential impacts of geoduck aquaculture at the ecosystem level or the cumulative impacts of an expanded industry in the Salish Sea, though most researchers call for this level of study to be done.

A description of geoduck clam aquaculture practice is attached as Appendix 1.

Geoduck aquaculture has taken place in British Columbia since the early 1990s. In that time, interest in geoduck aquaculture has continued to grow as demand for the giant clam, especially in China, has sent prices soaring. Many, including Trust Area First Nations, see the emerging geoduck aquaculture industry as a significant opportunity for economic development and long-term employment for local residents. Compared to Washington State the industry in BC is at an early stage, but with the recent approval of a DFO Integrated Geoduck Management Framework 2017 (IGMF) is poised to expand.

There are concerns in island communities that DFO has insufficiently considered ecosystem and cumulative impacts. In creating the IGMF, DFO chose to limit their consideration and scientific analysis geoduck aquaculture at the policy level to the principle of 'conservation', which was narrowly defined: "conservation and long-term sustainability of wild geoduck stocks is the first priority." No mention is made in the IGMF of protection of the marine environment, fish habitat or human health. DFO staff advises that broader ecological impacts will be assessed at the licence application level. This raises concern that assessment at the individual licence will result in insufficient consideration of cumulative impacts regionally.

Concerns about geoduck aquaculture impacts are not new. In 2007, the BC Legislature's Special Committee on Sustainable Aquaculture recommended that:

> *"No new species are to be approved for commercial aquaculture without a consensus of independent peer-reviewed science demonstrating that the potential impact on the marine environment is minimal". (7.5)*
>
> *Recently approved geoduck clam tenures must be rescinded until conditions in Recommendation 7.5 are met". (7.6)*

Staff's review of the available science did not result in an impression that there is scientific consensus that the potential impacts of intensive aquaculture in the Trust Area, including geoduck aquaculture, are certain to be minimal. Staff noted that many articles conclude with calls for additional research. As far as staff knows at this time, the 2007 recommendation to rescind the approved geoduck clam tenures was not acted on.

There are also strong feelings in island communities about aquaculture impacts generally. Residents are concerned that, in the past, aquaculture operators have not taken responsibility for lost equipment/garbage and that DFO is insufficiently monitoring and enforcing conditions of the licenses. Residents also seem to have a lack of trust in the adequacy of the federal government's oversight of aquaculture, due to changes to the *Fisheries Act* in 2012 that significantly weakened the federal government's role in fish habitat protection. There also appears to be a lack of clarity with members of the public regarding the respective roles and authorities of DFO, FLNRORD and Islands Trust.

Potential impacts of geoduck clam aquaculture

A summary of potential impacts identified by staff is below:

1. **Potential damage to habitat vital to other species, including herring**

There is limited local data available about habitat impacts associated with the geoduck industry so staff reviewed articles about impacts in Puget Sound, a nearby region that has more experience with intensive geoduck clam aquaculture. A review of the scientific literature related to geoduck aquaculture in Puget Sound reveals that there is an active debate among scientists as to the severity of the impacts or potential impacts. That said, most of the scientific reports call for additional research on ecological impacts even as geoduck aquaculture intensifies. Key among these are:

- *MacDonald et al.* (2013) report negative impacts on fish and snail habitat by geoduck aquaculture gear and suggest further research to understand impacts to forage fish populations.
- *Dethier et al.* (2007), marine scientists, raised concerns and questions about geoduck aquaculture impacts to habitat, marine species and ecosystem functions. Staff understands these questions remain unanswered.

In 2013, DFO scientists conducted a one-year study on potential impacts of geoduck clam intertidal aquaculture in a small study area (not a large commercial operation) near Nanoose, BC. This study concluded that there are limited ecologically-significant effects of intertidal geoduck aquaculture. The exceptions found were that after liquefaction of the geoduck site during harvesting the sediment structure took 123 days to recover, and that there was a lack of seasonal increase in infaunal (beings that live in the sand such as forage fish) abundance and richness after harvesting. The study recommended more research on a larger scale.

Robinson et al. (2013) describe how Pacific sand lance do not have a swim bladder, so when they are not foraging they bury into the intertidal or subtidal sand and they also aestivate in the sand (like hibernation) when food is scarce. A reduced number of forage fish and invertebrates living in the sand and finer ocean floor sediments after liquefaction from the stingers (inserted to a one metre depth) is not surprising because their habitat has been significantly changed. As *Dethier et al.* (2007) write: organisms in the intertidal zone are adapted to small scale disturbances – this large scale disturbance with stingers is not part of their evolutionary history.

Staff notes that it remains unclear whether geoduck aquaculture will occur in the intertidal zone. Although not specific to the geoduck industry's activities, a 2002 review of BC shellfish aquaculture in Baynes Sound assigned the impacts of site clearing with a rake and other harvesting activity as High Severity on forage fish intertidal habitat.

Doug Hay, PhD, who spent most of his career as a research scientist with DFO, and who continues to serve as scientist emeritus addressing issues related to herring and other forage fish, cautions that pertinent environmental impact analysis of risks to forage fish species have never been done. He suggests that nobody knows if geoduck aquaculture could jeopardize the amount and quality of spawning habitat for herring or other forage fish species such as surf smelt or sand lance, but that, the loss of vital spawning habitat could lead to declines in abundance of forage fish species, including herring, which in turn could impact other species, especially seabirds. Within the Trust Area, forage fish provide up to 50% of the diet of Chinook salmon that are the primary food of the Southern Resident orcas. Using spawning records back to 1928, Dr. Hay explains that the most important herring spawning areas occur on only 10% of the total BC coastline. *Lambert Channel, between Denman and Hornby Islands, is the largest area of herring habitat in BC with 35% of BC's total herring spawning area*. In addition, Dr. Doug Hay cautions that, collectively, we are all taking herring for granted, especially in the Strait of Georgia, and taking big risks with geoduck aquaculture in herring spawning areas. He recommends additional research on this topic.

The IGMF permits geoduck aquaculture in many parts of the herring spawning area of Baynes Sound and Lambert Channel (Denman and Hornby Islands). This is herring habitat that is defined as Vital by DFO.

2. Potential impacts to species due to reduced foraging

There is also concern that intensive intertidal geoduck aquaculture may negatively impact birds through alienation of foraging habitat in the inter-tidal zone as well as birds being caught in the predator netting. Baynes Sound and other marine areas within the Trust Area are important bird habitats. .

Ferriss et al. (2016) undertook modelling for Puget Sound that found that the gear associated with geoduck aquaculture including PVC pipes and anti- predator nets may, if the already intensive industry more that doubles in that region, have an impact on the Puget Sound food web because of changing forage opportunities including a substantial decrease of most resident birds including great blue herons and reduction in wild salmon.

There is widespread use of netting in the aquaculture industry. Given this, staff was interested to read studies that that the anti-predator nets (APN), which were created to reduce bird and crab predation of aquaculture clams, have not been effective in reducing bird foraging behavior or crab predation. In fact, the nets have increased the number of small predatory crabs in Baynes Sound to the point that Dr. Leah Bendell (2014) suggests that "it is likely that maximum bivalve productivity within Baynes Sound has been reached in that any further gains hoped to be achieved through seeding will not be realized as a consequence of predation."

Staff also learned that in a 2015 study, also focused on Baynes Sound, Dr. Bendell, documents how the anti-predator nets degrades the sediment geochemical characteristics, are hazards to wildlife and humans, and provides a place for sea lettuce to take hold, which contributes to poor water quality and a likely loss of ecological function on the sea bed. More research is recommended by the author.

3. Microplastic contamination

The plastic anti-predator netting and PVC pipes used in inter-tidal geoduck aquaculture may impact the marine environment as they breaks down in the saltwater and sun exposure. A recent research paper from Washington State explains that the "contribution from larger marine plastic debris to microplastic formation is greatest on beaches where UV light and wave action can enhance degradation." According to Feldman (2002) PVC is a poorly photostable polymer especially the matt finish PVC, like the ones used in geoduck aquaculture, and can be severely weathered in outdoor uses where weathering is caused by heat, mechanical action (waves), algae and their enzymes (biodegradation). During a visit to Baynes Sound in early August, staff observed abandoned and in-place anti-predator netting and PVC pipe sections that were exposed to wave action and sunlight and, as a result, were in various states of weathering.

A 2014 paper by Jean-Pierre Desforges, Peter Ross, Vancouver Aquarium researcher, and others, documented extremely high levels of microplastics in the Strait of Georgia, of which 80% is fibrous plastics. In a 2015 paper by the same researchers found that zooplankton are eating these microplastic particles. Dr. Ross also explained to staff that researchers have found that the type of microplastic differs according to where you are looking. For example PVC microplastic is denser than water and therefore tends to be found in the sediments, while fibres are more buouyant and are found in the water column. Dr. Bendell argues that aquaculture plastic gear including 'oyster blue' rope, netting, and plastic net bags are contributing to the highly fibrous composition of microplastics in Baynes Sound. All of the researchers suggest that additional research is required, especially in terms of ecological consequences.

DFO and the BC Shellfish Growers Association also recognise that aquaculture gear may be a source of microplastics. In 2016 they initiated a collaboratively funded research project to investigate: *Microplastics and Shellfish Aquaculture: Presence, Extent, Potential Impacts and Mitigation Measures* including the type of microplastics and potential sources. The research is expected to be completed by December 31, 2017.

4. Human health

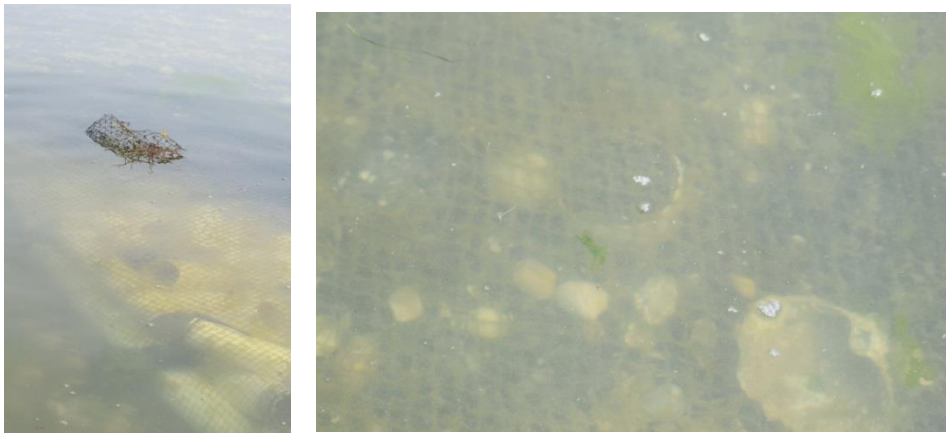
If undertaken, intertidal geoduck clam installations would involve anti-predator nets to protect the juvenile geoducks. There is a human health concern associated with the rebar used to hold the anti-predator nets (APN) in place because it tends to erode quickly at the bend and then break off, forming a point. These points are hazardous if stepped or fallen on – as happened on Denman Island twice in the summer of 2017 in clam tenures.

5. Chemical contamination

Lead line is a product used to attempt to hold the netting in place. This product is used throughout the fishing industry. It is made of a loosely braided nylon with lead balls inside. In the intertidal zone, if the nylon braid erodes there is a risk of animals or birds ingesting the lead balls. Future research is warranted.

6. Garbage

Garbage and gear abandonment is a long standing aquaculture issue, acknowledged by provincial staff and addressed in the BC Shellfish Growers *Environmental Code of Practice.* Staff observed an unsuccessful geoduck operation intertidal zone on the south end of Denman Island where the gear was obviously abandoned and causing potential danger to humans, marine species and birds.



Abandoned geoduck aquaculture gear in the intertidal zone of Denman Island.

Lead line with anti-predator netting (APN)

APN: a hazard to humans and other species

All images Denman Island. Photo credit: Karen Hurley

7. Ocean Acidification

Marine research by *Bendell et al.* (2014) in Baynes Sound suggests that increased number of clams, including geoduck clams, could further increase acidification of the ocean. Climate change is increasing the acidification of the ocean. Lower pH levels in the ocean threaten sea life, including shellfish, and in turn, acidification of the ocean may speed up climate change.

Emerging activities that will increase understanding of impacts:

On August 10th, 2017 the US Center for Food Safety launched a lawsuit against the US Army Corp of Engineers for approving a massive expansion of aquaculture, predominantly geoduck aquaculture, in Puget Sound without fully considering cumulative impacts across the state, including the use of pesticides.

As an outcome of the Herring forum hosted in February 2017 by the Association for Denman Island Marine Stewards, various stakeholders are considering possible methods to investigate the cumulative impacts of aquaculture on Baynes Sound. In November 2017, the Trust Programs Committee approved a project charter for a Baynes Sound/Lambert Channel forum project charter. It is expected that geoduck aquaculture will be one of the topics discussed.

There are upcoming opportunities for those involved in geoduck and other aquaculture to work in partnership for the health of marine ecosystems. These include a DFO working group on use of plastics in aquaculture and a planned 2018 Islands Trust/World Wildlife Fund Baynes Sound/Lambert Channel Forum that will bring together First Nations and other governments as well as industry and community stakeholders to identify issues and recommend solutions that will contribute to improving the health of the marine ecosystem.(Project charter attached).

It is possible that new research on this topic may be presented at the 2017 Salish Sea Ecosystem Conference in Seattle in April 2017.

Conclusion:

Staff's initial review of this topic reveals that, although as in any scientific topic there is ongoing debate, there are potential impacts associated with an expanded geoduck industry worthy of further study, particularly if there is to be farming in the inter-tidal zone. These include: negative impacts to herring spawning habitat, bird forage opportunities, contributions to the microplastics load, human health, contamination and garbage. There are also many long-standing requests for research into the potential ecosystem level and cumulative effects of geoduck clam aquaculture.

Attachments:

1. Appendix 1: How does geoduck clam aquaculture work?
2. Appendix 2: What part of the Trust is, or could be, available for geoduck aquaculture?
3. Appendix 3: Baynes Sound/Lambert Channel 2018 forum project charter
4. Link: Integrated Geoduck Management Framework 2017
5. Link: Maps: Integrated Geoduck Management Framework
6. Link: Herring Spawning Map Lambert Channel and Baynes Sound
7. Link: April 2014 letter from Islands Trust Chair to DFO re draft Integrated Geoduck Management Framework

Appendix 1

How does geoduck clam aquaculture work?

The geoduck is the world's largest burrowing clam and one of the longest lived species: maximum age recorded is over 140 year. It is now a lucrative wild fishery in the luxury food market. It is generally not consumed locally, but predominantly flown to consumers in China, and therefore, is expected to have a very high carbon footprint.

Aquaculture trials have been underway in BC for 18 years and geoduck hatcheries exist in BC, including Baynes Sound. It is unknown at this time what type of geoduck aquaculture will be conducted within the Islands Trust Area. DFO and FLNRO staff have indicated that there will likely not be much intertidal geoduck aquaculture, especially on the large scale conducted in Puget Sound but that small intertidal areas are possible, and subtidal aquaculture could be conducted. Both are untried methods in the Islands Trust Area and staff observed a failed and abandoned geoduck intertidal installation on Denman Island.

Geoduck aquaculture in the intertidal zone involves placing hatchery-raised juvenile geoduck clams into PVC pipes (that have been inserted into the sand with an auger), sometimes each PVC pipe is covered with a fine net under a rubber band, and then the entire area is covered with anti-predator nets (APN). Attempts are made to hold the APN in place with bent rebar and sometimes with lead line. The intertidal PVC pipes and predator nets are kept in place for 18 months to two years. Subtidal geoduck aquaculture, involves divers placing the hatchery juvenile geoducks in the sand and then installing a mesh 'canopy net ' over the area. Industry standards do not exist yet for subtidal geoduck aquaculture as it is a new method.

The geoducks are then left to grow for five to seven years. During this time the site should be maintained to ensure that the netting is intact and not covered with algae or seaweed. In both intertidal and subtidal geoduck aquaculture (and similar to wild geoduck), once they reach suitable maturity the geoducks are removed by liquefying the sand with high pressure water from a 'wand' or 'stinger' and then removing the geoducks alive by hand. Adult geoducks may be buried to a depth of 1m and sediment liquefaction may occur down to such depths.

In Puget Sound, Washington geoduck clam aquaculture has been financially successful resulting in large areas of the intertidal zone being used by aquaculture companies.

Puget Sound geoduck aquaculture. Photo from *Aquaculture North America* magazine. February 4, 2014

At this time, BC does not have a large geoduck aquaculture industry and according to staff at DFO and in the geoduck industry, most geoduck aquaculture trials in BC have not been successful. A 2012 report prepared for DFO includes a profitability ratio that indicates a -2.5% rate of return after 10 years and 1.7% rate of return after 15 years. A BC Ministry of Agriculture and Lands 2005 report assessed the economics of subtidal geoduck aquaculture and concluded that because of the high costs of the juvenile geoducks and the placement and removals by divers "the results could range from highly successful businesses to unfortunate business failures. Prospective geoduck farmers [operators] will need to carefully consider the opportunities and risks associated with developing a sub-tidal geoduck enterprise."

Appendix 2

What part of the Trust Area is, or could be, available for geoduck aquaculture?

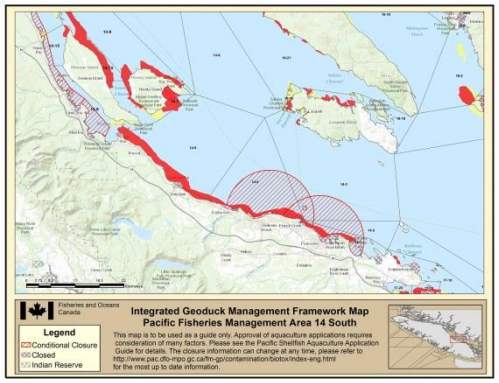
Although aquaculture impacts are now felt most strongly on Denman Island, geoduck aquaculture has the potential to be more prevalent Trust Area wide. Geoduck aquaculture could occur in various places throughout the Trust Area but would be influenced and/or limited by:

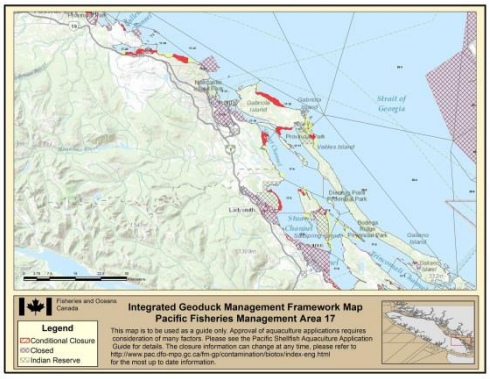
- appropriate ecological/substrate conditions;
- zoning; and
- the DFO IMGF 2017, which identifies areas available for geoduck aquaculture applications.

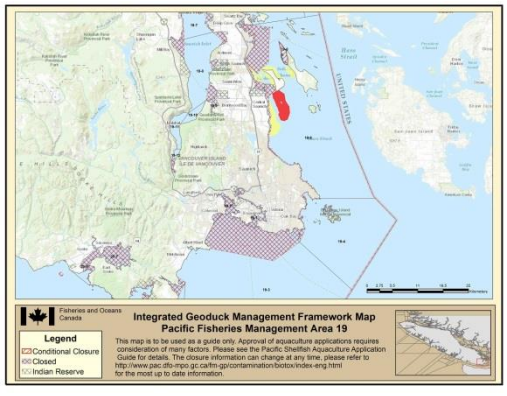
With release of the DFO Integrated Geoduck Management Framework (IGMF) 2017, applicants are now able to apply for aquaculture licenses throughout the BC coast, including the Trust Area. Shellfish aquaculture is now under the exclusive jurisdiction of DFO to manage the fishery and provide licenses to operators. The Province issues tenures for the sites and manages the harmonized application process.

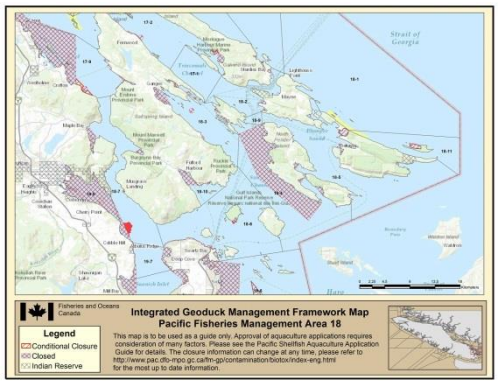
There are existing aquaculture licenses that include geoduck among many possible species that could be implemented at this time on many Gulf Islands, including Lasqueti, Hornby, Salt Spring and Denman. There are also many islands that have existing aquaculture licenses that do not currently include geoduck; however, operators could apply to have them added to the license. These islands include Thetis (5), Gabriola, (1), Salt Spring (4 including one at Burgoyne Bay) and many near Denman. April 2014 letter from Islands Trust Chair to DFO re draft Integrated Geoduck Management Framework (attached) includes mapping Islands Trust Area that indicates current zoning in the permits aquaculture and/or limited aquaculture.

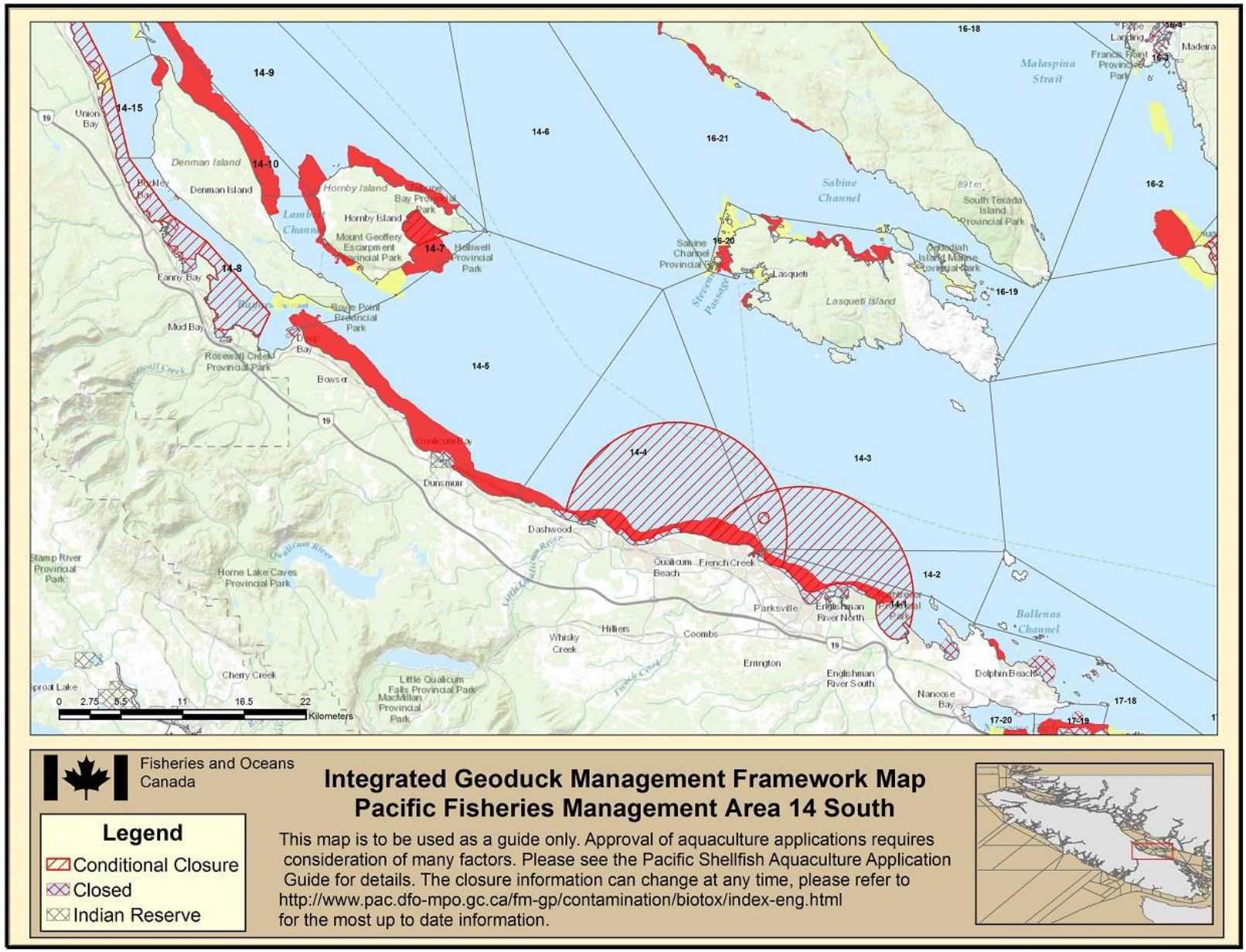
Under DFO's IGMF 2017 there is also the potential for the opening up of wild geoduck areas for both intertidal and subtidal geoduck aquaculture zones throughout the Trust Area by First Nations (red zones) and all operators (yellow and non-colour areas). IGMF maps.

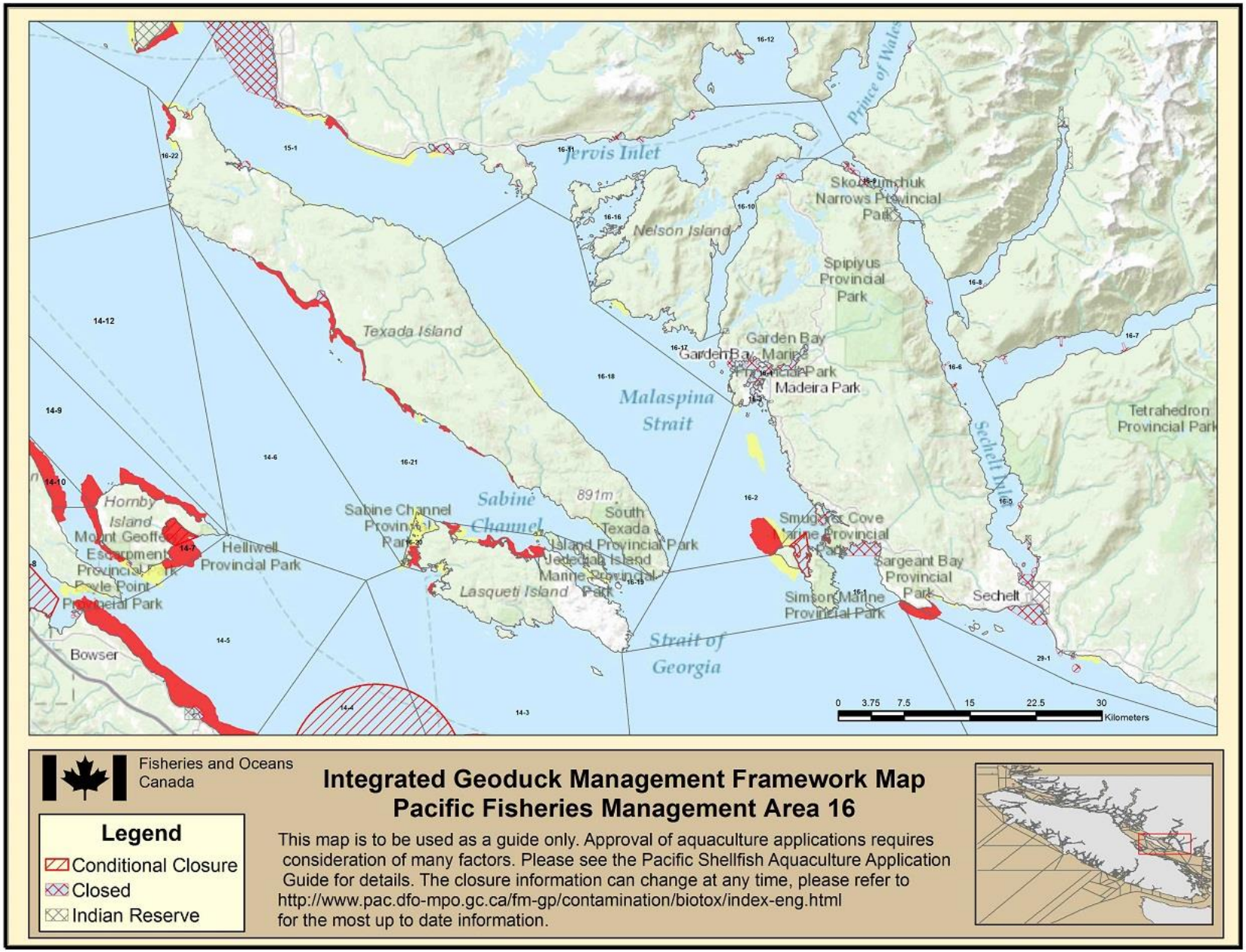









Fisheries and Oceans Canada
Integrated Geoduck Management Framework Map
Pacific Fisheries Management Area 14 South
This map is to be used as a guide only. Approval of aquaculture applications requires consideration of many factors. Please see the Pacific Shellfish Aquaculture Application Guide for details. The closure information can change at any time, please refer to http://www.pac.dfo-mpo.gc.ca/fm-gp/contamination/biotox/index-eng.html for the most up to date information.
Legend
Conditional Closure
Closed
Indian Reserve
0 2.75 5.5 11 16.5 22 Kilometers
14-9
14-15
14-10
14-8
14-7
14-6
16-21
16-18
14-5
14-4
14-3
14-2
16-20
16-19
16-2
17-18
17-20
17-19
Union Bay
Denman Island
Hornby Island
Fanny Bay
Mud Bay
Deep Bay
Bowser
Qualicum Bay
Dunsmuir
Dashwood
Qualicum Beach
French Creek
Parksville
Englishman River North
Englishman River South
Hilliers
Coombs
Whisky Creek
Errington
Nanoose Bay
Dolphin Beach
Horne Lake Caves Provincial Park
Stamp River Provincial Park
Cherry Creek
Little Qualicum Falls Provincial Park
MacMillan Provincial Park
Rosewall Creek Provincial Park
Boyle Point Provincial Park
Hornby Island Bay Provincial Park
Mount Geoffery Escarpment Provincial Park
Helliwell Provincial Park
Sabine Channel Provincial Park
Lasqueti
Lasqueti Island
Octopus Islands Marine Provincial Park
South Texada Island Provincial Park
Malaspina Strait
Sabine Channel
Ballenas Channel
Francis Point Provincial Park
Pope Landing
Madeira
891m



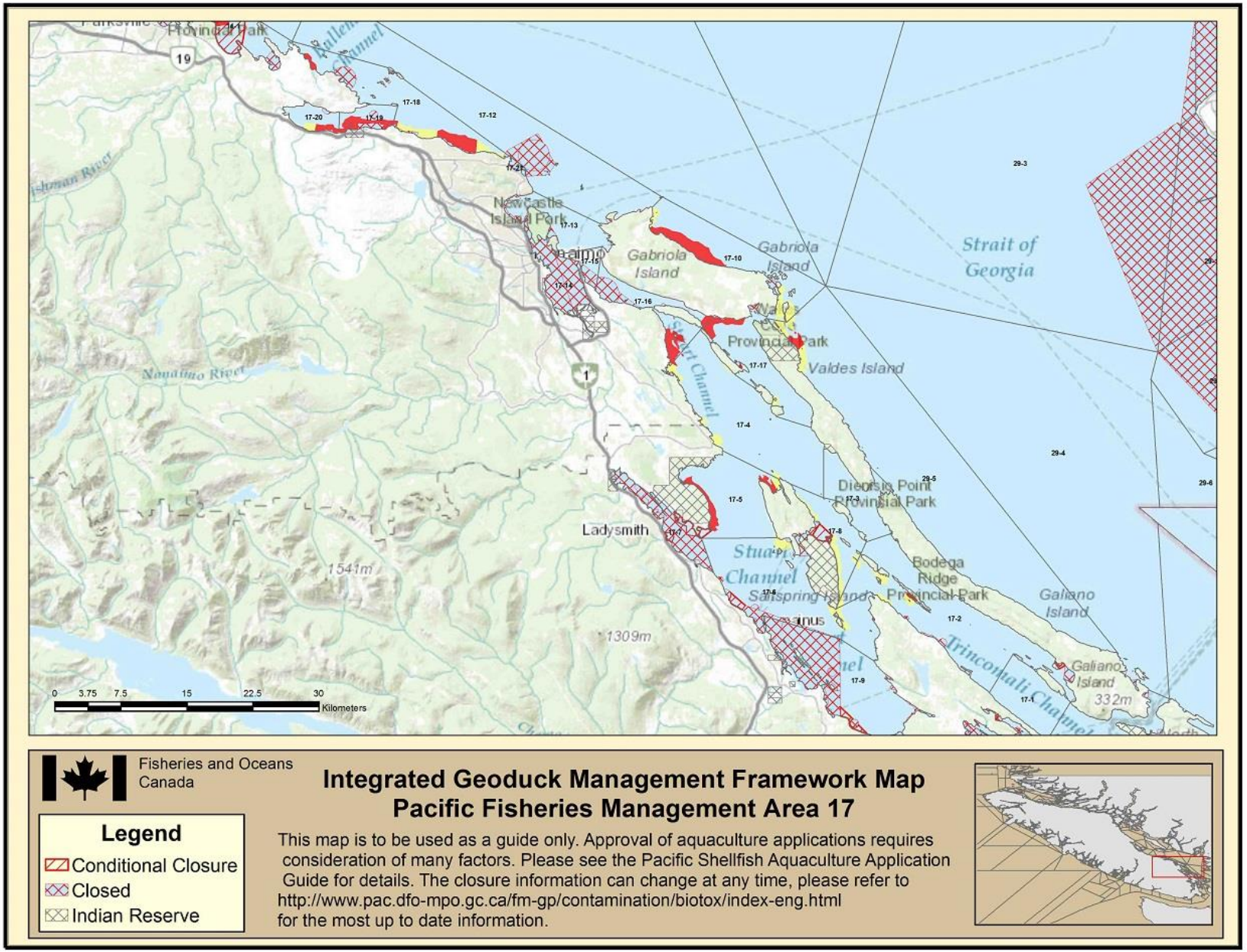
Fisheries and Oceans Canada

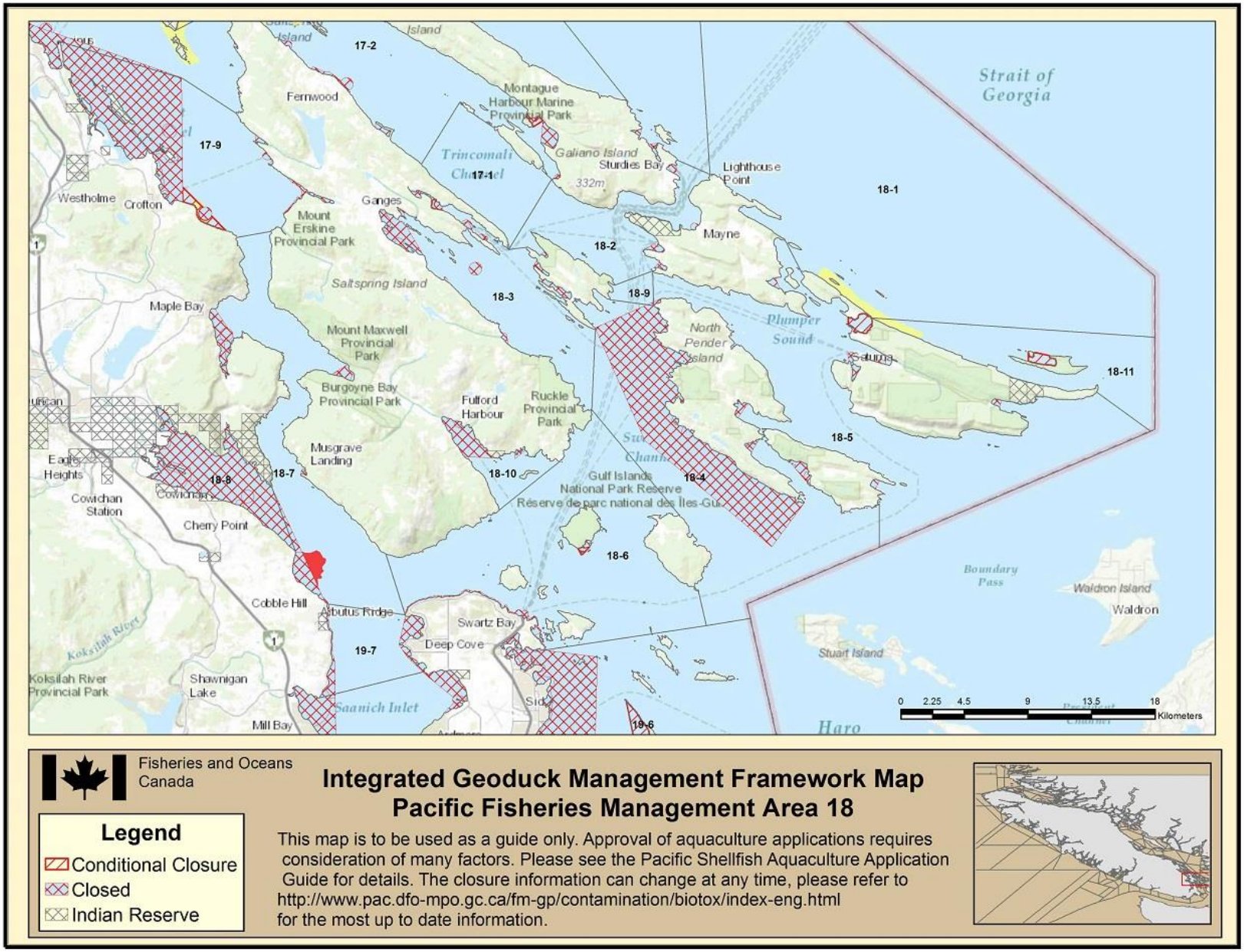
Integrated Geoduck Management Framework Map
Pacific Fisheries Management Area 16

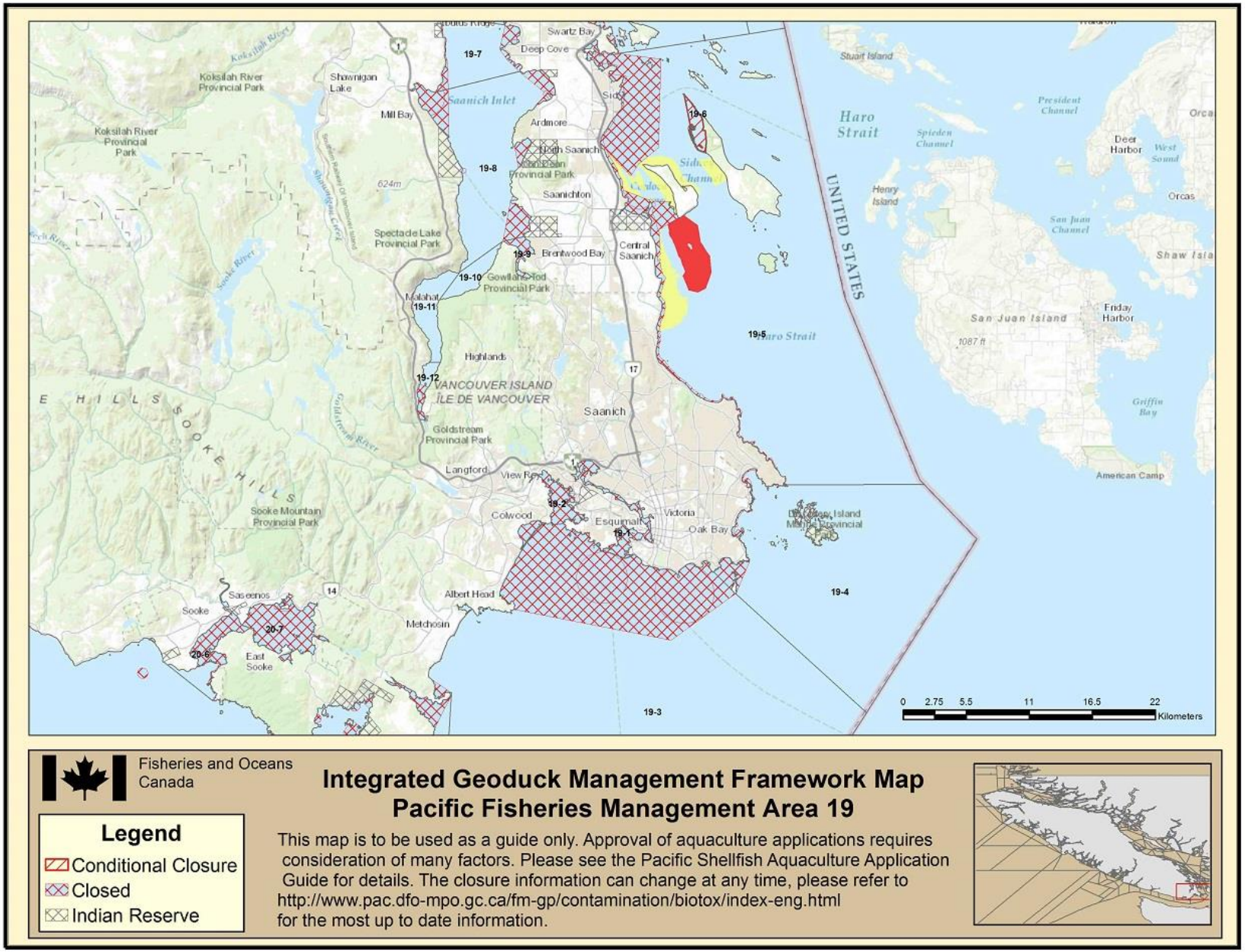
Legend

- Conditional Closure
- Closed
- Indian Reserve

This map is to be used as a guide only. Approval of aquaculture applications requires consideration of many factors. Please see the Pacific Shellfish Aquaculture Application Guide for details. The closure information can change at any time, please refer to http://www.pac.dfo-mpo.gc.ca/fm-gp/contamination/biotox/index-eng.html for the most up to date information.


Fisheries and Oceans Canada
Integrated Geoduck Management Framework Map
Pacific Fisheries Management Area 17
Legend
Conditional Closure
Closed
Indian Reserve
This map is to be used as a guide only. Approval of aquaculture applications requires consideration of many factors. Please see the Pacific Shellfish Aquaculture Application Guide for details. The closure information can change at any time, please refer to http://www.pac.dfo-mpo.gc.ca/fm-gp/contamination/biotox/index-eng.html for the most up to date information.
Strait of Georgia
Gabriola Island
Valdes Island
Galiano Island
Ladysmith
Nanaimo River
Stuart Channel
Trincomali Channel
Bodega Ridge Provincial Park
Dionisio Point Provincial Park
Newcastle Island Park
1541m
1309m
332m
0 3.75 7.5 15 22.5 30
Kilometers


Fisheries and Oceans Canada
Integrated Geoduck Management Framework Map
Pacific Fisheries Management Area 18
Legend
Conditional Closure
Closed
Indian Reserve
This map is to be used as a guide only. Approval of aquaculture applications requires consideration of many factors. Please see the Pacific Shellfish Aquaculture Application Guide for details. The closure information can change at any time, please refer to http://www.pac.dfo-mpo.gc.ca/fm-gp/contamination/biotox/index-eng.html for the most up to date information.
Strait of Georgia
Fernwood
Montague Harbour Marine Provincial Park
Galiano Island
Sturdies Bay
Lighthouse Point
Trincomali Channel
Ganges
Mount Erskine Provincial Park
Saltspring Island
Mayne
Plumper Sound
North Pender Island
Saturna
Maple Bay
Mount Maxwell Provincial Park
Burgoyne Bay Provincial Park
Fulford Harbour
Ruckle Provincial Park
Musgrave Landing
Gulf Islands National Park Reserve
Réserve de parc national des Îles-Gulf
Eagle Heights
Cowichan Station
Cherry Point
Cobble Hill
Boundary Pass
Waldron Island
Waldron
Stuart Island
Koksilah River
Koksilah River Provincial Park
Shawnigan Lake
Saanich Inlet
Mill Bay
Haro
0 2.25 4.5 9 13.5 18 Kilometers
17-2
17-9
17-1
18-1
18-2
18-3
18-9
18-11
18-5
18-4
18-10
18-7
18-8
18-6
19-7
19-6


Fisheries and Oceans Canada
Integrated Geoduck Management Framework Map
Pacific Fisheries Management Area 19
This map is to be used as a guide only. Approval of aquaculture applications requires consideration of many factors. Please see the Pacific Shellfish Aquaculture Application Guide for details. The closure information can change at any time, please refer to http://www.pac.dfo-mpo.gc.ca/fm-gp/contamination/biotox/index-eng.html for the most up to date information.
Legend
Conditional Closure
Closed
Indian Reserve
Haro Strait
UNITED STATES
VANCOUVER ISLAND
ÎLE DE VANCOUVER
Saanich Inlet
Saanich
Victoria
Esquimalt
Oak Bay
Colwood
Langford
Sooke
Metchosin
Albert Head
Brentwood Bay
Central Saanich
North Saanich
Sidney
Deep Cove
Swartz Bay
Mill Bay
Shawnigan Lake
Koksilah River Provincial Park
Spectacle Lake Provincial Park
Gowlland Tod Provincial Park
Goldstream Provincial Park
Sooke Mountain Provincial Park
Highlands
Malahat
Ardmore
Saanichton
Stuart Island
President Channel
Spieden Channel
Deer Harbor
West Sound
Orcas
Henry Island
San Juan Channel
Shaw Island
San Juan Island
Friday Harbor
Griffin Bay
American Camp
19-1
19-2
19-3
19-4
19-5
19-6
19-7
19-8
19-9
19-10
19-11
19-12
20-6
20-7
0 2.75 5.5 11 16.5 22
Kilometers

MEMORANDUM

File No.:

DATE OF MEETING:	April 17, 2018	Thetis Local Trust Committee
TO:	Local Trust Committees and Bowen Island Municipality	
FROM:	David Marlor, Director of Local Planning Services	
SUBJECT:	Approval Process for Water Supply Systems on Salt Spring Island	

PURPOSE

At its regular business meeting on February 7, 2018, the Executive Committee received the report "Approval Process for Water Supply Systems on Salt Spring" from the Salt Spring Island Local Trust Committee. The Executive Committee passed the following resolution:

> *that staff forward the report on approval processes for water supply systems on Salt Spring Island to local trust committees and Bowen Island Municipality.*

ATTACHMENTS

1. Attachment 1: Approval Process for Community Water Systems on Salt Spring Island

BRIEFING

To:	Executive Committee	**For the Meeting of:**	February 7, 2018
From:	Susan Palmer, MCIP, RPP SLP Consulting Salt Spring Island Team	**Date Prepared:**	January 11, 2018
SUBJECT:	Issue Paper: Approval Processes for Water Supply Systems on Salt Spring Island, January 11, 2018, amended		

PURPOSE:

Salt Spring Island Local Trust Committee (SSI LTC) referred the attached report (*Approval Processes for Water Supply Systems on Salt Spring Island*) at its meeting on January 18, 2018 to the Executive Committee for information. The key purpose of the report was to inform the SSI LTC of the agencies involved in approving water supply systems and to propose options for implementing Official Community Plan policy regarding water supply and the following Islands Trust Policy Statement policy that:

> *neither the density or intensity of land use is increased in areas known to have a problem with the quality or quantity of the supply of freshwater*.

It was MOVED and SECONDED,
that the Salt Spring Island Local Trust Committee forward the "Approval Process for Water Supply Systems on Salt Spring Island" report to Executive Committee for information.

ATTACHMENT(S):

1. Report: Approval Process for Water Supply Systems on Salt Spring Island

Prepared By: Susan Palmer

Reviewed By/Date: David Marlor, Director of Local Planning Services/Jan 31, 2018

V3 Water Paper.docx

SLP Consulting

1/18/2018 – including amendment submitted at the Salt Spring Island Local Trust Committee Meeting

EXECUTIVE SUMMARY

In response to an application to rezone land to allow for a multi-family residential project, the Salt Spring Island Local Trust Committee (LTC) directed staff at its meeting on October 5, 2017 to:

Report back regarding the findings of an investigation of the approval process for water supply and water quantity requirements for multi-unit residential developments.

Key findings of the investigation are:

- Islands Trust Policy Statement Policy 4.4.2 stipulates the importance of ensuring an adequate supply of water prior to increasing the density or intensity of land use ('neither the density or intensity of land use is increased in areas which are known to have a problem with the quality or quantity of the supply of freshwater')

- the Salt Spring Island Official Community Plan (OCP) reinforces the importance of ensuring an adequate supply of water to support proposed increases in density; the OCP supports the use of alternative water sources such as groundwater, rainwater and greywater

- Islands Trust does not have a role in approving water supply systems

- the approval process(es) for water supply systems involves several provincial and local government agencies (Ministry of Forests, Lands, Natural Resource Operations and Rural Development (MFLNRORD), Vancouver Island Health Authority (VIHA) and Capital Regional District Building Inspections (CRD))

- different sources of water may be used to meet demand for different types of water use (e.g., rainwater may be used for irrigation

- indoor water use (potable water) may be met through groundwater or surface water sources approved by VIH

- demand for indoor water use is calculated on a per capita basis and the approving agencies (VIHA and CRD) have guidelines and/or regulations that stipulate the occupancy rates used to calculate water demand. Both agencies have the ability to exercise discretion in the application of the guidelines and/or regulations to address situations where the occupancy rates may not be typical

- generally, approval of a water supply system would occur after zoning is in place due to the level of detail needed and the high cost of preparing the application (e.g., engineered design of the water supply system)
- housing for special needs populations may have different occupancy rates than those set out in provincial guidelines and may require VIHA to exercise discretion in determining an appropriate occupancy rate from which to assess the proposed water supply system.

Six options for implementing Islands Trust and Salt Spring Island Official Community Plan policy regarding land use and water supply were evaluated. Five options are consistent with Islands Trust

mandate (land use planning) and the tools available to implement policy and enforce bylaws. All five options require that the water supply system be capable of supporting the proposed number of dwelling units prior to adoption of the rezoning bylaw. An option to cap occupancy rates through a legal mechanism such as an affordable housing agreement or a restrictive covenant is not recommended because Islands Trust does not have a legislative tool to enforce occupancy. That is, occupancy cannot be enforced through the land use bylaw.

APPROVAL PROCESSES FOR COMMUNITY WATER SYSTEMS ON SALT SPRING ISLAND

Due to the moratorium placed by North Salt Spring Water District (NSSWD) on adding new connections to their water system, the Salt Spring Island Local Trust Committee (LTC) has received numerous rezoning applications for multi-unit housing projects that rely on alternative water sources to service the proposed developments. All of the proposed projects include affordable housing either for the entire project or as an amenity bonus. The LTC has identified provision of affordable housing as a priority issue and therefore has indicated its desire to give serious consideration to these proposals.

Providing water to multi-unit housing developments using alternative water sources (groundwater, rainwater and water conservation) is treading into new territory for the LTC and raises numerous questions about how such applications should be assessed. In addition to Trust and OCP policies, there are numerous provincial guidelines and regulations that regulate water source and the design, construction, operation and maintenance of a water supply system.

On October 5, 2017, the LTC directed staff to:

Report back regarding the findings of an investigation of the approval process for water supply and water quantity requirements for multi-unit residential developments.

The purpose of this report is to:

- clarify the approval process for an independent water supply system and the approval agencies involved
- review Official Community Plan (OCP) policy regarding the use of groundwater, rainwater and water conservation (e.g. greywater) as it relates to the determination of density
- identify the criteria used by approval agencies to determine demand for water for multi-unit residential developments
- propose options for implementing OCP water supply policy
- assess proposed options
- make recommendations for a consistent approach to assessing rezoning applications based on new water supply systems and the use of alternative water sources
- test the proposed approach using the Croftonbrook rezoning application (SS-RZ-2017.4) as an example.

1. APPROVING AGENCIES AND SEQUENCE OF WATER SUPPLY SYSTEM APPROVALS

Development proposals that require rezoning based on a community water supply system using groundwater must receive approval from four different agencies before they can proceed to the construction phase. First, approval of a groundwater license from the Ministry of Forest, Lands Natural Resource Operations and Rural Development (MFLNRORD) is required to support the rezoning application. Rezoning is the next phase of the approval process and decisions on rezonings are made by the LTC. The third phase involves Vancouver Island Health Authority (VIHA) which is responsible for issuing construction and operating permits for water supply systems. The final phase of a project requires issuance of a building permit from CRD Building. Table 1 elaborates on the mandate for each

agency and provides on overview of the criteria and conditions considered before a license or permit is approved. Figure 1 illustrates the approval sequence for rezoning based on a rural residential community water supply system and the approving agencies involved.

A. **Well Water License (MFLNRORD)**

Application to the Water Authorization Section of the MFLNRORD for a well water license is a first step for approval of a water supply system. This determines the amount of groundwater that may be withdrawn without impacting long-term sustainability of the water supply for the proposed development as well as supply to neighbouring wells and water sources that support fish habitat. The SSI OCP also requires that agricultural activities not be impacted.

Water quality is also determined at this stage and any measures required to ensure the water supply meets Canadian drinking water guidelines are identified.

B. Zoning (LTC)

The rezoning phase is a preliminary design phase that sets the basic parameters for the development – primarily land use, density and/or intensity of use, built form, access and traffic circulation among other things. The rezoning application is assessed in terms of how well it addresses Trust Policy Statement directives and OCP policy. Applicants must demonstrate that there is sufficient water to support the proposed development based on provincial regulations. As well, community input is invited and the LTC considers all of the relevant information at a public hearing before proceeding with third reading of a bylaw. A schematic plan is often provided at this stage to assess whether the site is suitable for the proposed land use.

C. Community Water Supply System (VIHA)

VIHA defines a water supply system as a system which services more than one dwelling unit.

Water supply systems must be designed and operated to ensure that there is sufficient water to service the proposed development and that the quality of water meets the Guidelines for Canadian Drinking Water Quality. The focus is on ensuring a safe drinking water supply.

There are two main considerations regarding water supply systems – water demand and water source.

i. **Water Supply System Construction Permit**

The Drinking Water Protection Regulation requires that a construction permit be obtained from a Public Health Engineer or Drinking Water Officer prior to construction of the water supply system (VIHA). The Guidelines for the Approval of Water Supply Systems recommend that application for a construction permit should be made at least 60 days before construction is anticipated to begin. Applicants are advised to refer to the

MFLNRORD Design Guidelines for Rural Residential Community Water Systems, 2012 (Design Guidelines) prior to designing the system and applying for a construction permit.

ii. **Water Supply System Operating Permit**

The Drinking Water Protection Regulation requires that an operating permit be obtained from a local Environmental Health Officer or the Drinking Water Officer before the water source(s) can be used. This permit would be issued after a water supply system has been constructed.

D. Building Permit (CRD Building)

Before the Building Inspector can issue a building permit they must ensure a sufficient supply of water to meet all water demand requirements of the specific project. This includes water for indoor use, irrigation and fire protection. If a community water supply system is proposed, issuance of a construction permit by VIHA must be confirmed. In the event that water for fire protection is being provided by a water district, confirmation from the relevant agency (i.e., North Salt Spring Water District – NSSWD) must also be received.

The BC Building Code makes provision for consideration of alternative solutions including:

- the use of greywater for toilet flushing
- the use of rainwater for irrigation
- alternative occupancy rates for determining indoor use water demand
- enhanced water conservation features.

Alternative solutions must be supported by evidence provided by a code consultant and/or a report from a professional engineer certifying that the alternative proposal is appropriate for the specific situation.

2. TRUST AND OCP POLICY

Broad land use policy is established in the entire Trust area in the Islands Trust Policy Statement. Policy (4.4.2) requires that Official Community Plans (OCP) and regulatory bylaws (e.g. zoning bylaws) ensure that:

> *'neither the density or intensity of land use is increased in areas which are known to have a problem with the quality or quantity of the supply of freshwater'*.

This statement is reinforced by OCP objectives and policies aimed at protection of water resources (Policy A.4.2.2) and ensuring that proposed developments have an adequate supply of potable water and water for fire protection (Policy B.2.2.3.b). The SSI Official Community Plan (OCP) supports the use of rainwater and water conservation programs to supplement the use of groundwater to meet the demand for water for proposed projects (Policies C.3.2.2.1 and C.3.3.2.2). (See Attachment 1 for OCP

Policies) That is, the policy supports using greywater and rainwater catchment in order to achieve higher densities than would otherwise be possible.

3. CRITERIA USED BY APPROVING AGENCIES FOR ASSESSING WATER SUPPLY

Criteria used in determining water demand for a project varies dependent on the mandate of each agency and the stage of the proposal. Different agencies also have different roles in evaluating the appropriateness and capacity of the proposed supply. Following is an overview of agency mandate, evaluation criteria and conditions.

A. Water Demand

i. LTC

Land Use Bylaw 355 does not specifically address standards for water supply unless a subdivision is involved. In that context, it notes that a proposed water supply system is subject to provisions of VIHA regulations (LUB Sec 5.5.2) (See Attachment 2). Trust and SSI OCP policy require that the SSI LTC ensure an adequate supply of water at the rezoning stage. Options for establishing criteria for a rezoning application are provided in the following section (Section 4).

ii. VIHA (Water Supply System – Construction)

MFLNRORD's *Design Guidelines for Rural Residential Community Water Systems* (2012) identify four basic demand parameters for the design of a new water system:

a. Average Day Demand (ADD) is used "*to verify source capacity in form of license limitations; to derive peak demands from metering data*"

b. Maximum Day Demand (MDD) is a "*critical design parameter for sizing reservoirs, pumps and treatment works between source and balancing storage*…"

c. Peak Hour Demand is used to size "*pipes, pumps and treatment works between balancing storage and customers*"

d. Fire Flow Demand is a "*critical design parameter for determining maximum network flows, verifying minimum system pressures, sizing pipes/pumps/treatment works between fire storage and customers/fire hydrants*."

MDD is the "*single highest total 24 hour daily consumption occurring over a one year period*" and is comprised of the following components:

a. Indoor demand – is calculated based on a **per capita demand of 230 Litre/day and occupancy rates based on the BC census (e.g., 2.5 persons per multi-family dwelling)**

Indoor water demand is further broken down as follows:

- Drinking
- Sanitary
- Toilets
- Showers/bathwater
- Dishwashing, household cleaning
- Laundry

b. Irrigation demand – is dependent on a number of factors such as climatic zone, evapotranspiration, size of area, soil type, type of crop, etc.

c. Water loss allowance- is calculated based on physical design parameters such as length of mains, number of service connections, average operating pressure

d. Fire flow demand - is based on the Fire Underwriters Survey.

The *Design Guidelines* state that when groundwater is the proposed source, the **Maximum Day Demand (MDD) must not exceed total developed groundwater capacity or the dependable yield of the well**. Total water demand for a project is determined in accordance with Table 2: Water Demand.

iii. CRD Building

BC Building Code bases all design parameters on two persons per bedroom. An applicant can propose alternative solutions (e.g., different occupancy rates per bedroom) under seal of a professional engineer (civil).

B. Water Source

If not connected to a public water utility, groundwater is typically the major source for supplying water to service a development. A well water license is issued by MFLNRORD which will specify how much water may be withdrawn on a daily basis. If the availability of groundwater is not sufficient to meet the needs of the development, supply may be supplemented by water from a water district for fire protection and/or the use of rainwater and/or greywater as allowed by provincial regulations. However, use of these latter two water sources is limited as follows:

- Rainwater – irrigation
- Greywater – toilet flushing.

Demand for water can also be reduced through other water conservation measures such as metering, low- flush toilets, composting toilets, low-flow plumbing fixtures, and water efficient appliances (washing machines and dishwashers).

Highlights of the approval process for the use of a water source are outlined in Table 3: Water Source.

4. OPTIONS FOR IMPLEMENTING OCP POLICY

Islands Trust mandate is land use planning and Trust policy is clear that proposals must have sufficient water to support proposed density and intensity of land use. Tools available to Islands Trust for managing density and intensity relate to the built form and include factors such as number of dwelling units, floor area, site coverage, building height, and building envelope. Proposals that require more water than is available through groundwater sources alone (e.g., rainwater, greywater, etc.), pose a dilemma at the zoning stage since approval of a water supply system is granted by other agencies after zoning is in place. It is generally not feasible to design a water supply system until zoning is secured due to the level of detail the design entails and the costs involved in engineering the design of the system.

VIHA and CRD Building play important roles in ensuring a sufficient supply of water for developments that propose to service the development through a community water supply system. At a minimum, an approved water construction permit will take into account indoor use based on the number of dwelling units and water loss allowance. A building permit cannot be issued unless there is a proven supply of water sufficient to meet all water demands generated by a specific project design (e.g. indoor use, water loss allowance, irrigation and fire protection). Both agencies use occupancy rates as the basis for determining water demand for indoor use for residential projects. Occupancy rate refers to the number of people per dwelling unit or bedroom.

If the well water license authorizes daily withdrawal that is less than that required in the Subdivision Regulations for dwelling units, submission of a preliminary water study by a civil engineer is needed in order to confirm that the Maximum Day Demand (MFLNRORD *Design Guidelines*) will not exceed the dependable yield of the well. The content recommended for the water report is outlined in Section 6 (Recommendations for Implementing Trust and OCP Policy).

5. ASSESSMENT OF OPTIONS

Assessment of rezoning applications that rely on alternative water sources requires the following information in addition to a hydrogeological report:

- Confirmation that a well water license has been issued from MLFLNRORD
- submission of a preliminary water study prepared by a civil engineer that:
    - confirms there is sufficient groundwater available to support all water demand types for the proposal (i.e., Maximum Day Demand does not exceed the licensed daily withdrawal amounts), or
    - where MDD would exceed the sustainable yield as set out in the well water license, the preliminary water study shall:
        - identify all proposed water sources

- identify how each type of water demand will be serviced (i.e., which water source will service which water demand type)
- estimate the total number of residents the available groundwater will support based on the sustainable yield of the well (as approved in the well water license)and use of supplementary water sources (e.g., greywater, rainwater)
- estimate how many dwelling units the proposed water supply system would service based on occupancy rates set out in MFLNRORD's *Design Guidelines for Rural Residential Community Water Systems*.

Six options were developed to test how Trust and OCP policy regarding density and the adequacy of water supply could be satisfied under different conditions (Table 4: Assessing Alternative Options for Implementing Trust and OCP Water Policy). The options were developed during discussions with the applicant for the Croftonbrook proposal. Analysis of the options was prepared by SSI Islands Trust staff and planning consultant. Two key situations were tested:

- occupancy rates are based on those set out in provincial guidelines and regulations
- occupancy rates are lower than those set out in provincial guidelines and regulations.

Options One to Three rely on occupancy rates set out in provincial guidelines and regulations (MFLNRORD Design Guidelines and BC Building Code) as the basis for determining how many dwelling units (density) the supply of water can support. These options are all consistent with the Trust mandate, the number of dwelling units there is sufficient water for would be known or confirmed prior to bylaw adoption. All of these options can be enforced through the bylaw. Options Four to Six are based on occupancy rates that relate to a specific project design and/or target occupant type (e.g., those at risk of homelessness).

Options Four and Five are proposed in order to allow consideration of proposals that have unique household and water supply characteristics (e.g., small household size and use of alternative water sources). Option Four sets density based on built form parameters (e.g. dwelling unit size) intended to limit total occupancy. The number of dwelling units there is sufficient water for would be known at the public hearing stage.

Option Five proposes that third reading be given to the bylaw and that final bylaw adoption be withheld until confirmation has been received from VIHA that a water supply system construction permit has been issued that would support the proposed density. This option has the advantage of providing the applicant with the comfort that the rezoning will proceed provided the condition for proof of sufficient water supply has been met. It further ensures that density would not be increased unless the water supply system construction permit verifies a sufficient supply of water to service the proposed development. If a permit is issued for a lower density, the applicant would need to request that third reading be rescinded and re-read with the lower density consistent with the approved water supply system construction permit.

6. RECOMMENDATIONS FOR IMPLEMENTING OCP POLICY

Trust and OCP policy require the applicant to demonstrate there is sufficient water for the density (number of dwelling units) they are seeking approval for. In situations where there is insufficient groundwater to meet all water demand types in accordance with the Subdivision Regulations, then consideration of the use of rainwater for irrigation and greywater for toilet flushing would be consistent with OCP policy. As well, water for fire protection purposes may, subject to their approval, be supplied by NSSWD for proposals that are within the service area. Use of these other water sources reduces the demand for groundwater so that only drinking water and sanitary requirements (except potentially for toilet flushing) need be provided for.

It is *recommended* that rezoning proposals that rely on alternative water sources be assessed based on information that can be confirmed at the time of public hearing (Options 1-4). Alternatively, LTC could consider giving third reading of a bylaw and withhold final adoption pending confirmation from VIHA that there is a sufficient supply of water to support the proposed development. In all cases, information required prior to public hearing would include a preliminary water study submitted by a professional engineer (civil). The study should:

- identify all proposed water supply sources
- identify the amount of water available from each water supply source
    - if the proposal relies on NSSWD to supply water for fire protection purposes, written confirmation of the agreement is required from the District
- identify which water source will supply each type of water demand
- estimate how much water is required to service each type of water demand
- estimate how many residents the net water supply will support based on demand for indoor use

  (VIHA standards - 230 l/person/day)
- calculate how many dwelling units the proposed water supply system would support based on occupancy rates set out in MFNLRORD Design Guidelines.

  Note: The MDD must not exceed total developed groundwater capacity as set out in the well water license.

It is noted that preparation of a preliminary water study by a professional engineer does not guarantee that the approving agencies would accept it without modification. However, SSI Islands Trust staff is comfortable that it is reasonable to rely on the conclusions of such a report at the public hearing stage based on reliance on professional standards. If the LTC wants to consider situations where there is insufficient water to meet MDD based on MFLNRORD occupancy rates, there are two recommended options for advancing a bylaw.

i. The bylaw would be drafted with specific parameters defining the maximum number of dwelling units, maximum floor areas for specific unit types and the maximum number of dwelling units based on floor area (Option 4). The number and size of units should be calculated based on an occupancy rate of 2 persons per bedroom as per the BC Building Code. This approach is consistent with the Trust mandate for land use and would be enforceable through the bylaw. It poses a slight risk that overcrowding may occur that may lead to overuse of the groundwater. This approach limits the applicant's flexibility to vary the design of the project as they get into the more detailed design phases of the project.

ii. Final adoption of the bylaw is withheld until a water supply system construction permit has been issued by VIHA (Option 5). This option has the advantage of providing assurance to the applicant that the rezoning will be finalized pending confirmation from VIHA that the water supply system is sufficient to meet the water demands of the proposal. It also gives LTC the tools to implement ITPS and OCP policy by withholding final bylaw adoption if confirmation of sufficient water supply for the proposed density is not confirmed through the VIHA approval process. In this event, LTC has the option to rescind third reading of the bylaw and, subject to the applicant's consent, to re-read it with a density consistent with that set out in the VIHA water supply construction permit.

7. CROFTONBROOK: HOW MUCH DENSITY CAN THE WATER SUPPLY SUPPORT

The Croftonbrook proposal for the provision of water is relatively complex – it relies on a combination of groundwater, greywater, and rainwater to meet water needs for indoor use, toilet flushing and irrigation respectively. NSSWD has confirmed that they will provide water for fire fighting and suppression – i.e., a sprinkler system as well as fire hydrants. With respect to supply, the MFLNRORD *Design Guidelines for Rural Residential Community Water Systems* stipulate that the "*total developed groundwater capacity or dependable yield of well(s) must equal or exceed the Maximum Day Demand*".

A. Supply:

A preliminary water study prepared by Stantec is based on the following information and assumptions for water supply:

- A maximum of 19.2 cubic metres of water per day or 19,180 litres per day may be withdrawn per day in accordance with the well water license issued by MFLNRORD
- Greywater use for toilet flushing based on LEED Canada data
- Rainwater use for irrigation.

B. Demand:

The Stantec study calculates water demand based on assumptions provided by the applicant (78 residents in 54 dwelling units) and applies MFLNRORD Operations Design Guidelines design parameters to determine Maximum Day Demand (MDD). The calculation for MDD is based on:

- Estimate of water loss allowance based on project design assumptions (e.g., number of connections, pipe length, etc.)
- Groundwater use for all indoor uses except for toilet flushing (assuming 78 residents)
- Greywater use for toilet flushing
- Irrigation demand is met solely through rainwater catchment
- NSSWD provides water for sprinklers and fire hydrants (NSSWD has confirmed they will provide the necessary hook-ups).

Accordingly, the MDD for the project equals 18,240 litres per day. Based on these assumptions, the Stantec preliminary report indicates that there is sufficient water to support 78 residents assuming that greywater is used for toilet flushing.

C. Analysis

The occupancy rates assumed in the Stantec study were provided by the applicant based on the housing director's experience to date managing Salt Spring subsidized housing and the small size of the proposed dwelling units.

These rates are not consistent with those set out in the MFLNRORD's *Design Guidelines* (e.g., 2.5 persons per multi-family dwelling).

i. MFLNRORD's *Design Guidelines*

Using MFLNRORD's occupancy rates, 78 residents would result in the equivalent of 31 dwelling units. Conversely, 54 dwelling units would be assumed to support 135 people.

The Stantec study did not consider how many residents there is sufficient water for if greywater is not used. The following calculations indicate that 71 residents could be supported if greywater is not used for toilet flushing:

Total amount of groundwater available (approved groundwater license): 19,180 L/day
Estimate of water loss (Stantec study): 2,640 L/day

Amount of water available for indoor use: 16,540 L/day

VIHA per capita demand for indoor use: 230 L/day

There is enough water for (16,540/230): 71 residents

ii. CRD Building Code Requirements

The BC Building Code establishes an occupancy rate of 2 persons per bedroom for all design parameters. Based on this criterion, the unit mix in the Croftonbrook proposal would require water for 144 residents.

iii. Alternatives

VIHA and CRD Building both have discretion in applying design parameters related to occupancy rates. With respect to VIHA approvals for a water supply construction permit, it is feasible that the applicant may receive approval for more dwelling units than the usual occupancy rates would yield based on small unit sizes proposed (especially for units less than 400 sq.ft.) and submission of supporting information acceptable to the agency. In this event, the actual number of dwelling units VIHA deems the water system is suitable for would not be determined until after third reading has occurred– when the water construction permit is approved.

Similarly, the applicant can submit an alternative solutions report to CRD Building to support the proposal for a reduced occupancy rate based on the relatively small unit sizes. It would not be known at the public hearing stage whether or not the Building Inspector would approve a building permit based on alternative occupancy rates since a permit cannot be applied for until zoning is in place.

A proposal based on land use planning tools that LTC can employ for converting occupancy rates into dwelling unit density is set out in Attachment 1.

8. CONCLUSIONS

This paper provides an overview of the approval process for water supply systems and examines the various methods for addressing Trust and SSI OCP policy aimed at ensuring there is a sufficient supply of freshwater to support proposed land use density. The tools available to the Trust and LTC to ensure this policy is addressed appropriately are limited to land use and built form parameters and do not include the ability to control occupancy rates. VIHA and CRD Building both play important roles in ensuring that proposed projects have a sufficient supply of water to meet demand. Further, VIHA is also charged with ensuring that water supply systems comply with limits on the amount of groundwater that may be withdrawn on a daily basis.

Six options were assessed for addressing Trust and OCP water policy when a new water supply system is proposed types (Table 4: Assessment of Options for Implementing Trust and OCP Water Policy). Five options explore the situation when there is insufficient groundwater to meet all water demand types. The assessment indicates that there are five viable options (Options 1-5) under the Trust mandate – all rely on submission of a preliminary water study by a professional engineer (civil) that estimates how many residents that water supply will support and converts that number into dwelling units.

The fact that both VIHA and CRD Building must also ensure the sufficiency of water supply for a specific project, does not relieve the Trust and LTC from the obligation to address the Trust Policy Statement directive that:

> '*neither the density or intensity of land use is increased in areas which are known to have a problem with the quality or quantity of the supply of freshwater*'.

As previously identified in this paper, these agencies have specific mandates to fulfill that are distinct from land use planning. They use design parameters suitable to their mandate, such as occupancy rates, for ensuring that water supply is sufficient. The Trust and LTC must rely on the tools available to them under the *Islands Trust* and *Local Government Acts* for implementing the mandate and policies of the Trust (land use, density, built form, etc.). This has implications for how rezoning proposals that rely on the approval of a water supply system by VIHA can be evaluated by the Trust and LTC. In summary, this means that either:

- the proposal demonstrates a sufficient supply of water for the proposed number of dwelling units based on provincial occupancy rates, or
- final adoption of the bylaw is withheld pending issuance of a water supply system construction permit from VIHA confirming sufficient water supply to service the proposed development.

Figure 1: Sequence of Water Supply Approvals and Approving Agencies

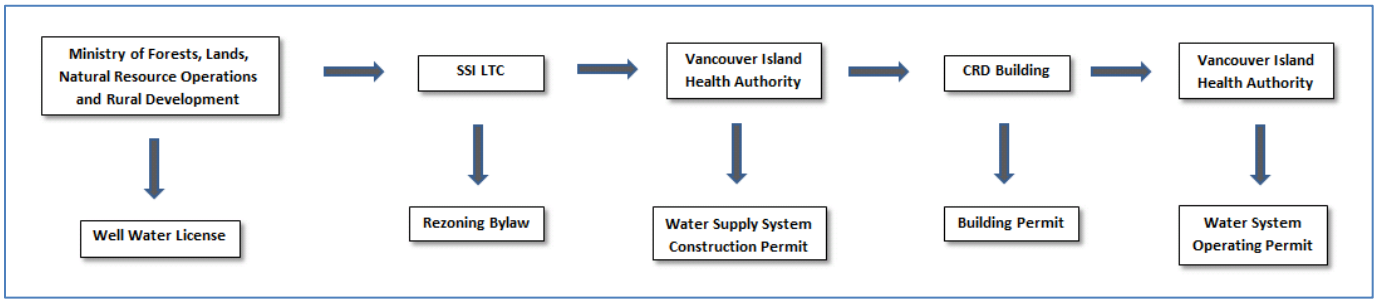


Table 1: Water Supply Systems Approval Process

License/Permit	Approving Agency	Mandate	Considerations and Conditions
Well Water License	MFNRORD – Water Authorization Branch	1. Protect quality and quantity of groundwater source 2. Approve groundwater use for drinking water, irrigation, firefighting, water loss allowance, agriculture, industry, etc.	1. Results of hydrogeological report and drill tests 2. Specifies how much water may be withdrawn on a daily basis 3. Specifies treatment to make water potable (if necessary)
Water Supply System Construction Permit	VIHA-Water Supply Systems Construction	1. Ensure safety of drinking water supply from source to tap	1. Water Quantity: Based on Maximum Day Demand (MDD) a. Indoor Use: Based on per capita demand for drinking water, showers, laundry, household cleaning, toilet flushing b. Average Day Demand (ADD): Used to derive peak demands and to verify source capacity for lake sources c. Water Loss Allowance: Based on specifics of system design and construction d. Irrigation: Based on specifics of land area, climatic zone, soil type, etc. e. Firefighting: Fire Underwriters Survey *Note: MDD cannot exceed dependable yield of well.* 2. Water Quality: Treatment based on Canadian guidelines for safe drinking water 3. Other: a. Must approve water source b. VIHA requires confirmation from a water district that it will agree to independent system w/I their service area before moving ahead with the application

License/Permit	Approving Agency	Mandate	Considerations and Conditions
Building Permit	CRD	Ensures building code requirements are met for drinking water quality and water quantity needs for indoor, irrigation, and firefighting purposes	1. Requires confirmation from VIHA re water system construction permit. 2. Requires confirmation from NSSWD that water will be provided for firefighting purposes. 3. Determines if greywater can be used for toilet flushing.
Water System Operating Permit	VIHA-Water System Operations	Ensures water supply system is operated according to provincial regulations for safe drinking water	1. Certifies operator – annual renewal required 2. Monitors system operation

Table 2: Water Demand

Water Demand Type	Approval Authority	Permit	Legislation, Regulations and Guidelines	Water Quantity

Indoor Use
• Drinking
• Sanitary
  ○ Showers/bathwater
  ○ Toilet
Laundry, dishwashing, etc.
	VIHA -Water Supply System	Construction permit for water supply system	Drinking Water Protection Act and Regulations	230L/person/day

	CRD – Building Permit	Building permit	BC Building Code	230 L/day based on 2 persons /bedroom
Water Loss Allowance	Water Supply System – VIHA	Construction permit for water supply system	Drinking Water Protection Act and Regulations	Variable*
Irrigation	Water Supply System – VIHA	Construction permit for water supply system	Drinking Water Protection Act and Regulations	Variable**
	CRD Building	Building permit	BC Building Code	
Fire Protection	CRD Building	Building permit	BC Building Code	NSSWD***
Total	MOTI		Subdivision Regulations	1600L/DU/day

*Factors that determine the water loss allowance relate to specifics of water system design and construction – length of pipes, etc.

**Factors that determine water demand for irrigation include area of land to be irrigated, climatic zone and evapotranspiration rates, crop or planting types, etc.

*** NSSWD has confirmed a commitment to provide water for fire protection purposes (sprinklers and fire hydrant for the Croftonbrook proposal).

Table 3: Potential Water Sources

Water Source	Approval Authority	Legislation, Regulations and Guidelines	Water Demand Type	License/Permit Required
Groundwater	MFLNRORD - Water Authorizations Section	Water Sustainability Act and Regulations	Potentially all	Well water license
Rainwater	Drinking Water Protection Act and Regulations	Drinking Water Protection Act and Regulations	Irrigation	Construction permit for water supply system
	CRD Building	BC Building Code		
Greywater	CRD Building Inspections	BC Building Code	Toilet flushing	Building permit
Water Conservation	Water Supply System – VIHA	Drinking Water Protection Act and Regulations	All	Construction permit for water supply system
	Water Supply Operating – VIHA	Drinking Water Protection Act and Regulations	All	Operating permit for water supply system
	CRD Building Inspections	BC Building Code		Building Permit
Water District	NSSWD	Letters patent	Fire Protection	N/A

Table 4: Assessment of Options for Implementing Trust and OCP Water Policy

All options are for proposals that require construction of a new water supply system in order to provide sufficient water to service a proposed development. In all cases, the proposal would require submission of a preliminary water study prepared by a civil engineer. The options were developed in consultation with the applicant for the Croftonbrook application. The analysis was conducted by SSI Islands Trust staff and planning consultant.

Option 1: There is sufficient groundwater to meet all water demand types – the exception may be that NSSWD has confirmed they will supply water for fire protection (sprinklers and hydrant). Occupancy rates are as set out in MFLRORD *Design Guidelines for Rural Residential Community Water Systems*.

Option 2: Greywater use is needed in order to supplement groundwater use for indoor water demand. Rainwater is used for irrigation. NSSWD has confirmed they will supply water for fire protection (sprinklers and hydrant) Occupancy rates are as set out in MFLRORD *Design Guidelines.*

Option 3: The engineer's preliminary water study indicates there is not sufficient water (groundwater with of without greywater) available to support the proposed number of dwelling units. The applicant chooses to either drill for more water and/or reduce the density so that there is sufficient water to support the proposed number of dwelling units. If another well is drilled, the new proposal shall be supported by issuance of another well water license and a revised preliminary water study.

Options 5-6: Occupancy rates are lower than those set out in provincial guidelines and regulations. This scenario can be adapted to include the potential use of greywater, rainwater and water from NSSWD for fire protection.

Option	Timeliness	Enforceability	Flexibility	Feasibility
Option 1: Proposed bylaw establishes maximum number of DUs based on preliminary water study	The number or dwelling units there is sufficient water for would be known at PH stage as per professional engineer's report.	Islands Trust would enforce any land use violations. VIHA would enforce regulations regarding water supply.	N/A	Fits well with Trust mandate Clear and transparent with respect to density considered at third reading
Option 2: Proposed bylaw establishes maximum number of DUs based on water supplied with and without use of greywater as per preliminary water study	The number of dwelling units there is sufficient water for would be known at PH stage as per professional engineer's report. Two densities would be proposed based on whether greywater was used.	As above. The number of DUs built would be confirmed at the building permit stage depending on whether greywater was used or not.	Provides flexibility to applicant.	As above.
Option 3: Drill another well and/or reduce the density to align with the supply of water	Application for a wellwater license takes 6-8 months. This may affect project funding.	As above for Islands Trust and VIHA.	This provides another option for applicants to consider.	As above.
Occupancy Rates are Lower than set out in Provincial Guidelines and Regulations				
Option	**Timeliness**	**Enforceability**	**Flexibility**	**Feasibility**
Option 4: Convert occupancy rates to DUs* (as per Attachment 3)	The number of dwelling units the proposed development is for would be known at public hearing stage.	As above.	Limited – the applicant needs to be confident of the size and type of units they intend to build	As above
Option 4: Convert occupancy rates to DUs* (as per Attachment 3)	The number of dwelling units the proposed development is for would be known at public hearing stage.	As above.	Limited – the applicant needs to be confident of the size and type of units they intend to build	As above
Option 5: Withhold final adoption of bylaw pending VIHA confirmation there is	Confirmation that there is there is sufficient water for the proposed number of dwelling units would not be known at the PH	As above. The construction permit for the water system should clearly indicate the number of dwelling	Reduces risk for the applicant to undertake detailed design of water supply system.	A conditional approval of the bylaw is consistent with normal practice provided the condition is

Option	Timeliness	Enforceability	Flexibility	Feasibility
sufficient water** if VIHA approval is for a lesser density, third reading could be rescinded and re-read with a density consistent with VIHA permit.	stage.	units the approval is for.		identified at the public hearing stage.
Option 6: Occupancy caps written into housing agreement or restrictive covenant	The number of dwelling units there is sufficient water for would **not** be confirmed at the public hearing stage. Occupancy would be determined by public hearing stage based on the preliminary water study.	Islands Trust does not have a mandate to enforce occupancy. Enforcement would require court action. CRD Building would be required to enforce any Building Code violations.	Islands Trust enforcement options would be limited to court action.	This is not feasible for Islands Trust as it extends beyond the land use planning mandate.

*Converting occupancy rates to dwelling units: This option provides a method for converting the number of occupants into physical design parameters that can be written in a land use bylaw – i.e., maximum number of total units, maximum floor areas per unit type (e.g., studio, one bedroom, 2 bedroom), and the maximum number for each unit type (Attachment 3). The purpose of capping dwelling unit size is to place a zoning bylaw control on the number of occupants each dwelling unit can accommodate.

**After third reading of the bylaw, the applicant would submit an application for a water supply system construction permit based on occupancy rates that are lower than those set out in MFLNRORD's *Design Guidelines*. VIHA would exercise their discretion in determining if the water supply was adequate to meet the water demand for the proposed number of dwelling units.

Final adoption of the bylaw would be withheld until confirmation is received from VIHA that a water supply system construction permit has been issued and that the number of dwelling units serviced is consistent with the proposed bylaw. This process is based on the premise that the Trust and OCP water policy would be satisfied because final adoption of the bylaw would not occur until after the project has been approved for a water construction permit and building permit.

Attachment 1: SSI Official Community Plan Policies

A.4.2.2 To maintain and restore the community's natural capital as represented by such items as our agricultural and forest land base, our potable water supplies, and primary value of our natural and unspoiled rural character.

B.2.2.2.3.b All rezoning applications for affordable housing projects should include evidence of

a. need for housing
b. an adequate water supply for potability and fire protection
c. means of sewage disposal
d. energy and water efficient building design
e. not degrading a sensitive ecosystem
f. not being sited in an area subject to hazardous conditions.

C.3.2.2.1 When the Local Trust Committee receives rezoning applications for land use inside the boundaries of a community water system, it will refer the application to the operators of the affected system. They will ask if water could be supplied to the new development, considering the needs of their existing customers and the provision of water for firefighting, and any properties already zoned for further development. When it considers zoning changes within a community water system, the Local Trust Committee will also consider the amount and percentage of any remaining supply capacity that would be used by the proposed new use. The Committee will not make zoning changes within a community water supply system if the change would mean water could not be supplied (under the existing license) to existing customers. It should not normally make zoning changes if the change would mean water could not also be supplied to vacant or underdeveloped properties already zoned for further development. Should such zoning changes be proposed, the applicant could be encouraged to supplest other water supplies so that the application should be considered. Examples are rainwater catchment, groundwater use or a water conservation program.

The Local Trust Committee should make an exception to the above policy within the North Salt Spring Waterworks District to allow community facilities or affordable housing projects to proceed. However such changes should only be made if the Committee is satisfied that the District is likely to receive a sufficiently larger water license.

C.3.3.2.2 In addition to Policy C.3.2.2.1, the Local Trust Committee should not make zoning changes within the North Salt Spring Waterworks District that could mean that water will not be available (under the District's existing license) for the following projects (in order of priority):

a. essential services such as hospitals and schools needed within the district to serve the island's projected population
b. special needs and affordable housing needed in the community.

Attachment 2: SSI Land Use Bylaw Excerpt

Section 5.5.2 Each lot in a proposed subdivision must be supplied with sufficient water to supply all uses, buildings, and structures permitted on the lot by this Bylaw according to the standards set out in Table 1. Where more than one use is permitted on a lot, the amount of water to be supplied is the sum of the amounts required for each permitted use, calculated separately.

Information Note: If more than one dwelling unit is connected to the same source of water, the water system is subject to Vancouver Island Health Authority regulations of water supply systems, the Drinking water Protection Act, and may be subject to the Water Utility Act.

Attachment 3: Converting Occupancy Rates into Dwelling Units

Use of this method requires submission of a preliminary water study by a professional engineer (civil) that:

1. Identifies all proposed water supply sources
2. Identifies the amount of water available from each water supply source
3. Identifies which water source will supply each type of water demand (indoor use, water loss allowance, irrigation, fire protection)
4. Estimates how much water is required to service each type of water demand (Maximum Day Demand (MDD))
5. Estimates how many residents the net water supply will support based on demand for indoor use (VIHA standards - 230 l/person/day).
   Note: The MDD must not exceed total developed groundwater capacity as set out in the well water license.

Determination of Maximum Density:

Prepare a proposal based on the maximum number of residents that the water supply system can service:

1. Establish maximum floor areas based on BC Building Code occupancy rates of two persons /bedroom (e.g., two bedroom units would be a maximum of XX m2
2. Establish the distribution of unit sizes
3. Calculate total occupancy based on the number of units and unit size
4. Total occupancy is not to exceed the number of residents there is sufficient water for as estimated in the engineer's preliminary water study.

Croftonbrook Example

The following calculations are based on the Croftonbrook rezoning proposal in order to test a method for converting occupancy rates into dwelling unit density. The application proposes a maximum of dwelling 54 units and 78residents. The Stantec preliminary water study provides an estimate of water loss allowance and how much greywater would be used for toilet flushing (Scenario 2).

Scenario 1: Without Greywater

Total amount of groundwater available (approved groundwater license):	19,180 L/day
Estimate of water loss:	2,640 L/day
Amount of water available for indoor use:	**16,540 L/day**

VIHA per capita demand for indoor use:	230 L/day
There is enough water for (16,540/225):	71 residents

Average occupancy rate for 54 dwelling units (71/54): 1.31 residents/DU

*Single occupant units: Maximum floor area - 400 sq ft.

*Double occupancy units: Maximum floor area – 600 sq.ft.

Distribution: 37 single occupant units – 37 residents

17 double occupant units – 34 residents

Total Occupants: 71

Total Dwelling Units: 54

*These unit sizes need to be confirmed as being appropriate for one and two person occupancies.

Scenario 2: With Greywater (Stantec Study)

Total amount of groundwater available (approved groundwater license):	19,180 L/day
Indoor use (based on 230 L/day for 78 residents):	17,940 L/day
Greywater:	-2,340 L/day
Water Loss Allowance:	+2,640 L/day
Maximum Day Demand:	**18,240 L/day**

Average occupancy rate for 54 dwelling units (78/54): 1.44 residents/DU

*Single occupant units: Maximum floor area - 400 sq. ft.

*Double occupancy units: Maximum floor area – 600 sq.ft.

Distribution: 36 single occupant units – 36 residents

21 double occupant units – 42 residents

Total Occupants: 78

Total Dwelling Units: 54

*As noted above.

Sources

1. Bahman Sheikh; White Paper on Graywater, 2010
2. http://www.env.gov.bc.ca/wat/wq/reference/glossary
3. http://www.frontcounterbc.gov.bc.ca/pdf/WaterPurposeUses.pdf
4. Ministry of Forests, Lands, Natural Resource Operations and Rural Development; Design Guidelines for Rural Residential Community Water System, 2012
5. National Collaborating Centre for Environmental Health; Small Drinking Water Systems: Who Does What in British Columbia?, 2014
6. Vancouver Island Health Authority; Guidelines for Approval of Water Supply Systems