Islands Trust Conservancy
Addendum

Date: Wednesday, July 13, 2022
Time: 10:00 am
Location: Islands Trust Victoria Boardroom
200-1627 Fort Street, Victoria, BC

Pages

5. BUSINESS

5.1. Items for Approval

ISLANDS TRUST CONSERVANCY

REQUEST FOR DECISION

To:	ITC Board	**For the Meeting of:**	July 13, 2022
From:	Staff	**Date Prepared:**	July 13, 2022

SUBJECT: **Livingstone Forest NAPTEP Covenant Amendments**

RECOMMENDATION(S): That the Islands Trust Conservancy Board authorizes the Chair to sign a covenant with Douglas Hopwood and Christine Ferris, over the Land described as PID 000-009-474, the West ½ of the South East ¼ of Section 21, Lasqueti Island, Nanaimo District, Except Parts in Plans 17116 and 30313, as approved at its November 23, 2021 meeting (Resolution # ITC-IC-2021-042), with the following amendments, as requested by the Agricultural Land Commission:

1. The addition of language to reference ALC Resolution #116/2022, indicating that the ALC be notified of any covenant amendments; and,
2. Clarification that the trail noted in clause 4.3 (a) are for the use of the landowner and are not intended to be public.

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1 **PURPOSE:** To satisfy the requirements of the Agricultural Land Commission (ALC) to register a covenant to protect 11.35 ha of wetland, riparian areas, and mature forest on Lasqueti Island.

2 **BACKGROUND:** At its March 31, 2015 meeting the Islands Trust Conservancy Board passed the following resolution:

TFB-IC-2015-030

It was MOVED and SECONDED, *That the Trust Fund Board approve the proposal to covenant approximately 12 ha (30 acres) of the land owned by Douglas Hopwood and Christine Ferris and described as PID 000-009-474, the West ½ of the South East ¼ of Section 21, Lasqueti Island, Nanaimo District, Except Parts in Plans 17116 and 30313.*

The land is in the Agricultural Land Reserve (ALR) and the ITC, acting as the agent for the landowner, applied to the ALC for a change of use from agricultural to conservation in March 2017 in order to permit the covenant to be registered. The permission of the ALC is required to register Sec. 219 Covenants on land in the ALR. The ALC indicated that they would permit the covenant and change of use provided the landowners placed the remainder of their lot into the ALR. The landowners paused the application following the ALC decision to consider other options. After consideration of other options, in April 2021, the applicant decided to accept the ALC decision and move forward with the conservation covenant.

ITC staff conveyed the applicant's decision to the ALC and, upon further consideration, the ALC elected to reconsider its decision because "it came to the Panel's attention that the wording of condition a. incorrectly requires that the approved covenant be applied to the entire Property instead of the proposed 7.5 ha covenant area." (ALC letter dated, July 22, 2021). In March 2022, the ALC provided a further notice of decision indicating that it was ready to approve the covenant over the land without requiring that other portions of land be entered into the Agricultural Land Reserve (ALR). The ALC requested that the ITC submit the covenant to the ALC for review and approval.

In May, ITC staff, in collaboration with the applicant, submitted the final covenant for review by the ALC. On July 12, 2022, ALC staff requested the following changes prior to permitting registration of the covenant:

1. The addition of language to reference ALC Resolution #116/2022, indicating that the ALC be notified of any covenant amendments; and,
2. Clarification that the trail noted in clause 4.3 (a) are for the use of the landowner and are not intended to be public.

ITC staff have not had a chance to make edits to the covenant, but would like to request ITC Board approval to make these edits and work with the Chair to register the agreement without providing the final document for Board review. The process for covenant registration has been extended by the time required to process the ALC application and staff believe that it is in the interest of the applicant and the ITC to move forward as quickly as possible.

3 IMPLICATIONS OF RECOMMENDATION:

ORGANIZATIONAL: Staff time is required to make the edits to the covenant and to move through covenant registration.

FINANCIAL: There will be an addition cost for legal services to draft the required clauses. Staff anticipate this cost will be between $1,000 and $1,500.

POLICY: None.

IMPLEMENTATION/COMMUNICATIONS: Staff will convey the Board's decision to the applicant and will work with the applicant and the ALC to register the covenant.

FIRST NATIONS: None.

CLIMATE CHANGE: None.

OTHER: This will be the ITC's first covenant on Lasqueti Island and is the first time that ITC has received approval to register a covenant over land in the ALR on lands not owned by ITC.

4 RELEVANT POLICY(S):
2.4 Conservation Covenants Policy
2.5 Natural Area Protection Tax Exemption Covenants Policy
Islands Trust Policy 2.1.10 Administration of Natural Area Protection Tax Exemption Program

5 ATTACHMENT(S): Livingstone Forest Conservation Covenant

RESPONSE OPTIONS

Recommendation(s): That the Islands Trust Conservancy Board authorizes the Chair to sign a covenant with Douglas Hopwood and Christine Ferris, over the Land described as PID 000-009-474, the West ½ of the South East ¼ of Section 21, Lasqueti Island, Nanaimo District, Except Parts in Plans 17116 and 30313, as approved at its November 23, 2021 meeting (Resolution # ITC-IC-2021-042), with the following amendments, as requested by the Agricultural Land Commission:

1. The addition of language to reference ALC Resolution #116/2022, indicating that the ALC be notified of any covenant amendments; and,
2. Clarification that the trail noted in clause 4.3 (a) are for the use of the landowner and are not intended to be public.

Alternatives: None recommended.

Prepared By: Kate Emmings, Manager, Islands Trust Conservancy

TERMS OF INSTRUMENT – PART 2

Section 219 Conservation and Cultural Protection Covenant and Section 218 Statutory Right of Way

This Agreement dated for reference May 19, 2022 is

BETWEEN:

Douglas Gerald Hopwood and Christine Ann Ferris
603 Hemlock Street, Qualicum Beach BC V9K 1H8

(together, the "Owner")

AND:

Islands Trust Conservancy, a corporation under the *Islands Trust Act* (British Columbia) with its office at 200-1627 Fort Street, Victoria, B.C. V8R 1H8

(the "Conservancy")

(collectively, the "parties")

WHEREAS:

A. The Owner is the registered owner in fee simple of the Land;

B. The Covenant Area contains significant natural area values and amenities including flora, fauna and natural features of great importance to the Owner, the Covenant Holder and the public;

C. The Owner wishes and has agreed to grant to the Covenant Holder a covenant pursuant to section 219 of the *Land Title Act*, to restrict the use of the Covenant Area, and a statutory right of way pursuant to section 218 of the *Land Title Act*;

D. A statutory right of way in favour of the Covenant Holder is necessary for the operation and maintenance of the undertakings of the Covenant Holder; and

E. The Conservancy is a Crown agent and is authorized to accept covenants and statutory rights of way under sections 219 and 218 of the *Land Title Act*, respectively.

In consideration of the payment of $2.00 now paid by the Covenant Holder to the Owner, the receipt and sufficiency of which is acknowledged by the Owner, and in consideration of the promises exchanged below, the parties covenant and agree as follows, in accordance with sections 218 and 219 of the *Land Title Act*:

1. INTERPRETATION

1.1 In this Agreement, in addition to the words defined above:

(a) "Administration Fee" means a fee of $150.00, adjusted in each year as provided in section 12.2, charged by the Covenant Holder to cover the administration costs of providing approvals, inspections or other actions at the request of the Owner;

(b) "Amenities" includes those natural, scientific, environmental, wildlife, plant and cultural values relating to the Covenant Area as identified in the Report;

(c) "Business Day" means any day other than Saturday, Sunday or British Columbia statutory holidays;

(d) "Certificate" means a certificate issued by the Covenant Holder under section 14.1;

(e) "Covenant Area" means all of the Land except that portion shown outlined in heavy black line on the Plan;

(f) "Covenant Holder" means, unless the context otherwise requires, the Conservancy;

(g) "CPI" means the All-Items Consumer Price Index published by Statistics Canada, or its successor in function, for Vancouver, BC, where 2022 equals 100;

(h) "Land" means the parcel of Land legally described as Parcel Identifier 000-009-474, the West 1/2 of the South East 1/4 of Section 21, Lasqueti Island, Nanaimo District, Except Parts in Plans 17116 and 30313;

(i) "Notice of Enforcement of Rent Charge" means a Notice of Enforcement of Rent Charge given under section 11.6;

(j) "Notice of Breach" means a notice of breach given under section 10.1;

(k) "Plan" means the Reference Plan over part of the Land certified correct by Jordan Elliot Litke, B.C.L.S., dated July 12, 2021, and deposited in the Land Title Office under number EPP 113974, a reduced copy of which is attached as Schedule A;

(l) "Rent Charge" means the rent charge granted by the Owner under section 11.1;

(m) "Rent Charge Amount" means the amount set out in Article 11, the payment of which is secured by the Rent Charge; and

(n) "Report" means the baseline documentation report that describes the Covenant Area and the Amenities in the form of text, maps, and other records of the Covenant Area for the purposes of this Agreement, a copy of which is on file with each of the parties at the addresses set out in Article 15, and a condensed version of which is attached as Schedule B.

1.2 Where this Agreement provides that something is in the "sole discretion" of a party, that thing is within the sole, absolute and unfettered discretion of that party.

1.3 This Agreement must be interpreted in accordance with the laws of British Columbia and the laws of Canada applicable in British Columbia, and the parties agree that the courts of British Columbia have exclusive jurisdiction over any proceeding concerning this Agreement and to attorn to the jurisdiction of such courts.

1.4 This Agreement is comprised of the recitation of the parties, the recitals to this Agreement, the Schedules to this Agreement, Part 1 of the *Land Title Act* Form C to which this Agreement is attached, and these Terms of Instrument.

1.5 In this Agreement:

(a) reference to the singular includes a reference to the plural, and vice versa, unless the context otherwise requires;

(b) where a word or expression is defined in this Agreement, other grammatical forms of the same word or expression have corresponding meanings;

(c) reference to a particular numbered Article or section, or to a particular lettered Schedule, is a reference to the correspondingly numbered or lettered Article, section or Schedule of this Agreement, except where otherwise provided;

(d) Article headings have been inserted for ease of reference only and are not to be used in interpreting this Agreement;

(e) the word "enactment" has the meaning given to it in the *Interpretation Act* on the reference date of this Agreement;

(f) reference to any enactment is a reference to that enactment as consolidated, revised, amended, re-enacted or replaced, unless otherwise expressly provided;

(g) reference to an enactment is to an enactment of the province of British Columbia except where otherwise provided;

(h) reference to a "party" or the "parties" is a reference to a party or the parties to this Agreement and their respective successors, assigns, trustees, executors, administrators and receivers; and

(i) reference to a "day", "month" or "year" is a reference to a calendar day, calendar month or calendar year, as the case may be, unless otherwise expressly provided.

2. REPRESENTATIONS AND WARRANTIES

2.1 The Owner represents and warrants to the Covenant Holder that the facts set out in Recitals A and C are true as of the date of this Agreement.

2.2 The Covenant Holder represents and warrants to the Owner that the facts set out in Recitals D and E are true as of the date of this Agreement.

2.3 Each party represents and warrants to each other party that the facts set out in Recital B are true as of the date of this Agreement.

3. INTENT OF AGREEMENT

3.1 The parties agree that the intent of this Agreement is:

(a) to protect, preserve, conserve, maintain, enhance and, if applicable from time to time restore, the natural state of the Covenant Area and the Amenities as described in the Report;

(b) to prevent any occupation or use of the Covenant Area that will impair or interfere with the natural state of the Covenant Area or the Amenities as described in the Report; and

(c) subject always to the intentions set out in paragraphs (a) and (b), to maintain and increase the stores of carbon in the biomass and soils of the Covenant Area,

and the parties agree that this Agreement is to be interpreted, performed and applied in that context.

3.2 This Agreement shall be perpetual to reflect the public interest in the protection, preservation, conservation, maintenance and enhancement of the Covenant Area and the Amenities.

4. RESTRICTIONS ON USE OF THE COVENANT AREA

4.1 Except as expressly permitted in this Agreement, the Owner must not do anything, omit to do anything, allow anything to be done or allow the omission of anything, that does or could reasonably be expected to destroy, impair, diminish, negatively affect or alter the Covenant Area or the Amenities from the condition described in the Report.

4.2 Without restricting the generality of section 4.1, the Owner must not, except with the prior written approval of the Covenant Holder, in the Covenant Holder's sole discretion:

(a) use or permit the use of the Covenant Area for an activity or use that:

(i) causes or allows silts, leachates, fills or other deleterious substances to be released into any watercourse on the Covenant Area;

(ii) causes the erosion of the Covenant Area to occur;

(iii) causes or facilitates the loss of soil on the Covenant Area;

(iv) alters or interferes with the hydrology of the Covenant Area, including by the diversion of natural drainage or flow of water in, on or through the Covenant Area;

(v) causes or allows fill, rubbish, ashes, garbage, waste or other material foreign to the Covenant Area to be deposited in, on or under the Covenant Area;

(vi) causes or allows any component of the Covenant Area, including soil, gravel or rock, to be disturbed, explored for, moved, removed from or deposited in or on the Covenant Area;

(vii) causes or allows pesticides, including but not limited to herbicides, insecticides or fungicides, to be applied to or introduced onto the Covenant Area; or

(viii) causes or allows any indigenous flora on the Covenant Area to be cut down, removed, defoliated or in any way tampered with;

(b) use or permit the use of the Covenant Area for:

(i) hunting of species other than deer or sheep;

(ii) fishing,

(iii) gathering; or

(iv) grazing of domestic animals which, for clarity, does not include the feral sheep referenced in the Report;

(c) construct, build, affix or place on the Covenant Area any buildings, structures, fixtures or improvements of any kind**;**

(d) lay out or construct any roads or paths on the Covenant Area; and

(e) lease or license the Covenant Area or any part thereof unless the lease or license is expressly made subject to the provisions of this Agreement and expressly entitles the Owner to terminate the lease or license if the tenant or licensee breaches any of the provisions of this Agreement.

4.3 Despite the restrictions in sections 4.1 and 4.2, the Owner may,

(a) with the approval of the Covenant Holder, in the Covenant Holder's sole discretion, respecting the specific location of each proposed trail, lay out, construct, maintain, replace or restore a loop or network of hiking trails within the Covenant Area, not more than 1 meter wide, and not excavated into or raised above the natural surface of the ground and not exceeding 2 km in total length; and

(b) with approval of the Covenant Holder, such approval not to be unreasonably withheld, plant or protect native species of trees for the purpose of maintaining the forest ecosystem in keeping with the intent of this Agreement as set out in section 3.1.

5. BASELINE DOCUMENTATION REPORT

5.1 The parties each agree that the Covenant Area and the Amenities are described in the Report and that the Report provides an accurate description of the Covenant Area and its Amenities as of the date of registration of this Agreement.

5.2 The parties agree that the Report is intended to serve as an objective information baseline for monitoring compliance with the terms of this Agreement.

5.3 The Covenant Holder will provide a copy of the full Report to the Owner upon request from the Owner from time to time.

5.4 The parties each acknowledge that the flora and fauna on the Covenant Area will change through natural processes over time and, unless otherwise expressly stated, references to the Report are intended to take into account the natural changes of the flora and fauna over time, without human intervention other than as expressly permitted by this Agreement.

6. DISPUTE RESOLUTION

6.1 If a breach of this Agreement occurs or is threatened, or if there is disagreement as to the meaning of this Agreement, or there is a disagreement as to whether a breach of this Agreement has occurred, either party may give notice to the other party requiring a meeting of all parties within 10 Business Days of receipt of the notice.

6.2 Upon receipt of a notice under section 6.1, the parties must immediately cease any activity giving rise to a breach or threatened breach of this Agreement, any activity giving rise to a disagreement as to the meaning of this Agreement, and any activity about which there is a disagreement.

6.3 The parties must attempt to resolve the matter, acting reasonably and in good faith, within 20 Business Days of receipt of the notice under section 6.1.

6.4 If the parties are not able to resolve the matter within the time set out in section 6.3, the parties may, by agreement, appoint a mutually acceptable person to mediate the matter, and the parties must act reasonably and in good faith and cooperate with the mediator and with each other in an attempt to resolve the matter within 30 days after the mediator is appointed.

6.5 The costs of the mediator and of the mediation facilities will be shared equally by the parties.

6.6 This Article does not affect the right of the Covenant Holder to pursue any other legal or equitable remedy in relation to a breach or a threatened breach of this Agreement, including without limitation under Articles 10 and 11, and the Covenant Holder may pursue other remedies concurrently with any dispute resolution under this Article.

6.7 This Article does not affect the right of the Owner to pursue any other legal or equitable remedy in relation to a breach or a threatened breach of this Agreement and the Owner may pursue other remedies concurrently with any dispute resolution under this Article.

7. OWNER'S RESERVED RIGHTS

7.1 Subject to Article 4, the Owner reserves all of its rights as owner of the Land, including the right to use, occupy and maintain the Covenant Area in any way that is not expressly restricted or prohibited by this Agreement, so long as the use, occupation or maintenance is consistent with the intent of this Agreement.

7.2 Without limiting the generality of section 7.1, the Owner expressly reserves the rights, subject to Article 4:

(a) to install, maintain or replace a reasonable number of signs for the purposes of public safety or informing the public about the Covenant Area and the Amenities, so long as each sign is not larger than 1 metre by 1 metre in size; and

(b) notwithstanding sections 4.2(a)(vi) and 4.2(c), to maintain, replace or restore the water line running through the Covenant Area existing in the Covenant Area at the time of registration of this Agreement (the location of which are indicated are the Report), so long as the locations remain the same and the size is the same or smaller.

7.3 Subject to section 7.4, nothing in this Agreement restricts or affects the right of the Owner to do anything reasonably necessary to:

(a) prevent potential injury or death to any individual; or

(b) prevent, abate or mitigate any damage or loss to any real or personal property.

7.4 If the Owner intends to do, or permit to be done, anything described in section 7.3, the Owner must give at least 30 days' prior written notice to the Covenant Holder, describing in reasonable detail the intended action, the reason for it and its likely effect on the Covenant Area and the Amenities. Where the Owner gives notice under this section, the Owner must permit the Covenant Holder to enter upon the Land and inspect the Covenant Area. The Covenant Holder may comment on the proposed action and the Owner must take those comments into consideration before taking or permitting the proposed action to be taken under section 7.3.

7.5 Notwithstanding section 7.4, in the case of an emergency situation where the Owner must take immediate action under section 7.3, the Owner may take such necessary action without first notifying the Covenant Holder. As soon as possible after the action is taken, the Owner must notify the Covenant Holder of the circumstances of the action taken, including the actual or likely effect of the action on the Covenant Area and the Amenities. Where such emergency action is taken, the Owner must permit the Covenant Holder to enter upon the Land and inspect the Covenant Area.

7.6 Nothing in this Agreement obligates the Owner to fence any part of the Covenant Area or to take active measures to eradicate or exclude non-native species from the Covenant Area.

8. OWNER'S OBLIGATIONS

8.1 The Owner retains all responsibilities and bears all costs and liabilities related to the ownership, use, occupation and maintenance of the Land.

8.2 The Owner must indemnify the Covenant Holder, its directors, officers, employees, agents and contractors, from and against any and all liabilities, damages, losses, personal injury or death, causes of action, actions, claims, and demands made, suffered or incurred by or on behalf of any person, arising out of any act or omission, negligent or otherwise, in the use, occupation and maintenance of the Land or its Amenities by the Owner or its officers, employees, contractors, invitees, licensees or agents.

8.3 The Owner is liable for any and all of its breaches of this Agreement, but the Owner is not liable for:

(a) breaches of this Agreement which occurred prior to the Owner becoming the registered owner of any interest in the Land, provided the Owner has received a Certificate issued by the Covenant Holder under section 14.2 immediately before or at the time of the transfer of the Land to the Owner, certifying that there were no violations of this Agreement as of the date of issuance of the Certificate;

(b) injury or alteration to the Covenant Area or the Amenities resulting from natural causes, or causes beyond the Owner's reasonable control, other than as referenced in subsection (c), including accidental fire, flood, storm and earth movement, but excluding injury or alteration resulting from actions of the Owner or any other person with the actual or constructive knowledge of the Owner;

(c) injury or alteration to the Covenant Area or the Amenities resulting from the actions of any person without the actual or constructive consent or knowledge of the Owner, including from trespass, vandalism, nuisance or negligence, provided the Owner acts in accordance with sections 8.5 and 8.6;

(d) any prudent action taken by the Owner under emergency conditions to prevent, abate, or mitigate significant injury to the Covenant Area (including improvements) or the Amenities, resulting from natural causes, including accidental fire, flood, storm and earth movement; or

(e) injury or alteration to the Covenant Area caused by the Covenant Holder exercising its rights under this Agreement.

8.4 Without limiting the generality of sections 8.1, 8.2 and 8.3, the Owner:

(a) is solely responsible and liable for any loss or damage, or liability of any kind (whether civil, criminal or regulatory), in any way connected with the existence in, on, from, to or under the Land (whether through spill, emission, migration, deposit, storage or otherwise) of any pollutant, contaminant, waste, hazardous waste, or any matter that harms the environment; and

(b) must indemnify the Covenant Holder from and against any loss, fine, penalty, damage, liability, cause of action, action, proceeding, regulatory action, order, directive, notice or requirement, including those of any government agency, incurred, suffered or brought against the Covenant Holder in any way associated with anything described in subsection (a),

provided that this section does not apply to the extent the Covenant Holder caused or contributed to anything described in subsection (a).

8.5 Where, as provided in subsection 8.3 (c), injury or alteration is caused to the Covenant Area or the Amenities by a person without the actual or constructive consent of knowledge of the Owner, the Owner will not be responsible for the resulting breach of this Agreement provided the Owner takes all reasonable steps to identify the person responsible and

(a) pursues a civil action against that person for damage caused to the Covenant Area or the Amenities; or

(b) seeks a prosecution of that person under the *Trespass Act*, including a claim for restitution for damage caused to the Covenant Area or the Amenities.

8.6 If the Owner chooses to not take action under section 8.5(a) or (b), or if the Owner is unsuccessful in seeking a prosecution under section 8.5(b), the Owner will not be responsible for the resulting breach of this Agreement provided the Owner, at the Covenant Holder's option and with the Covenant Holder's approval

(a) irrevocably and in writing assigns to the Covenant Holder the Owner's right to bring a civil action against that person and the right to any damages awarded should the action be successful; or

(b) commences a civil action against that person and irrevocably and in writing assigns the action, or the conduct of the action in the Owner's name, to the Covenant Holder, and the right to any damages awarded should the action be successful.

8.7 Where the Owner makes an assignment under section 8.6, the Owner must execute such agreements, and provide such documents and information, as requested by the Covenant Holder from time to time to give effect to the assignment.

8.8 Where the Owner, under section 8.5, receives compensation for damage caused to the Covenant Area or the Amenities, the Owner agrees to use that compensation to restore or rehabilitate the Covenant Area and the Amenities to as near the condition described in the Report as is possible, in a manner consistent with this Agreement and in consultation with the Covenant Holder.

8.9 Where the Covenant Holder, under section 8.6, receives compensation for damage caused to the Covenant Area or the Amenities, the Covenant Holder agrees to use that compensation to restore or rehabilitate the Covenant Area and the Amenities to as near the condition described in the Report as is possible, in a manner consistent with this Agreement and in consultation with the Owner.

8.10 The Owner must pay when due all taxes, assessments, levies, fees and charges of whatever description which may be levied on or assessed against the Land and must pay any arrears, penalties and interest in respect of any such unpaid amounts.

8.11 The Owner must indemnify the Covenant Holder from and against any fee, tax or other charge which may be assessed or levied against the Owner pursuant to any enactment, including the *Income Tax Act* (Canada), with respect to the Land or this Agreement, including any fee, tax or other charge which may be assessed or levied against the Owner or Covenant Holder as a result of the amendment or termination of this Agreement.

8.12 Any debts or other amounts due from the Owner to the Covenant Holder under this Agreement, if not paid within 30 days after notice, will bear interest at the annual interest rate that is 1 per cent greater than the prime rate of interest. For the purposes of this section, the "prime rate of interest" is the annual rate of interest charged from time to time by the Bank of Montreal, at its main branch in Vancouver, BC, for demand Canadian dollar commercial loans and designated from time to time by the Bank of Montreal as its prime rate.

8.13 The indemnities granted by the Owner to the Covenant Holder under this Article are indemnities granted as an integral part of the section 219 *Land Title Act* covenant created by this Agreement.

9. STATUTORY RIGHT OF WAY

9.1 The Owner grants to the Covenant Holder a licence, and a statutory right of way pursuant to section 218 of the *Land Title Act*, permitting the Covenant Holder to do the following:

(a) enter upon the Land to access and inspect the Covenant Area for the purposes of monitoring compliance with this Agreement on prior written notice by a Covenant Holder to the Owner of at least 72 hours;

(b) for purposes other than monitoring under subsection (a), enter upon the Land to access and inspect the Covenant Area at all reasonable times upon prior written notice by the Covenant Holder to the Owner of at least 72 hours, unless, in the opinion of the Covenant Holder, there is an emergency or other circumstance which makes giving such notice impractical;

(c) as part of inspection of the Covenant Area under subsection (a) or (b), take soil, water or other samples, photographs, and video and sound recordings as may be necessary to monitor compliance with and enforce the terms of this Agreement;

(d) enter upon and protect, preserve, conserve, maintain, enhance, rehabilitate or restore, in the Covenant Holder's sole discretion and at the Covenant Holder's expense, the Covenant Area or the Amenities to as near the condition described in the Report as the Covenant Holder considers is practicable or desirable, if an act of nature or of any person other than as described in subsection (e) destroys, impairs, diminishes or negatively affects or alters the Covenant Area or the Amenities from the condition described in the Report;

(e) in accordance with Article 10, enter upon and protect, preserve, conserve, maintain, enhance, rehabilitate or restore, in the Covenant Holder's sole discretion and at the Owner's expense, the Covenant Area or the Amenities to as near the condition described in the Report as in the Covenant Holder's sole discretion is practicable or desirable, if an action of the Owner or any other person acting with the actual or constructive knowledge of the Owner contravenes any term of this Agreement;

(f) carry out or evaluate any program agreed upon by the parties for the protection, preservation, conservation, maintenance, restoration or enhancement of all or any portion of the Covenant Area or the Amenities;

(g) place survey pegs or other markings on the Land to clearly identify the Covenant Area or access to the Covenant Area, or to increase the visibility of existing survey pegs or other markings; and

(h) erect a plaque or other sign on the Land, in a tasteful manner and at the expense of the Covenant Holder, indicating that the Covenant Holder holds a covenant on the Covenant Area, provided that the size, style and location of the plaque or sign must be approved by the Owner prior to its placement, such approval not to be unreasonably withheld.

9.2 The Covenant Holder may bring workers, contractors and employees, and vehicles, equipment and other personal property, onto the Land when exercising their rights under this Article.

9.3 In exercising its rights under this Article, the Covenant Holder shall be responsible for any alteration it causes to the Land that is contrary to sections 4.1 or 4.2, and shall at its expense take any action necessary to remedy such alterations, and for clarity the Owner shall not be responsible for such alterations and those alterations will not be a breach of this Agreement by the Owner.

10. ENFORCEMENT REMEDIES OF THE COVENANT HOLDER

10.1 If the Covenant Holder, in its sole discretion, believes that the Owner has failed to perform any of its obligations under this Agreement, or is otherwise in breach of any term of this Agreement, the Covenant Holder may give a Notice of Breach to the Owner setting out particulars of the breach, including the Covenant Holder's estimated maximum costs of remedying the breach.

10.2 On receipt of a Notice of Breach, the Owner must

(a) immediately cease all activities giving rise to the breach; and

(b) within 60 days remedy the breach or make arrangements satisfactory to the Covenant Holder to remedy the breach, including with respect to the time within which the breach must be remedied.

10.3 For clarity, the requirement in subsection 10.2(b) to remedy a breach requires the Owner to undertake such rehabilitation or restoration necessary to remedy any damage done to the Covenant Area contrary to this Agreement, at the Owner's sole expense. If the Owner does not comply with the requirements of section 10.2 within the time required or agreed upon, the Covenant Holder may enter upon the Land and take any required actions to cease any activities giving rise to the breach, and to remedy the breach or carry out the arrangements referred to in section 10.2. The Owner must reimburse the Covenant Holder for any expenses incurred in taking any action under this section, up to the estimated maximum costs of remedying the breach as set out in the Notice of Breach.

10.4 Expenses incurred by the Covenant Holder under this Article, until paid, are a debt owed by the Owner to the Covenant Holder and the Owner agrees to indemnify the Covenant Holder for such expenses, which indemnity forms an integral part of the covenant under section 219 of the *Land Title Act* created by this Agreement.

11. RENT CHARGE AND ITS ENFORCEMENT

11.1 As security for the performance of the Owner's obligations under this Agreement, the Owner grants to the Covenant Holder a perpetual rent charge against the Land. The Rent Charge is granted both under section 219 of the *Land Title Act* as an integral part of the statutory covenant created by this Agreement and as a fee simple rent charge at common law.

11.2 The Rent Charge secures payment to the Covenant Holder by the Owner of the sum of $6,000 per year.

11.3 The Rent Charge Amount will be adjusted on January 1 of each year by increasing or decreasing, as the case may be, the Rent Charge Amount by the amount determined by multiplying the Rent Charge Amount on December 31 immediately preceding by the percentage increase or decrease, as the case may be, in the CPI between the previous January 1 and that December 31, and adding the amount so determined to the Rent Charge Amount as it stands on that December 31. If Statistics Canada, or its successor in function, ceases to publish a CPI or comparable indicator as determined by the Covenant Holder in its sole discretion, the parties agree that the factor to be used in determining the annual increase in the Rent Charge Amount for each year is 1.5%.

11.4 For each breach of this Agreement, the Rent Charge Amount will be increased by a sum equal to 110% of the market value at the date of the breach of any trees or fauna, soil, rock, gravel or minerals which have been altered, damaged, destroyed, moved, harvested or removed in connection with the breach.

11.5 The Rent Charge is suspended unless and until the Owner is in breach of any provision of this Agreement.

11.6 A Covenant Holder that wishes to enforce the Rent Charge must give a Notice of Enforcement of Rent Charge to the Owner, stating the intention to enforce the Rent Charge and demanding immediate payment of the Rent Charge Amount. The Notice of Enforcement of Rent Charge may be given at any time after a Notice of Breach is given under section 10.1.

11.7 The Owner must, within 30 days of receipt of the Notice of Enforcement of Rent Charge, pay the full Rent Charge Amount to the Covenant Holder.

11.8 The Covenant Holder may enforce the Rent Charge by any means available at law, including:

(a) an action against the Owner for the Rent Charge Amount;

(b) distraint against the Land to the extent of the Rent Charge Amount;

(c) an action for appointment of a receiver in respect of the Land; or

(d) an order for sale of the Land.

11.9 The Covenant Holder is entitled to recover from the Owner all reasonable expenses incurred as a result of enforcement of the Rent Charge.

11.10 For clarity, the Rent Charge is due and payable on giving of the Notice of Enforcement of Rent Charge to the Owner, and continues to be due and payable after a breach is remedied by the Owner.

12. ADMINISTRATION FEE

12.1 The Owner agrees that the Covenant Holder may charge an Administration Fee to the Owner in each and any case where the Covenant Holder is requested by the Owner to provide any review, approval or assessment of any action of the Owner. This Administration Fee applies whether or not the Covenant Holder grants the approval requested.

12.2 The Administration Fee will be adjusted on January 1 of each year by increasing or decreasing, as the case may be, the Administration Fee by the amount determined by multiplying the Administration Fee on December 31 immediately preceding by the percentage increase or decrease, as the case may be, in the CPI between the previous January 1 and that December 31, and adjusting accordingly the Administration Fee as it stands on that December 31. If Statistics Canada, or its successor in function, ceases to publish a CPI or comparable indicator as determined by the Covenant Holder in its sole discretion, the parties agree that the factor to be used in determining the annual increase in the Administration Fee for each year is 1.5 %.

13. ASSIGNMENT OF AGREEMENT OR DISSOLUTION OF THE COVENANT HOLDER

13.1 This Agreement is assignable by the Covenant Holder, but the Covenant Holder may only assign its rights and obligations under this Agreement to a person or entity authorized to hold statutory rights of way under section 218 of the *Land Title Act* and covenants under section 219 of the *Land Title Act*.

13.2 The Covenant Holder agrees that before it assigns this Agreement under this Article, it must notify the Owner with respect to the proposed assignee.

13.3 In the event of a pending winding-up or dissolution of the Covenant Holder, the Covenant Holder must use its best efforts to assign and transfer all of its interest under this Agreement to a person or entity authorized to accept statutory rights of way under section 218 of the *Land Title Act* and covenants under section 219 of the *Land Title Act*.

14. NOTICE OF CHANGE IN OWNERSHIP BY OWNER

14.1 The Owner must notify the Covenant Holder of any change of ownership prior to the registration of any such change in the land title office.

14.2 The Owner may request that the Covenant Holder visit the Land immediately before or at the time of the proposed transfer and issue a Certificate indicating whether or not there are any violations of this Agreement as of the date of the Certificate.

14.3 Failure by the Owner to comply with section 14.1 does not affect the enforceability of this Agreement against the Owner or its successors in title to the Land.

15. NOTICE

15.1 Notice or other communication (collectively a "notice") required or permitted under this Agreement must be in writing and must be:

(a) delivered in person;

(b) sent by e-mail to a party at its respective e-mail address, if the party has provided an e-mail address; or

(c) sent by pre-paid registered mail addressed to a party at its respective address set out in section 15.4.

15.2 A notice given by email under subsection 15.1(b) must be followed by a copy sent by ordinary mail, except that a notice given under subsection 9.1(a) may be given by email without the requirement to send a copy by ordinary mail.

15.3 Unless otherwise provided, a notice

(a) delivered in person is deemed received on delivery;

(b) sent by e-mail:

(i) if the notice is transmitted before 3:00 pm on a Business Day, the document is deemed to be received on the day of transmission;

(ii) if the notice is transmitted after 3:00 pm on a Business Day or is transmitted on a day that is not a Business Day, the notice is deemed to be received on the next day that is a Business Day; and

(c) sent by pre-paid registered mail is deemed received on the fourth Business Day following the day on which the notice was sent.

15.4 The addresses of the parties for notices under this Article are as follows:

(a) The Owner:
Douglas Gerald Hopwood and Christine Ann Ferris
603 Hemlock Street
Qualicum Beach, BC V9K 1H8
Email: dhopwood@island.net

(b) The Conservancy:
Islands Trust Conservancy
200-1627 Fort Street
Victoria, BC V8R 1H8
Email: itcmail@islandstrust.bc.ca

15.5 Each party agrees to give written notice immediately to the other party of any change in its address or email address from those set out in section 15.4.

16. ACCESS

16.1 Except if expressly provided in this Agreement, no right of access by the general public to any portion of the Land is conveyed by this Agreement.

17. NOTICE OF COVENANT

17.1 The Owner agrees that the Covenant Holder may publicize the existence of this Agreement in a tasteful manner.

18. NO LIABILITY IN TORT

18.1 The parties agree that this Agreement creates only contractual obligations and obligations arising out of the nature of this Agreement as a covenant under seal. Without limitation, the parties agree that no tort or fiduciary obligations or liabilities of any kind are created or exist between the parties in respect of this Agreement, and nothing in this Agreement creates any duty of care or other duty on any of the parties to anyone else. For clarity, the intent of this section is to, among other things, exclude tort liability of any kind and to limit the parties to their rights and remedies under the law of contract and the law pertaining to covenants under seal.

19. WAIVER

19.1 An alleged waiver of any breach of this Agreement is effective only if it is an express written waiver signed by the Covenant Holder, and is only effective to the extent of that express waiver and does not operate as a waiver of any other breach.

19.2 The failure for any reason of the Covenant Holder to require performance by the Owner at any time of any obligation under this Agreement does not affect the Covenant Holder's right to subsequently enforce that obligation.

20. JOINT AND SEVERAL OBLIGATIONS

20.1 Where at any time there is more than one Owner in this Agreement, the obligations of those Owners are joint and several.

21. REMEDIES NOT EXHAUSTIVE

21.1 Exercise or enforcement by a party of any remedy or right under or in respect of this Agreement does not limit or affect any other remedy or right that party may have against the other parties in respect of or under this Agreement or its performance or breach.

22. COVENANT RUNS WITH THE LAND

22.1 Every obligation and covenant of the Owner in this Agreement constitutes both a personal covenant and a covenant granted under section 219 of the *Land Title Act* in respect of the Land, and the provisions of Article 9 constitute a statutory right of way granted under section 218 of the *Land Title Act*. This Agreement burdens the Land and runs with it and binds the successors in title to the Land and each and every part into which the Land may be subdivided by any means and any parcel with which the Land or any part of it is consolidated.

23. REGISTRATION

23.1 The Owner agrees to do everything necessary, at the Owner's expense, to ensure that this Agreement, and the interests it creates, are registered against title to the Land, with priority over all financial charges, liens and encumbrances, including options to purchase, rights to purchase and rights of first refusal, registered or pending registration in the applicable provincial land title office at the time of application for registration of this Agreement.

24. SEVERANCE

24.1 If any part of this Agreement is held by a court to be invalid, illegal or unenforceable, that part is to be considered to have been severed from the rest of this Agreement and the rest of this Agreement is to remain in force unaffected by that holding or by the severance of that part as if the part was never part of this Agreement.

25. NO OTHER AGREEMENTS

25.1 This Agreement is the entire agreement between the parties and it terminates and supersedes all other agreements and arrangements regarding its subject.

26. INDEPENDENT ADVICE

26.1 The Owner acknowledges and agrees that the Owner has had an opportunity to seek and obtain, to the Owner's satisfaction, independent advice from an accountant or other tax expert with respect to the income tax and other tax implications of this Agreement and acknowledges that it does not rely and has not relied on the Covenant Holder for advice in this regard and that the Covenant Holder has given no representation or warranty in that regard.

26.2 The Owner acknowledges and agrees that the Owner has been advised by the Covenant Holder that the Owner should seek independent legal advice as to the meaning and effect of this Agreement, and the Owner further acknowledges and agrees that no legal advisor of the Covenant Holder has advised the Owner on the meaning or effect of this Agreement or in connection with this Agreement.

27. AMENDMENTS

27.1 This Agreement is intended to be perpetual and may only be changed by a written instrument signed by all the parties.

28. DEED AND CONTRACT

28.1 By executing and delivering this Agreement, each of the parties intends to create both a contract and a deed and covenant executed and delivered under seal.

29. RIGHTS OF COVENANT HOLDER

29.1 The Covenant Holder may exercise its rights under this Agreement through its directors, officers, employees, agents or contractors.

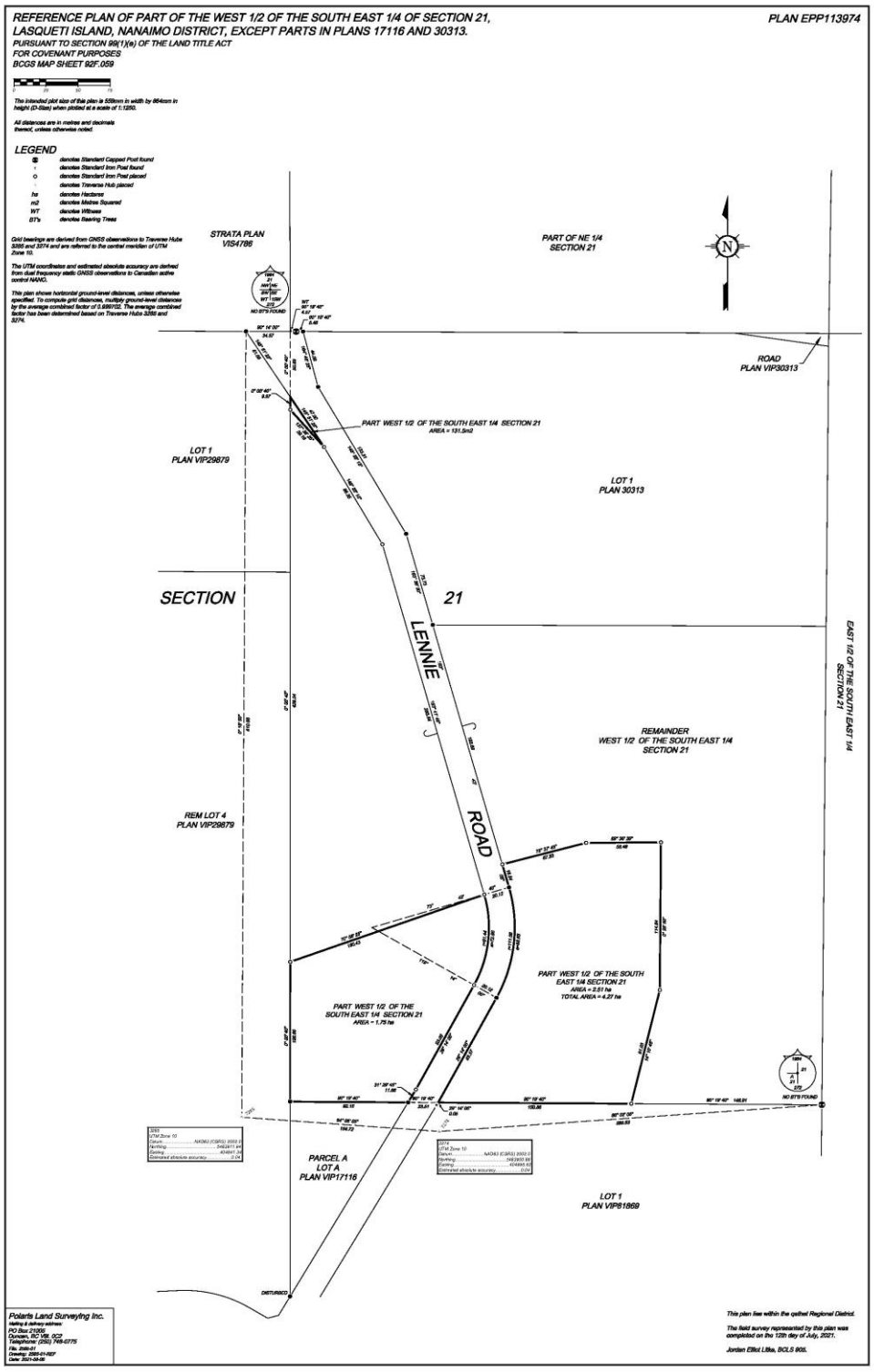
As evidence of their agreement to be bound by the above terms, the parties each have executed this Agreement under seal by signing Part 1 of the *Land Title Act* Form C to which this agreement is attached.

The schedules referred to throughout this document are attached after this page.

SCHEDULE A

REFERENCE PLAN

Attached to and forming Part of the Conservation Agreement between the Owner and the Covenant Holder dated for reference the 19th day of May 2022.



SCHEDULE B

BASELINE DOCUMENTATION REPORT

(Note: This is a condensed version of the full Baseline Report)

Attached to and forming part of the Covenant Agreement between the ISLANDS TRUST CONSERVANCY, Covenant Holder, and the Owners, Douglas Gerald Hopwood and Christine Ann Ferris, dated as of the 19th day of May, 2022.

1. ACKNOWLEDGEMENTS

This report was prepared by the persons indicated in Table 1.

Table 1. Acknowledgment of Personnel

Name	Position & Affiliation	Professional accreditation and expertise	Contribution
Aimee Mitchell	Wildlife Biologist, Athene Ecological Consulting	RPBio; MSc in Ecology. Expertise: Species at risk biologist; Habitat and risk assessment; Threat mitigation	Species at risk inventory and accounts; Professional review of baseline report
Doug Hopwood	Retired forestry consultant Landowner of subject property	RPF (Ret.); Expertise: Ecosystem classification and description; Monitoring and management of conservation areas	Primary author of baseline report; Description and history of the land and ecological communities; Mapping; Photos
Chris Currie	Botanist, Athene Ecological Consulting	BSc in Ecological Restoration Expertise: Ecosystem classification and description; Conservation biologist	Identification of wetland plant specimens collected by Doug Hopwood
Kate Emmings	Manager, Islands Trust Conservancy	BSc in Environmental Science Expertise: Covenant negotiation and baseline report review and preparation	Review of the baseline for items required for the covenant, and accuracy based on prior site visits

2. PROPERTY INFORMATION

2.1. PROPERTY LEGAL DESCRIPTION AND SIZE

The property on which the covenant is situated is the West ½ of the Southeast ¼ of Section 21, Lasqueti Island, Nanaimo District, Except Parts in Plans 17116 and 30313. The Parcel Identifier (PID) of the property is 000-009-474. The property consists of 15.62 ha of land, of which 5.61 ha is west of Lennie Road and 10.01 ha is east of Lennie Road.

2.2. COVENANT AREA LEGAL DESCRIPTION AND SIZE

The covenant area consists of 11.35 ha of land, which is all of the property except the three parts shown outlined in heavy black line on the Reference Plan "Schedule A" attached to and forming Part of the Conservation Agreement between the Owner and the Covenant Holder dated for reference the 19th day of May, 2022. The covenant area includes 3.85 ha west of Lennie Road and 7.50 ha east of Lennie Road.

2.3. DIRECTIONS

To reach the covenant area from the Lasqueti Island passenger ferry terminal at False Bay, travel 1.1 km generally north on Main Road (also known as Weldon Road), then 2.6 km generally east on Main Road, then

0.4 km generally north on Lennie Road to a point near the corners of the covenant area labeled “D” and “N” on Map 3.

3. SIGNIFICANCE OF THE LAND AND NATURAL AMENITIES

3.1. OVERVIEW

The covenant area contains approximately 10.55 ha of forest and 0.80 ha of wetland. The covenant area has conservation value for many reasons:

- The forest has conservation value as a mature, productive forest ecosystem in the Coastal Douglas-fir biogeoclimatic zone, including several at-risk ecological communities, and as habitat for a diversity of species, including species at risk.
- The forest has value as a stimulating and soothing environment for humans. Many pedestrians and cyclists using Lennie Road appreciate the attractive appearance of the forest.
- The forest functions as a natural carbon sink, both in terms of carbon stored in soils and biomass, and the ongoing sequestration of carbon due mainly to the growth of trees. However, stocks of carbon present are likely significantly less than were present in the original old growth forest. Many decades (perhaps centuries) will be required for the forest to return to its pre-logging level of carbon stores. Conservation of this forest does not offset emissions from activities elsewhere.
- The forest and wetland provide valuable hydrological functions including water filtration in soils, surface and sub-surface water storage, groundwater recharge, and moderation of stream-flow regimes.
- The wetland has conservation value as a mosaic of ecological communities, including communities at risk. The wetland provides habitat for a diversity of species, including amphibians, bats and many species of birds. Key features include proximity to shallow water, many snags for perching, roosting and cavity nesting, sunlight for basking, woody debris for protection and shelter, thickets of dense vegetation for cover, high insect abundance and fresh drinking water.

3.2. SPECIES AT RISK

Species at risk (SAR) observed within the covenant area are listed in Table 2. Two species surveyed for from 2016 to 2018 through the Coastal Douglas-fir and Associated Ecosystems (CDFAE) Conservation Project lead by Athene Ecological (Aimee Mitchell’s consulting business) were detected within the covenant area. Confirmed species during those surveys include Northern Red-legged Frog (*Rana aurora*) and Little Brown Myotis (*Myotis lucifugus*).

Table 2. Species at Risk observed within the covenant area.

Species Name		Conservation Status				
English	**Scientific**	**Provincial**	**BC List**	**COSEWIC**	**SARA**	**Global**
Northern Red-legged Frog	*Rana aurora*	S3 (2016)	Blue	Special Concern	Special Concern	G4 (2015)
Western Toad	*Anaxyrus boreas*	S4 (2016)	Yellow	Special Concern	Special Concern	G4 (2008)
Little Brown Myotis	*Myotis lucifugus*	S4 (2015)	Yellow	Endangered	Endangered	G3 (2016)

Amphibians. In March 2017, egg mass surveys identified Northern Red-legged Frog (*Rana aurora*) use of the wetland. In addition, three Red-legged Frog adults and 16 tadpoles were also detected during perimeter surveys and trapping efforts in May 2017. No Western Toads (*Anaxyrus boreas*) were detected during the project years but they had been detected previously, and one large adult was observed by Doug Hopwood in September, 2021. The wetland and associated forest areas within the covenant provide high quality habitat for adult and juvenile Red-legged Frogs.

Bats. A 5-day acoustic survey was conducted in the covenant areas in March 2017, resulting in the detection of the target bat species, the Endangered Little Brown Myotis (*Myotis lucifugus*). Additional species include those of provincial conservation concern such as Silver-haired Bat (*Lasionycteris noctivagans*) as well as California Myotis (*Myotis californicus*) and/or Yuma Myotis (*Myotis yumanensis*; these two species area difficult to distinguish acoustically), Hoary Bat (*Lasiurus cinereus*) and Big Brown Bat (*Eptesicus fuscus*). Several remnant old-growth trees are present throughout the parcel (alive and dead), many of which contain excellent roost habitat.

Owls. Historic observations of Western Screech-Owl (*Megascops kennicottii*) occurred within the covenant area approximately 15 years ago, but there have been no recent detections (a common report on Lasqueti for Screech-Owls). Habitats associated with Screech-Owls, such as mature mixed forests with suitable nest cavities, are abundant throughout the parcel. Many nest cavities occur in Douglas-fir and red alder, and therefore there is some concern that these cavities may not persist long-term. Species often associated with Screech-Owl cavities, such as bigleaf maple and western red cedar, are either not abundant or are not mature enough to contain suitable cavities. During call playback surveys at five stations north and east of parcel (established in November 2016, surveyed in November 2016 and March and May 2017), only Barred Owls were detected. However, a potential faint Screech-Owl call was heard from one station in November 2016 (not definitive enough for confident ID).

3.3. ECOLOGICAL COMMUNITIES AT RISK

Ecological communities at risk present in the covenant area are listed in Table 3. More information about these occurrences is provided in Section 9.

Table 3. Ecological communities at risk within the covenant area.

Ecological Community Name		Biogoeclimatic Units	Conservation Status		
English Name	Scientific Name		Provincial	BC List	Global
Douglas-fir / dull Oregon-grape	*Pseudotsuga menziesii / Mahonia nervosa*	CDFmm/01	S1 (2018)	Red	G2
grand fir / dull Oregon-grape	*Abies grandis / Mahonia nervosa*	CDFmm/04	S1 (2009)	Red	G1
grand fir / three-leaved foamflower	*Abies grandis / Tiarella trifoliata*	CDFmm/06	S1 (2013)	Red	G1
hardhack / Sitka sedge	*Spiraea douglasii / Carex sitchensis*	CDFmm/Ws50	S4 (2004)	Yellow	G4
red alder / salmonberry / common horsetail	*Alnus rubra / Rubus spectabilis / Equisetum arvense*	CDFmm/09; CDFmm/Fl51	S3 (2009)	Blue	GNR
red alder / slough sedge [black cottonwood]	*Alnus rubra / Carex obnupta [Populus trichocarpa]*	CDFmm/14	S1 (2006)	Red	G1
Sitka sedge - Pacific water-parsley	*Carex sitchensis - Oenanthe sarmentosa*	CDFmm/Wm50	S3 (2004)	Blue	G3
western redcedar / vanilla-leaf	*Thuja plicata / Achlys triphylla*	CDFmm/12	S1 (2013)	Red	G1

3.4. NAPTEP AND ECOLOGICAL GIFTS PROGRAM

Although the landholders have not yet submitted an application, the covenant area is eligible for the Natural Area Protection Tax Exemption Program under the Islands Trust Act and includes natural values and amenities identified under the Islands Trust Natural Area Protection Tax Exemption Regulation, including:

1) areas that are relatively undisturbed by human activity and are good examples of mature forest and wetland ecosystems;
2) areas that are relatively undisturbed by human activity and are key habitat for rare native plant species or plant communities; and,
3) areas that are critical habitat for native animal species in relation to breeding, rearing, feeding and staging.

Additionally, the landholders intend to apply to the federal Ecological Gifts Program as the land has been deemed a good fit for the program

4. DATA COLLECTION

Data presented in this report were collected over a period of thirty years. Doug Hopwood and Christine Ferris completed a detailed forest inventory and biogeoclimatic site series mapping in 1992 and 1993, as part of a forest management plan they completed for the property. Between that time and the present, they made observations of wildlife activity, ecological succession, hydrological processes, etc. in the course of many hundreds of walks though the covenant area. Doug Hopwood and Christine Ferris undertook further field work over the course of more than twenty days during July, August and September, 2021 to complete description and mapping of ecological communities and other features in the covenant area.

Aimee Mitchell, Daniel Stewart and Chris Currie of Athene Ecological Consultants completed a Species-at-Risk inventory of the property in April 2017, based on several days of field observations. Aimee Mitchell revisited the covenant area on August 8, 2021, to update and/or confirm observations made in 2017.

5. REPORT METHODOLOGY

5.1. EQUIPMENT

The following equipment were used for collection of data for this report:

- Camera - Canon PowerShot ELPH 100 HS
- GPS – Garmin GPS 76
- Compass – Suunto MC-2 mirror compass
- Measuring tape – Eslon 50m fibreglass tape
- Clinometer - Suunto PM- 5/360PC clinometers
- Tree diameter tape – Metri 8m steel blade diameter tape

5.2. PREPARATION FOR FIELD DATA COLLECTION

Air photo stereo pairs listed in Table 4 were used to assess historic forest cover conditions in the covenant area. Legal survey plans listed in Table 5 were collected that show the boundaries of the property and the covenant area.

Table 4. Air photo stereo pairs used to assess historic forest cover conditions.

Roll #	Frames	Year
BC7055	31, 32	1968
30BC86005	21, 22	1986
30BC89016	10, 11	1989

Table 5. Legal survey plans used in completing this baseline report.

Survey Plan Number	Plan Date
Plan 17116	July 20, 1964
Plan 30313	February 3, 1977

The forest management plan for the property completed in February, 1993 was reviewed. Preliminary ecological community types, along with descriptions and vegetation tables were developed based on site series mapping and forest cover types in the forest management plan.

5.3. FIELD DATA COLLECTION

The preliminary boundaries, descriptions and vegetation tables of the ecological communities were refined in the field by observation of site characteristics, species composition, history, and other ecological characteristics. The boundaries of ecological communities were mapped by a combination of ground measurement from survey markers using compass and measuring tape, air photo interpretation and GPS.

The histories of ecological communities were determined by a combination of methods. Tall stumps with springboard notches indicate pre-WWII logging, whereas lower stumps without notches indicate post-WWII logging. Dates of establishment of second-growth stands were estimated on the basis of ring counts of trees in the main canopy, from increment cores taken as part of sample plots for the forest inventory completed in 1993. The characteristics of pre-logging forests were inferred mainly from the species, size, and distribution of stumps. Fire history was inferred from the presence of charring on the exterior of stumps, snags or live trees. Charring within the springboard notches of old stumps indicates fire after logging, whereas charred stumps without charring inside the notches indicates fire before logging.

The range of heights, diameters and canopy covers of trees and tall shrubs within each ecological community were estimated primarily by ocular estimation, supplemented by measurements and air photo interpretation. The location of the buried water line was traversed with compass and measuring tape, using the survey pin at corner "G" as the point of commencement and the survey pin at corner "M" as the point of completion. The traverse was closed using the coordinates of these two points, which were determined from the survey plan of the covenant area (Schedule A).

6. LANDSCAPE CONTEXT

6.1. PROVINCIAL CONTEXT

The covenant area is located on Lasqueti Island, which has generally lower levels of cleared or urbanized developed land than most Gulf Islands. On the local scale, the covenant area is within a rural context of privately-held land covered mainly by mature or young second-growth forests, with scattered residential homestead clearings, as can be seen on Map 2. While there are several Provincial Parks and Nature Reserves on Lasqueti and nearby islands, there are no protected areas within one kilometre of the covenant area.

7. SITE HISTORY

7.1. INDIGENOUS PEOPLES USE AND OCCUPATION

Coast Salish First Nations have had a presence on Lasqueti Island and adjacent lands in the Salish Sea for thousands of years[1]. The Covenant Area is located within the core traditional territory of several Coast Salish First Nations including Cowichan Tribes, Halalt First Nation, Lake Cowichan First Nation, Lyackson First Nation, Penelakut Tribe, Stz'uminus First Nation, Tl'amin Nation and Qualicum First Nation.

Lasqueti Island historian Elda Mason notes that one of the early European settlers on Lasqueti reported that there had been a "potlatch house on Lasqueti owned by the Pentlatch Indians" (Mason 1976). More recent

[1] "The Islands Trust Conservancy recognizes that the language commonly used to refer to land may be disrespectful to First Nations. For example, notions of 'private' and 'Crown' land do not appropriately recognize aboriginal title, and imply a belief in the concept of terra nullius, the idea that land was not owned prior to the assertion of European sovereignty. The Islands Trust Conservancy acknowledges that terra nullius is a concept that doesn't apply to the Islands Trust Area. The words "provincially-managed land" or "federally managed land" will be used in place of "Crown". "Privately managed" will be used in place of "private" and "land holder" instead of "land owner."

archaeological work has shown that several permanent settlements were located on Lasqueti in coastal areas with high-value marine resources. Sophisticated intertidal zone structures that functioned as fish traps and clam gardens provide evidence of a long history of settled occupation.

Smallpox and other epidemics which began in the 1770s or earlier caused drastic population declines in First Nations in and around the Strait of Georgia by 1800, whereas the earliest recorded settlement on Lasqueti by Europeans did not occur until the 1860s. It is likely that all permanent First Nations settlements were abandoned before European settlers arrived, giving the false impression that Lasqueti had lacked ongoing First Nations settlements.

Although no direct evidence of Indigenous People's use of the covenant area is known, a complex set of intertidal structures (fish traps and clam gardens), as well as extensive shell middens and other evidence of permanent habitation, are located in the vicinity of Marshall's Beach and Lennie's Lagoon, only about 600 metres inland from the covenant area, so it is likely that Indigenous Peoples used the covenant area for various purposes.

7.2. SETTLER HISTORY

Lasqueti Island was surveyed into quarter-sections (lots measuring roughly one half mile on each side) in 1875. Initial ownership of the land was claimed by the Crown (the colonial government). No steps were taken to legally acquire title to the land from First Nations. Land titles, in the form of Crown Grants, were made available to non-indigenous settlers, generally through pre-emption followed by completion of required improvements and residency, or by purchase.

The southeast quarter of Section 21 was Crown-granted to Kathleen Livingstone on June 28, 1930 for a payment of one dollar. However, according to Mason (1976) the property was initially held by a member of the Jeffreys family who came to Lasqueti Island in the 1860s and later sold the property to the Livingstone family. It seems that the Jeffreys family completed some amount of land clearing and building but did not obtain a crown grant, and it was these improvements, not the land title as such, that the Livingstone family bought from the Jefferys. The Livingstone family then completed the pre-emption requirements and obtained the crown grant on the basis of residency and/or improvements made.

Over the years, various parts of the quarter section were subdivided and sold. Altogether, four generations of the Livingstone family lived and worked on the property over a period of about eighty years. The property on which the covenant area is located was purchased from members of the Livingstone family in 1992, by Christine Ferris and Doug Hopwood.

7.3. LOGGING, LAND CLEARING AND FOREST REGENERATION

The original old growth forests of the covenant area consisted primarily of large old Douglas-fir trees, with lesser numbers of western redcedar. These forests were mostly logged around 1918, with a few trees left standing. Some logging of these remaining trees occurred in the 1940s or 1950s. It appears that much of the area was burned soon after logging, followed by natural regeneration of a mix of native tree species. Around the same time, approximately two or three hectares of the property on which the covenant is located were cleared for animal pasture and various crops. These clearings may have extended into Ecological Communities 6, 8 and 9. Agricultural use of the property ended and trees regenerated in these areas by the 1950s or earlier.

Also around the 1920s, the wetland was drained by means of a ditch that was excavated at the west end of the wetland. This ditch is located about 20 m outside of the covenant area on the East ½ of the Southeast ¼ of Section 21. More detailed histories of each Ecological Community are included in the General Description tables in Section 9.6.

8. ANTHROPOGENIC FEATURES

8.1. WATER LINE

A water line approximately 5 cm inside diameter was buried through the covenant area during the 1990s, using an excavator that cleared a trail approximately 2.5 m wide through the forest. No trees over 30 cm dbh were cut. Sword ferns and other plants have since grown over the trail. The location of the water line is shown on Map 3. Table 6 shows the UTM coordinates of 12 stations along the water line.

Table 6. UTM coordinates of 12 stations along the buried water line.

Station Name	Northing	Easting
WL-1	5,484,292	405,005
WL-2	5,484,274	405,020
WL-3	5,484,265	405,028
WL-4	5,484,239	405,037
WL-5	5,484,226	405,044
WL-6	5,484,210	405,057
WL-7	5,484,187	405,069
WL-8	5,484,172	405,078
WL-9	5,484,168	405,086
WL-10	5,484,153	405,100
WL-11	5,484,140	405,112
WL-12	5,484,125	405,130

8.2. TREE SEEDLING PROTECTION

Approximately thirty wire cages are in place, mainly in Ecological Community #6, protecting planted tree seedlings from browsing by deer and/or sheep. It is intended that these should remain in place until the trees grow to about 10 cm dbh.

9. ECOLOGICAL COMMUNITIES

9.1. OVERVIEW OF TERRAIN, SOILS AND VEGETATION

The terrain in the covenant area consists mostly of gentle middle or lower slopes, with a few level areas and depressions. The soils are mainly brunisols developed in deep sandy or silty marine deposits with varying coarse fragment content. These soils are well suited to the growth of native tree species. There are a few bedrock outcrops and areas of shallow soil over bedrock outcrops and a few areas of saturated organic soils in topographic depressions. The main form of vegetation is productive second growth forest of native species that regenerated naturally after logging around 1920. Wetland ecosystems occur in topographic depressions.

9.2. ECOSYSTEM CLASSIFICATION

Under the BC Ecoregion Classification system, the Covenant Area is located in the Georgia Depression Ecoprovince, the Georgia-Puget Basin Ecoregion, and the Strait of Georgia Ecosection. Under the Biogeoclimatic Ecosystem Classification system, the Covenant Area is located in the Coastal Douglas-fir moist maritime (CDFmm) subzone. Within that subzone, site series classification is used to recognize small-scale local differences in terrain, soils, aspect, etc. The predominant sites within each Ecological Community are noted in the General Description tables in Section 9.6.

9.3. NATURAL DISTURBANCE REGIME

The CDFmm subzone is characterized as belonging to Natural Disturbance Type 2(NDT2), ecosystems with infrequent stand-initiating events. Historically, forests on Lasqueti Island were subject to infrequent fires of varying intensities that typically did not kill all the trees present. Moist areas with the landscape (e.g., wetlands, riparian ecosystems, deciduous stands) are generally fire-resistant, as are old Douglas-fir trees whose thick bark and lack of lower branches enables them to survive even quite hot fires. Other agents of natural disturbance include wind, root disease, beavers, and herbivorous animals.

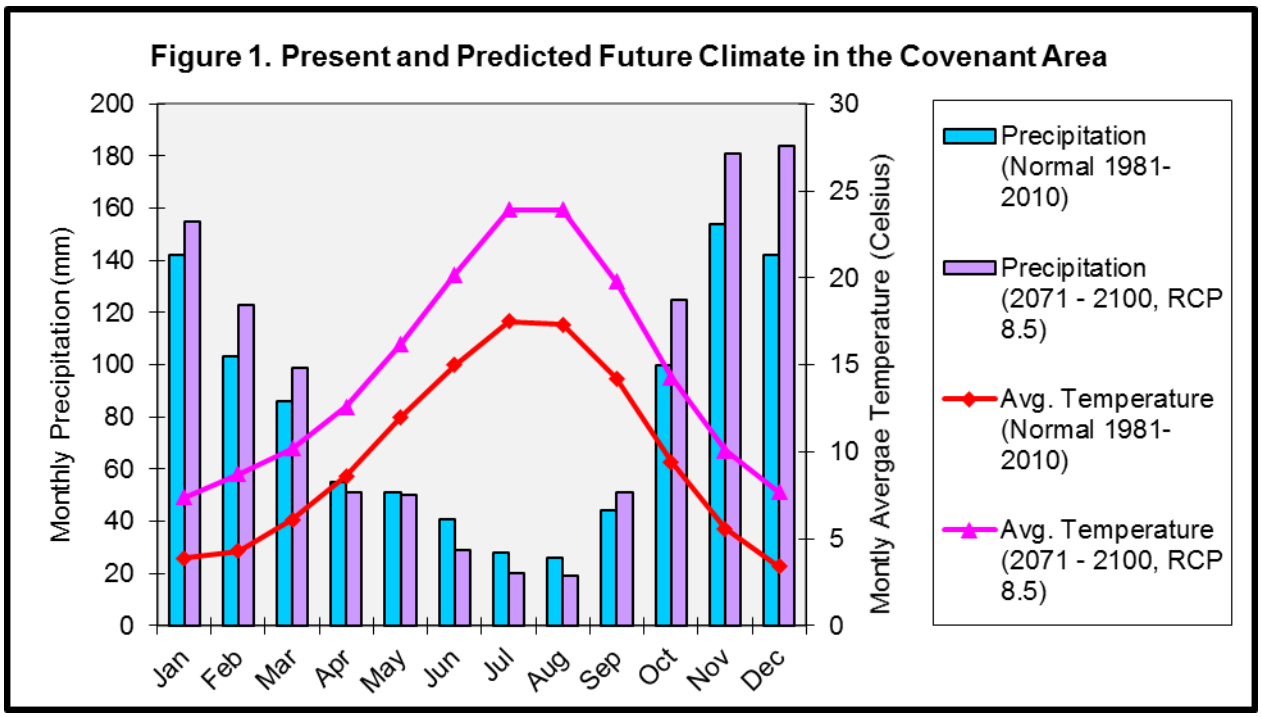
9.4. CLIMATE

The CDFmm subzone is an area of mild semi-Mediterranean climate in the southern Strait of Georgia, encompassing most of the Gulf Islands. The climate of this zone is strongly influenced by the rain shadow effect of the Vancouver Island Ranges. In the summer, periods of drought and high temperatures over four weeks long are common. Winters are typically rainy and mild. Snow rarely remains on the ground for more than a week, and some winters have no snow.
In winter the prevailing winds are from the southeast. Winter storms often involve winds up to 30 or 40 knots, which can blow for several days at a time. In summer, warm fair weather is usually associated with northwesterly winds, although southeasters can blow in summer too. The covenant area, being located close to the Sabine Channel, is exposed to both northwest and southeast winds that blow along the axis of the Sabine Channel. Lasqueti is somewhat sheltered from the force of cold winter "outflow winds" by the mass of Texada Island to the northeast. Most of the covenant area is somewhat protected from the impacts of wind due to its subdued topographic position. However, the history of wind-throw in Ecological Community 5 indicates that wind can be a significant agent of change affecting the ecosystems in the covenant area.

9.5. CLIMATE CHANGE

The expected effect of global climate change due to anthropogenic emissions of greenhouse gases (GHG) was assessed using the ClimateBC MAP (web version) spatial climate data tool (http://www.climatewna.com/ClimateBC_Map.aspx). Figure 1 is a graph showing how two key measures of climate, monthly precipitation and average temperature, are expected to change at the Covenant Area by the last three decades of the twenty-first century, given current trends in emissions. Data for the present climate were generated using 1981 -2010 climate normals, while the future climate was generated using an ensemble of 13 General Circulation Models for the period 2071-2100, assuming atmospheric GHG concentrations represented by Representative Concentration Pathway (RCP) 8.5.

As shown in Figure 1, the expected trend is towards warmer temperatures throughout the year, especially in summer, along with more precipitation in winter and less precipitation in summer. This combination of hotter temperatures and less rainfall in summer will increase the moisture stress on trees and other plants, likely leading to significant mortality of many species. Among the tree species, western redcedar, grand fir and western hemlock are particularly at risk. Paradoxically, the increase in precipitation in winter may exacerbate the impact of increased summer drought by causing greater fluctuation in the depth of the soil water table. On sites with imperfect drainage, more rain in winter may lead to the soil water table being closer to the surface for long enough periods of time to restrict the rooting depth of trees and other plants, making them all the more vulnerable to moisture stress in summer when the water table may fall lower than it currently does. Another likely impact of climate change will be to increase the risk of fire and the severity of fires that may occur. The expected effects of climate change are discussed on a more site-specific basis in the description of each Ecological Community.



9.6. NON-NATIVE SPECIES

The following non-native species that may be detrimental to native species and ecosystems were noted in the covenant area:

- Feral domestic sheep (*Ovis aries*)
- American bullfrog (*Lithobates catesbeianus*)
- Black slug (*Arion rufus*)
- Yellow flag iris (*Iris pseudacorus*)
- English holly (*Ilex aquifolium*)
- Foxglove (*Digitalis purpurea*)
- Curled dock (*Rumex crispus*)
- Various non-native grass species

9.7. INVENTORY OF ECOLOGICAL COMMUNITIES

Twelve ecological communities that occur in the covenant area were recognized and described. The locations of these communities are shown on Map 3. The characteristics of each ecological community are described in detail in the following tables. For each ecological community there is a General Description Table and a Vegetation Table. The vegetation table lists the predominant tree species as well as species of other plants that give the ecological community its unique character.

Ecological Community # 1 - General Description Table	
Short description	Mature mixed coniferous/deciduous second-growth forest
Site classification	CDFmm/06
Structural stage	Mature forest
Soil & terrain	Brunisol on deep stony sandy/loamy marine blanket
Slope	Gentle lower slope
Conservation status	Red-listed “grand fir / three-leaved foamflower” ecological community in good mid-seral condition with few invasive plant species, contiguous with a larger area of mature forest.
Wildlife habitat features	Mature forest with well-developed understory, some large snags and down logs. Decay in some trees creating habitat for cavity nesters.
History	***Original forest***: Old-growth forest of very large trees (up to 2m dbh), mostly Douglas-fir, with some redcedar, likely mixed with grand fir and western hemlock in a range of sizes and ages. ***Logging:*** Clear-cut around 1918. ***Fire:*** Evidence of fire both pre- and post-logging. ***Regeneration:*** Natural regeneration of mixed species. Some “advance regeneration” of grand fir, redcedar and hemlock may have survived logging and fire. ***Development:*** The red alder component has mostly died off, leaving a a closed-canopy even-aged stand with a diverse mix of species, a lush understory of sword fern, as well as a few shrubs and shade-tolerant conifers (mostly growing on stumps).
Variability	The species distribution of trees is clumped rather than uniform.
Expected changes	Competition will continue to cause mortality of the smaller and more suppressed trees, leading to lower density and eventually some very large conifer trees. Red alder will largely die out. Gaps may appear due to death of single trees or small groups from root disease or windthrow. Shade-tolerant understory conifers will continue to grow slowly, gradually occupying a larger portion of the canopy. However, climate change (increased summer drought) may will likely cause significant mortality of all tree species present except Douglas-fir. Browsing by sheep and deer may suppress understory regeneration of cedar.
Non-native or invasive species	Very few English holly trees (seedlings up to 3 m tall.) Minor browsing by feral sheep, mostly at edges along the road.
Comments	Visually attractive mature forest fronting Lennie Road.

Ecological Community # 1- Vegetation Table					
Main tree canopy					
Species	**Age**	**Dbh (cm)**	**Ht (m)**	**Cover %**	**Notes**
Grand fir	90 – 120	80 – 120	36 – 40	25 – 40	
Douglas-fir	90 - 100	80 – 120	38 – 42	15 – 25	
Bigleaf maple	90 – 100	70 – 100	28 – 36	10 – 15	Some broken tops or branches
Western redcedar	90 – 120	80 – 120	30 – 38	5 – 10	Some with internal decay
Western hemlock	90 – 120	70 – 100	28 – 36	3 – 10	
Red alder	90 - 100	60 - 90	24 - 30	T – 2	Mostly stressed or dying
Secondary tree canopy					
Species	**Age**	**Dbh (cm)**	**Ht (m)**	**Cover %**	**Notes**
Western redcedar	10 – 80	5 – 40	2 – 20	1 – 3	
Western hemlock	10 – 80	5 – 40	2 – 25	1 – 3	
Tall shrubs					
Species			**Ht (cm)**	**Cover %**	**Notes**
Red huckleberry (*Vaccinium parvifolium*)			100 – 250	T – 2	
Salmonberry (*Rubus spectabilis*)			200 – 400	T	
Ferns					
Species			**Ht (cm)**	**Cover %**	**Notes**
Sword fern (*Polystichum munitum*)			120 – 160	75 – 95	Lush, almost continuous cover
Bracken fern (*Pteridium aquilinum*)			100 – 150	T – 2	
Low shrubs and herbs					
Species				**Cover %**	**Notes**
Trailing blackberry (*Rubus ursinus*)				1 – 5	
Three-leaved foamflower (*Tiarella trifoliata*)				T	
Starflower (*Trientalis latifolia*)				T	
Mosses, liverworts & lichens					
Species				**Cover %**	**Notes**
Oregon beaked moss (*Eurhynchium oreganum*)				5 – 30	
Step moss (*Hylocomium splendens)*				T – 2	
Lanky moss (*Rhytidiadelphus loreus*)				T	

Ecological Community # 2 - General Description Table	
Short description	Mature Douglas-fir second growth forest
Site classification	CDFmm/06 (CDFmm/04)
Structural stage	Mature forest
Soil & terrain	Brunisol on stony, sandy/loamy marine blanket
Slope	Gentle lower slope
Conservation status	Red-listed "grand fir / three-leaved foamflower" ecological community in good mid-seral condition with few invasive plant species, contiguous with a larger area of mature forest.
Wildlife habitat features	Mature forest with well-developed understory, some large snags and down logs. Decay in some trees creating habitat for cavity nesters.
History	***Original forest***: Old-growth forest of very large trees (up to 2m dbh), mostly Douglas-fir, with some redcedar, likely mixed with grand fir and western hemlock in a range of sizes and ages. ***Logging:*** Clear-cut around 1918. ***Fire:*** Evidence of fire both pre- and post-logging. ***Regeneration:*** Natural regeneration of mainly Douglas-fir. ***Development:*** The Douglas-fir stand has developed into a closed-canopy even-aged stand, with significant understory development of shade-tolerant conifers, especially western redcedar. The sword fern understory is less vigorous and predominant under the canopy of the secondary canopy of western redcedar.
Variability	Relatively uniform. Cedar understory more prevalent east of Lennie Road.
Expected changes	Competition will continue to cause mortality of the smaller and more suppressed trees, leading to lower density and eventually some very large Douglas-fir trees. Gaps may appear due to death of single trees or small groups from root disease or windthrow. Shade-tolerant understory conifers will continue to grow slowly, gradually occupying a larger portion of the canopy. However, climate change (increased summer drought) will likely cause significant mortality of all tree species present except Douglas-fir. Browsing by sheep and deer may suppress understory regeneration of cedar.
Non-native or invasive species	Very few English holly trees (seedlings up to 3 m tall.) Minor browsing by feral sheep, mostly at edges along the road.
Comments	Visually attractive mature forest fronting Lennie Road.

Ecological Community # 2 - Vegetation Table					
Main tree canopy					
Species	**Age**	**Dbh (cm)**	**Ht (m)**	**Cover %**	**Notes**
Douglas-fir	90 – 100	80 – 120	38 – 42	60 – 80	
Grand fir	90 – 120	80 – 120	36 – 40	5 – 10	
Western redcedar	90 – 120	80 – 120	30 – 38	2 – 5	Some with internal decay
Western hemlock	90 – 120	70 – 100	28 – 36	T – 2	
Bigleaf maple	90 – 100	70 – 100	28 – 36	T – 2	Some broken tops or branches
Red alder	90 – 100	60 – 90	24 – 30	T	Mostly stressed or dying
Secondary tree canopy					
Species	**Age**	**Dbh (cm)**	**Ht (m)**	**Cover %**	**Notes**
Western redcedar	40 – 100	15 – 30	8 – 25	2 – 15	
Western hemlock	20 – 60	5 – 20	2 – 15	T	
Tall shrubs					
Species			**Ht (cm)**	**Cover %**	**Notes**
Red huckleberry (*Vaccinium parvifolium*)			200 – 400	1 – 3	
Evergreen huckleberry (*Vaccinium ovatum*)			100 - 300	T	
Dull Oregon-grape (*Mahonia nervosa*)			20 – 50	T	
Salal (*Gaultheria shallon*)			20 – 50	T	
Ferns					
Species			**Ht (cm)**	**Cover %**	**Notes**
Sword fern (*Polystichum munitum*)			20 – 100	5 – 40	Sparse under cedar understory
Bracken fern (*Pteridium aquilinum*)			50 – 100	T – 2	
Spiny wood fern (*Dryopteris expansa*)			30 – 80	T	
Low shrubs and herbs					
Species				**Cover %**	**Notes**
Trailing blackberry (*Rubus ursinus*)				T – 2	
Three-leaved foamflower (*Tiarella trifoliata*)				T	
Starflower (*Trientalis latifolia*)				T	
Vanilla leaf (*Achlys triphylla*)				T	
Wall lettuce (*Mycelis muralis*)				T	
Mosses, liverworts & lichens					
Species				**Cover %**	**Notes**
Oregon beaked moss (*Eurhynchium oreganum*)				T – 5	
Step moss (*Hylocomium splendens)*				T - 2	
Lanky moss (*Rhytidiadelphus loreus*)				T	
Palm tree moss (*Leucolepis acanthoneuron*)				T	

Ecological Community # 3 - General Description Table	
Short description	Young (maturing) coniferous/deciduous forest
Site classification	CDFmm/06 (CDFmm/04)
Structural stage	Young forest
Soil & terrain	Brunisol on stony sandy/loamy marine blanket
Slope	Gentle middle and lower slopes
Conservation status	Red-listed "grand fir / three-leaved foamflower" ecological community in good early-seral condition with few invasive plant species, contiguous with a larger area of mature forest.
Wildlife habitat features	Maturing forest with well-developed understory, some large snags and down logs. Decay in some trees creating habitat for cavity nesters.
Variability	The spacing and species distribution of trees is clumpy rather than uniform, with some dense patches and some gaps in the canopy.
History	***Original forest***: Patchy distribution of large (up to 1.5m dbh) old-growth Douglas-fir and redcedar, likely mixed with grand fir and western hemlock in a range of sizes and ages. ***Logging:*** Logged around 1918 with a few trees left. Some logging of remaining old trees occurred in the 1940s and/or 1950s, ***Fire:*** Evidence of fire both pre- and post-logging. ***Regeneration:*** Patchy natural regeneration of mixed species, with red alder initially predominant. A few cedar and Douglas-fir seedlings were planted in gaps around 2000. ***Development:*** The red alder component has partially died off, leaving a fairly open stand of mixed species, with a diverse understory of ferns, shrubs and a few shade-tolerant conifers. Survival of planted trees was about 50%. Planted Douglas-fir seedlings have grown up to 3m tall. Planted cedar seedlings are now 1 to 2 m tall.
Expected changes	The established coniferous trees will continue to grow (subject to some mortality) leading to a somewhat open stand with some very large Douglas-fir trees. The red alder component will die off, leaving gaps which may be occupied by shade-tolerant conifers or shrubs and ferns. Planted trees in the understory may continue to grow slowly. Climate change (increased summer drought) will likely cause significant mortality of all tree species present except Douglas-fir. Browsing by sheep and deer may suppress understory regeneration of cedar.
Non-native or invasive species	Few English holly trees (seedlings up to 3 m tall.) Minor browsing by feral sheep, mostly at edges along the road.
Comments	Opportunity to plant coniferous trees in gaps formed as the red alder component dies out.

Ecological Community # 3 - Vegetation Table					
Main tree canopy					
Species	**Age**	**Dbh (cm)**	**Ht (m)**	**Cover %**	**Notes**
Douglas-fir	70 – 100	40 – 120	28 – 38	20 – 30	
Red alder	70 – 75	30 – 80	22 – 30	10 – 20	
Grand fir	70 – 100	40 - 100	28 – 34	10 – 20	
Western redcedar	70 – 100	40 – 100	28 – 34	2 – 5	
Bigleaf maple	70 – 75	40 – 80	28 – 34	2 – 5	
Western hemlock	70 – 100	40 – 80	28 – 34	T – 1	
Secondary tree canopy					
Species	**Age**	**Dbh (cm)**	**Ht (m)**	**Cover %**	**Notes**
Western redcedar	10 – 70	5 – 40	2 – 20	1 – 3	
Western hemlock	10 – 70	5 – 40	2 – 25	1 – 3	
Red alder	5 – 20	5 – 10	2 – 10	T	
Tall shrubs					
Species			**Ht (cm)**	**Cover %**	**Notes**
Salmonberry (*Rubus spectabilis*)			150 – 500	2 – 20	
Red huckleberry (*Vaccinium parvifolium*)			200 - 400	T – 2	
Ocean spray (*Holodiscus discolor*)			200 - 500	T – 2	
Ferns					
Species			**Ht (cm)**	**Cover %**	**Notes**
Sword fern (*Polystichum munitum*)			60 – 120	40 – 90	
Bracken (*Pteridium aquilinum*)			60 – 100	T – 2	
Spiny wood fern (*Dryopteris expansa*)			40 – 100	T	
Low shrubs and herbs					
Species				**Cover %**	**Notes**
Trailing blackberry (*Rubus ursinus*)				T	
Three-leaved foamflower (*Tiarella trifoliata*)				T	
Starflower (*Trientalis latifolia*)				T	
Mosses, liverworts & lichens					
Species				**Cover %**	**Notes**
Oregon beaked moss (*Eurhynchium oreganum)*				2 – 10	
Step moss (*Hylocomium splendens)*				T – 2	
Lanky moss (*Rhytidiadelphus loreus*)				T	

Ecological Community # 4 - General Description Table	
Short description	Young mixed forest site with sparse understory
Site classification	CDFmm/04
Structural stage	Young forest (approaching mature)
Soil & terrain	Brunisol on sandy, stony marine veneer
Slope	Gentle middle slope
Conservation status	Red-listed “grand fir / dull Oregon-grape” ecological community in fair early-seral condition with some invasive plant species and browsing impacts by feral sheep, contiguous with a larger area of mature forest.
Wildlife habitat features	Maturing forest with some snags and down logs. Decay in some trees creating habitat for cavity nesters.
History	***Original forest***: Patchy distribution of large (up to 1.5m dbh) old-growth Douglas-fir and redcedar, likely mixed with grand fir and western hemlock in a range of sizes and ages. ***Logging:*** Logged around 1918 with a few trees left. Logging of remaining old trees occurred in the 1940s and/or 1950s, ***Fire:*** Evidence of fire both pre- and post-logging. ***Regeneration:*** Patchy natural regeneration of mixed species, with red alder and Douglas-fir initially predominant. ***Development:*** The red alder component has partially died off, leaving a fairly open stand of mainly Douglas-fir species, with a diverse understory of ferns, shrubs and a few shade-tolerant conifers. Survival of planted trees was about 50%. Planted Douglas-fir seedlings have grown up to 3m tall. Planted cedar seedlings are now 1 to 2 m tall. Browsing by feral sheep has somewhat depleted the understory of sword ferns and other low-growing understory plants. Ocean spray and western hemlock are present in the tall shrub layer.
Variability	The species distribution of trees is somewhat variable.
Expected changes	The established coniferous fir trees will continue to grow (subject to some mortality) leading to a somewhat open stand with some very large Douglas-fir trees. The red alder component will die off, leaving gaps which may be occupied by shade-tolerant conifers or shrubs and ferns. Planted cedars in the understory may continue to grow slowly. Climate change (increased summer drought) will likely cause significant mortality of all tree species present except Douglas-fir. Browsing by sheep (and deer) will likely suppress normal growth and/or regeneration of understory plants and trees.
Non-native or invasive species	Some English holly trees, up to 5 m tall. One plant of cherry-laurel (*Prunus laurocerasus*) with multiple stems up to 10 cm diameter and 5 m tall was cut down in Sept 2021. It will likely re-sprout from the stump.
Comments	None.

Ecological Community # 4 - Vegetation Table					
Main tree canopy					
Species	**Age**	**Dbh (cm)**	**Ht (m)**	**Cover %**	**Notes**
Douglas-fir	70 – 100	70 – 100	30 – 36	25 – 40	
Grand fir	70 – 120	70 – 100	30 – 34	10 – 20	
Red alder	70 – 90	40 – 80	26 – 32	5 – 10	Mostly dead or dying
Western redcedar	70 – 120	70 – 100	30 – 34	2 – 5	
Bigleaf maple	70 – 90	60 – 100	26 – 32	2 – 5	
Western hemlock	70 – 120	70 – 100	30 – 34	T	
Secondary tree canopy					
Species	**Age**	**Dbh (cm)**	**Ht (m)**	**Cover %**	**Notes**
Douglas-fir	30 – 50	10 – 30	2 – 20	T	
Grand fir	30 – 50	10 – 30	2 – 20	T	
Western hemlock	30 – 50	10 – 30	2 – 20	T	
Tall shrubs					
Species			**Ht (cm)**	**Cover %**	**Notes**
Ocean spray (*Holodiscus discolor*)			200 – 400	2 – 15	
Salal (*Gaultheria shalon*)			20 – 50	T	
Red huckleberry (*Vaccinium parvifolium*)			100 – 300	T	
Orange honeysuckle (*Lonicera ciliosa*)			50 – 1000	T	Climbing on trees
Evergeen huckleberry (*Vaccinium ovatum*)			60 - 120	T	
Ferns					
Species			**Ht (cm)**	**Cover %**	**Notes**
Sword fern (*Polystichum munitum*)			15 – 60	1 – 5	Heavily browsed by sheep
Bracken fern (*Pteridium aquilinum*)			15 – 60	T	
Low shrubs and herbs					
Species				**Cover %**	**Notes**
Trailing blackberry (*Rubus ursinus*)				T – 2	
Grasses				T -5	
Wall lettuce (*Mycelis muralis*)				T	
Foxglove (*Digitalis purpurea*)				T	
Mosses, liverworts & lichens					
Species				**Cover %**	**Notes**
Oregon beaked moss (*Eurhynchium oreganum)*				T – 5	
Step moss (*Hylocomium splendens)*				T	
Lanky moss (*Rhytidiadelphus loreus*)				T	

Ecological Community # 5 - General Description Table	
Short description	Mature Douglas-fir forest
Site classification	CDFmm/04
Structural stage	Mature forest
Soil & terrain	Brunisol on sandy, stony marine veneer
Slope	Gentle middle slope
Conservation status	Red-listed “grand fir / dull Oregon-grape” ecological community in good mid-seral condition, with few invasive plant species, contiguous with a larger area of mature forest.
Wildlife habitat features	Maturing forest with some snags and down logs. Decay in some trees creating habitat for cavity nesters.
History	***Original forest***: Old-growth forest of large trees (up to 1.5m dbh), mostly Douglas-fir, with a few redcedar, likely mixed with grand fir and western hemlock in a range of sizes and ages. ***Logging:*** partially logged around 1918. Around the same time, a significant portion of the original stand blew over, and the down trees were salvage logged. ***Fire:*** Evidence of fire both pre- and post-logging. ***Regeneration:*** Natural regeneration of mainly Douglas-fir with a few grand fir. ***Development:*** The Douglas-fir stand has developed into a closed-canopy even-aged stand, with a few shade-tolerant conifers in the understory along with tall shrubs (mainly ocean spray and salal) and sword fern. The original forest of large old-growth Douglas-fir was clear-cut around 1918. A few large trees were left standing, but blew over within 20 years after logging, and some were salvage-logged. There is evidence of medium severity post-logging fire. A naturally regenerated stand of mainly Douglas-fir has developed into a closed-canopy even-aged stand, with an understory of sword ferns, tall shrubs, and a few shade-tolerant conifers.
Variability	Relatively uniform
Expected changes	Competition will continue to cause mortality of the smaller and more suppressed trees, leading to lower density and eventually some fairly large conifer trees. Shade-tolerant understory conifers will continue to grow slowly, gradually occupying a larger portion of the canopy. However, climate change (increased summer drought) will likely cause significant mortality of all tree species present except Douglas-fir. Browsing by sheep and deer may suppress understory regeneration of cedar.
Non-native or invasive species	A few English holly trees (seedlings up to 2 m tall.) Minor browsing by feral sheep, mostly at edges along the road.
Comments	Visually attractive mature forest fronting Lennie Road.

Ecological Community # 5 - Vegetation Table					
Main tree canopy					
Species	**Age**	**Dbh (cm)**	**Ht (m)**	**Cover %**	**Notes**
Douglas-fir	90 – 100	60 – 110	34 – 40	70 – 80	
Grand fir	90 – 100	60 – 90	30 – 36	T – 5	
Western redcedar	90 – 100	60 – 100	30 – 36	T	
Secondary tree canopy					
Species	**Age**	**Dbh (cm)**	**Ht (m)**	**Cover %**	**Notes**
Grand fir	20 – 60	5 – 20	2 – 15	T	
Western redcedar	20 – 60	5 – 20	2 – 15	T	
Tall shrubs					
Species			**Ht (cm)**	**Cover %**	**Notes**
Ocean spray (*Holodiscus discolor*)			200 – 500	10 – 25	
Salal (*Gaultheria shalon*)			50 – 150	2 – 10	
Evergreen huckleberry (*Vaccinium ovatum*)			50 – 200	1 – 5	
Dull Oregon-grape (*Mahonia nervosa*)			20 – 50	T	
Red huckleberry (*Vaccinium parvifolium*)			100 – 200	T	
Baldhip rose (*Rosa gymnocarpa*)			50 – 150	T	
Ferns					
Species			**Ht (cm)**	**Cover %**	**Notes**
Sword fern (*Polystichum munitum*)			50 – 80	1 – 2	
Bracken fern (*Pteridium aquilinum*)			50 – 100	T	
Low shrubs and herbs					
Species				**Cover %**	**Notes**
Trailing blackberry (*Rubus ursinus*)				1 – 5	
Three-leaved foamflower (*Tiarella trifoliata*)				T	
Starflower (*Trientalis latifolia*)				T	
Mosses, liverworts & lichens					
Species				**Cover %**	**Notes**
Oregon beaked moss (*Eurhynchium oreganum)*				10 – 30	
Step moss (*Hylocomium splendens*)				5 – 10	
Lanky moss (*Rhytidiadelphus loreus)*				T	
Flat moss (*Buckiella undulata)*				T	

Ecological Community # 6 - General Description Table	
Short description	Mature mixed species forest on very productive water-receiving site
Site classification	CDFmm/06, CDFmm/12 (CDFmm/14)
Structural stage	Mature forest
Soil & terrain	Brunisol on deep, silty marine blanket
Slope	Gentle lower slope (level, depression)
Conservation status	Red-listed “grand fir / three-leaved foamflower” and “western redcedar / vanilla-leaf” ecological communities in good mid-seral condition with few invasive plant species, contiguous with a larger area of mature forest. Areas of
Wildlife habitat features	Mature forest with well-developed understory, some large snags and down logs. Decay in some trees creating habitat for cavity nesters.
History	***Original forest*** Old-growth forest of very large trees (up to 2m dbh), mostly Douglas-fir, with some redcedar, likely mixed with grand fir and western hemlock in a range of sizes and ages. ***Logging:*** Clear-cut around 1918 with a few trees left (including several large cedars near the wetland.) Logging of remaining trees during 1940s or 1950s. ***Fire:*** Evidence of fire both pre- and post-logging. ***Regeneration:*** Natural regeneration of mixed species, with red alder initially predominant. A few cedar seedlings were planted around 2000. ***Development:*** The red alder component has mostly died off, leaving a fairly open stand of coniferous species and a few maples, with a lush understory of sword ferns and a few tall shrubs and shade-tolerant conifers. Planted cedar seedlings are now 2 to 6 m tall.
Variability	The spacing and species distribution of trees is clumpy rather than uniform. The CDFmm/06 site series predominates on gentle lower slopes. Areas of CDFmm/12 occur on level terrain. Several “pocket wetlands” (20 to 100 m^2 in area) of Ecological Community # 10 are present on CDF mm/14 sites in depressions.
Expected changes	The established coniferous trees will continue to grow (subject to some mortality) leading to a low density stand with some very large trees. The remaining red alder component will die off, leaving gaps which may be occupied by shade-tolerant conifers or shrubs and ferns. The few planted cedars will grow slowly. Climate change (increased summer drought) may cause some mortality, although abundant soil moisture may minimize the impact. Increasing water table fluctuation on poorly drained micro-sites may cause tree mortality. Browsing by sheep and deer may suppress understory regeneration of cedar.
Non-native or invasive species	A few English holly trees (up to 5 m tall.) Minor browsing by feral sheep, mostly at edges along the road.
Comments	Visually attractive mature forest fronting Lennie Road. Opportunity for enhancement by planting cedar seedlings, as this site is likely to remain suitable for cedar with up to several degrees of climate change.

Ecological Community # 6 - Vegetation Table					
Main tree canopy					
Species	**Age**	**Dbh (cm)**	**Ht (m)**	**Cover %**	**Notes**
Douglas-fir	90 – 100	60 – 120	30 – 40	20 – 30	
Grand fir	90 – 110	60 – 110	30 – 38	15 – 25	
Western redcedar	90 – 150+	40 – 80	26 – 32	1 – 5	A few over 150 years near wetland
Bigleaf maple	90 – 100	30 – 60	26 – 30	1 – 5	
Western hemlock	90 – 100	30 – 60	26 – 30	1 – 2	
Red alder	90 – 100	30 – 70	24 – 28	T – 2	Mostly dead or dying
Secondary tree canopy					
Species	**Age**	**Dbh (cm)**	**Ht (m)**	**Cover %**	**Notes**
Western hemlock	40 – 80	5 – 30	2 – 20	2 – 5	Mainly on stumps
Grand fir	40 – 80	5 – 30	2 – 20	T – 2	
Western redcedar	40 – 80	5 – 30	2 – 15	T – 2	Some planted around 2000
Tall shrubs					
Species			**Ht (cm)**	**Cover %**	**Notes**
Salmonberry (*Rubus spectabilis*)			150 – 400	2 – 5	
Red huckleberry (*Vaccinium parvifolium*)			200 – 400	T – 2	
Evergreen huckleberry (*Vaccinium ovatum*)			100 – 200	T	
Ferns					
Species			**Ht (cm)**	**Cover %**	**Notes**
Sword fern (*Polystichum munitum*)			90 – 160	70 – 95	
Low shrubs and herbs					
Species				**Cover %**	**Notes**
Trailing blackberry (*Rubus ursinus*)				T – 2	
Three-leaved foamflower (*Tiarella trifoliata*)				T	
Starflower (*Trientalis latifolia*)				T	
Mosses, liverworts & lichens					
Species				**Cover %**	**Notes**
Oregon beaked moss (*Eurhynchium oreganum*)				T – 2	
Slender beaked moss (*Eurhynchium praelongum*)				T	
Palm tree moss (*Leucolepis acanthoneuron*)				T	
Coastal leafy moss (*Plagiomnium insigne*)				T	

Ecological Community # 7 - General Description Table	
Short description	Mature mixed forest with root disease on mosaic of sites
Site classification	CDCmm/01, CDFmm/04, CDFmm/02
Structural stage	Mature forest
Soil & terrain	Brunisol on mosaic of colluvial veneer over rocky outcrops and stony/silty/sandy marine veneer/blanket.
Slope	Mosaic of crest/upper slope and middle slope/lower slope sites
Conservation status	Mosaic of Red-listed "Douglas-fir / dull Oregon-grape" and "grand fir / dull Oregon-grape" ecological communities in good mid-seral condition, with few invasive plant species, contiguous with a larger area of mature forest.
Wildlife habitat features	Mature forest with well-developed understory. A few veteran old-growth Douglas-fir trees. Plentiful large snags and down logs. Decay in some trees creating habitat for cavity nesters. Some patches of dense brush.
History	***Original forest***: Difficult to infer, as very few stumps are present. The previous stand may have been poorly stocked, or young, due to previous disturbance by fire, wind or root disease. ***Logging:*** The original stand likely was clear-cut and/or burned around 1918. A few older trees are present. ***Fire:*** Some charred down logs is evidence of fire (timing unknown.) ***Regeneration:*** Natural regeneration of mainly Douglas-fir. ***Development:*** The naturally regenerated stand of mainly Douglas-fir has developed. Several significant patches of Laminated root disease (*Phellinus sulphurascens*) have created large openings in the stand, occupied mainly by tall shrubs and ferns.
Variability	A diverse mosaic of sites, combined with patches of root disease, creates a heterogeneous stand. Big-leaf maples add to the diversity.
Expected changes	Competition will continue to cause mortality of the smaller and more suppressed trees, leading to lower density and eventually some fairly large conifer trees. Laminated root disease will continue to slowly infect more Douglas-fir trees, leading to more and/or larger openings, which will be occupied mainly by tall shrubs. Climate change (increased summer drought) will likely cause significant mortality of all tree species present except Douglas-fir. Browsing by sheep and deer may suppress understory regeneration of cedar.
Non-native or invasive species	A few English holly trees (seedlings up to 2 m tall.)
Comments	Opportunity for enhancement by planting tree species that are resistant to root disease.

Ecological Community # 7 - Vegetation Table					
Main tree canopy					
Species	**Age**	**Dbh (cm)**	**Ht (m)**	**Cover %**	**Notes**
Douglas-fir	90 – 100	60 – 120	32 – 36	30 – 50	Many affected by root disease
Bigleaf maple	90 – 100	50 – 90	24 – 30	1 – 3	
Grand fir	90 – 100	50 – 90	26 – 30	T – 2	
Western hemlock	90 – 100	50 – 90	24 – 30	T - 2	
Red alder	90 – 100	50 – 80	22 – 28	T	
Western redcedar	90 – 100	50 – 90	24 – 30	T	
Secondary tree canopy					
Species	**Age**	**Dbh (cm)**	**Ht (m)**	**Cover %**	**Notes**
Western hemlock	30 – 60	10 – 30	5 – 20	T – 2	
Grand fir	30 – 60	10 – 30	5 – 20	T – 2	
Bigleaf maple	30 – 60	10 – 30	5 – 20	T – 2	
Douglas-fir	30 – 60	10 – 30	5 – 20	T – 2	
Western redcedar	30 – 60	10 – 30	5 – 20	T	
Tall shrubs					
Species			**Ht (cm)**	**Cover %**	**Notes**
Salal (*Gaultheria shalon*)			60 – 120	10 – 40	
Ocean Spray (*Holodiscus discolor*)			200 – 400	2 – 10	
Red huckleberry (*Vaccinium parvifolium*)			100 – 300	1 – 5	
Dull Oregon-grape (*Mahonia nervosa*)			30 – 60	T – 2	
Baldhip rose (*Rosa gymnocarpa*)			50 – 100	T	
Ferns					
Species			**Ht (cm)**	**Cover %**	**Notes**
Sword fern (*Polystichum munitum*)			50 – 90	T	
Bracken (*Pteridium aquilinum*)			40 – 100	T	
Low shrubs and herbs					
Species				**Cover %**	**Notes**
Trailing blackberry (*Rubus ursinus*)				T – 2	
Three-leaved foamflower (*Tiarella trifoliata*)				T	
Starflower (*Trientalis latifolia*)				T	
Sweet-scented bedstraw (*Galium triflorum*)				T	
Mosses, liverworts & lichens					
Species				**Cover %**	**Notes**
Oregon beaked moss (*Eurhynchium oreganum*)				2 – 5	
Step moss (*Hylocomium splendens)*				2 – 5	
Electrified cat's-tail moss (*Rhytidiadelphus triquetrus*)				T – 2	
Lanky moss (*Rhytidiadelphus loreus*)				T	

Ecological Community # 8 - General Description Table	
Short description	Mature Douglas-fir forest with wide spacing and grassy understory
Site classification	CDFmm/06, CDFmm/04
Structural stage	Mature forest
Soil & terrain	Brunisol on deep sandy/loamy marine blanket, gentle slope
Slope	Gentle middle and lower slopes
Conservation status	Red-listed “grand fir / three-leaved foamflower” ecological community in fair mid-seral condition with some non-native grasses in understory due to cattle grazing history, contiguous with a larger area of mature forest.
Wildlife habitat features	Mature forest with some very large trees and snags. Decay in some trees creating habitat for cavity nesters.
History	***Original forest***: Difficult to infer, as very few stumps are present. The previous stand may have been poorly stocked, or young, due to previous disturbance by fire, wind or root disease. ***Logging:*** The original stand likely was clear-cut and/or burned around 1918. Some logging may have also have occurred in 1940s or 1950s. This area may have been cleared for cultivation, but if so, trees were becoming re-established by 1930. ***Fire:*** Some charred down logs is evidence of fire (timing unknown.) ***Regeneration:*** Natural regeneration of mainly Douglas-fir. ***Development:*** After logging, the site was used by “free-range” cattle up until the 1990s, resulting in a signification component of non-native grasses and bracken in the understory. The naturally regenerated stand of mainly Douglas-fir is widely spaced and the trees are quite large. A few small patches of Laminated root disease (*Phellinus sulphurascens*) have created openings in the stand, occupied mainly by tall shrubs and ferns.
Variability	Trees are generally widely spaced and clumpy rather than uniform in distribution. The soil moisture is higher near the wetland and drier towards the rocky ridges to the north. Root disease has created several small gaps in the canopy.
Expected changes	Widely-spaced large Douglas-fir trees will continue to increase in size. Gaps may appear due to death of single trees or small groups from root disease and/or windthrow. Shade-tolerant understory conifers will continue to grow slowly, gradually occupying a larger portion of the canopy. Native species such as sword fern may slowly displace grasses in the understory. Browsing by sheep and deer may suppress understory regeneration of cedar.
Non-native or invasive species	Some English holly trees (seedlings up to 5 m tall.) Non-native grasses are fairly prevalent in the understory.
Comments	None.

Ecological Community # 8 - Vegetation Table					
Main tree canopy					
Species	**Age**	**Dbh (cm)**	**Ht (m)**	**Cover %**	**Notes**
Douglas-fir	80 – 100	70 – 120	36 – 40	30 – 50	Widely spaced, some root disease
Grand fir	80 – 100	60 – 100	32 – 36	2 – 5	
Western redcedar	80 – 100	60 – 100	28 – 30	T	
Bigleaf maple	80 – 100	50 – 80	26 – 30	T	
Western hemlock	80 – 100	60 – 100	28 – 30	T	
Red alder	80 – 100	50 – 80	24 -28	T	
Secondary tree canopy					
Species	**Age**	**Dbh (cm)**	**Ht (m)**	**Cover %**	**Notes**
Douglas-fir	30 – 60	20 – 40	5 – 20	T – 2	
Grand fir	30 – 60	10 – 40	5 - 20	T – 2	
Red alder	30 – 60	10 – 25	5 – 15	T	
Tall shrubs					
Species			**Ht (cm)**	**Cover %**	**Notes**
Red huckleberry (*Vaccinium parvifolium*)			100 – 300	T - 2	
Salal (*Gaultheria shalon*)			20 – 40	T	
Evergreen huckleberry (*Vaccinium ovatum*)			50 – 100	T	
Baldhip rose (*Rosa gymnocarpa*)			40 – 80	T	
Dull Oregon-grape (*Mahonia nervosa*)			20 – 50	T	
Ferns					
Species			**Ht (cm)**	**Cover %**	**Notes**
Sword fern (*Polystichum munitum*)			30 – 80	15 – 40	
Bracken (*Pteridium aquilinum*)			40 – 100	5 – 10	
Low shrubs and herbs					
Species				**Cover %**	**Notes**
Grasses				15 – 30	
Trailing blackberry (*Rubus ursinus*)				1 – 5	
Wall lettuce (*Mycelis muralis*)				T	
Three-leaved foamflower (*Tiarella trifoliata*)				T	
Starflower (*Trientalis latifolia*)				T	
Sweet-scented bedstraw (*Galium triflorum*)				T	
Pathfinder (*Adenocaulon bicolor*)				T	
Mosses, liverworts & lichens					
Species				**Cover %**	**Notes**
Oregon beaked moss (*Eurhynchium oreganum*)				5 – 10	
Step moss (*Hylocomium splendens)*				5 – 10	
Electrified cat's-tail moss (*Rhytidiadelphus triquetrus*)				T – 2	
Lanky moss (*Rhytidiadelphus loreus*)				T – 2	

Ecological Community # 9 - General Description Table	
Short description	Open deciduous forest on seasonally inundated site
Site classification	CDFmm/09; CDFmm/14
Structural stage	Elements of Mature forest and Shrub/Herb
Soil & terrain	Brunisol on deep, silty marine blanket
Slope	Level (depression)
Conservation status	This community has affinity to several ecological communities including "red alder / slough sedge" (red-listed) and "red alder / salmonberry / common horsetail" (blue-listed). This community is not in typical late-seral condition, due to its history of logging and changes in moisture regime. Nonetheless, it has high conservation value as habitat for species at risk.
Wildlife habitat features	Abundant red alder snags provide habitat for cavity-nesting birds. Proximity to the wetland provides feeding opportunities for birds and bats. Patches of dense brush provide shelter and hiding cover. Salmonberry provides early season food source for migratory Rufous Hummingbirds.
History	***Original forest***: Difficult to infer, as few stumps are present. The previous stand may have been poorly stocked, or young, due to previous disturbance by fire, wind or root disease. Likely a significant component of western redcedar. ***Logging:*** The original stand likely was clear-cut and/or burned around 1918, except for a few Douglas-fir and cedars. Some logging may have also have occurred in 1940s or 1950s. This area may have been cleared for cultivation, but if so, trees were becoming re-established by 1940. ***Fire:*** Some charred down logs is evidence of fire (timing unknown.) ***Regeneration:*** Natural regeneration of mainly red alder.. ***Development:*** After logging, the site was used by "free-range" cattle up until the 1990s, resulting in a signification component of non-native grasses and bracken in the understory. Beaver damming of the adjacent wetland (see History of Ecological Community # 11) caused the water table to rise to the point of killing many of the mature alders, leaving a very open stand with abundant snags and a dense, vigorous shrub understory of shrubs, especially salmonberry.
Variability	Highly variable, with large canopy gaps occupied by shrubs and some patches of alder or coniferous trees of various ages.
Expected changes	Assuming the beaver dam blocking the outlet of the wetland is neither raised nor lowered, the red alder overstory will continue to die and decay, leaving a very open stand with a dense, brushy understory. A few trees may persist or become established on raised micro-sites. Red alder snags will be plentiful for several decades. Some flood-tolerant tree species such as crabapple may become established.
Non-native or invasive species	A few English holly trees (up to 3 m tall). Feral sheep may access this area. Several black slugs (*Arion rufus*) were observed. Significant presence of non-native greases and herbs.
Comments	There is one small grove of very large Douglas-fir and cedar trees. Opportunity for restoration/enhancement by planting flood-tolerant trees (e.g., crabapple, black cottonwood) or tall shrubs (e.g., red-osier dogwood).

Ecological Community # 9 - Vegetation Table					
Main tree canopy					
Species	**Age**	**Dbh (cm)**	**Ht (m)**	**Cover %**	**Notes**
Red alder	50 – 70	30 – 60	18 – 24	5 – 30	Many dead or dying due to flooding
Secondary tree canopy					
Species	**Age**	**Dbh (cm)**	**Ht (m)**	**Cover %**	**Notes**
Western hemlock	5 – 50	5 – 20	2 – 15	T	Mostly on dead wood
Red alder	5 – 50	5 – 20	2 – 15	T	On raised micro-sites
Grand fir	5 – 50	2 – 10	1 – 5	T	On raised micro-sites
Tall shrubs					
Species			**Ht (cm)**	**Cover %**	**Notes**
Salmonberry (*Rubus spectabilis*)			100 - 400	10 – 40	
Red huckleberry (*Vaccinium parvifolium*)			100 – 250	T	
Salal (*Gaultheria shalon*)			50 - 100	T	
Pacific crabapple (*Malus fusca*)			200 - 300	T	
Ferns					
Species			**Ht (cm)**	**Cover %**	**Notes**
Sword fern (*Polystichum munitum*)			80 – 120	5 – 20	
Bracken fern (*Pteridium aquilinum*)			60 – 120	5 - 10	
Deer fern (*Blechnum spicant*)			20 – 50	T	
Spiny wood fern (*Dryopteris expansa*)			30 – 60	T	
Low shrubs and herbs					
Species				**Cover %**	**Notes**
Grasses (including non-native species)				10 – 30	
Slough sedge (*Carex obnupta*)				2 – 10	
Common rush (*Juncus effusus*)				2 – 10	
Trailing blackberry (*Rubus ursinus*)				2 – 10	
Stinging nettle (*Urtica dioica*)				T	
Creeping buttercup (*Ranunculus repens*)				T	
Mosses, liverworts & lichens					
Species				**Cover %**	**Notes**
Oregon beaked moss (*Eurhynchium oreganum*)				T – 2	
Slender beaked moss (*Eurhynchium praelongum*)				T	
Palm tree moss (*Leucolepis acanthoneuron*)				T	
Coastal leafy moss (*Plagiomnium insigne*)				T	

Ecological Community # 10 - General Description Table	
Short description	Forested sedge “pocket wetlands” on fluctuating water table sites
Site classification	CDFmm/14
Structural stage	Young or mature forest
Soil & terrain	Brunisol on deep silty/loamy marine blanket
Slope	Level or depression
Conservation status	Red-listed “red alder / slough sedge [black cottonwood]” ecological community in good mid-seral condition with few invasive plant species. (Black cottonwood is not present). This community occurs as small patches within Ecological Communities 6 and 9. However, these small patches are contiguous with a larger area of mature forest.
Wildlife habitat features	Possible breeding habitat for amphibians.
History	See Ecological Communities 6 and 9
Variability	Understory vegetation is quite uniform within patches. Species composition of the tree overstory is variable.
Expected changes	See Ecological Communities 6 and 9.
Non-native or invasive species	A few English holly seedlings up to 1 m tall.
Comments	This ecological community occurs as a number of “pocket wetlands”, i.e., small patches (generally 20 to 100 m2) within Ecological Communities 6 and 9.

Ecological Community # 10 - Vegetation Table					
Main tree canopy					
Species	**Age**	**Dbh (cm)**	**Ht (m)**	**Cover %**	**Notes**
Grand fir	60 – 100	30 – 100	20 – 35	0 – 70	
Red alder	40 – 80	30 – 60	20 – 35	0 – 70	
Western redcedar	60 – 100	30 – 100	20 – 35	0 – 70	
Douglas-fir	60 – 100	30 – 100	20 – 35	0 – 70	
Secondary tree canopy					
Species	**Age**	**Dbh (cm)**	**Ht (m)**	**Cover %**	**Notes**
Western redcedar	10 – 60	5 – 30	2 – 20	0 – 5	
Western hemlock	10 – 60	5 – 30	2 – 20	0 – 5	
Tall shrubs					
Species			**Ht (cm)**	**Cover %**	**Notes**
Salmonberry (*Rubus spectabilis*)			100 – 250	0 – 5	
Ferns					
Species			**Ht (cm)**	**Cover %**	**Notes**
Sword fern (*Polystichum munitum*)			40 – 100	0 – 10	
Deer fern (*Blechnum spicant*)			30 – 50	0 – 10	
Low shrubs and herbs					
Species				**Cover %**	**Notes**
Slough sedge				40 – 80	
Trailing blackberry (*Rubus ursinus*)				0 – 10	
Three-leaved foamflower (*Tiarella trifoliata*)				T	
Mosses, liverworts & lichens					
Species				**Cover %**	**Notes**
Slender beaked-moss (*Eurhynchium praelongum*)				2 – 20	Distinctive indicator
Oregon beaked moss (*Eurhynchium oreganum*)				0 – 20	
Step moss (*Hylocomium splendens*)				T	
Flat moss (*Buckiella undulata*)				T	
Lanky moss (*Rhytidiadelphus loreus*)				T	

Ecological Community # 11 - General Description Table	
Short description	Sedge and shrub marsh wetland
Site	CDFmm/Wm50, CDFmm/Ws50
Structural	Shrub/Herb
Soil & terrain	Wet organic veneer over silty/clayey marine blanket
Slope	Depression
Conservation status	This wetland community has elements of the blue-listed "Sitka sedge - Pacific water-parsley" community in good condition, as well as elements of the yellow-listed "hardhack / Sitka sedge" community in good condition.
Wildlife habitat features	High value habitat for amphibians, bats and many species of birds. Key features include proximity to shallow water, many snags for perching, roosting and cavity nesting, sunlight for basking, woody debris for protection and shelter, thickets of dense vegetation for cover, high insect abundance and fresh drinking water.
History	The original character and plant community of the wetland is uncertain. However, the presence of several large cedar snags around the perimeter, with a few "islands" of much smaller cedar snags towards the centre indicates an open wetland with scattered trees and a plant community similar to what is present today. The wetland was drained by means of a ditch that was excavated at the west end of the wetland (about 20 m outside of the covenant area) probably around 1920. The wetland and its forest margins were burned, probably around 1920 and probably soon after being drained. Several large cedar snags, charred on the outside, are still standing. Soon after draining and burning, and in response to the lower water table, a mix of coniferous and deciduous trees colonized drier areas around the margins of the wetland (mostly Douglas-fir on the north and south sides, and red alder on the east). The central part of the wetland became occupied by a dense thicket of pink spirea (*Spirea douglasii*). The wetland and adjacent forest was used by "free range" cattle for grazing and as a water source, until around 1995 or 2000. The drainage ditch was blocked by beavers around 2005, raising the water level, which may now be close to its pre-settlement level. Beavers are not currently active in the area. Due to the raised water level, the trees around the margins are mostly dead or dying, as is the pink spirea in the central part of the wetland.
Variability	The wetland is a diverse mosaic of vegetation types. Sedges, rushes and herbs predominate in most areas, while more tall shrubs and ferns occur near the margin, closer to the forest. Shallow water with aquatic plants (Ecological Community #11) predominates towards the centre of the
Expected changes	Assuming the beaver dam blocking the outlet of the wetland is neither raised nor lowered, the vegetation community will continue to change in response to the restored water level. Trees around the margins of the wetland will continue to die and decay, providing snag habitat for decades to come. Moisture-loving shrubs (e.g., pink spirea, salmonberry) and trees (crabapple, red alder, western redcedar) may become more dominant on raised micro-sites around the margins of the wetland.
Non-native or invasive species	A few English holly trees (up to 2 m tall) were noted near the wetland-forest interface. A few plants of curled dock (*Rumex crispus*) were noted. One plant of yellow flag iris (*Iris pseudacorus*) was found and removed in July, 2021. A few black slugs (*Arion rufus*) were observed.
Comments	Regular monitoring and taking preventive measures against invasion by yellow flag iris should be a high priority. The presence of Common green sphagnum (*Sphagnum girgensohnii*) or indeed any species of sphagnum, is unusual on Lasqueti.

Ecological Community # 11- Vegetation Table					
Main tree canopy					
Species	**Age**	**Dbh (cm)**	**Ht (m)**	**Cover %**	**Notes**
Douglas-fir	80 – 100	40 – 120	5 – 40	T – 2	Dead or dying, at wetland margins
Western redcedar	100 +	80 – 150	30 – 40	T	A few charred snags
Red alder	40 – 80	30 – 80	5 – 20	T	Dead or dying, at wetland margins
Secondary tree canopy					
Species	**Age**	**Dbh (cm)**	**Ht (m)**	**Cover %**	**Notes**
Western redcedar	5 – 20	2 – 5	1 – 3	T	On raised micro-sites
Western hemlock	5 – 20	2 – 5	1 – 3	T	On raised micro-sites
Red alder	5 – 20	2 – 5	1 – 3	T	On raised micro-sites
Tall shrubs					
Species			**Ht (cm)**	**Cover %**	**Notes**
Pink spirea (*Spirea douglasii*)			100 – 300	2 – 5	
Red huckleberry (*Vaccinium parvifolium*)			100 – 200	T – 2	
Salal (*Gaultheria shalon*)			50 – 120	T – 2	
Pacific crabapple (*Malus fusca*)			150 – 300	T – 2	
Salmonberry (*Rubus spectabilis*)			100 – 200	T – 2	
Ferns					
Species			**Ht (cm)**	**Cover %**	**Notes**
Sword fern (*Polystichum munitum*)			40 - 100	1 – 5	
Bracken (*Pteridium aquilinum*)			40 - 100	T	
Lady fern (*Athyrium filix-femina*)			40 - 100	T	
Deer fern (*Blechnum spicant*)			20 - 60	T	
Low shrubs and herbs					
Species				**Cover %**	**Notes**
Slough sedge *(Carex obnupta)*				25 – 50	
Jointed rush (*Juncus articulatus)*				25 – 50	In very wet areas
Common rush *(Juncus effusus)*				5 – 10	
Small-flowered bulrush *(Scirpus microcarpus)*				2 – 5	
Sitka sedge *(Carex sitchensis)*				2 – 5	
Beaked sedge *(Carex utriculata)*				1 – 2	
Wool-grass *(Scirpus atrocinctus)*				1 – 2	
Cut-leaved water horehound *(Lycopus americanus)*				1 – 2	
Blue skullcap *(Scutellaria lateriflora)*				1 – 2	
Emersed bur-reed *(Sparganium emersum)*				T	
Pacific water-parsley *(Oenanthe sarmentosa)*				T	
Field mint *(Mentha arvensis)*				T	
Marsh speedwell *(Veronica scutellata)*				T	
Bog St. John's-wort *(Hypericum anagalloides)*				T	
Stinging nettle (*Urtica dioica*)				T	
Fireweed *(Epilobium angustifolium)*				T	
Small-flowered forget-me-not (*Myosotis laxa)*				T	
Mosses, liverworts & lichens					
Species				**Cover %**	**Notes**
Common green sphagnum (*Sphagnum girgensohnii*)				T	One small patch

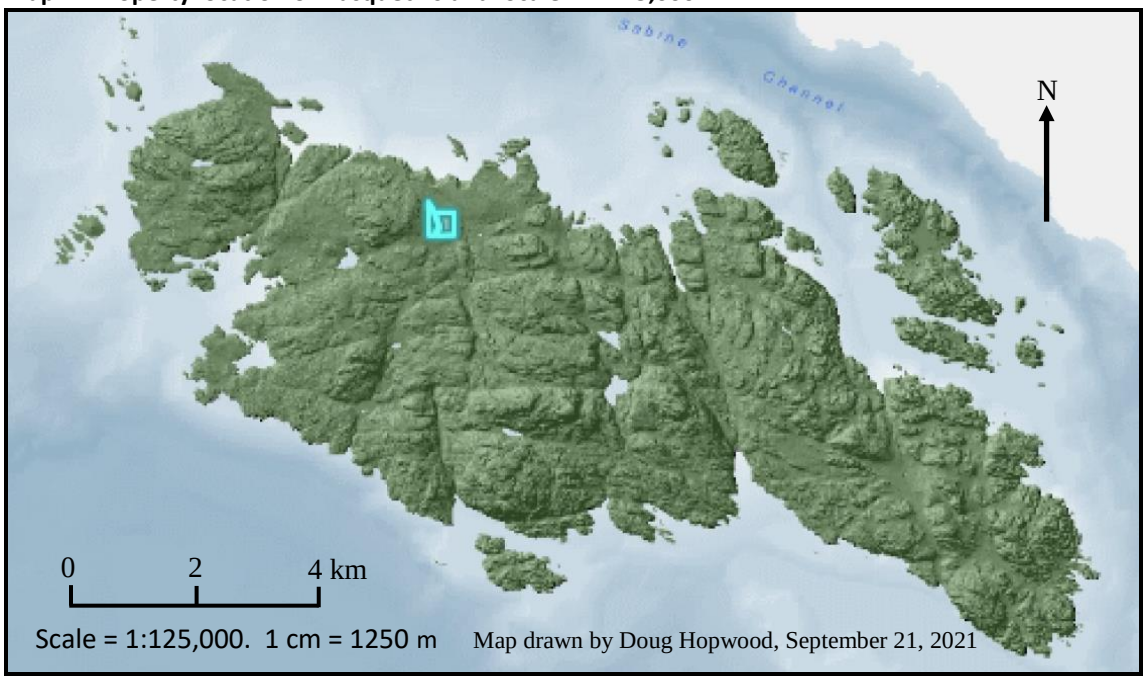
Ecological Community # 12 - General Description Table	
Short description	Shallow water wetland with floating-leaved aquatic plants
Site classification	Shallow water ecosystem, with affinity to “Water shield – Bladderwort” ecological community (MacKenzie and Moran 2004).
Structural stage	Aquatic Herb
Soil & terrain	Shallow water (to approximately 60 cm deep) with saturated organic veneer overlying silty/clayey marine blanket.
Slope	Depression
Conservation status	No status assigned
Wildlife habitat features	Breeding habitat for amphibians, with open canopy providing sunlight for basking, woody debris providing protection and shelter. With high insect abundance and fresh drinking water, this ecosystem provides valuable habits for bats and a wide diversity of birds, including nesting and juvenile rearing habitat for waterfowl.
History	See History of Ecological Community #11.
Variability	The aquatic plant species occur mostly in fairly discrete and “pure” patches. The shallow water ecosystem type occurs in an intergraded mosaic with the sedge/spirea wetland type.
Expected changes	Over the next decade or so, aquatic plants may more thoroughly occupy shallow water areas, as the plant community continues to adapt to the new water level. Undecayed organic matter may accumulate on the bottom, gradually infilling and reducing the water depth. Climate change will likely lead to greater seasonal fluctuations in water levels, and eventually a tendency for aquatic plants to be replaced by sedges and other marsh vegetation.
Non-native or invasive species	American bullfrogs (*Lithobates catesbeianus*) are present.
Comments	Numerous bird species, including a hooded merganser hen and a mallard hen, both with ducklings, were observed here in the spring of 2021.

Ecological Community # 12 - Vegetation Table					
Main tree canopy					
Species	**Age**	**Dbh (cm)**	**Ht (m)**	**Cover %**	**Notes**
N.A.					
Secondary tree canopy					
Species	**Age**	**Dbh (cm)**	**Ht (m)**	**Cover %**	**Notes**
N.A.					
Tall shrubs					
Species			**Ht (cm)**	**Cover %**	**Notes**
N.A.					
Ferns					
Species			**Ht (cm)**	**Cover %**	**Notes**
N.A.					
Low shrubs and herbs					
Species				**Cover %**	**Notes**
Water shield *(Brasenia schreberi)*				5 – 15	
Common duckweed *(Lemna minor)*				5 – 15	
Grass-leaved pondweed *(Potamogeton gramineus)*				10 – 20	
Greater bladderwort *(Utricularia macrorhiza)*				1 – 5	Submerged except flower stalks
Yellow pond-lily *(Nuphar polysepala)*				1 – 2	One compact patch
Mosses, liverworts & lichens					
Species				**Cover %**	**Notes**
N.A.					

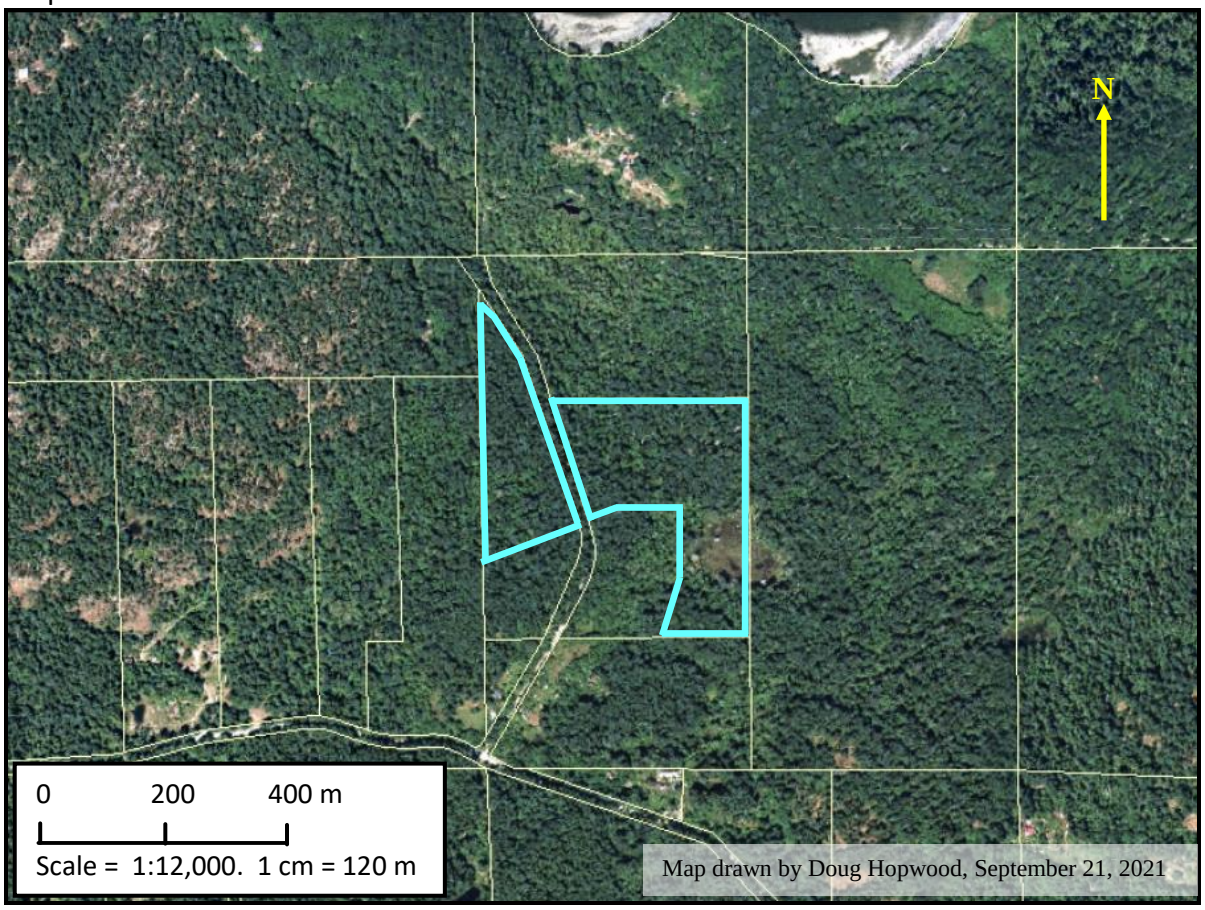
10. MAPS

Map 1 shows the location of the property on Lasqueti Island. Map 2 shows an orthophoto image, with property boundaries that illustrates the local land use context of the covenant area. Map 3 shows the boundaries of the property, the covenant area and the ecological communities, as well as the location of the buried water line.

Map 1. Property location on Lasqueti Island. Scale = 1:125,000.

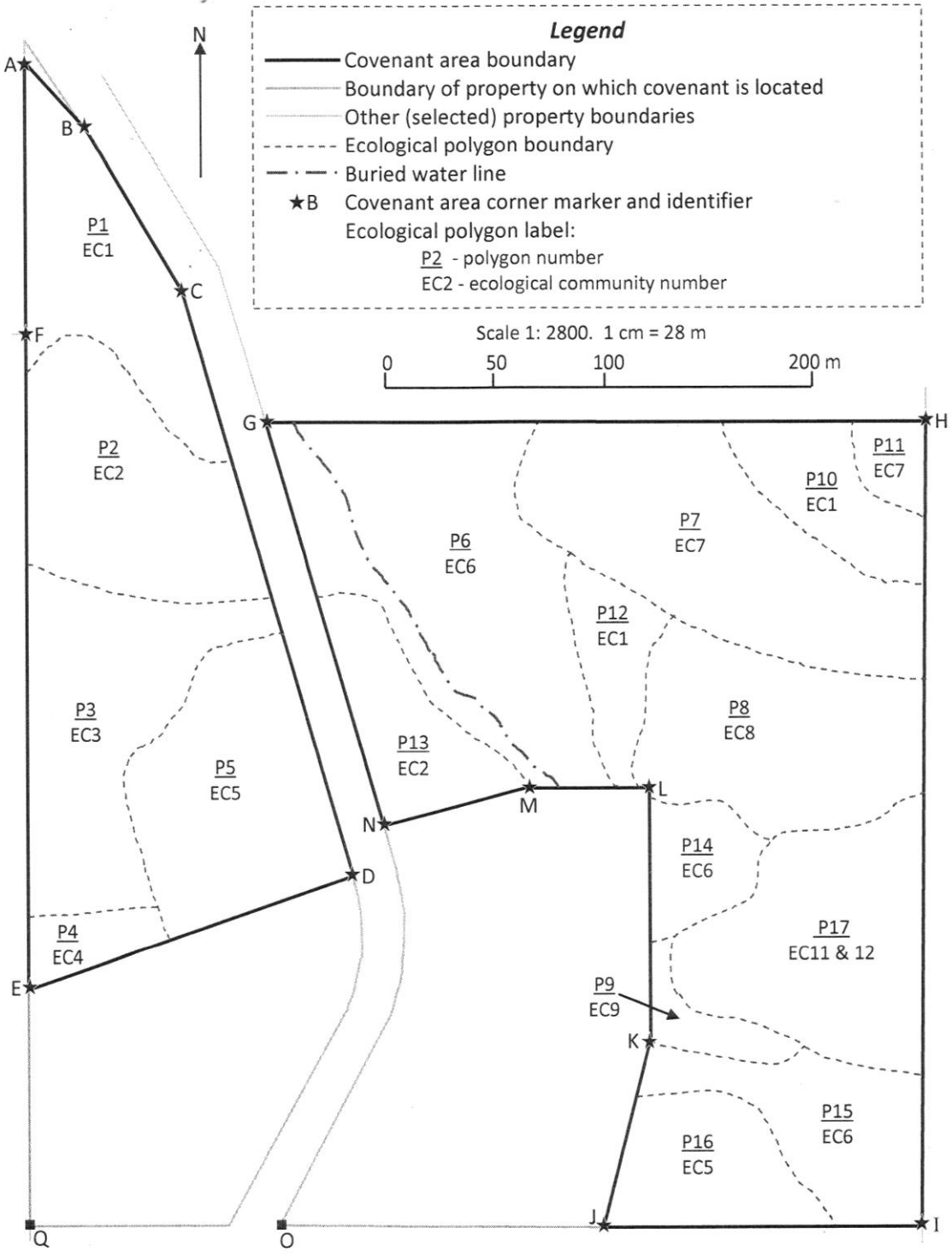


Map 2. Local land use context of covenant area.



Map 3 shows the Covenant Area Boundaries, Ecological Communities and Anthropogenic Features. The boundaries of the covenant area are shown with a bold black line. The corners of the boundaries of the covenant area are marked with a star symbol and labeled with letters A through N. The boundaries of the property on which the covenant is located are shown with a grey line. Selected other property boundaries are shown with a faint grey line. The covenant area is divided on into 18 ecological polygons. Polygon boundaries are shown with a light dashed line. Each polygon typically contains one Ecological Community, although polygons 6, 14 and 15 contain primarily EC 6 along with small “pockets” of EC 10, and polygon 17 is a mosaic of EC 11 and 12. An Ecological Community may occur in more than one polygon. Each polygon has a label that shows the polygon number (e.g., P 15) above a short horizontal line and the Ecological Community number (e.g., EC 5) below the line. The location of the buried water line is shown as a dash-dot line.

Map 3 - Covenant Area Boundaries, Ecological Communities and Anthropogenic Features



11. PHOTOS

11.1. PHOTOS OF ECOLOGICAL COMMUNITIES

A total of 24 photos were taken representing typical site and vegetation conditions in each of the ecological communities. These photos are held in digital file form by the Islands Trust Conservancy. Each photo has a photo number that indicates the ecological community which it represents, and a serial number within that Ecological Community. For example, photo EC1.2 is the second photo representing Ecological Community 1. The photo numbers, UTM coordinates, azimuth (camera direction), date (YYYY-MM-DD) and file name of these photos are listed in Table 8.

Table 8. Photos of Ecological Communities.

Photo #	UTM - North	UTM - East	Azimuth	YYYY-MM-DD	Photo Digital File Name
EC1.1	5,484,452	404,879	140	2021-09-02	ITC_2021_09_02_LAS_LIVCOV_EC1.1_180.jpg
EC1.2	5,484,418	404,905	160	2021-09-02	ITC_2021_09_02_LAS_LIVCOV_EC1.2_180.jpg
EC2.1	5,484,251	404,880	145	2021-08-07	ITC_2021_08_07_LAS_LIVCOV_EC2.1_180.jpg
EC2.2	5,484,132	405,086	120	2021-09-07	ITC_2021_09_02_LAS_LIVCOV_EC2.2_180.jpg
EC3.1	5,484,068	404,880	60	2021-08-07	ITC_2021_08_07_LAS_LIVCOV_EC3.1_180.jpg
EC3.2	5,484,177	404,954	270	2021-09-10	ITC_2021_09_10_LAS_LIVCOV_EC3.2_180.jpg
EC4.1	5,484,053	404,899	0	2021-08-10	ITC_2021_08_07_LAS_LIVCOV_EC4.1_180.jpg
EC5.1	5,484,090	405,001	0	2021-08-10	ITC_2021_08_07_LAS_LIVCOV_EC5.1_180.jpg
EC5.2	5,483,923	405,191	40	2021-09-10	ITC_2021_09_02_LAS_LIVCOV_EC5.2_180.jpg
EC6.1	5,484,295	404,995	110	2021-08-10	ITC_2021_08_19_LAS_LIVCOV_EC6.1_180.jpg
EC6.2	5,484,152	405,110	80	2021-09-10	ITC_2021_09_02_LAS_LIVCOV_EC6.2_180.jpg
EC6.3	5,484,069	405,184	90	2021-09-09	ITC_2021_09_09_LAS_LIVCOV_EC6.3_180.jpg
EC7.1	5,484,204	405,292	290	2021-08-19	ITC_2021_08_19_LAS_LIVCOV_EC7.1_180.jpg
EC7.2	5,484,264	405,218	270	2021-08-19	ITC_2021_08_19_LAS_LIVCOV_EC7.2_180.jpg
EC8.1	5,484,126	405,237	60	2021-08-19	ITC_2021_08_19_LAS_LIVCOV_EC8.1_180.jpg
EC8.2	5,484,164	405,201	130	2021-09-19	ITC_2021_09_02_LAS_LIVCOV_EC8.2_180.jpg
EC9.1	5,484,025	405,210	270	2021-08-09	ITC_2021_08_09_LAS_LIVCOV_EC9.1_180.jpg
EC9.2	5,484,045	405,169	160	2021-09-09	ITC_2021_09_02_LAS_LIVCOV_EC9.2_180.jpg
EC10.1	5,484,135	405,122	60	2021-09-09	ITC_2021_09_02_LAS_LIVCOV_EC10.1_180.jpg
EC11.1	5,484,076	405,281	180	2021-07-17	ITC_2021_07_17_LAS_LIVCOV_EC11.1_180.jpg
EC11.2	5,484,038	405,177	90	2021-07-17	ITC_2021_07_17_LAS_LIVCOV_EC11.2_180.jpg
EC11.3	5,484,057	405,230	20	2021-09-17	ITC_2021_09_02_LAS_LIVCOV_EC11.3_180.jpg
EC12.1	5,484,091	405,253	140	2021-09-17	ITC_2021_09_02_LAS_LIVCOV_EC12.1_180.jpg
EC12.2	5,484,050	405,244	140	2021-09-17	ITC_2021_09_02_LAS_LIVCOV_EC12.2_180.jpg

11.2. PHOTOS AT COVENANT AREA CORNERS

Thirty-four photos were taken showing views at the corners of the covenant area. These photos are held in digital file form by the Islands Trust Conservancy. Each photo has a number that consists of a letter indicating the corner at which it was taken (as shown on Map 3) and a serial number. For example, photo B2 is the second photo taken at corner “B”. In most cases, the camera was held directly over the survey marker. If the view was blocked by vegetation, the camera location was moved a short distance. For example, photo L1 was taken 5 m west of corner “L”. The photo number, UTM coordinates, azimuth (camera direction), date (YYYY-MM-DD) and photo file names are listed in Table 7.

Table 7. Photos at covenant area corners.

Photo #	UTM - North	UTM - East	Azimuth	YYYY-MM-DD	Photo Digital File Name
A1	5,484,462	404,879	160	2021-09-09	ITC_2021_09_09_LAS_LIVCOV_STNA1_180.jpg
B1	5,484,433	404,905	270	2021-09-09	ITC_2021_09_09_LAS_LIVCOV_STNB1_180.jpg
B2	5,484,433	404,905	180	2021-09-09	ITC_2021_09_09_LAS_LIVCOV_STNB2_180.jpg
C1	5,484,357	404,951	315	2021-09-09	ITC_2021_09_09_LAS_LIVCOV_STNC1_180.jpg
C2	5,484,357	404,951	270	2021-09-09	ITC_2021_09_09_LAS_LIVCOV_STNC2_180.jpg
C3	5,484,357	404,951	180	2021-09-09	ITC_2021_09_09_LAS_LIVCOV_STNC3_180.jpg
D1	5,484,085	405,031	315	2021-09-09	ITC_2021_09_09_LAS_LIVCOV_STND1_180.jpg
D2	5,484,085	405,031	270	2021-09-09	ITC_2021_09_09_LAS_LIVCOV_STND2_180.jpg
E1	5,484,033	404,879	20	2021-09-23	ITC_2021_09_09_LAS_LIVCOV_STNE1_180.jpg
E2	5,484,034	404,879	60	2021-09-23	ITC_2021_09_09_LAS_LIVCOV_STNE2_180.jpg
F1	5,484,336	404,879	30	2021-09-09	ITC_2021_09_09_LAS_LIVCOV_STNF1_180.jpg
F2	5,484,336	404,879	90	2021-09-09	ITC_2021_09_09_LAS_LIVCOV_STNF2_180.jpg
F3	5,484,336	404,879	160	2021-09-09	ITC_2021_09_09_LAS_LIVCOV_STNF3_180.jpg
G1	5,484,294	404,991	120	2021-09-10	ITC_2021_09_10_LAS_LIVCOV_STNG1_180.jpg
G2	5,484,294	404,991	180	2021-09-10	ITC_2021_09_10_LAS_LIVCOV_STNG2_180.jpg
H1	5,484,293	405,298	210	2021-09-10	ITC_2021_09_10_LAS_LIVCOV_STNH1_180.jpg
H2	5,484,293	405,298	250	2021-09-10	ITC_2021_09_10_LAS_LIVCOV_STNH2_180.jpg
I1	5,483,922	405,295	300	2021-09-09	ITC_2021_09_09_LAS_LIVCOV_STNI1_180.jpg
I2	5,483,927	405,295	330	2021-09-09	ITC_2021_09_09_LAS_LIVCOV_STNI2_180.jpg
J1	5,483,922	405,146	50	2021-09-09	ITC_2021_09_09_LAS_LIVCOV_STNJ1_180.jpg
J2	5,483,922	405,146	90	2021-09-09	ITC_2021_09_09_LAS_LIVCOV_STNJ2_180.jpg
K1	5,484,016	405,168	20	2021-09-09	ITC_2021_09_09_LAS_LIVCOV_STNK1_180.jpg
K2	5,484,016	405,168	90	2021-09-09	ITC_2021_09_09_LAS_LIVCOV_STNK2_180.jpg
K3	5,484,011	405,168	180	2021-09-09	ITC_2021_09_09_LAS_LIVCOV_STNK3_180.jpg
L1	5,484,126	405,164	270	2021-09-09	ITC_2021_09_09_LAS_LIVCOV_STNL1_180.jpg
L2	5,484,126	405,169	0	2021-09-09	ITC_2021_09_09_LAS_LIVCOV_STNL2_180.jpg
L3	5,484,126	405,169	45	2021-09-09	ITC_2021_09_09_LAS_LIVCOV_STNL3_180.jpg
L4	5,484,126	405,169	90	2021-09-09	ITC_2021_09_09_LAS_LIVCOV_STNL4_180.jpg
L5	5,484,126	405,169	180	2021-09-09	ITC_2021_09_09_LAS_LIVCOV_STNL5_180.jpg
M1	5,484,125	405,110	270	2021-09-09	ITC_2021_09_09_LAS_LIVCOV_STNM1_180.jpg
M2	5,484,125	405,110	0	2021-09-09	ITC_2021_09_09_LAS_LIVCOV_STNM2_180.jpg
M3	5,484,125	405,110	80	2021-09-09	ITC_2021_09_09_LAS_LIVCOV_STNM3_180.jpg
N1	5,484,108	405,045	0	2021-09-09	ITC_2021_09_09_LAS_LIVCOV_STNN1_180.jpg
N2	5,484,108	405,045	50	2021-09-09	ITC_2021_09_09_LAS_LIVCOV_STNN2_180.jpg

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