

Date: July 4, 2013

File No.: 6500-20 (Gabriola RAR)

To: Gabriola Island Local Trust Committee
For the meeting of July 18, 2013

From: Courtney Simpson, Regional Planning Manager

Re: Riparian Areas Regulation Implementation

OVERVIEW:

The Local Trust Committee (LTC) held a Community Information Meeting (CIM) on proposed bylaws 265 and 266 on Wednesday, June 26. The LTC discussed this CIM at their regular business meeting the following day, and provided direction to staff on advancing the project, through the following resolutions. Additional resolutions pertaining to this project not addressed in this report have been added to the follow up action list to be addressed in the future.

GB-052-2013 It was **MOVED** and **SECONDED** that the Gabriola Island Local Trust Committee request staff to provide an estimate of the cost of doing a simple Riparian Areas Regulation assessment on the 240 Riparian Areas Regulation identified properties on Gabriola Island.

CARRIED

GB-053-2013 It was **MOVED** and **SECONDED** that the Gabriola Island Local Trust Committee request staff advise on bylaw amendments to make removal of invasive species exempt from the Riparian Areas Regulation Development Permit Area.

CARRIED

GB-054-2013 It was **MOVED** and **SECONDED** that the Gabriola Island Local Trust Committee request staff advise on whether the proposed bylaw could be amended to expand the two tree pruning exemption.

CARRIED

GB-057-2013 It was **MOVED** and **SECONDED** that the Gabriola Island Local Trust Committee request that staff add to the Riparian Areas Regulation communications strategy provision of the adopted riparian area map to relevant agencies including EMCON.

CARRIED

STAFF COMMENTS:

Cost of Simple Assessment for all properties in DPA: There are 240 properties in the DPA and approximately 17km of streams that fall under the Riparian Areas Regulation. Thus far, the LTC has taken the approach to implementing the RAR that involves adopting a DPA that covers an area 30 metres on each side of the stream, and requiring property owners to obtain a RAR Assessment from a Qualified Environmental Professional prior to undertaking any construction

or land alteration as outlined in the DPA Guidelines. This approach is consistent with many local governments and meets the requirements in the RAR.

At the June 27, 2013 meeting the LTC requested staff to provide a cost estimate of another approach; conducting a “simple assessment” (as defined in the RAR) of the length of streams in the proposed DPA. This is an approach that some local governments have taken, and the result has been a reduced area of the DPA on each side of the stream. This approach is appealing to property owners because the size of the DPA may be reduced as a result of the simple assessment.

The mapping undertaken by Madrone Environmental Services Ltd that is used to define the proposed DPA was at a cost of approximately \$20,000. Our understanding is that for the LTC to adopt a DPA for RAR that applies to an area less than the RAA (30 metres on each side of the stream) we would require stream width measurements to do so. The cost of this could be up to another \$20,000, and may not necessarily result in a reduction in the DPA. Property owners would still be required to obtain a detailed assessment at the time of proposing development.

This could be funded through a project budget in a future fiscal year that is decided by Trust Council. For comparison, the Gabriola LTC total project budget for this fiscal year is \$20,000, much of it already committed to other parts of the OCP/LUB review. Another funding option is through a special tax levy on property taxes to Gabriola taxpayers, which would take a considerable amount of time to set up and would require permission from the province.

Removal of Invasive Species in DPA: Public comments have been received regarding the requirement for a development permit to remove invasive species within 30 metres of a stream in the proposed DPA. Comments have generally been around the idea that removal of invasive species is a positive change to a riparian environment that should be encouraged, and that removing a few plants on one’s own property should not require a development permit.

In the proposed DPA the following relevant exemption exists:

f. ecological restoration or enhancement projects undertaken or authorized by a public body

The problem with exempting all invasive species removal from requiring a development permit is that large-scale invasive species removal can be damaging to the riparian area if not done according to a plan developed by someone with expertise in the area. For example, if a sloping stream bank was completely covered in English ivy, something that is not uncommon, the English ivy cannot simply be removed without at the same time stabilizing the bank. If the bank is left bare, rains will wash sediment into the stream which can have a significant negative effect on fish habitat. Even if the bank is replanted, it must be carefully monitored until the new vegetation establishes itself which could take some time. Invasive species removal of this scale is not something that a typical property owner would have the expertise to do without risking harm to the stream, no matter how well intentioned they are.

The DPA could attempt to exempt invasive species removal up to a certain scale but this can be very difficult as shown in the discussion below regarding a two-tree exemption for pruning. The DPA could exempt a certain number of plants, volume of plant material, method of removal, etc but because the sensitivity of the removal is dependent on the site, it would be difficult if not impossible to arrive at an exemption that is fair and consistent for all property owners. The

attached “Riparian Areas and Revegetation” from Fisheries and Oceans Canada describes the complexities in successful revegetation.

Currently, the proposed DPA has a list of activities that require a development permit and includes:

- c. removal, alteration or destruction of vegetation*
- d. disturbance of soils*

There is no indication of the scale of activity that requires a development permit. Taken in the strictest sense, picking a flower would require a development permit, but that is not the intention. The intent is for a development permit to be required for substantial activity that has the potential to negatively impact the riparian area if not done on the advice of a qualified professional.

Staff recommends that no changes are made to the proposed DPA regarding removal of invasive species.

Exemption for Pruning in DPA: Based on staff experience with other, existing development permit areas that restrict pruning and the number of enquiries that come from property owners wishing to do small scale pruning in a DPA, staff attempted to exempt a minor amount of pruning from requiring a development permit. Public comments have been received to the effect that allowing two trees to be pruned in one growing season is not appropriate given the range of lot sizes; the effect of pruning two trees on a 1 acre lot is different than pruning two trees on a 10 acre lot. It has been suggested that an exemption should be proportional to the size of the lot. The exemption in the proposed DPA is currently as follows:

- e. pruning of not more than two trees in one growing season and that is conducted in accordance with the standards and recommendations of the International Society of Arboriculture, and that does not involve: the lift pruning of lower limbs to the extent that the live crown ratio is less than 50%, the removal of more than 25% of the crown in one growing season, topping, or the pruning or removal of a structural root within the critical root zone*

The exemption for two trees in a growing season was chosen because it was small and reasonable number. Staff recommends this could be amended to say something such as two trees per 100 metres of stream.

Amendments to Communications Strategy: The Project Charter and Communications Strategy are useful tools in project planning as they provide a base from which all project work flows and are designed to ensure the timely completion of the project. In addition, they are effective in communicating project goals and timelines to the public. Once endorsed, any significant changes to the project deliverables, budget, or other aspects of the project require an amendment and re-endorsement of the amended Project Charter. This process is designed to allow for minor changes to be incorporated into the project; not to accommodate changes in project purpose or scope.

The attached Project Charter is amended to change the name of the Project lead from Chloe Fox who is no longer with the Islands Trust. This change does not require endorsement from the LTC. Although the project is now behind the timeline, it has not been changed in the Project

Charter. Staff resignation, inability to hire new staff in a timely manner due to the Provincial Hiring Freeze, and further questions from the community that have resulted in the LTC requesting more information from staff have all combined to put this project behind the targeted completion date in the Project Charter.

The attached Communications Strategy is updated with a new item as per LTC resolution to distribute the DPA map to relevant agencies including EMCON.

RECOMMENDATIONS:

Staff recommends THAT the Gabriola Island Local Trust Committee:

1. endorse the revised Gabriola Island Development Permit Areas (Riparian Areas Regulation Implementation) Communications Strategy, dated July 4, 2013;
2. direct staff to amend proposed bylaw No. 266 to amend section F.3.3.1(e) by inserting "per 100 metres of stream length" between "two trees" and "in one growing season";

Prepared and Submitted by:

Courtney Simpson

Regional Planning Manager

July 12, 2013

Date

Attachments:

1. Gabriola Island Development Permit Areas (Riparian Areas, Hazardous Areas & Steep Slopes) Project Charter, dated November 5, 2012
2. Gabriola Island Development Permit Areas (Riparian Areas, Hazardous Areas & Steep Slopes) Communications Strategy, dated November 5, 2012
3. Riparian Areas and Revegetation" from Fisheries and Oceans Canada

Gabriola Island Development Permit Areas (Riparian Areas) - Project Charter

Purpose To review and update current Development Permit Areas (DPAs) in the Gabriola Island Official Community Plan to implement the provincial *Riparian Areas Regulation*.

Background This project is part of the Gabriola Official Community Plan review. In 2011, Madrone Environmental Services Ltd. was contracted to assess and map watercourses subject to the provincial *Riparian Areas Regulation*. The mapping and recommendations of this report will assist in the development of an updated DPA. Previously, concern had been expressed regarding the general level of knowledge in the community around DPAs. In addition, at the outset, this project included the review and update of existing mapping and guidelines for hazardous and steep slope areas. This portion of the project was deferred indefinitely at the February 21, 2013 LTC regular business meeting.

Objectives

- Adoption of mapping and guidelines to implement the provincial Riparian Areas Regulation, including review of existing DPA-3.
- Ongoing notification and effective engagement with property owners, residents and the Snuneymuxw First Nation.

In Scope

- Review and update of existing DPA-3, including mapping, justification, objectives and guidelines.
- Consideration of clarification around when a development permit will be required, including possible exemptions for certain types of development.
- Consistency with the Islands Trust Policy Statement.
- Consistency with *Riparian Areas Regulation* requirements.

Out of Scope

- Review of other DPAs
- Review of other areas of the OCP
- Major applications to amend the OCP while review is in progress.

Links & Dependencies

- LTC meeting schedule as framework for deliverables.
- Victoria mapping department for draft mapping schedules.
- Referral agency response turn-around
- Staff workload

Critical Success Factors

- Stay within reasonable budget
- Clear and timely communication of project, timelines and opportunities for input to community
- Development and implementation of a Development Approval Information bylaw in conjunction with the project
- Cooperative, respectful environment
- Executive Committee approval

Project Team

Name/Project Role
Courtney Simpson / RPM
I.T. Victoria Mapping Department
Gabriola LTC
Lisa Webster-Gibson/ Planning Clerk (Legislative Process)

Governance

Name/Project Role	Responsibility
GBLTC	Bylaw review / consideration /adoption
Executive Committee	Bylaw approvals
Minister of Community, Sport & Cultural Development	Bylaw approval

Interest Groups

Name
Property owners and residents
Snuneymuxw First Nation; other First Nations
RDN; MOTI; VIHA; other referral agencies
Advisory Planning Commission
Local Realtors, Contractors, Excavators

Risk Assessment

Risk	Probability	Impact	Response Strategy	Residual Risk
LTC efforts focused on other regional or trust wide work program items	Low	High	Promote project to work program priority #1 until final adoption	Low
Unable to meet deliverable dates due to aggressive timelines	Med	High	Detailed planning, clear roles and responsibilities of team members	Low
Property owner discourse over private property rights or implications of land use regulations being proposed	Med	High	Clear communications; ample opportunity for public review of draft regulations	Low
Unable to meet deliverable dates due to staff time commitments to development applications	Med	High	LTC direction on staff time allocation. RPM to balance application workload between Planner 1 / 2 / Island Planner	Low

Workplan Overview

Deliverable/Milestone	Targeted Completion
General education on DPAs with community	Aug. 2012
Release of draft DPA amendments	Sept. 2012
Consultation with community / APC on draft DPA amendments	Nov. 2012 to Jan. 2013
1st reading of draft bylaw—agency and First Nation referrals	March 2013
Public Hearing and further readings	May 2013
Submission of draft bylaw to Executive Committee/Minister of CSCD	May 2013
Consideration of adoption of DPA amendments	June / July 2013

Budget

Item	Cost
Steep Slopes Mapping & DPA review <i>Spent but no longer part of project</i>	\$7,100
Consultation & DPA Review	\$3,500
Legislative Process	\$2,000
Advertising	\$900
Total	\$13,500

Regional Planning Manager Approval:
Courtney Simpson
Date: July 4, 2013

GBLTC Endorsement Resolution #:
GB-032-2013
Date: March 14, 2013

Communications Strategy – July 4, 2013

1.0 Objectives & Scope

<i>Project Name</i>	<i>Gabriola Island DPAs (Riparian Areas)</i>	
What is the decision being made in this project?	OCP amendments to update development permit areas mapping and guidelines for implementation of the provincial <i>Riparian Areas Regulation</i> (RAR).	
Who will make the final decision?	Gabriola Island Local Trust Committee	
What is the scope of this project?	Review and update of existing Development Permit Area No. 3 – Hoggan Lake (DPA-3), including mapping, justification, objectives and development guidelines.	
How will this project decision impact: <ul style="list-style-type: none"> - Other LTC decisions or projects - Individuals / Businesses - Specific communities - Environment 	<ul style="list-style-type: none"> - The guidelines adopted will direct future LTC decisions on DP applications within identified riparian areas - The updating of DPAs will impact landowners within the areas identified as they will be subject to updated and/or new regulations for land development - The project is intended to add further protection to private property and the environment by ensuring development occurs in an appropriate manner near sensitive riparian ecosystems 	
Are there historical factors or previous decisions that will affect how this project is implemented?	In 2006 the provincial government introduced RAR, which local governments are required to implement through their land use planning powers. Gabriola Island has yet to achieve compliance with this legislation. A lack of understanding amongst the general public around DPAs has been identified, in particular around the obligations of the LTC under the <i>Local Government Act</i> with respect to DPAs. The LTC has developed a DPA factsheet to foster greater levels of public knowledge around DPAs and additional education regarding DPAs should be incorporated into consultation at the outset of the project to ensure informed engagement. While this will incur additional costs on the project, there will be benefit to future projects involving DPAs.	
Why would you involve the public in this decision? What exactly do you want to achieve?	The intention is to first inform the public about DPA legislation and the purpose of DPAs and then, to consult on proposed amendments. We want the public to be more informed on the purpose and application of DPAs and how they are affected by the designation of a DPA. Secondly, we want public feedback on proposed amendments and additions to DPAs.	
What information do decision makers need to assist them in this decision?	The LTC needs to know that the proposed amendments will bring Gabriola Island into compliance with RAR.	
What factors will influence the decision about level and scope of consultation? How?	FACTOR	IMPACT
	Resources	Limited budget and staff time may limit the possibilities with respect to engagement
	Potential tie-ins	A Development Approval Information bylaw will be developed in conjunction with the project
Driving questions: <ul style="list-style-type: none"> - What information are you seeking from the public? - How will this add value to the decision making process? 	Seeking to inform the community and to come to some common ground for implementation that achieves the objectives of the project in a way that is implementable and understood by those working with them. This will provide the basis for future LTC decisions on DP applications and should mitigate community concern regarding future decisions.	

2.0 Methods & Delivery

CONSULTATION STAGE 1 – General Education

<i>Project Name</i>	<i>Gabriola Island DPAs (Riparian Areas)</i>			
Methods	Cost	Content Focus	Audience	Publication Date
Web Page	To be developed in-house by staff using Wordpress. Launch advertised in both local papers. Rough estimate: \$300	Repository for general information and project specific information	Property owners, residents, local realtors & contractors, general community	Aug. 2012
Newspaper Article Series	To be written by staff, featured in both local newspapers Rough estimate: \$1000	Series of three short articles written by staff focused on certain general aspects of DPAs	Property owners, residents, local realtors & contractors, general community	Aug. 2012

CONSULTATION STAGE 2 – Public Input on Proposed Amendments

<i>Project Name</i>	<i>Gabriola Island DPAs (Riparian Areas)</i>			
Methods	Cost	Content Focus	Audience	Publication Date
Blog on web page	To be developed in-house by staff using the same web page developed in Stage 1 Rough estimate: N/A	Allow individuals to post comments on draft amendments, possibility of hosting surveys	Property owners, residents, local realtors & contractors, general community	Sept. 2012 <i>July 2013 – blog no longer maintained as new website is up and running</i>
Mail-out	To all affected property owners Rough estimate: \$2500	Explaining the proposed amendments and how they will affect property owners and residents	Property owners and residents	Dec. 2012
Advisory Planning Commission	Rough estimate: N/A	Referral of draft amendments to APC for comment	Advisory Planning Commission members	Nov. 2012 (RAR) <i>Jan. 2013 (Steep Slopes – No longer part of project)</i>
Community Information Meetings (2)	Two consecutive advertisements, run in both local papers for each meeting Rough estimate: \$600	To present and obtain feedback on draft amendments prior to 1 st reading and to answer questions prior to public hearing	Property owners, residents, local realtors & contractors, general community	1 - Jan. 2013 2 – May 2013

2.0 Methods & Delivery

IMPLEMENTATION STAGE – Distribution of adopted Development Permit Area map and Guidelines

<i>Project Name</i>	<i>Gabriola Island DPAs (Riparian Areas)</i>			
Methods	Cost	Content Focus	Audience	Publication Date
Mail or hand delivery of DPA text and maps	Minimal	Education	Relevant Agencies including EMCON	Following DPA adoption

Riparian Areas

Riparian areas (also known as 'riparian zones') are located next to watercourses and can broadly be described as the upland areas adjacent to and nearby a watercourse. Riparian areas can include stream and river banks or lakeshores and are associated with all types of watercourses including swamps, wetlands, tributaries, side channels and intermittently wetted areas.

Riparian areas have a direct influence on aquatic habitat, and form important transition zones between the aquatic and upland environments. As such, riparian areas directly contribute to fish habitat by providing shade, cover, food and nutrients for fish, as well as help to maintain water quality and moderate flows and temperatures that are critical for healthy fish habitat.

Leave strips are identified areas of land and vegetation that should remain in an undisturbed state and are intended to protect the integrity of the riparian area. Leave strips, usually extend inland a minimum of 15 meters from the high water mark or top of bank of any watercourse.

Where encroachment into a leave strip or riparian area is required, and harm to fish habitat is unavoidable, project plans should be forwarded to your local DFO office and/or appropriate Provincial or Territorial agency, in advance, for review and to obtain any necessary approvals. Please note, DFO does not require review of your project plans, if the project falls under the governance of a Pacific Region Operational Statement or the Provincial Riparian Areas Regulation, as they have been developed to ensure your works do not result in a harmful alteration, disruption, or destruction (HADD) of fish habitat. For further guidance on working in or around riparian areas, please contact your local DFO office.

For guidance on replanting within disturbed riparian areas, please refer to the section below, Riparian Revegetation.

Please be advised, the information found on this webpage is provided as a general guide and does not constitute approval under any municipal, provincial and/or federal legislation.

Riparian Revegetation

Whether enhancing an existing riparian area on a previously disturbed site or re-establishing riparian vegetation from bare ground, it is important to observe the surrounding plant community of the disturbed area, specific to that biogeoclimatic zone, and select the appropriate species for site specific conditions.

- ▶ Revegetate with native plants in disturbed areas in riparian zones as per the criteria set below, and
- ▶ Immediately establish ground cover through seeding and/or other protective materials to control erosion and sediment, and to enhance germination of plants, and
- ▶ Conduct regular maintenance to improve the chances of survival within the first year of plant growth; which may include: routine irrigation, removal of invasive species, observation of poor growth, elevated erosion problems, and/or animal intrusion.

Riparian Planting Criteria

1. All tree and shrub species should be native to the local area and where available, of guaranteed nursery stock for successful transplanting. Prior removal of invasive plant species (e.g. Himalayan blackberry, Japanese knotweed, scotch broom) may be required to enhance the survival of transplants.
2. When nursery stock is used, the correct botanical name should be used to order planting stock and tags should be left attached for field identification.
3. Purchased plant stock should be a minimum of 2 years old, and if transplanting an entire area, planted no greater than 2.0 meters apart for all stock.
4. Salvage native plants wherever possible for replanting of the disturbed area, which can also be counted as replacement vegetation.
5. For the replacement of individual trees, such as a danger or hazard tree, please refer to the British Columbia Provincial Tree Replacement Criteria. For individual shrub replacement, two shrubs should be replanted for each shrub removed; no replacement of shrubs for trees.
6. Fruiting trees and shrubs should be planted to promote recolonization by seed and provide wildlife food sources.
7. Stock should be planted in the fall (September to October) or spring (March to April) depending on local conditions.
8. To ensure success of the transplants, at least 80% should survive within the first year of planting.
9. Additional fertilizing, dedicated watering and/or replanting may be required to establish vigorous vegetative cover throughout the first year of growth.

Suggested Planting Layout

The planting layout will depend on what is required to re-establish or enhance existing vegetation, species selected, density of plants, mature plant heights and planting system: linear, random, grid, etc. A Riparian Plant List is provided below to help with your selection of suitable plants. For site specific advice on plant selection and/or layout, please consult with a qualified professional or other knowledgeable source.

Ground Seeding

Growth of ground cover after seeding reduces surface erosion, enhances soil absorption and stability, as well as promotes establishment of newly planted trees and shrubs. For optimal germination, seeding should occur in the spring or fall. However, when used as an erosion control measure, seeding is suitable anytime within the growing season to protect disturbed soils. Whether planting is scheduled immediately or not, seed should be placed on any disturbed soils that will lie dormant for a period of time. Laying mulch will further reduce erosion as well as enhance germination by protection of the seeds and retaining moisture.

A seeding mix should be selected based on site specific conditions (e.g. soil type, soil moisture, climate) but will usually include fall rye and local grasses. Advice from a local seed supplier or professional agrologist on seed mixture selection and application rates may be required.

Riparian Plant List

The following plant list indicates those tree and shrub species native to the Pacific Region, that are recommended for planting within riparian areas next to streams, rivers, lakes and wetlands to enhance or maintain fish habitat values. This is not an exhaustive list as plant selection will vary according to site conditions and should serve only as a guide. Please consult with a qualified professional or other knowledgeable source for site specific advice.

Although some species below may be suitable for the marine environment, please refer to the Stewardship Series document, Shoreline Structures Environmental Design for further guidance on planting in and around tidal or estuarine areas.



Common Name	Latin Name	Coastal ¹	Southern interior ¹	Northern ¹
<i>Deciduous Tree Species</i>				
Vine Maple	<i>Acer circinatum</i>	X		
Douglas Maple	<i>Acer glabrum var. douglasii</i>	X	X	X
Broadleaf Maple	<i>Acer macrophyllum</i>	X		
Red Alder	<i>Alnus rubra</i>	X		
Sitka Alder	<i>Alnus viridis ssp sinuata</i>		X	X
Western Paper Birch (White Birch)	<i>Betula papyrifera</i>	X	X	
Black Hawthorn	<i>Crataegus douglasii*</i>	X	X	
Pacific Crabapple	<i>Malus fusca*</i>	X		
Balsam Poplar (Black Cottonwood)	<i>Populus balsamifera*</i>	X	X	X
Trembling Aspen	<i>Populus Tremuloides*</i>			X
Pin Cherry	<i>Prunus pensylvanica*</i>	X		
Choke Cherry	<i>Prunus virginiana*</i>	X	X	
Cascara	<i>Rhamnus purshiana*</i>	X	X	
Mountain Ash	<i>Sorbus aucuparia*</i>	X		
<i>Coniferous Tree Species</i>				
White Spruce	<i>Picea glauca</i>	X	X	X
Engelmann Spruce	<i>Picea Engelmann</i>			X
Black Spruce	<i>Picea mariana</i>	X		X
Sitka Spruce	<i>Picea sitchensis</i>	X		
Lodgepole Pine	<i>Pinus contorta</i>		X	X
Western White Pine	<i>Pinus monicola</i>	X	X	
Ponderosa Pine	<i>Pinus ponderosa</i>		X	X
Douglas Fir	<i>Pseudotsaga menziesii</i>	X	X	X
Western Red Cedar	<i>Thuja picata</i>	X	X	
Western Hemlock	<i>Tsuga heterophylla</i>	X		



<i>Shrub Species</i>				
Saskatoon	<i>Amelanchier alnifolia</i> *	X	X	X
Spreading Dogbane	<i>Apocynum androsaemifolium</i>		X	
Kinnickinnick	<i>Arctostaphylos uva-ursi</i> *	X	X	
Dwarf Birch	<i>Betula nana & glandulosa</i>			X
Redstem Ceanothus	<i>Ceanothus sanguineus</i>		X	
Red Osier Dogwood	<i>Cornus sericea</i> *	X	X	X
Beaked Hazelnut	<i>Corylus cornuta</i> *	X	X	X
Ocean Spray	<i>Holodiscus discolor</i>	X	X	
Black Twinberry	<i>Lonicera involucrata</i> *	X	X	X
Mock Orange	<i>Philadelphus lewisii</i>		X	
Pacific Ninebark	<i>Physocarpus capitatus</i>	X	2	
Prickly Rose	<i>Rosa acicularis</i> *		X	X
Nootka Rose	<i>Rosa nutkana</i> *	X	X	
Thimbleberry	<i>Rubus parviflorus</i> *	X	X	X
Salmonberry	<i>Rubus spectabilis</i> *	X	X	X
Willow	<i>Salix spp</i>	X	X ³	X ³
Blue Elderberry	<i>Sambucus cerulea</i> *	X	X	
Red Elderberry	<i>Sambucus racemosa</i> *	X	X	X
Soopalallie	<i>Shepherdia canadensis</i> *		X	
Sitka Mountain Ash	<i>Sorbus sitchensis</i> *	X	X	X
Hardhack	<i>Spiraea douglasii</i>	X	X	X
Snowberry	<i>Symphoricarpos alba</i> *	X	X	X
Red Huckleberry	<i>Vaccinum parviflorum</i> *	X		
Highbush Cranberry	<i>Viburnum trilobum</i> *	X	X	X
Saskatoon	<i>Amelanchier alnifolia</i> *	X	X	X

Notes:

* denotes fruit-bearing species

1 three generalized climatic regions within the Pacific Region

2 wet-belt south of Shuswap Lake only

3 live staking with spp. lasiandra and exigua are recommended if sufficient access to groundwater is available year round

