



AGENDA
RESILIENT SAANICH TECHNICAL COMMITTEE
Saanich Municipal Hall, Council Chambers
Thursday, September 16, 2021, 6:30 p.m.

Due to COVID-19 measures, Saanich is unable to accommodate the public for any Council, Committee of the Whole, Advisory, Board or Foundation meetings while maintaining the limits on large gatherings due to the Public Health Order.

As per the Order of the Minister of Public Safety and Solicitor General, *Emergency Program Act*, Ministerial Order No. M192, public attendance at the meeting is not required if it cannot be accommodated in accordance with the applicable requirements or recommendations under the Public Health Act.

To listen to this meeting by telephone call **1-833-214-3122** and use code **647 161 861#** during the time noted above. **NOTE: MS Teams callers are identified by their phone number which can be viewed on screen by all attendees of the meeting.**

1.	Call to Order	Chair T. Stevens	
2.	Territorial Acknowledgement & Diversity, Equity and Inclusion Statement	Councillor R. Mersereau	
3.	Approval of Agenda	Chair T. Stevens	5 mins
4.	Adoption of Minutes • August 17, 2021		10 mins
5.	Receipt of Correspondence	Chair T. Stevens	5 mins
6.	Discussion of Glossary Terms/Definitions	Chair T. Stevens	15 mins
7.	Biodiversity Brief	K. Brown	15 mins
8.	Biodiversity Working Group Report	T. Ennis	10 mins
9.	Mapping – Stewardship Working Group Report	B. Wilkes	10 mins
10.	Discussion of Terms of Reference for Milestone 2 and 3 Consultants	A. Pollard	45 mins
11.	Adjournment		

* * Next Meeting: October 26, 2021 at 6:30 p.m. * *
 Please RVSP your attendance to lynn.merry@saanich.ca

MINUTES
RESILIENT SAANICH TECHNICAL COMMITTEE
Via MS Teams
Tuesday, August 17, 2021

Present: Councillor Rebecca Mersereau (Council Liaison), Tim Ennis, Purnima Govindarajulu, Chris Lowe, Stewart Guy, Jeremy Gye, Tory Stevens (Chair), Brian Wilkes, Bev Windjack

Staff: Eva Riccius, Senior Manager, Parks; Adriane Pollard, Manager of Environmental Services; and Lynn Merry, Senior Committee Clerk

Regrets: Kevin Brown, Thomas Munson, Senior Environmental Planner

1. CALL TO ORDER

The meeting was called to order at 6:31 p.m.

2. TERRITORIAL ACKNOWLEDGEMENT & DIVERSITY, EQUITY AND INCLUSION STATEMENT

Councillor Mersereau read the Territorial Acknowledgement and the Diversity, Equity and Inclusion Statement.

3. APPROVAL OF AGENDA

MOVED by T. Ennis and Seconded by C. Lowe: "That the Agenda for the August 17, 2021 Resilient Saanich Technical Committee be approved, as amended."

- Discussion on the Urban Forest Strategy will be added to the agenda.

CARRIED

4. ADOPTION OF MINUTES

MOVED by B. Windjack and Seconded by S. Guy: "That the minutes of the July 20, 2021 Resilient Saanich Technical Committee be adopted."

CARRIED

5. RECEIPT OF CORRESPONDENCE

Nil

6. **DEBRIEF ON AUGUST 9, 2021 SPECIAL COUNCIL MEETING**

The Chair and Councillor Mersereau provided a debrief on the August 9, 2021 Special Council meeting and noted:

- Council voiced the need for First Nations input.
- There is a need for connectivity between Saanich and adjacent jurisdictions.
- There may be grants available to assist with connectivity.
- Council would like regular updates from the RSTC.
- Accurate mapping is a priority of residents.
- Biodiversity needs to be considered in both private and public areas in Saanich.

The committee discussed and made the following comments:

- A high level scan of thematic areas will take place.
- The Mapping Working Group could meet with Council to provide further information.
- A glossary, with key words such as restoration, may be needed.
- Saanich lies within the Coastal Douglas-fir biogeoclimatic zone.
- The messaging should be that there are discrepancies in the mapping but that will be corrected.
- It is important to identify emerging trends that are driving change so that they can be responded to.
- The Secretariat could be a co-op student.
- It will be important to clearly outline the Secretariat role.

The Manager of Environmental Services made the following comments based on current inventories:

- 66% of land in Saanich is privately owned and contains 56% of Environmentally Sensitive Areas (ESAs) of which 17% is protected.
- 31% of land in Saanich is publically owned and contains 37% of ESAs plus lakes and streams of which 86% is protected.
- 80% of the Coastal Douglas-fir zone is privately owned.

7. **DECOLONIZATION OF RSTC DISCUSSION**

The committee made the following comments:

- It may be appropriate to reach out to the WŚÁNEĆ Leadership Council (WLC) to review the document and provide feedback.
- Saanich is working on a Memorandum of Understanding with the WLC for collaboration on a variety of initiatives.

The Manager of Environmental Services made the following comments:

- Attempts to gain a First Nations representative for the committee have not been successful.
- There may be different ways to get feedback from First Nations.

The Senior Manager, Parks made the following comments:

- Saanich is continuing to build relationships with First Nations.
- Staff can arrange a workshop for the committee about cultural safety.

8. **URBAN FOREST WORKING GROUP**

The committee made the following comments:

- A working group could be formed to consider the urban and built environments.
- Urban Forestry is identified in the Environmental Policy Framework as a thematic area.
- An informal interested group of committee members could discuss and bring forward recommendations to the committee.
- Working groups that meet should provide a monthly report to the committee which will be forwarded to Council.

The Senior Manager, Parks made the following comments;

- There is concern with staff capacity to support the working group and that it may be outside the scope of the Terms of Reference.

9. **REPORT OF THE BIODIVERSITY WORKING GROUP**

The committee made the following comments:

- The Working Group reviewed a list of species that had been categorized “red” or “blue” by the CDC.
- The next step is to group each species into ecosystems to develop targets.
- The Working Group is documenting the steps that are being taken.
- Some pre-work will be done prior to the consultant being hired.

10. **DISCUSSION OF REQUESTS FOR PROPOSALS FOR STATE OF BIODIVERSITY AND BIODIVERSITY CONSERVATION STRATEGY**

The Manager of Environmental Services and Senior Manager, Parks stated:

- The overall recommendation is that the Secretariat, the Conservation Measures Study, the State of Biodiversity Report and the Biodiversity Conservation Strategy should be considered as one contract for a consulting team rather than four individual contracts.
- The rationale is that there would be more expertise and consistency, less probability of cross purposes or miscommunication.
- Public engagement would take place during the process.
- It is unclear if the public consultation budget would be spent by the consultant or by staff.
- A caveat could be included in the contract that a contractor would be retained through Milestone 3 should their work in Milestone 2 be satisfactory.

The committee made the following comments:

- The intent would be that the Secretariat person would attend working group and committee meetings and report to the Chair.
- It will be important for the Secretariat to know who they are reporting to.
- The Secretariat should have experience in the following: technical writing, environmental policy, facilitation skills, knowledge of Saanich, working within a similar structure of a Technical Committee and staff.
- The engagement piece will support Milestone 3.
- The contractor should be given flexibility with the budget as long as it is within approved budget.

Action Items:

- The committee could provide further qualifications to staff by Monday, August 23, 2021.
- T. Ennis will wordsmith the TOR for Conservation Measures Study and the TOR for the Biodiversity Conservation Strategy and provide to staff.

MOVED by T. Ennis and Seconded by B. Wilkes: “That the RSTC approve that staff move forward with the Request for Proposal process to have one contract with a team approach for the Secretariat, the Conservation Measures Study, the State of Biodiversity Report and the Biodiversity Conservation Strategy; that Tim Ennis assist staff with improving the Terms of Reference; and that staff subsequently carry on with the Request for Proposal process.”

CARRIED

10. **ADJOURNMENT**

MOVED by B. Wilkes and Seconded by S. Guy: “That the meeting of the Resilient Saanich Technical Committee be adjourned.”

CARRIED

The meeting adjourned at 9:02 p.m.

NEXT MEETING

September 16, 2021 at 6:30 p.m. via Teams.

Tory Stevens, Chair

I hereby certify these Minutes are accurate.

Committee Secretary

Lynn Merry

To: TED LEA
Subject: RE: (External Email) Re: Preliminary Assessment of Unmapped Sensitive Ecosystems in Saanich Parks

To the Resilient Saanich Technical Committee

Please accept the attached table regarding unmapped Sensitive Ecosystems in Saanich Parks for the August 17th RSTC meeting.

I hope this is helpful and would willingly answer questions regarding the document.

Ted Lea, Vegetation Ecologist

I provide two previous emails regarding these issues attached below.

----- Forwarded Message -----

From: TED LEA [REDACTED]
To: rebecca mersereau <rebecca.mersereau@saanich.ca>
Sent: Tue, 20 Jul 2021 10:17:15 -0600 (MDT)
Subject: Removal of May 25, 2021 Late Correspondence to the RSTC

Councillor Mersereau

I have attached the two documents that I submitted to the RSTC for its May 25, 2021 meeting.

The link to my submission still exists - [
<https://www.saanich.ca/assets/Local-Government/Documents/Committees-and-Boards/RSTC/Agendas/Late%20Correspondence.pdf> |
<https://www.saanich.ca/assets/Local-Government/Documents/Committees-and-Boards/RSTC/Agendas/Late%20Correspondence.pdf>] but has been removed from the RSTC website.

I notice that it was received by the RSTC in the meeting minutes.

Thank you,

Ted Lea, Vegetation Ecologist

From: "Ted and Lora Lea" [REDACTED]
To: "lynn merry" <lynn.merry@saanich.ca>
Cc: "Tory Stevens" [REDACTED] "rebecca mersereau" <rebecca.mersereau@saanich.ca>, "Stewart Guy" [REDACTED]
Sent: Friday, July 2, 2021 6:49:15 AM
Subject: Fwd: Submission to the RSTC regarding Plant Species at Risk in Saanich

To Lynn Merry, District of Saanich

I submitted the email below and the two attached documents and sent this on Friday June 25, 2021 in hope that this would be received by the RSTC for their June 29th committee meeting. I noticed that this information was not made available as part of the agenda package for this meeting.

I had also submitted a document for the RSTC's May 25 meeting, which originally had been posted on the RSTC agenda website as being late correspondence. This has now been removed from the RSTC website.

Could you please provide an explanation of these two actions. I believe that the information I have provided is quite valuable for the RSTC deliberations.

Thank you,

Ted Lea, Vegetation Ecologist

cc RSTC Chair Tory Stevens, RSTC past chair Stewart Guy, Council Liaison Rebecca Mersereau

Preliminary Assessment of Unmapped Sensitive Ecosystem in Saanich Parks

<https://www.saanich.ca/assets/Parks~Recreation~and~Culture/Documents/Saanich-Parks-Map.pdf>

The following table assesses the presence of Sensitive Ecosystems within the municipality of Saanich and includes all known Saanich Parks, and the larger CRD Parks that occur within the municipality. The emphasis is on Garry oak woodland Sensitive Ecosystems, but all ESA types presented in Saanich Sensitive Ecosystem mapping are considered. The table indicates ESAs that are **not** mapped.

Parks with present or former Garry oak ecosystems woodland Sensitive Ecosystems that require assessment and restoration, as well as other Sensitive Ecosystems (mapped or not mapped) are presented in the following table.

Areas in Parks that no longer meet the criteria of Sensitive Ecosystems because of their degraded ecological condition could still be kept on the ESA maps – perhaps with a separate designation in case Saanich decides to restore them.

New Environmentally Significant Area (ESA) Mapping was conducted in three Phases and is presented in mapped form, combined with the original mapping:

<https://www.saanich.ca/assets/Community/Documents/ESA%20Current%20and%20New%20Sites%20Map.pdf>

This mapping did not systematically assess all existing District of Saanich Parks for whether they supported Sensitive Ecosystems. Very few of the new map units addressed existing Saanich Parks. I believe that all Parks within the District should have comprehensive ESA mapping completed that includes all Sensitive Ecosystem types, and as well the Second Growth, and younger, coniferous forests to fully address Biodiversity and Climate Change adaptation concerns for the future.

The table below is only a cursory look at these parks. A full assessment, refining the existing mapping, as well as indicating Ecological Condition classes as mapped units and other traits such as native plant representation, should also be done.

Over 75 Saanich Parks that support Garry oak Woodland Sensitive Ecosystem ESAs have **not been mapped in the various phases of ESA mapping nor updated to provide this information. About 20 parks have been mapped as having Garry oak Woodland Sensitive Ecosystem ESAs through all phases of the ESA mapping. This information is critical if the District of Saanich wishes to assess and restore degraded Garry oak ecosystems on public land.**

Many of the Garry oak ecosystems are dominated by invasive grasses and/or have significant invasive shrubs. This is also true of most other ecosystem types in Saanich Parks, that is that invasive species are pervasive, except where significant work has been done by volunteers to remove invasive shrub species. Riparian Sensitive Ecosystems have **not** been mapped in many parks where they occur and appear to only have been mapped in a couple of parks. This should be done consistently. Trembling Aspen Woodland Sensitive Ecosystems can be red-listed communities. These Aspen communities do **not** appear to be mapped within Saanich. They are much rarer than Garry oak ecosystems in the Coastal Douglas-fir zone. In addition, Second Growth Coniferous Forests are mapped in some parks, but **not** in many others. This information will be important to have an understanding where Old Forest Sensitive Ecosystems can be developed over time in Saanich.

Blue highlighted parks (e.g. **1 Agate**) are fully developed, such as playing fields and/or playgrounds.

Park Name	Garry oak ecosystem Sensitive Ecosystem	Other ESAs	Additional comments	Comments
1 Agate				
2 Allenby				
3 Ambassador	Garry oak woodland Sensitive Ecosystem ESA not mapped			Much of area has lawn under oaks but other area covered in invasive shrubs
4 Annie	Garry oak woodland Sensitive Ecosystem ESA not mapped			
5 Arbutus	Garry oak woodland Sensitive Ecosystem ESA not mapped	Arbutus woodland Sensitive Ecosystem not mapped		Significant invasive species
6 Arbutus Cove	Small areas of Garry oak woodland Sensitive Ecosystem ESA not mapped	Arbutus Woodland Sensitive Ecosystem not mapped in ESA; Coastal Bluff Sensitive Ecosystem ESA is mapped	Limnanthes mapped in park, yet description says on private property next to it – one plant?	Significant portion of the Coastal Bluff ESA is forested – need for remapping
7 Autumnwood	Very small area of Garry oak ecosystem ESA not mapped	Coniferous Forest Second Growth not mapped		Significant cover of invasives; some good patches of dull Oregon-grape/licorice fern
8 Balmacarra		Small area of Arbutus Woodland Sensitive Ecosystem not mapped in ESA; Second Growth Forest (SG) not mapped		Beach access along Balmacarra covered in invasives
9 Baxter		Riparian shrub Sensitive Ecosystem not mapped; small area of Trembling aspen Sensitive		Significant invasive species; lots of native shrub species too

Park Name	Garry oak ecosystem Sensitive Ecosystem	Other ESAs	Additional comments	Comments
		Ecosystem not mapped		
Bear Hill CRD	Small area of Garry oak ecosystem ESA mapped	Species at Risk ESAs; Terrestrial Herbaceous Sensitive Ecosystem ESA mapped		
10 Beckton		Forested park – appears to be Old Forest Sensitive Ecosystem not mapped		Some invasives
11 Beckwith	Small area of Garry oak ecosystem ESA is mapped	Areas of Garry oak Sensitive Ecosystem ESA are not mapped; Areas of Trembling Aspen Sensitive Ecosystem are not mapped		
12 Benson	Garry oak woodland Sensitive Ecosystem ESA not mapped	Arbutus woodland Sensitive Ecosystem not mapped		Significant invasive species including invasive grasses in oak meadows
13 Bernard	Garry oak woodland Sensitive Ecosystem ESA not mapped		Significant invasive shrubs	Significant invasive grasses; small patches of camas and fawn lily
14 Bisley				
15 Blair	Small area of Garry oak ecosystem ESA not mapped			Invasive grasses dominate
16 Blanshard	Garry oak woodland Sensitive Ecosystem ESA not mapped			Significant invasive species present.
17 Blenkinsop Lake	Garry oak ecosystem ESA is mapped; additional areas of Garry oak ESA are not	Riparian Sensitive Ecosystem ESA mapped; multiple species at risk ESAs are mapped		Garry oak area is covered in invasive shrub species; Includes

Park Name	Garry oak ecosystem Sensitive Ecosystem	Other ESAs	Additional comments	Comments
	mapped – northwest end and south of Beckwith Avenue			portion near Beckwith Ave. – unmapped areas should be added
18 Boulderwood Hill	Large area of Garry oak woodland Sensitive Ecosystem ESA not mapped; Large area of Terrestrial Herbaceous Sensitive Ecosystem ESA is not mapped	Terrestrial Herbaceous Sensitive Ecosystem ESA mapped; Large area of Terrestrial Herbaceous ESA is not mapped; White-top aster and Propertius Duskywing species at risk ESA mapped; some areas of coniferous forest is not mapped – Second Growth possible Old Forest		Mapping requires refinement; Significant invasive grasses and shrubs (broom) in the Garry oak and Terrestrial Herbaceous Sensitive Ecosystems; some areas of Garry oak are being overtopped by Douglas-fir in successional changes; much of forested area appears in good condition; some very large trees above Boulderwood Rise; portion accessible from Deventer is overrun with invasive shrubs
19 Bow	Small area of Garry oak ecosystem ESA is mapped; Significant area of Garry oak woodland ESA not mapped	Significant area of Riparian Sensitive Ecosystem ESA not mapped; Small areas of Garry oak Woodland not mapped; area of		Significant invasive shrub removal by volunteers.

Park Name	Garry oak ecosystem Sensitive Ecosystem	Other ESAs	Additional comments	Comments
		Trembling Aspen Woodland ESA not mapped		
20 Braefoot	Small areas of Garry oak woodland Sensitive Ecosystem ESA not mapped			
21 Broadmead	Very small area of Garry oak woodland Sensitive Ecosystem ESA not mapped	Coniferous Forest areas not mapped – Old Forest Sensitive Ecosystem		Significant invasives; some good areas of native species
22 Brodick	Garry oak ecosystem ESA is mapped	Small area of Trembling aspen woodland ESA not mapped		Significant invasive shrub removal by volunteers. Many holly trees remain – should these be removed so birds do not continue to ingest seeds and drop in nearby park?
23 Browning - Gyro		Riparian Sensitive Ecosystem ESA not mapped	Bowker creek runs through it	Significant invasive species; many non-native trees have been planted
24 Bruce Hutchison	Garry oak woodland Sensitive Ecosystem ESA is mapped	Significant areas of Garry oak ecosystem ESA are not mapped	Significant invasive plant removal has occurred with volunteer workers	Area to north has significant invasive grasses; area to south has snowberry and patches of camas and fawn lily
25 Brydon		Riparian Shrub Sensitive Ecosystem not mapped		Significant invasives, particularly invasive hawthorn;

Park Name	Garry oak ecosystem Sensitive Ecosystem	Other ESAs	Additional comments	Comments
				some native hawthorn, red-osier dogwood
26 Cadboro-Gyro Park				A significant portion originally was a wetland. Is there any intent to restore parts of it to a wetland?
27 Caldecote		Old Forest Sensitive Ecosystem not mapped	Gully area	Large fir, cedar and maple
28 Calvert	Garry oak woodland Sensitive Ecosystem ESA not mapped	Significant Wetland Sensitive Ecosystem is mapped; Terrestrial Herbaceous Sensitive Ecosystem ESA not mapped; Arbutus woodland not mapped; Coniferous Forest areas not mapped – Second Growth (SG)		In good ecological condition.
29 Camas	Garry oak woodland Sensitive Ecosystem ESA not mapped	Species at Risk ESA mapped – twisted oak moss		Significant invasive grasses present
30 Camrose	Garry oak woodland Sensitive Ecosystem ESA is mapped as second component of a Terrestrial Herbaceous ESA.	Terrestrial Herbaceous Sensitive Ecosystem ESA is mapped. There are additional areas of Garry oak Sensitive Ecosystem that have not been mapped as ESAs.		At this scale the Garry oak ecosystem could be mapped separately from the Terrestrial Herbaceous
31 Casa Marcia	Garry oak woodland Sensitive Ecosystem ESA not mapped (lawn understory similar			Could be restored to Garry oak meadow

Park Name	Garry oak ecosystem Sensitive Ecosystem	Other ESAs	Additional comments	Comments
	to other areas in parks)			
Catalina (near Doumac Park)		Coniferous Forest not mapped – Second Growth		No number; significant daphne and other invasives
Cecelia Creek Falls				
32 Cedar Hill Park	Garry oak ecosystem ESA is mapped	Terrestrial Herbaceous Sensitive Ecosystem is mapped; <i>Bidens amplissima</i> ESA last seen in 2001; Riparian Sensitive Ecosystem ESA is not mapped for Bowker Creek; Area at south end of Park above recreation center is mapped in new ESA maps as Garry oak ecosystem – could be restored in a demonstration project		Significant invasive species present. Volunteers have done lots of invasive species removal. Invasive native snowberry dominates major parts of mapped Garry oak ecosystems; Garry oaks need replacement planting on Golf Course
33 Century		Riparian Sensitive Ecosystem ESA not mapped	Small area of Garry oak woodland? No access	Appears to be dense blackberry
34 Charlton	Garry oak woodland Sensitive Ecosystem ESA not mapped	Riparian Sensitive Ecosystem ESA not mapped		Significant invasive hawthorn and others; snowberry common
35 Chatterton Hill	Garry oak ecosystem ESA is mapped	Species at Risk ESA for common ringlet along with wetland below		Mapping could be improved to separate the Terrestrial Herbaceous from Woodland and

Park Name	Garry oak ecosystem Sensitive Ecosystem	Other ESAs	Additional comments	Comments
				remove developed area; significant invasive grass cover
36 Christmas Hill	Garry oak ecosystem ESA is mapped	Terrestrial Herbaceous ESA mapped. Species at Risk ESAs present, one protected by fencing, others that may require supplementation or further protection; White-top aster ESA not mapped; Mapping could be refined to better separate Garry Oak Woodland Sensitive Ecosystems from Terrestrial Herbaceous SEs.	Fencing has been recently erected to allow for recovery for Sensitive Ecosystems degraded by significant recreational activity (should be considered for other parks)	Significant invasive grass cover has taken over Garry oak meadows in last few decades with little restoration except shrub removal; much of Terrestrial Herbaceous area trampled with no restrictions to use until recently
37 Claremont Goddard		Coniferous forest not mapped – Second Growth – broadleaf trees as well alder		Significant invasives
38 Colquitz – along the Colquitz River east of Wilkinson and Interurban Road and along Interurban Road towards Burnside	Update June 2020 Areas of Garry oak woodland Sensitive Ecosystem ESA is mapped along Loenholm Road. Small area of Garry oak woodland Sensitive Ecosystem ESA not mapped near Burnside	Significant riparian areas; Riparian Sensitive Ecosystem not mapped; update June 2020 – large area of Trembling aspen woodland ESA not mapped, north of Roy Road.		Much of the riparian areas are dominated by invasive species and in need of restoration.
38 Colquitz – west of Wilkinson Road, north of prison	Area of Garry oak woodland Sensitive Ecosystem ESA is mapped;	Riparian Sensitive Ecosystem not mapped	Large area mapped as Terrestrial Herbaceous	Significant invasive species including

Park Name	Garry oak ecosystem Sensitive Ecosystem	Other ESAs	Additional comments	Comments
	Significant area of Garry oak woodland Sensitive Ecosystem is not mapped or is mapped as Terrestrial Herbaceous Sensitive Ecosystem		Sensitive Ecosystem ESA map unit is mostly Garry oak woodland Sensitive Ecosystem ESA and should be updated	invasive grasses dominating the Garry oak areas
39 Commonwealth Place Park	Garry oak woodland Sensitive Ecosystem ESA not mapped - north parking lot	Should be an ESA mapped for Oregon ash which is a red listed tree in BC. The ESA is not mapped; Riparian Sensitive Ecosystem ESA not mapped		Oak/Douglas-fir area covered in invasive shrubs; Oregon ash is not listed in the Saanich Tree Bylaw even though it is the rarest native tree species in Saanich
40 Copley East		Significant riparian areas; Riparian Sensitive Ecosystem not mapped; Coniferous Forest – Second Growth mapped		Invasives in understory
41 Copley West		Significant riparian areas; Riparian Sensitive Ecosystem not mapped		Invasives in understory
42 Cordova Bay				
43 Craigflower – Kosaposom	Small area of Garry oak woodland Sensitive Ecosystem ESA not mapped	Was originally mapped in the EDPA as Marine Backshore; no ESA mapped now		
44 Cranford	Very small area of Garry oak woodland Sensitive Ecosystem ESA not mapped	Cotton riparian area not mapped		Very large cottonwoods in park and nearby

Park Name	Garry oak ecosystem Sensitive Ecosystem	Other ESAs	Additional comments	Comments
45 Cuthbert Holmes Park	Garry oak woodland Sensitive Ecosystem ESA not mapped	Riparian Sensitive Ecosystem ESA not mapped; Trembling Aspen Woodland ESA not mapped; Old Forest Sensitive Ecosystem not mapped. Second Growth Forest not mapped. Arbutus – Douglas-fir Woodland Sensitive Ecosystem not mapped		Potential Garry oak ecosystem in uplands – is any restoration planned for Garry oak ecosystem? Significant invasives; volunteer group active
46 Donwood	Garry oak woodland Sensitive Ecosystem ESA not mapped	Riparian Sensitive Ecosystem shrub area not mapped		Garry oak area covered by invasives – ivy, blackberry, invasive grasses
47 Doris Page		Coniferous Forest areas not mapped. Second growth forest of Douglas-fir, redcedar and alder		Significant cover of invasive species
48 Doumac		Coniferous Forest areas not mapped – Riparian Sensitive Ecosystem not mapped; Old Forest Sensitive Ecosystem in Riparian/Lowland and Second Growth in upland		Understory in Excellent Condition
49 Dunbar	Garry oak woodland Sensitive Ecosystem ESA not mapped (being overtopped by Douglas-fir)	Coniferous Forest areas not mapped – Second Growth SG		Invasives in understory
50 Edge	Small area of Garry oak woodland Sensitive			

Park Name	Garry oak ecosystem Sensitive Ecosystem	Other ESAs	Additional comments	Comments
	Ecosystem ESA not mapped			
Elk and Beaver Lake CRD Park	Garry oak woodland Sensitive Ecosystem ESA not mapped	Old Forest Sensitive Ecosystem ESA is mapped; Wetland Sensitive Ecosystem ESA is mapped; Riparian Sensitive Ecosystem ESA is not mapped; rest of coniferous forest is not mapped as Second Growth (SG)		
51 Emily Carr	Garry oak woodland Sensitive Ecosystem ESA not mapped	Coniferous Forest areas not mapped – Old Forest Sensitive Ecosystem or Second Growth? Riparian Sensitive Ecosystem forest areas not mapped		
52 Estelline				
53 Fairburn			oak overstory	
54 Faithwood		Coniferous Forest areas not mapped – Second Growth		Significant invasives
55 Falaise Park	Garry oak woodland Sensitive Ecosystem ESA not mapped	Species at Risk ESA is mapped – Yellow Montane Violet (update mapping – has been refined by expert)	Restoration similar to what is happening at Playfair Park to restore camas and Yellow Montane Violet could be considered	Significant invasive grass and shrub cover
56 Feltham	Garry oak woodland Sensitive Ecosystem ESA is mapped; significant area of Garry oak woodland Sensitive Ecosystem ESA not mapped	Riparian Sensitive Ecosystem not mapped (alder and cottonwood)		Significant invasive shrub removal by volunteers.
57 Ferndale Forest		Old Forest Sensitive Ecosystem ESA is mapped. Arbutus	Significant restoration and tree planting	Mapping could be refined to include all

Park Name	Garry oak ecosystem Sensitive Ecosystem	Other ESAs	Additional comments	Comments
		woodland Sensitive Ecosystem ESA not mapped	occurring – still significant holly	forest and exclude road and developed area; arbutus areas being overtopped by Douglas-fir
58 Fowler				
Francis King CRD Park		Old Forest Sensitive Ecosystem ESA is mapped; Species at Risk ESAs are mapped; not all forested areas are mapped		
59 Francisco				
60 Glanford				
61 Glasgow	Garry oak woodland Sensitive Ecosystem ESA not mapped			Significant invasive grass and shrub cover; a few camas remain
62 Glencoe Cove - Kwatsech	Garry oak woodland Sensitive Ecosystem ESA not mapped	Species at Risk present and mapped; Coastal Bluff ESA mapped	May require active management including fencing to protect the ecosystem and Species at Risk from recreational activities	Significant invasive grass cover; no protection from recreational use on Sensitive Ecosystem or walking on species at risk
Glencraig				No number; new park on Shelbourne near Blair
63 Gordon Head East	Garry oak woodland Sensitive Ecosystem ESA not mapped	Coastal Bluff Sensitive Ecosystem ESA mapped		Poor access – needs a trail – invasives on right of way to park
64 Gordon Head North	Garry oak woodland Sensitive	Coastal Bluff Sensitive Ecosystem ESA mapped		Significant invasive species cover;

Park Name	Garry oak ecosystem Sensitive Ecosystem	Other ESAs	Additional comments	Comments
	Ecosystem ESA not mapped			much of Coastal Bluff area trampled with no restrictions to use
65 Gore – Peace Memorial				
66 Gorge	Small area of Garry oak woodland Sensitive Ecosystem ESA not mapped (being overtopped by Douglas-fir)	Coniferous forested areas not mapped – SG Second Growth		Significant invasives
67 Gorge Waterway	Garry oak woodland Sensitive Ecosystem ESA not mapped	Was originally mapped in the EDPA as Marine Backshore; no ESA mapped now		In 2016 over 20 species of trees were planted, not one was a Native Species; invasives in understory
68 Goward and Saanich Park northwest of Goward Park across Haro Road and Finnerty Woods farther up Arbutus Road		Goward Park has Arbutus/Douglas-fir woodland ESA not mapped Is any of this Old Forest ESA – not mapped – at least could be mapped as SG – older second growth forest coniferous		Finnerty Woods covered with invasive species – ivy, holly etc.
69 Goy	Garry oak woodland Sensitive Ecosystem ESA not mapped	Terrestrial Herbaceous Sensitive Ecosystem ESA not mapped; Arbutus Woodland Sensitive Ecosystem not mapped; Coniferous forest not mapped – Second Growth?	Dense arbutus stand appears to be healthy and thriving	<i>The parkland features a mature fir forest and rocky Garry oak outcrops, along with a seasonal stream.”</i>

Park Name	Garry oak ecosystem Sensitive Ecosystem	Other ESAs	Additional comments	Comments
70 Grant		Arbutus woodland Sensitive Ecosystem not mapped; Some coniferous forested area mapped as Second Growth; most other areas not mapped as coniferous forest		Lots of invasives in lower section; some areas of good Oregon-grape
71 Hampton				
72 Harvest Lane				
73 Hollydene	Small area of Garry oak woodland Sensitive Ecosystem ESA not mapped	Arbutus woodland Sensitive Ecosystem not mapped		Park is covered in invasives
74 Horner				
75 Houlihan Park				What is this park used for? Could it be restored? Plant trees? Bike park?
76 Hyacinth	Small area of Garry oak woodland Sensitive Ecosystem ESA not mapped	Small area of Trembling Aspen Woodland not mapped; Significant riparian areas; Riparian Sensitive Ecosystem not mapped		Significant invasive species in natural areas; large Garry oaks need replacement planting
77 Industrial Buffer		Riparian Sensitive Ecosystem ESA not mapped; Second Growth (SG) coniferous forest not mapped		Ornamental trees and invasives
78 Jennifer	Garry oak woodland Sensitive Ecosystem ESA not mapped	Terrestrial Herbaceous Sensitive Ecosystem not mapped		Significant invasives – mainly grasses and broom; Terrestrial Herbaceous has moss and lichen layers

Park Name	Garry oak ecosystem Sensitive Ecosystem	Other ESAs	Additional comments	Comments
				completely removed
Kardum	Small area of Garry oak woodland Sensitive Ecosystem ESA not mapped	Second Growth (SG) coniferous forest not mapped; Terrestrial Herbaceous Sensitive Ecosystem not mapped	No access but very oaky area	<i>The parkland features a mature fir forest and rocky Garry oak outcrops</i>
79 Kenmore	Garry oak woodland Sensitive Ecosystem ESA not mapped	Trembling Aspen Woodland Sensitive Ecosystem is not mapped		Significant invasive species shrub and grasses
80 Kentwood	Small area of Garry oak woodland Sensitive Ecosystem ESA not mapped	Second Growth (SG) coniferous forest not mapped		Fewer invasives than most other parks
81 King Alfred				
Kings Park		Riparian Sensitive Ecosystem ESA not mapped		Significant invasive species in natural area
82 King's Pond		Riparian Sensitive Ecosystem ESA not mapped	North of road at King's pond walk road	
83 Knockan Hill	Garry oak woodland ESA is mapped	Old Forest and Terrestrial Herbaceous Sensitive Ecosystem mapped; Garry oak ecosystem at south end and east end of park is not mapped. Mapping could be further refined to separate HT from WD, and from Old Forest units; significant area mapped as Old Forest is either Garry oak woodland or Terrestrial Herbaceous	Some of the rocky outcrop areas in this park are in very good condition as there is little access to them and not much disturbance to the moss and lichen layers, as occurs at the top of the hill (which are highly degraded) as also occurs in upper areas of Parks such as Mount Douglas, which are very	Significant invasive grass cover has taken over Garry oak meadows in last few decades with little restoration except shrub removal; Turf grass? Sweet vernal grass has expanded significantly in last few years; Old Forest ESA is completely dominated by

Park Name	Garry oak ecosystem Sensitive Ecosystem	Other ESAs	Additional comments	Comments
			degraded Sensitive Ecosystems from overuse by recreationists.	invasive shrubs
84 Konukson	Small areas of Garry oak woodland Sensitive Ecosystem ESA not mapped; Small area of Terrestrial Herbaceous not mapped	Large areas of Arbutus/Douglas-fir Sensitive Ecosystem ESA not mapped; appears to be Old Forest Sensitive Ecosystem not mapped; SG – second growth forest not mapped Bald Eagle nest; Callitriche marginata ESA: Wetland Swamp Sensitive Ecosystem		Species at risk may need some protective measures - fencing? Active volunteer group removing invasive species – lots more to go
85 Lambrick	Small area of Garry oak woodland Sensitive Ecosystem ESA not mapped	Small area of Trembling aspen Sensitive Ecosystem not mapped		
86 Layritz	Garry oak woodland Sensitive Ecosystem ESA is mapped; some areas of Garry oak woodland ESA are not mapped	Blue-listed species, Slender woolly-head ESA mapped; Multiple Areas of Trembling Aspen ESA not mapped; coniferous forested area not mapped – second growth (SG)		Is there any protection for the species at risk; how much area has potential for Garry oak trees or Garry oak ecosystem restoration ?
87 Leeds	Garry oak woodland Sensitive Ecosystem ESA is mapped			Significant invasive species present – ivy, daphne, periwinkle
88 Lochside		Riparian Sensitive Ecosystem forest areas not mapped		

Park Name	Garry oak ecosystem Sensitive Ecosystem	Other ESAs	Additional comments	Comments
Lochside Trail		Riparian Sensitive Ecosystem areas not mapped		
89 Logan	Garry oak woodland Sensitive Ecosystem ESA not mapped	Terrestrial Herbaceous Sensitive Ecosystem not mapped; Arbutus Woodland Sensitive Ecosystem not mapped; Coniferous Forest areas not mapped – Second Growth (SG)		<i>The parkland features a mature fir forest and rocky Garry oak outcrops, along with a seasonal stream."</i>
90 Lohbrunner	Small area of Garry oak woodland Sensitive Ecosystem ESA not mapped	Coniferous Forest areas not mapped – Second Growth (SG)		Pond present; significant invasives – ivy, blackberry periwinkle, St. John's wort
91 Majestic				
92 Maltwood	Garry oak woodland Sensitive Ecosystem ESA not mapped			Significant invasives – grasses, broom, ivy, blackberry; good areas of Oregon-grape, licorice fern, moss
93 Margaret Wright	Small area of Garry oak woodland Sensitive Ecosystem ESA not mapped			Invasive and ornamental species dominate; some natives remain
94 Marigold Park	Small areas of Garry oak woodland Sensitive Ecosystem ESA not mapped	Old Forest Sensitive Ecosystem not mapped		Significant area of Lawn. Large areas of invasive shrubs. Small area with native plant garden.
95 Mattick's Wood		Arbutus Woodland Sensitive Ecosystem not mapped		Narrow strip on road

Park Name	Garry oak ecosystem Sensitive Ecosystem	Other ESAs	Additional comments	Comments
96 Maynard				
97 McBriar		Riparian Sensitive Ecosystem ESA not mapped		Stand of cottonwood; significant blackberry, red-osier dogwood, snowberry and native hawthorn
98 McMinn		Coniferous Forest areas not mapped – Second Growth		Significant invasive species; some large trees
McKenzie Park – no number on map – south of # 122 Rainbow Ridge	Garry oak ecosystem ESA is mapped			Completely dominated by invasive shrub and invasive small trees (hawthorn) species including native snowberry
99 McMorrان				
100 Meadow	Very small area of Garry oak woodland Sensitive Ecosystem ESA not mapped			
101 Montague Park	Very small Garry oak/arbutus woodland ESA area not mapped			Mostly lawn – Garry oak – many trees have been planted – mostly non-native?
102 Moor	Small area of Garry oak woodland ESA not mapped (overtopped with Douglas-fir)	Coniferous Forest areas not mapped – Second Growth		Significant Invasives
103 Mount Douglas Park (P’KOLS)	Garry oak woodland Sensitive Ecosystem ESA mapped	Old Forest Sensitive Ecosystem and Species and Ecosystems at Risk	Species at Risk – last seen - status	Significant invasive shrub removal by volunteers.

Park Name	Garry oak ecosystem Sensitive Ecosystem	Other ESAs	Additional comments	Comments
		<p>mapped; Terrestrial Herbaceous ESA mapped; Several Species at Risk extirpated – no recovery occurring; no protection or recovery for existing species at risk</p>	<p>Yellow Montane Violet – 1887 – endangered (red); Howell’s Violet – 1950 – red. Poverty Clover – 1961 – blue – near summit. White Meconella 1952 – endangered (red); Propertius Duskywing 1995 – red - good chance still present; Fern-leaved desert-parsley – extant – red; Purple sanicle – 2020(1 plants dug up) – endangered (red)</p> <p>There appears to be no attempt to re-introduce or supplement or protect the remaining plants</p>	<p>Significant invasive grass cover has taken over Garry oak meadows in last few decades with little restoration except shrub removal; much of Terrestrial Herbaceous area trampled with no restrictions to use</p>
104 Mount Tolmie	Garry oak woodland Sensitive Ecosystem ESA is mapped	Terrestrial Herbaceous ESA mapped; Species at Risk mapped	<p>Species at Risk – last seen - status</p> <p>Yellow Montane Violet – 1887 – endangered (red); Propertius Duskywing 1995 - red - chance still</p>	<p>Significant invasive grass cover has taken over Garry oak meadows in last decade with little restoration except shrub removal; in</p>

Park Name	Garry oak ecosystem Sensitive Ecosystem	Other ESAs	Additional comments	Comments
			present; slimleaf onion -2003 – blue; white-top aster – 2007 – extant? - blue There appears to be no attempt to re-introduce or supplement or protect the remaining plants	2020 the meadows are completely being taken over by sweet vernal grass and other invasive grasses
105 Mount View				
106 Normandy - SCP		Riparian Sensitive Ecosystem ESA not mapped; is there the red-listed tree species Oregon-ash?		
107 Oakview	Garry oak woodland Sensitive Ecosystem ESA not mapped			Park is heavily overrun with invasive shrubs and grasses
108 Onyx				
109 Outerbridge	Area of Garry oak woodland Sensitive Ecosystem ESA not mapped	Cottonwood Riparian Sensitive Ecosystem ESA not mapped	mostly horticultural but with natural areas	Oak area dominated by invasive grasses
Panama Flats	Areas of Garry oak woodland Sensitive Ecosystem ESA not mapped east end of Panama Flats;	Wetland Sensitive Ecosystem ESA is mapped; Species at Risk not mapped; Vancouver Island Beggarticks(mapped in adjacent Colquitz Park); Riparian Sensitive Ecosystem is not mapped		Significant area for waterfowl all year round
110 Panama Hill	Garry oak woodland Sensitive		Large area for planting Garry oaks and	Few oak trees remain; Park is heavily

Park Name	Garry oak ecosystem Sensitive Ecosystem	Other ESAs	Additional comments	Comments
	Ecosystem ESA not mapped		restoring meadows; Panama Flats Concept Plan envisions restoration of all of the ecosystems	overrun with invasive grasses and significant non-native hawthorn, blackberry and ivy
111 Parker				Alder and maple; invasives on trail to beach
112 Parkwood		Coniferous Forest areas not mapped – Old Forest Sensitive Ecosystem or Second Growth?		Some fairly good native shrubs, as well as areas of dense invasives
113 Peacock Hill	Garry oak woodland Sensitive Ecosystem ESA is mapped	Terrestrial Herbaceous Sensitive Ecosystem ESA is mapped as a secondary component. At this scale this unit should be separated from the Garry oak woodland unit		Significant invasive grass cover has taken over Garry oak meadows in last few decades with little restoration except shrub removal; much of Terrestrial Herbaceous area trampled with no restrictions to use until recently
114 Perez	Small area of Garry oak woodland Sensitive Ecosystem ESA not mapped	Coniferous Forest not mapped – Second Growth Forest		Significant invasives – ivy, daphne
115 Phyllis Park	Large area of Garry oak woodland Sensitive	Large area of Terrestrial Herbaceous ESA is not mapped; large		

Park Name	Garry oak ecosystem Sensitive Ecosystem	Other ESAs	Additional comments	Comments
	Ecosystem ESA not mapped	area of Arbutus/Douglas-fir woodland Sensitive Ecosystem not mapped (or Old Forest?)		
116 Playfair Park	Garry oak woodland Sensitive Ecosystem ESA is mapped	Species at Risk ESA mapped; locations not updated with volunteer's information		Restoration of meadow occurring with volunteer supported by Saanich; Significant part of mapped ESA is lawn or rhododendron gardens
117 Pondwood		South Narrow path – coniferous forest – looks like Second Growth not mapped		North path has pond and ornamental gardens along trail
118 Prospect Lake				
119 Qu'Appelle				
120 Quick's Bottom	Garry oak woodland Sensitive Ecosystem ESA not mapped	Wetland Sensitive Ecosystem is mapped; Species at Risk ESA is mapped; Riparian Sensitive Ecosystem not mapped	Why have western hemlock been planted in this park? High percentage seem to be dying.	Significant invasives throughout; Garry oak tree plantings could occur
121 Rainbow				Garry oak tree plantings could occur
122 Rainbow Ridge	Garry oak woodland Sensitive Ecosystem ESA not mapped			Used to have multiple Garry oak – completely overrun with blackberry
123 Regina				Significant invasives in semi-natural areas; potential for

Park Name	Garry oak ecosystem Sensitive Ecosystem	Other ESAs	Additional comments	Comments
				Garry oak ecosystem
124 Reynolds				
125 Rithet's Bog	Small Garry oak woodland Sensitive Ecosystem ESA not mapped	Wetland Sensitive Ecosystems mapped; multiple species at risk ESAs mapped		
126 Rithetwood	Garry oak woodland Sensitive Ecosystem ESA not mapped	Terrestrial Herbaceous Sensitive Ecosystem ESA is mapped; Coniferous Forest areas not mapped – Old Forest Sensitive Ecosystem and Second Growth		Significant invasives in the coniferous forest
127 Rogers	Small Garry oak woodland Sensitive Ecosystem ESA not mapped			Some understory near the oaks, but they are mostly over lawn.
128 Rogers Court	Small Garry oak woodland Sensitive Ecosystem ESA is mapped (incorrectly – no understory except lawn)			
129 Rosedale Park	Small Garry oak woodland Sensitive Ecosystem ESA not mapped			Garry oak ESA completely overrun by invasive shrubs
130 Rowan	Small Garry oak woodland Sensitive Ecosystem ESA not mapped			Understory dominated by invasive grasses
131 Rudd				
132 Rutledge				
Saanich Municipal Yard		Trembling Aspen Woodland Sensitive Ecosystem not mapped. Riparian	Public Works Creek which runs into Blenkinsop Creek	Significant invasives – dense blackberry

Park Name	Garry oak ecosystem Sensitive Ecosystem	Other ESAs	Additional comments	Comments
		Sensitive Ecosystem?		
133 Sayward Hill		Old Forest Sensitive Ecosystem not mapped	Large trees of Douglas-fir and maple; good natives in understory	Moderate ivy could easily be removed to allow for natives in understory to thrive; significant areas of blackberry too
134 Sea Ridge		Arbutus woodland Sensitive Ecosystem not mapped; Coniferous Forest areas not mapped – Second Growth?		
135 Shadywood		Coniferous Forest areas not mapped – Second Growth?		Significant invasives eastern portion of park – west side better
136 Sierra				
137 South Prospect Lake	Garry oak woodland Sensitive Ecosystem ESA not mapped	Wetland Sensitive Ecosystem ESA is mapped; Terrestrial Herbaceous Sensitive Ecosystem is not mapped; Arbutus Woodland Sensitive Ecosystem is not mapped; Coniferous Forest areas not mapped – Second Growth?		
138 South Valley	Garry oak woodland Sensitive Ecosystem ESA not mapped	Trembling Aspen woodland ESA not mapped; Riparian Sensitive Ecosystem not mapped		Large areas of invasive shrubs and grasses. Some good licorice fern areas on rock
139 Springridge				

Park Name	Garry oak ecosystem Sensitive Ecosystem	Other ESAs	Additional comments	Comments
140 Stoneywood	Garry oak woodland Sensitive Ecosystem ESA not mapped			Lots of invasive grasses, ivy, periwinkle
141 Story Lane		Second Growth (SG) coniferous forest is mapped		Significant invasives; ivy, blackberry, daphne
142 Strawberry Knoll	Mapped as Garry oak ecosystem ESA is mapped; Significant area of Garry oak woodland Sensitive Ecosystem is not mapped	Old Forest is not mapped as ESA?		Park is heavily overrun with invasive grasses (lots of orchard grass) and significant blackberry and ivy
143 Swan Creek	Small Garry oak woodland Sensitive Ecosystem ESA not mapped	Significant riparian areas: Some areas of Riparian Sensitive Ecosystem are mapped others are not mapped; coniferous area not mapped – OF or SG?		Significant invasives species throughout all sections of this Park
36 Swan Lake Nature Conservancy	Garry oak woodland Sensitive Ecosystem ESA areas not mapped	Wetland ESA mapped; Trembling aspen ESA not mapped; coniferous forest not mapped – OG or SG; Riparian Sensitive Ecosystem not mapped		
144 Taylor				
Thetis Lake CRD Park	Garry oak woodland Sensitive Ecosystem ESA is mapped	Terrestrial Herbaceous Sensitive Ecosystem ESA is mapped; Old Forest Sensitive Ecosystem ESA is mapped; not all forested areas are mapped		
145 Tillicum	Small area of Garry oak ecosystem woodland ESA not mapped (oaks	Riparian Sensitive Ecosystem forest areas not mapped Trembling Aspen		Significant invasives

Park Name	Garry oak ecosystem Sensitive Ecosystem	Other ESAs	Additional comments	Comments
	being overtopped by Douglas-fir)	Woodland Sensitive Ecosystem not mapped – Old Forest Sensitive Ecosystem or Second Growth not mapped;		
146 Tolmie	Garry oak woodland Sensitive Ecosystem ESA not mapped			Invasive grass cover
147 Tuscan		Coniferous Forest areas not mapped – Old Forest Sensitive Ecosystem or Second Growth?	No access	Any oak areas – there are nearby.
148 Tyndall		Riparian Shrub Area not mapped; south of trail to San Juan		
149 Underwood		Wetland Sensitive Ecosystem mapped; Coniferous Forest areas not mapped – Old Forest Sensitive Ecosystem or Second Growth?	No access	
150 Valewood	Garry oak woodland Sensitive Ecosystem ESA not mapped	Coniferous Forest areas not mapped – Old Forest Sensitive Ecosystem or Second Growth?		Significant invasives – hawthorn, ivy, blackberry; good areas of red-osier
151 Vantreight		Second growth coniferous forest not mapped	Some arbutus	Understory of lawn and invasives in the forest portion
36 Vic Derman Park – separated from Christmas Hill	Garry oak woodland Sensitive Ecosystem ESA is mapped	Areas of Garry oak woodland Sensitive Ecosystem ESA not mapped; Areas of Terrestrial Herbaceous Sensitive Ecosystem ESA not mapped		Significant areas of invasive shrubs and invasive grasses.

Park Name	Garry oak ecosystem Sensitive Ecosystem	Other ESAs	Additional comments	Comments
152 Viewpoint	Garry oak woodland Sensitive Ecosystem ESA not mapped	Arbutus woodland Sensitive Ecosystem not mapped; Terrestrial Herbaceous Sensitive Ecosystem is not mapped		Significant invasive grasses in the oak meadows; Daphne prevalent in the arbutus areas
153 Wedgepoint	Garry oak woodland Sensitive Ecosystem ESA not mapped	Terrestrial Herbaceous Sensitive Ecosystem ESA not mapped		
154 Wedgewood				
155 Wetherby	Mapped as Garry oak ecosystem ESA (but is just lawn)	Twisted oak moss species at risk ESA is mapped on tree		Why is this mapped as a Woodland ESA? – lawn areas with oak trees used by local residents for dog walking. Is there signage regarding the species at risk?
156 Whitehead		Riparian Sensitive Ecosystem ESA not mapped; Coniferous Forest areas not mapped –Second Growth Coniferous Forest?		
157 Wildflower Park	Garry oak woodland Sensitive Ecosystem ESA not mapped			Invasives grasses dominate – assume wildflowers in spring
White Rock Street Beach Access		Bearded owl-clover ESA; present Coastal Bluff Sensitive Ecosystem ESA		Area completely trampled by recreationists – no signs no fencing on public

Park Name	Garry oak ecosystem Sensitive Ecosystem	Other ESAs	Additional comments	Comments
				property to protect this valuable area of biodiversity
Road right-of-ways multiple locations; Beach accesses and treed boulevards	Some are mapped as Garry oak Sensitive Ecosystems, but many are not mapped as ESAs			Most are heavily overrun with invasive species; (examples - corner of Santa Anita and Mariposa; corner of Mina and Grange)



WSÁNEĆ TERRITORIES INDIGENOUS PEOPLE'S FORUM

June 22, 2021

Event Notes

ATTENDING

- ~15 members of W̱SÁNEĆ nations
- Mayors and staff from Central Saanich, Sidney and North Saanich
- MODUS (consultants)
- Speakers: Eric Pelkey, Israyelle Claxton, Tracy Underwood, Rebecca David, PENAC Underwood, Linda Elliot, Joni Olsen, Faye Oakes

WELCOME

Eric Pelkey (Hereditary Chief of S̱TÁUTW̱ Tsawout) provided an opening prayer. Patrick Ostryk (MODUS) provided a land acknowledgement that recognized the children's graves recently identified at the Kamloops Residential School and the systemic harm that these schools have created. He then provided an overview of the agenda.

DISCUSSION

Question 1. What are your greatest hope and fears for the Saanich Peninsula?

- Grateful for meeting today. Important to have the opportunity to speak out—for the 215 kids who cannot speak, for the kids they never had.

DEVELOPMENT

- Fear of urban sprawl. The peninsula is becoming more urbanized piece by piece; it feels like we could end up looking like Hong Kong. At the same time, there is a need for more First Nations housing and development.
- Fear of development like Langford, where the landscape and watersheds have been raped, and cultural sites like the caves destroyed. Want kids and grandkids to have a future that does not look like this.
- Saddened by rich people building large mansions on prime land, while First Nations are pushed into small reserves with overcrowded housing.
- Farmlands have been taken over and become apartment buildings. We grew up here eating local food, we knew the people we were buying from. Now there are huge mansions. It is dangerous, because the time will come when we will need local food but it will not be there for us.
- A legacy of the Indian Act has been infighting within our own people.





CREEKS AND WATERSHEDS

- Need for space for kids to play, creeks that are safe for swimming. Pre-settlement, the creeks were clean for drinking and swimming; now there are too many cows and no longer safe.
- Creeks were once places of healing. They should be restored; it was the role of women to protect the water.
- There needs to be more protection for our streams and beaches. The creeks used to run like rivers, with Coho, Chum, trout. Now because of the agricultural land they have filled with silt and pollution. Example of Sandhill Creek, where the silt from farmland sits at the mouth of Tetayut Creek—so much silt that fish can no longer pass through.
- There was a large fish kill in Keating Industrial area—we tried to restore and restock this.
- Include hydrogeologists when approving development. When we pave over, we are not allowing groundwater to recharge—we keep bulldozing over. Where do we expect the water to come from? We can't live without water. We must have a plan for the protection of the watersheds and prevention of groundwater depletion and recharging our water table.
- Beaches need protection too. People are building right to the beach edge, even below the high tide mark. Beaches should be free to high tide for people to walk on.

RESPECT AND RECONCILIATION

- People still try to access Tsawout from Island View Beach regional park; very disrespectful words and gestures when told this is not allowed. Settlers took all of our land and left us with less than 1%, now they want access to this too?
- Fear of lack of education in surrounding communities; people are not educated about our issues / struggles. Our lands were stripped away and given to the Crown—but it was illegal for us to hire a lawyer for land issues. It is always an unlevel playing field.
- Hope for respectful dialogue. We have a right to be respected, not exploited.
 1. Learn about what respectful dialogue means
 2. Learn about our culture/history
 3. Understand our traditional laws (water and land)
- Move to reconciliACTION. Good that you have an open mind for this discussion.



WE WERE PROVIDED FOR BY OUR LAND AND WATERS ...
WE WERE BOUNTIFUL

ARCHAEOLOGY AND HISTORY

- Need to protect our archaeological sites. When you are digging in the ground, you may be digging up the remains of our ancestors. An example is Cordova Bay – once an extensive village site – where the road crew found the remains of a baby.
- There needs to be a cultural observer on site whenever there is excavation. Any remains and other artifacts belong to the First Nations and should be given to them, we can teach our children what was there. There should be a commitment to this from the municipalities.
- Lands such as the former village site along Tseyum Harbour have been lost to First Nations. All of these areas should have been protected under the Douglas Treaty, which promised to protect all villages—but the Indian Reserve Commission took away those lands.

CONNECTION TO LAND

- The name W̱SÁNEĆ was given to us with a powerful message of stewardship/well-being of the land. All the uses of “Saanich” derive from W̱SÁNEĆ. W̱SÁNEĆ refers to the emerging people and emerging land. After the floodwaters receded, this was the first word uttered, people came together to talk about this event. There are also teachings from ancestors before the flood.
- We are the descendants of the people who survived the great flood. LÁU, WELNEW (Mount Newton) is our sacred mountain, our place of refuge.
- All things are connected. You cannot speak about one thing without speaking about others. It is not just about preserving the memory, but of how important it was to look after the land. You could go to any of the streams and drink water, there were salmon in the streams – it was all there because it was cared for.
- These things are now historical artifacts. We aspire to do this again.
- Happy there is this place for our voices to be heard. Our W̱SÁNEĆ people have a great deal to offer to those who are willing to listen. We can share how our land has been taken care of by our forefathers, and everything was plentiful. We were rich people and did not need for anything; we lived in harmony and treated the lands and oceans with respect. We do not own the land, the land owns us. Now the salmon, killer whales, creatures that inhabited forests are disappearing. We want to help the non-native community to understand how to live on this land in harmony. We would like to impart knowledge of how to live on his land into eternity. But, without cooperation, it won't happen. We have the knowledge that you're seeking to have a better life if we cooperate. We are willing to share our knowledge and understanding.
- Would like a nekway (phonetic) day – a green day when we hear the sounds of the birds, not the highway. During COVID, people stopped moving around and the earth healed a little. The nekway day would be a day with no traffic, no airplanes—perhaps this could become a trend in Canada!

Question 2. What actions could the municipalities take to build better relationships between Indigenous and non-Indigenous residents on the Peninsula?

- Ask us for input so that we can share our traditional knowledge. An example of KELSET (Reay Creek) where working with incredible scientists, but they did not know how the Cutthroat would respond to proposed changes. Indigenous Knowledge is there, people are willing to share. We all need to work together in order to survive.
- Seek out First Nations opinions. Municipalities should work in cooperation with the four bands, bring them into the conversation about development, protecting the environment, use of chemicals on agricultural land.
- Talk to many people. People living on reserve experience the harms of the Indian Act and cultural genocide, and frequently facing cultural stereotypes and racism. Important to remember that First Nations communities are diverse—do not just speak to one First Nations person and assume that they represent all of the points of view. Example of Fairy Creek where people prey on the Indigenous people who disagree with each other—this is an impact of the Indian Act. Not all older people are cultural Elders.
- We want to be seen as humans. My grandmother was not allowed to go upstairs on a ferry because of segregation, but she was welcomed in a Chinese restaurant.
- Municipalities could adopt UNDRIP at their council tables.
- Recognize the oral version of the Douglas Treaty. This was a peace treaty, not ceding of land. The version at Mary Winspear Theatre should be revised.
- Assist nations in acquiring/returning land. The nations traditional lands were far larger than just the reserve areas – these were our winter homes, where there were fewer resources.
- Help with rezoning land for First Nations. Public hearings are very difficult for First Nations projects, as they often create a place for hate and racist comments.
- Use artwork, signage and other ways to show pride in the First Nations heritage of this region. In other places like Hawaii or Albuquerque, the design of the places features the identity of the people prominently.
- Focus on reconciliation. This meeting is a beginning.



WSÁNEĆ TERRITORIES

INDIGENOUS COMMUNITIES FORUM

EDUCATE THE PUBLIC ON TRUTHS OF OUR WAYS + PEOPLE

HAVE OUR PEOPLE WATCH OUT FOR AND KEEP AN EYE OUT FOR OUR OWN!

MORE SUCH FORUMS WHERE WE CAN BE HEARD!

I FEAR... URBANIZATION



RECONCILI-ACTION

Really RESPECT & LEARN our LAWS OF THE LAND + WATER



WE WERE PROVIDED FOR BY OUR LAND AND WATERS... WE WERE BOUNTIFUL



GIVE / GIFT SOME LAND BACK



ASK US...

WE CAN SHARE OUR KNOWLEDGE

PROTECT OUR ISLAND!



WE NEED HEALING FOR OUR LAND and OUR PEOPLE

WE DON'T OWN THE LAND...

... THE LAND OWNS US!



RSTC

Definitions from the BC Conservation Data Centre

<https://www2.gov.bc.ca/gov/content/environment/plants-animals-ecosystems/conservation-data-centre/explore-cdc-data/glossary-for-species-ecosystems-at-risk>

Plant Community - A recurring plant community with a characteristic range in species composition, specific diagnostic species, and a defined range in environmental requirements (site and soil characteristics, hydrology, localized climate, etc), and physical appearance or structure.

Ecosystem - A dynamic complex of plant, animal, and microorganism communities, climatic factors and physiography, all influenced by natural disturbance events and interacting as a functional unit, and subject to large scale and localized small scale processes. Ecosystems vary enormously in size: a temporary pond in a tree hollow and an ocean basin are both ecosystems.

Ecological community - This term is used by the B.C. Conservation Data Centre and the NatureServe network. In B.C. it incorporates plant associations from the Vegetation Classification of the [Biogeoclimatic Ecosystem Classification](#), and other natural plant communities including both forested and non-forested ecosystems.

Ecological Integrity - A measure of the current ecological condition (structure, composition, and function) of an ecosystem as compared to reference ecosystems operating within the bounds of natural or historic ecological processes and disturbance regimes ([Faber-Langendoen, et al 2012](#), [Rocchio and Crawford 2011](#))

Red list - List of ecological communities, native species and subspecies in B.C. that are at the greatest risk of being lost.

Blue list - List of ecological communities, native species and subspecies in B.C. that are of special concern (formerly vulnerable).

Yellow List - List of ecological communities and native species in B.C. that are at the least risk of being lost.

Species at risk - An extirpated, endangered or threatened species or a species of special concern (formerly called vulnerable).

Extirpated - Species and ecosystems that no longer exist in the wild in British Columbia, but may or do occur elsewhere.

Endangered - Facing imminent extirpation or extinction.

Threatened - Likely to become endangered if limiting factors are not reversed.

Additional Terms

Stewardship

Biodiversity (including in an urban context)

Restoration

Rehabilitation

Remediation

Connectivity

Landscape

Shoreline

Intertidal

Marine

Riparian

Wetland - (from MacKenzie and Moran 2004)

Urban

Environmentally Significant Areas

Environmentally Sensitive Areas

Indigenous knowledge

Management

Biodiversity definition and measurement brief – revised 14 August 2021 - Kevin Brown

1. Summary of comments directly related to the brief and my thoughts and proposed next step
2. Revised brief

Summary of comments (my paraphrasing)

- *Who is the audience? That will determine the detail.*
- *In current form, not suitable as a stand-alone fact sheet for the public – shorten and make it more public-friendly (formatting, pictures, etc.)*
- *Too long*
- *Suitable technical level for an informed public; too long for a 1-page brochure. Not sure what to cut out. Possibly release to public in longer form as a “Biodiversity Assessment Considerations” type document; a shortened version could include RSTC consensus on biodiversity definition(s), plus briefer highlights of methods under consideration and their potential limitations*
- *Not fact sheet material – many alternative ways of looking at biodiversity, unless that diversity of definitions is the fact being highlighted.*
- *Much of this information will be captured in the state of biodiversity report and biodiversity strategy either in the text or in a glossary*
- *Useful discussion for many practitioners*
- *Valuable primer for professionals, educators, district staff and Council to share and have a common understanding*
- *Abiotic factors are not (don’t need to be?) mentioned explicitly in definitions but are captured as ecological processes*
- *Add mention of water quality and quantity as abiotic indicators of habitat condition and potential biodiversity*
- *Some commentors expressed their preferred definition / approach*
- *Brief should recommend preferred definition (of biodiversity for Saanich purposes)*
- *Add camera traps as emerging technology; aquatic benthic invertebrates as an animal indicator*

My thoughts:

The intent of the brief is to highlight the difficulties in relating the concept of “biodiversity” in an urbanized environment with our ability to measure it. That discussion is lacking in other biodiversity strategies but seems useful in facilitating communication among staff, consultant(s), the RSTC, and public. Are we all talking about the same thing? What are the possible strengths and weaknesses of the measures of biodiversity we are proposing? We can’t measure everything that makes up biodiversity. But, in making policy, we have to measure or assess appropriate components of biodiversity and acknowledge our assumptions and knowledge gaps. That applies to other thematic areas as well.

The biodiversity working group is already grappling with some of these issues and, with the whole committee, will eventually recommend what data Saanich can and should use to define a Saanich-appropriate definition of biodiversity that facilitates assessment and policy development.

The brief was not intended to recommend what specific data should be used to define biodiversity in Saanich. That is the job of the RSTC, consultant(s), and staff, with input from an interested and knowledgeable public. The intent of this is to articulate underlying that need to be considered when evaluating biodiversity, to support the of the work of the committee, etc., and to facilitate

communication about what “biodiversity” is amongst all parties including the public and Council. It should be relevant for all audiences, but how it is may vary with the audience.

Commentors differ on how to present this discussion. “Fact sheet” may not be the best term; a 1-pager was unrealistic. I hesitate to drastically shorten the brief; the discussion then has the potential to become overly simplistic but this should be discussed with staff. I believe we need to do more than include bits and pieces in the text and glossary of the biodiversity strategy – but having this brief in-hand reminds us to reiterate certain points in the text of the strategy.

One compromise might be to have the longer brief as an appendix in the biodiversity strategy and, if suitable, also have a shortened version that is “more accessible” for the public. A short version could complement a longer version but may not completely substitute for it.

There were somewhat contrasting comments about the value of abiotic factors as indicators of habitat condition (and potential biodiversity). I’ve included a brief comment about the value of abiotic factors in conjunction with ecosystem condition.

For revisions, I have:

1. Clarified that the brief applies to terrestrial, aquatic, and marine ecosystems / species
2. Added specific reference to First Nations ecological knowledge and how it could help guide biodiversity assessments and targets
3. Added a brief reference to water quality and quantity as examples of abiotic factors which indicate habitat condition (and might infer something about potential biodiversity).

I have not drastically shortened the brief. I would like this to be discussed more within the RSTC and with staff.

I have also not included recommendations as to what data / targets Saanich should use in defining biodiversity, nor have I defined it for Saanich. That is up to RSTC etc. and is not the point of the brief. The brief is intended to be more general and highlight some relevant issues.

Proposed next step:

1. Request staff review the brief with attention to where and how the information can most effectively be used and presented in addition to review of technical information

(Revised) Biodiversity definition and measurement brief (Kevin Brown - 13 Aug 2021)

1.0 Introduction

Saanich's biodiversity strategy will likely seek to maintain and enhance terrestrial, aquatic, and nearshore marine biodiversity throughout the municipality, although specific targets have not been finalized. This will require deciding what biodiversity is and how to measure it. Current fact sheets discuss biodiversity conservation strategies and targets from other jurisdictions and describe currently-protected areas in Saanich but do not address how to measure biodiversity.

Effective biodiversity strategies require appropriate definitions and measurements of biodiversity to help set realistic biodiversity goals, monitor changes over time, assess threats, and develop appropriate policies. Clearly stated assumptions and recognition of uncertainties in local biodiversity data improve communication among users and give the biodiversity strategy more credibility. Even when initial assessments are clearly incomplete, ongoing incorporation of new data should improve the quality of biodiversity monitoring over time. Similarly, traditional ecological knowledge (TEK), if shared by local First Nations, can provide important historical context for current-day estimates; incorporation of each should lead to better policy. Appropriate selection of biodiversity components and integration of data can improve comparisons with other urban areas.

This note discusses how biodiversity is defined, traditional and emerging approaches to assessing biodiversity in urbanized landscapes, and some advantages and disadvantages of each. The goals are to facilitate communication among users and support development of the biodiversity strategy and environmental policy framework.

2.0 What is biodiversity?

Formal definitions of biodiversity vary (Table 1) and this influences what is measured. Biodiversity is often assumed to mean the variety and abundance of different species, although it may also refer to genetic variation among species and diversity between ecosystems. When referring to species, diversity typically implies some combination of the number of species (richness) and their relative abundance.

Biodiversity may refer only to the diversity of organisms or to their combination with ecological processes and abiotic factors in ecosystems. Quantifying and assessing whether biodiversity is "adequate" is difficult because of the number and variety of organisms, the need for specialized expertise to identify organisms, technical difficulties in determining their abundance, and incomplete understanding of how organisms interact with each other, with the physical environment, and in response to disturbances. In practice, biodiversity may refer only to the diversity of some species of concern, while others are ignored. Given these difficulties, biodiversity is often considered an intuitive and general concept or belief, not something which is measurable.

Assessing biodiversity in urbanized environments is challenging, but important. Urban ecosystems vary greatly in their size, distribution, completeness, abundance of non-native species, and in types, intensity, and magnitude of human-induced disturbance. Urban areas often have less biodiversity than adjacent rural areas but can be surprisingly important for protecting biodiversity. Most urban green spaces represent "novel" ecosystems. Their attributes may not be as predictable as in more natural settings. Appropriate sampling is needed to capture spatial variation in ecosystem area, functional condition, and land use intensity.

3.0 Estimating biodiversity for the purposes of guiding local policy

3.1 Indicators of broader biodiversity

The abundance and diversity of all life forms in a region is extremely difficult, if not impossible, to quantify and interactions among different organisms are also relatively unstudied. Hence, biodiversity assessments may be qualitative and rely on “expert opinion” in the absence of measurement data. A more quantitative approach is to rely on the abundance of indicator species, typically plants or animals, to indicate the presence of other species and ecosystem condition. Indicator species must be appropriate to the location and area of interest. Accurately determining species abundance can require formalized sampling protocols and field-based specialists. This can be expensive and limit data collection. Area, structural diversity, and condition (including levels of abiotic factors such as water quality and quantity) of different ecosystems can also be used to indicate the potential diversity of species.

3.2 Plants as indicators of biodiversity

The presence and abundance of certain plants is often used to delineate terrestrial ecosystems and infer their biodiversity. Vegetation is amenable to sampling, certain plant species may be strongly preferred as habitat by certain animals, and the abundance of different plant species may be related to soil fertility, moisture regimes, and soil biota. Hence, vegetation characteristics can indicate broader biodiversity. Indicator plants must be sampled at appropriate times to assure accurate assessments and their presence does not ensure that other important and naturally co-occurring species will also be present, especially in urban environments. Conversely, their above-ground absence does not necessarily mean viable propagules are not present below-ground; those propagules may grow and establish, given suitable soil and overstory conditions.

3.3 Ecosystems as indicators of biodiversity

The area and condition of ecosystems, in combination with connectivity between those ecosystems, may be used to indicate biodiversity. The scale of an ecosystem is arbitrary, but for biodiversity purposes, the ecosystem concept is typically applied at the landscape scale. Terrestrial ecosystems have been classified in British Columbia by a combination of climate, topography, and vegetation and the classifications are applied in natural resource management. Familiarity with this approach in BC makes ecosystem area and visual condition assessments tempting to use for inferring broader biodiversity in Saanich. However, ecosystems are not always discrete, and boundaries may be difficult to identify and map. Classifications based on natural “intact” ecosystems may not adequately describe the biodiversity and ecological functioning of a similar, but urbanized and novel version of the same ecosystem. Since ecosystem classifications largely rely on vegetation characteristics, they share similar weaknesses as indicators of broader biodiversity. Finally, biodiversity assessments relying solely on ecosystem type and area may underestimate the diversity and abundance of mobile organisms.

3.4 Non-plant species as indicators of biodiversity

Counts of certain non-vegetation species or species groups (for instance, birds) might be used to infer changes in broader terrestrial or aquatic biodiversity and ecosystem condition over time. However, abundance data are typically more difficult to collect for animals than for plants and suitable data are generally less available. Local examples of non-plant species’ counts include regular counts of native birds, certain butterfly species, and aquatic benthic invertebrates and returning salmonids in local streams. In addition to potentially indicating ecosystem condition and broader biodiversity, species which are abundant enough, culturally important (for example, to local First Nations), or charismatic can ensure community interest and commitment to regular assessments. An abundance of species high on the food web may indicate organisms are also abundant lower in the food web. Conversely, animals move, and their ranges are often not confined to Saanich. This limits their effectiveness as indicator

species but counts of non-plant species complement other techniques in quantifying broader biodiversity.

3.5 Emerging techniques for improving estimates of biodiversity

Traditional approaches to assess terrestrial, aquatic, and marine biodiversity are constrained by a lack of data and by uncertain relationships among species and their environments. Emerging techniques can complement traditional approaches and provide a more comprehensive picture of Saanich biodiversity.

Emerging techniques for assessing biodiversity share common features: (1) they do not rely directly on static visual assessments of ecosystems or species or species groups; (2) data collection may be less invasive and require fewer expert person-hours at the time of collection or alternatively, can better utilize the time and energy of enthusiasts; and (3) data can be collected continuously and integrated over desired time periods and across wide areas. Increased availability of open-source data, deployment of relatively inexpensive sensors, and development of technologies to better analyze samples and store and analyze data have enabled the development of these techniques. Emerging techniques include:

- Passive acoustic monitoring - relies on the development of acoustic indices to assess diversity and abundance of terrestrial and marine animals which emit acoustic signals. PAM is currently restricted to certain animals and by the need to separate out background sounds caused by natural physical processes and by humans. Human-caused background noise may interfere with sound-based assessments of species abundance, but noise pollution also impacts animal communication and human health. Using acoustic monitoring to map urban soundscapes could aid in urban policy development to minimize detrimental effects of excessive noise.
- Environmental DNA (eDNA) – increasingly used to identify the DNA sloughed off organisms that are difficult to find or identify. cannot otherwise be sampled or recognized. Among other uses, eDNA has been used to identify the presence and preferred habitats of aquatic and marine species, presence of at-risk terrestrial animals, and diversity of various soil organisms. Assessing the relative abundance of organisms is challenging.
- Remote sensing / LIDAR (**L**ight **D**etection **A**nd **R**anging) – Remote sensing has been used to map distributions of species, communities and ecosystems and the physiological condition of vegetation. LIDAR is particularly useful for assessing canopy structure. Non-destructive sampling is feasible over wide areas and with high resolution. Overlapping spectral signatures and variation with environmental conditions complicate the identification of individual plant species.
- Camera traps - generally used to detect the presence of terrestrial animals. Modern camera traps can remain in place for protracted periods and continuously register detections with relatively little disturbance to study animals. Camera traps are effective at detecting a wide range of species, but may be less effective in some (e.g., open) habitats.
- Citizen science – has a long history in biology. However, widespread deployment of relatively cheap technologies (cell phones) with high quality cameras and GPS capability, combined with web-based data-sharing platforms (e.g., e-bird, i-naturalist) and expert vetting of data, has greatly increased the availability of biodiversity data from enthusiasts and non-specialists. Inferences of species abundance can be biased toward certain species, locations, and time of observation. Suitable sampling protocols and management of uploaded data minimize these biases.

3.6 Integrating different biodiversity-related data

Available local biodiversity information is likely to be comprised of a mixture of quantitative and qualitative data. For qualitative assessments, it is essential to apply ratings that are scientifically meaningful and can be applied consistently by different observers. Data for specific components of biodiversity (e.g., individual tree species) can be combined into broader groups (e.g., deciduous versus evergreen trees) to simplify the setting of targets and creation of policy but should be understandable and specific enough to be scientifically meaningful. Quantitative and qualitative data can be combined to generate numerical condition rankings and combined further to provide an overall biodiversity index. However, few broad metrics may be too general to guide the development of effective policies.

Finally, although outside the immediate scope of this brief, any biodiversity data used to monitor Saanich progress will need to be maintained, perhaps by the municipality, and, ideally, be publicly accessible. That will encourage citizen engagement.

In a nutshell,

- The operational definition of biodiversity should be consistent with measurement needs and capabilities.
- Quantitative (measurement) data are preferable for spatial and temporal assessments of biodiversity and the setting of targets, but qualitative assessments are valuable and may be necessary.
- First Nations can provide important guidance for selecting species- based indicators of biodiversity
- For qualitative data and targets, the biodiversity components used for assessment and the setting of targets should be specific enough to be scientifically meaningful, yet broad enough to be applied consistently.
- Traditional approaches to assessing biodiversity have relied on systematic surveys which may be expensive and not account for many species. Limited data collection may underestimate biodiversity, especially in urban environments.
- Emerging technologies can complement traditional approaches to better assess and understand biodiversity. However, comprehensive biodiversity assessments likely require a variety of approaches and data sources.

Table 1. Selected definitions of biodiversity

1. *...the variety of life forms...at all levels of biological systems (i.e., molecular, organismic, population, species, and ecosystem) (Wilcox 1984; cited from Wikipedia)*
2. *...the variability among living organisms from all sources including, inter alia, terrestrial, marine and other aquatic ecosystems and the ecological complexes of which they are part: this includes diversity within species, between species and of ecosystems. (UN Convention on Biological Diversity 1992) the variability of life on earth and the ecological processes that support it (Surrey biodiversity conversation strategy 2014 and related reports)*
3. *the variety of species and ecosystems on earth and the ecological processes of which they are a part – including ecosystem, species, and genetic diversity components (Canadian biodiversity strategy. Environment Canada 2005; Taking Nature’s Pulse: the status of biodiversity in BC. Biodiversity BC 2008)*
4. *“the variety of life, at all levels of organization, classified both by evolutionary and functional criteria” (Colwell et al. 2009. Princeton Guide to Ecology 2nd ed. p 257-258).*

5. *“the diversity of genes, species, communities, and ecosystems, including their interactions”*
(Fischer et al. 2009. Princeton Guide to Ecology 2nd ed. p. 431)

Saanich Biodiversity Conservation Strategy Targets

The Biodiversity Working Group has begun work on the draft targets for the Saanich Biodiversity Conservation Strategy to give the eventual consultant a head start. At this point we have 6 targets. They are primarily ecosystem based. The backyard and urban targets refer to the spaces that are left after the ecosystem polygons are counted. Minimum polygon size will be determined with consultation with the Mapping/Stewardship Working Group and based on the grain of available mapping in Saanich. For instance a property such as the Cedar Hill Golf Course would include some mapped polygons of Garry Oak Ecosystems, some Wetland, Lakes and Hydroriparian Ecosystems and the remainder in Urban Greenspace.

Targets

1. Coastal Douglas-fir Forests

Forested ecosystems in the CDFmm. This includes site series 01, 02, 04, 05 and 06 (Green and Klinka 1994 – BC Land Management Handbook 28). Any structural stage.

2. Garry Oak Ecosystems

Ecosystems dominated by Garry Oak or other associated shrubs and herbaceous layers. This includes all 7 Plant Associations from Erickson and Meidinger (2007 - BC Ministry of For. and Range Technical Report #40): Qgrm (Garry oak -Grey rock-moss), Qgbm (Garry oak - Broom-moss), Qghh (Garry oak - Hairy honeysuckle), Qgrf (Garry oak - Roemer's fescue), Qgcc (Garry oak - Common camas -Blue wild rye), Qggc (Garry oak - Great camas - Blue wild rye), Qgos (Garry oak - Oceanspray - Common snowberry)

3. Wetlands, Lakes and Hydroriparian Systems

Wetlands of all kinds including forested swamps and bogs, seasonal ponds, lakes and riparian systems. Riparian systems include the adjacent terrestrial areas that are influenced by water at least seasonally. This includes all ecosystems in the Wetland Realm and the Flood Group of the Terrestrial Realm (MacKenzie and Moran 2004 – BC Land Management Handbook #52). These ecosystems are part of the CDFmm site series 07, 08, 09, 10 and 11 (Green and Klinka 1994 – BC Land Management Handbook 28).

4. Backyard Biodiversity

Private land ranging from small backyards to large agricultural fields and associated hedgerows. A portion of the urban forest is in this category.

5. Urban Greenspace

Public green spaces such as playing fields and golf courses. A portion of the urban forest is in this category (street trees and associated boulevards).

6. Marine Shorelines

Foreshore, intertidal and near subtidal areas along the marine coast.

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State of Biodiversity report. Saanich staff may provide additional data. However, should important knowledge gaps be encountered, the consultant will collate a list of these and provide the list to staff for consideration (note that the RSTC will consider when/how/if to address these gaps and provide recommendations as needed);

- Provide a draft State of Biodiversity report to the RSTC Chair;
- Consider written feedback on the draft report from the RSTC, the public, and staff;
- Produce a final public report which will be easy to interpret and is graphically informative;
- Potentially make one public presentation; and
- Make a presentation to Council on the findings.

The consulting team will have experience with/knowledge of:

- The species and ecosystems of Saanich;
- Using the Conservation Standards (CMP methodologies), NatureServe methodologies for ranking Element Occurrences, and other internationally recognized standards associated with the conservation of biodiversity;
- Terrestrial, aquatic, and near-shore marine conservation planning;
- GIS;
- Indigenous collaboration;
- Workshop facilitation;
- Presenting in public;
- Graphic design; and
- Communications.

7.3 Biodiversity Conservation Strategy

Development of the Biodiversity Conservation Strategy occurs in Milestone Three. As part of Milestone Three, membership of the RSTC may alter and expand to include community stewards, stewardship consultants, and environmental educators.

The consulting team will:

- Develop a Biodiversity Conservation Strategy for Saanich;
- Follow the Conservation Standards (formerly Open Standards for the Practice of Conservation) methodology published and maintained by the Conservation Measures Partnership (as developed in the State of Biodiversity Report);
- Use Miradi software and GIS to complete the written report as well as a completed Miradi project;
- Identify Threats to the Targets which were previously identified in the State of Biodiversity Report. Direct threats will be considered in terms of Scope, Severity and Irreversibility. Sources of Stress linked to the Direct Threats will also be identified and considered. **Field work may be required to evaluate the scope of identified threats;**
- Include a Situation Analysis model and develop opportunities and conservation actions required to address the Threats to the Targets and achieve Desired Future Conditions as determined in the Report. The opportunities and actions identified in the Strategy will include appropriate tools available to local governments including regulatory tools, and natural asset management, and will also consider an Enhanced Stewardship Program for Saanich;
- Coordinate and facilitate a maximum of three expert workshops, supported by members of the RSTC including its working groups, in developing Threats, Sources of Stress, Opportunities and Actions;
- Refine and apply the evaluation matrix to the proposed conservation tools as proposed by the RSTC;

- Present the draft Strategy to the RSTC for consideration. The RSTC will provide comments and suggest edits;
- Provide a range of public engagement opportunities to a broad range of stakeholders using a variety of public engagement tools
- Conduct 3 to 5 public open houses (alternative public engagement processes will be considered by Saanich) and a statistically viable survey focused on the appropriate conservation tools included an enhanced stewardship program. Post the revised draft; and
- Consider feedback and develop the final draft strategy.

The consulting team will have experience with/knowledge as described for the State of Biodiversity Report.

7.4 Public and Stakeholder Engagement

Saanich uses the International Association of Public Participation (IAP2) spectrum of public participation Table 1 identifies examples of the level of public engagement that is proposed during Milestones Two and Three.

Table 1: Proposed Engagement Activities - IAP2 Spectrum of Public Participation

	INFORM	CONSULT	INVOLVE	COLLABORATE
Public Participation Goal	To provide the public with balanced and objective information to assist them in understanding the problem, alternatives, opportunities, and/or solutions	To obtain public feedback on analysis, alternatives, and/or decision	To work directly with the public throughout the process to ensure that public concerns and aspirations are consistently understood and considered	To partner with the public in each aspect of the decision including the development of alternatives and the identification of the preferred solution
Anticipated Techniques	Saanich website and social media Advertising e-Bulletins	Open Houses Primary research including interviews and community survey	Workshops Stakeholder meetings Focus Groups	First Nations discussions. Capital Regional District discussions.

A series of open houses, workshops, focus groups and stakeholder meetings will be required to fully explore draft deliverables with members of the public and key stakeholders as described in the RSTC Terms of Reference. The consulting team will be responsible for the content and facilitation of the public engagement. Staff will assist with booking venues, advertising, and providing refreshments. Staff can be available to attend the events as subject-matter experts and/or administrative support.

Staff and the RSTC are working towards First Nation collaboration on this project. The consultant will communicate and collaborate with First Nations as part of the process to complete the State of Biodiversity report and Biodiversity Conservation Strategy.

Meaningful public engagement is critical to the success of this initiative. Conserving biodiversity will require cooperation and teamwork of all parties in Saanich. A transparent process and open dialogue will assist in comprehension, appreciation, and implementation of the strategy. Technical expertise, while needed for this project, needs to be weighed with community values.

7.5 Out of Scope

The following items will be provided by staff:

- RSTC (excluding working group meetings) meeting room/MS Teams booking, agendas, and minutes;
- Booking and paying for workshop venues and refreshments;
- Booking and paying for Open House venues, advertising, and refreshments;
- Arranging advertising of public engagement opportunities based on content supplied by consultant;
- Staff actions items as per the RSTC Terms of Reference; and
- Progress reports to Council.

8. ROLES, RESPONSIBILITIES, AND COMMUNICATIONS

Completion of the deliverables will require coordination and understanding of the various roles and responsibilities of key groups involved in delivering Resilient Saanich. Table 2 outlines these roles and responsibilities according to the RSTC Terms of Reference.

Table 2: Roles and Responsibilities

Group	Role	Responsibilities
Secretariat (part of Consultant Team)	<ul style="list-style-type: none"> • Project Management • Assist the RSTC • Act as central point of communications (internal, general public) • Reports to RSTC Chair 	<ul style="list-style-type: none"> • Deliverables and scope of work as described
Consultant Team (remainder)	<ul style="list-style-type: none"> • Subject-matter experts • Coordinate with the Secretariat 	<ul style="list-style-type: none"> • Deliverables and scope of work as described • Accountable to staff for budget • Accountable to RSTC Chair for deliverables
RSTC	<ul style="list-style-type: none"> • Subject-matter experts • Leaders • Arrange working group meetings 	<ul style="list-style-type: none"> • As per the RSTC Terms of Reference
RSTC Chair	<ul style="list-style-type: none"> • Leadership of RSTC • Ensures decision-making in a timely matter to support consultant deliverables 	<ul style="list-style-type: none"> • As per the RSTC Terms of Reference

	<ul style="list-style-type: none"> • Arranges additional meetings if required • Key contact for consultants 	
Council Liaison	<ul style="list-style-type: none"> • Communications with Council • Advisor to RSTC • Media contact 	<ul style="list-style-type: none"> • As per the RSTC Terms of Reference
Committee Clerk	<ul style="list-style-type: none"> • Agenda and minutes of main RSTC meetings 	<ul style="list-style-type: none"> • Compiles agendas and minutes of RSTC meetings and distributes meeting materials
Staff Liaison & Environmental Services	<ul style="list-style-type: none"> • Keep interdepartmental staff up-to-date • Support the RSTC where appropriate 	<ul style="list-style-type: none"> • Attend meetings (except working group meetings) • Arrange bi-weekly workplan meetings • Book and pay for workshop and Open House venues and refreshments • Advertising for engagement opportunities • Monitor consultant contract deliverables and pay invoices • Prepare and present progress reports to Council
Staff Departmental Representatives	<ul style="list-style-type: none"> • Subject-matter experts • Support workshop and engagement organization 	<ul style="list-style-type: none"> • Advice upon request • Attend meetings upon request

9. BUDGET

The RSTC Terms of Reference outlines the following budget available to the consulting team:

Secretariat	\$60,000
State of Biodiversity Study	\$60,000
Public State of Biodiversity Report	\$15,000
Public Survey	\$25,000
Biodiversity Conservation Strategy	\$100,000
TOTAL	\$260,000

These amounts are provided for information to the Consulting Team. The Consulting Team may propose to allocate the amounts differently in their proposal.

10. DELIVERABLES AND TIMELINE

The project is expected to be completed by the end of December 2022. Due to the short time line between the Milestone Two and Milestone Three deliverables, the completion dates are staggered. It is recognized that the timelines are tight, however they are in-keeping with the RSTC Terms of Reference adopted by

Council. The Consulting Team is encouraged to communicate any difficulties with the Chair and staff so solutions may be sought in a timely fashion.

All documents submitted will be digital plus five unbound copies.

Milestone	Deliverable	Completion Target Date
2 & 3	Secretariat function	On-going until December 2022
2	Up to 3 meetings with the RSTC to discuss the State of Biodiversity Report.	Dates to be arranged by the committee secretary at appropriate times between the contract start and April 2022.
2	Workshop with experts to help identify targets, indicators, threats.	January 31, 2022.
2	Draft State of Biodiversity report utilizing the Conservation Measures protocol	March 31, 2022.
3	Field Work for Biodiversity Conservation Strategy (if required)	April 30, 2021
2	Final draft State of Biodiversity report, based on feedback, including graphics and interpretation.	April 30, 2022
3	Up to 3 meetings with the RSTC to discuss the Biodiversity Conservation Strategy.	Dates to be arranged by the committee secretary at appropriate times between May 2021 and November 2022.
3	Stakeholder Consultation on appropriate tools for conservation: up to 3 expert workshops and/or focus groups.	May 30, 2022
2	Presentation to Council of draft final State of Biodiversity report.	To be scheduled by staff in June 2022.
3	Public, statistically viable survey and results.	June 31, 2022
3	Draft Biodiversity Conservation Strategy	August 15, 2022
3	Public consultation	By September 15, 2022
3	Final Draft Biodiversity Conservation Strategy based on feedback.	October , 2022
3	Presentation to Council of final draft report.	To be scheduled by staff in Oct-Dec 2022

Appendix A: Documents from the Biodiversity Working Group of the RSTC

- Cross walk to Work Plan: The state of biodiversity (and conservation) report is a Milestone 2 deliverable (Dec 2021). This is to support the Biodiversity Conservation Strategy which is Milestone 3 deliverable (June 2022)
- The Biodiversity working group developed a "foundational document" that laid out the various components that would be in a "State of biodiversity and conservation in Saanich" report.
- The table below is guidance document on how to gather the required information that would feed into this report, some of which would need the help of a consultant. Hence guidance to RFP
- We would suggest that the same consultant that collects these data is also hired to draft the actual "State of biodiversity and conservation in Saanich" report.
- Current timelines in work plan: Draft "State of biodiversity and conservation in Saanich" October 2021 and final by Dec 2021. Ambitious schedules especially if we want to involve the public in the consultation.

#	Major sub-heading	Why do we need this information	Components under each	Format of product	Completed by contractor	Completed by Staff	Desk/Field work	Notes and reference to methods	PG notes
I	Prioritization of Species and Ecosystems (terrestrial, aquatic, marine)	To figure out which species and ecosystems to focus on.	Distribution and status of species and ecosystems at risk in Saanich	Table	?	Yes	Desk	Information available on BC Species and Ecosystems Explorer. This table is supported by the maps below	
			List of species and ecosystems where Saanich might have a higher global/provincial responsibility for conservation	Table	Yes		Desk	Use method described in Bunnell et al. Applying the Concept of Stewardship Responsibility in British Columbia	
			Regionally/culturally important species/species groups for conservation	Table and text	Yes	Yes	Desk	Expert opinion (consultant) and First Nations consultation (staff)	

II	Condition/ risk/ conservation potential of areas of current or future biodiversity conservation interest	To figure out which areas to focus on.	Mapping of 4 tiers: hubs, corridors, stepping stones and matrix	Table, text and map	Yes	Sup port	Desk	See Four Tiers document from Tory but we still need to make a tentative list of criteria for defining hubs, corridors and stepping stones. Using agreed upon methods (yet to be completed) the contractor works with staff to complete this mapping. Recommend a draft is published with the "state of" document for public consultation and finalized in "Biodiversity Strategy" document	To address Brian's point about focusing on parks and protected areas - I feel we should start with a full list of hubs, corridors and stepping-stones - naturally the focus will shift to parks and protected areas in the implementation stage.
			Irreplaceable or rare or unique habitats/ habitat features	Table, text and map	Yes	Sup port	Desk	Table supported by map	

		To provide a baseline against which to measure improvements as the Biodiversity Strategy is implemented	Ecosystem condition assessment of hubs, corridors and stepping-stones	Table and text	Yes	Support	Desk/limited field work	Use Provincial RISC standard for mapping Ecosystems at Risk in B.C. (Pages 41 onwards). "Element Occurrences are ranked based on three factors: size, condition, and landscape context (see Table 14 below). Each of the three factors are rated in a four class ranking system and these classes are assigned a numerical value which allows for calculation of overall viability ranks as well as facilitating thematic mapping for conservation priorities". In this case, instead of "Element occurrence" we use hubs, corridors and stepping stones.	What do you think of asking the contractor to add two metrics to this assessment: Risk of loss and potential for rehabilitation/securement (the later metric can be used for defining the hubs but could also be moved here)
		To assess progress that has been made since 1972 on the greenbelt strategy	Retrospective assessment of the 1972 Greenbelt proposal for Saanich	Report (with tables and maps as appropriate)	Yes	Support	Desk	This can be in the "State of biodiversity and conservation" report as a retrospective assessment. The full report can be an appendix but referred to in the preamble and introduction.	
		Important habitats but often overlooked in strategies	Foreshore and marine	?	?	?		The above methods focus primarily on the terrestrial ecosystems. Need to figure out	

								methods for foreshore and marine	
			Abiotic factors - soil, air quality, light and sound pollution	?	?	?		Do we need a separate assessment of this or can it be captured in any of the other efforts. Kevin to provide guidance if this should be a standalone assessment. For example, the condition assessment above does look at soil disturbance - is that sufficient? The threat assessment below looks at sound and light pollution - is that sufficient?	
III	Biodiversity threat assessment	To figure out which threats to focus on - this might differ depending on hub, corridor, stepping stone or matrix	IUCN standardized methodology to assess threats to hubs, corridors and stepping stones	Table and text	Yes	Support	Desk	Need support from experts. Can be done as a group exercise, public consultation. A Standard Lexicon for Biodiversity Conservation: Unified Classifications of Threats and Actions https://conbio.onlinelibrary.wiley.com/doi/pdf/10.1111/j.1523-1739.2008.00937.x	I think it would be fruitful to do this exercise for hubs, corridors and stepping stone as the elements being assessed. This will give us a quasi-quantitative assessment of the major threats and make it transparent how we reached the conclusions. Some threats such as "urban development" are pretty obvious but I doubt it is the highest threat to Hubs - because I

									suspect hubs will be mainly protected areas, and invasive species may be the greatest threat to hubs, but urban development might be the highest threat to corridors.
IV	Stewardship and volunteer contribution to biodiversity conservation	To figure out what is being done, what needs improvement and what the gaps are	List of stewardship initiatives coordinated by Saanich	Table	No	Yes	Desk	Completed by Staff?	I missed the stewardship presentation. I have not gone back to look at the recording
		Maybe this is not needed because we don't have control over these investments	List and investment in stewardship initiatives in Saanich coordinated by other levels of government	Table	No	Yes	Desk	Completed by Staff?	
		This list might help identify future partners and collaborators	List of non-government stewardship initiatives	Table	No	Yes	Desk	Completed by Staff?	
V	Financial investment in biodiversity conservation by Saanich in the past 10 years	To figure out how much money is being spent currently on biodiversity conservation. The assumption is	Line items/ estimate in the Saanich budget that directly contribute to biodiversity conservation	Table	No	Yes	Desk	Do we have to have approval from Council to obtain these figures?	Also, I think we can say for certain that we are going to need further financial investment if the biodiversity strategy is going to be implemented. Otherwise, no point

		that the implementation of a biodiversity strategy will need further investment							writing the strategy. Given this, how can we start the process of a local conservation fund based on Bryn White's great presentation
			Number of staff hours directly dedicated to biodiversity conservation and monitoring	Table	No	Yes	Desk		
VI	An assessment of knowledge and engagement in biodiversity conservation by the residents of Saanich	Need a baseline to assess improvement in the metrics as the biodiversity strategy is implemented	Knowledge of biodiversity, programs, incentives, laws?	Summary stats and report	?	Yes	Online	Do we need motion or council permission to permit staff to conduct this? Done by external consultant?	
			Public education	Summary stats and report	?	Yes	Online		
			Volunteering	Summary stats and report	?	Yes	Online		

COMPONENTS OF A FOUNDATIONAL DOCUMENT TO DEVELOP A BIODIVERSITY STRATEGY FOR RESILIENT SAANICH MAY ALSO BE CALLED “STATE OF BIODIVERSITY IN SAANICH” REPORT

Introduction

In reviewing biodiversity² strategies of other regions, we (the biodiversity strategy working group) found that most of them were built on assessments of the current condition of biodiversity; the recent history of conservation actions; and investments in conservation. As far as we know such a document (e.g., “State of biodiversity conservation in Saanich”) does not exist for Saanich. Such a foundational document of the state of biodiversity and conservation investment in Saanich is essential to developing an effective biodiversity strategy. It will enable us to: 1) set quantitative goals; and 2) measure progress towards achieving those goals. Based on this, we suggest a two step process for the development of the biodiversity strategy

Step 1: Creating a foundational document with the components for baseline assessment as proposed below in draft form (open to discussion, additions and deletions). This document will describe what we have, where it is, how much there is, what condition it is in, and what the risks are to it. We would need an external contractor to compile and collate this information, but staff resources will also be needed. An initial meeting with staff will determine how much of this information already exists, what needs to be updated, how much staff can fill in the gaps and what needs to be handed to a consultant. We recommend that this effort start immediately to meet the timelines for the development of the biodiversity strategy described in Step 2.

Step 2: The development of the biodiversity strategy. The work on this strategy can be ongoing during the completion of Step 1. For example, we have started work on the outline and table of contents for this biodiversity strategy. However, the setting of quantitative metrics in the goals and objectives, and the setting of priorities for action in the biodiversity strategy will need to wait until Step 1 is completed.

Components of the foundational document

The foundational document should provide a current assessment of the following components. These are not in order of importance.

- I. Species and Ecosystems (terrestrial, aquatic, marine)
 - 1) Distribution and status of species and ecosystems at risk (provincially red/blue listed and federally SARA listed) in Saanich.
 - 2) List of species and ecosystems where Saanich might have a higher global/provincial responsibility for conservation E.g., Vancouver Island Beggarticks, Garry Oak meadows. (Use the table in Bunnell et al. *Applying the Concept of Stewardship Responsibility in British Columbia* found online at biodiversitybc.org. This will be adequate for the Foundation Report. When writing the strategy, note the cautions in this document.)
 - 3) Ecologically/culturally important species/species groups for conservation in the region, e.g., salmon runs, large Garry Oak and arbutus trees, birds, butterflies
 - 4) Irreplaceable or rare habitats/habitat features e.g., caves, rock formations, springs
- II. Spatial analysis of areas of current or future biodiversity conservation interest (at the municipal scale, mapping at 1:20,000 or less is appropriate. This includes most TEM mapping for ecological communities)
 - 1) Spatial analysis of current extent of biodiversity conservation areas (all levels of parks). A simple map of these areas may also be combined with component III. 1 below to provide condition and metadata associated with these areas.

² Biodiversity is defined broadly as the variability of life on earth and the ecological processes that support it. For fuller discussion, see [Surrey Biodiversity Conservation Strategy Report](#) and other similar reports.

- 2) The protected areas map can also be juxtaposed with other public lands which might serve a secondary function of biodiversity conservation such as agricultural land, urban forests, burial parks, school grounds, sports fields, roadside verges. This spatial assessment is necessary for the design of the hub-corridor aspect of the biodiversity strategy.
- 3) Retrospective assessment of the 1972 Greenbelt proposal for Saanich – how much of this vision has been realized, is it still relevant and can it feed into a hub-corridor design
- 4) List and map of known priority conservation areas and valuable ecosystem fragments e.g., unmapped grove of trembling aspen north of Roy Rd near the Colquitz River. We will need to provide guidance to contractor on what metrics would make an area “valuable” e.g., connectivity, irreparability, high species diversity etc.)

III. Evaluation of ecosystem health and functional condition (this might be very expensive to do and so we might need to settle for a quick qualitative metric for baseline (good, moderate, poor) and then improve this assessment with monitoring during the biodiversity implementation stage)

- 1) Assessment of ecological condition of parks and protected areas (need to further refine what “assessment” means and need to provide guidance to contractor, e.g., see the Appendix)
- 2) Assessment of condition of streams, watersheds and marine foreshore environments (need to further refine what “assessment” means and need to provide guidance to contractor)
- 3) Listing and assessment of current threats to biodiversity and biodiversity conservation areas e.g., extent or level of trampling, invasive species, noise and light pollution, air, water and soil pollution, etc. (Use CMP-IUCN Unified Classifications of Threats and Actions ³) (e.g., Ted Lea’s report on the Saanich parks).

IV. Threats to Biodiversity

- 1) Major stressors
 - a. Ecosystem degradation
 - b. Alien species
 - c. Environmental contamination
 - d. Species Disturbance and Mortality
- 2) Human Activities Impacting Biodiversity
 - a. Climate change
 - b. Urban Development (including noise and light)
 - c. Rural Development
 - d. Transportation and Utility Corridors
 - e. Agriculture
 - f. Wastewater
 - g. Recreation
 - h. Industry

V. Stewardship and volunteer contribution to biodiversity conservation (what we are looking for here is an assessment of the level of effort toward fostering biodiversity from the stewardship perspective.

³ [A Standard Lexicon for Biodiversity Conservation: Unified Classifications of Threats and Actions](https://conbio.onlinelibrary.wiley.com/doi/pdf/10.1111/j.1523-1739.2008.00937.x)
<https://conbio.onlinelibrary.wiley.com/doi/pdf/10.1111/j.1523-1739.2008.00937.x>

With that we could try to establish better targets for more stewardship, especially voluntary approaches)

- 1) List of stewardship initiatives coordinated by Saanich
- 2) List and investment in stewardship initiatives in Saanich coordinated by other levels of government e.g., Elk Beaver Lake restoration (CRD is the lead)
- 3) List of non-government stewardship initiatives (estimate of external (non-Saanich) funding that goes into biodiversity conservation in Saanich and estimate of number of volunteer hours/contributions).
- 4) (This might need to be completed separately from the contract, with permission from council and support from staff as these data may require a public survey to be conducted). An assessment of knowledge and engagement in biodiversity conservation by the residents of Saanich by conducting a survey during the public engagement phase of the Environmental Policy Framework.

VI. Investment in biodiversity conservation (for the past 10 years)

- 1) Line items/estimate in the Saanich budget that directly contribute to biodiversity conservation e.g., how much funding is directly spent on removing invasive species from Saanich Parks, planting native species, restoring habitat etc.
- 2) Number of staff hours directly dedicated to biodiversity conservation and monitoring e.g., volunteer coordinator for pulling together program, Saanich park naturalists
- 3) Funding spent in acquisition of biodiversity conservation areas
- 4) Accessibility of natural areas to citizens: how many km of trails, and how well distributed? What is trail budget per annum?
- 5) Incentives to private landowners for biodiversity conservation