

Presentation to Council - October 11, 2023

Vanier Nature Park - Garry Oak Ecosystem

To our esteemed Mayor and Council Members:

We are Karen Cummins and Eloise Holland, speaking on behalf of Comox Valley Nature and the Vanier Forest Garry Oaks restoration team.



Project Goals

In 2021 three members of the pilot project team appeared before Mayor and Council to request Council's support for the implementation of the pilot project in Vanier Nature Park. The goals of the project then and today are to:



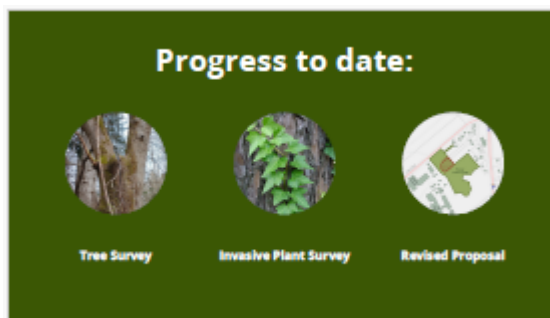
1. Assess and gradually restore this rare and at risk Garry Oak grove to increased sun and health through a site specific restoration plan.
2. Monitor the results of our work
3. Establish a long-term community stewardship group for this project.

Council's decision in 2021 was to refer the proposal to staff for their input. We are here again to ask for your support for our proposal with the encouragement of Susie Saunders, director of Parks, Culture and Recreation.

Progress to Date

In the documents we have provided you will find a full list of our continued work since 2021.

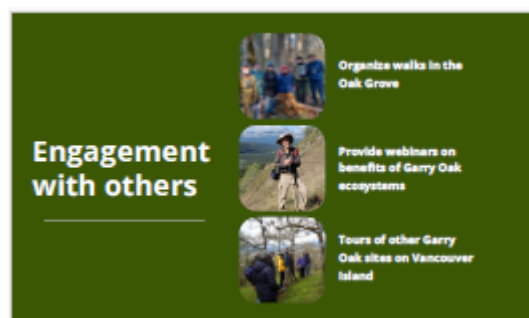
1. In the fall of 2021 we continued the work of assessing the Garry Oak grove in Vanier Nature Park and in April 2022 we published a site specific tree survey. The report mapped and provided details on all the trees in the grove as well as pinpointing the 21 conifer trees that could be reduced to wildlife snags, thereby providing more sun to the oaks.
2. In April 2023 we completed an invasive plant survey of the Garry Oak grove. An important part of our proposal is to do a large part of the initial invasive plant removal before any tree reduction work begins.
3. We have revised the length of our proposal for work on the site from 3 years to 5 years. This will include:
 - a) the tree reduction work
 - b) much of the invasive plant removal and
 - c) the development of a stewardship group that includes the wider community. (You'll find a draft of an outreach brochure in your documents)



To address concerns raised by the Tsolum River Restoration Society we plan to extend the tree reduction over a longer period and delay reduction of any conifers on the south side of tributary 1 until year 3 to 5

Engagement with Others

In 2022 and 2023 we organized walks in the Vanier Nature Park oak grove for City staff members Craig Rushton and Susie Saunders, as well as community members such as KFN K'omox Guardians, Tsolum River Restoration Society, Biologists Warren Fleenor and Nick Page and others who provided feedback on our proposal.



In the spring of 2022 we hosted two webinars for CVN members and the general public on the benefits of Garry Oak ecosystems.

In the fall of 2021 CVN members and our restoration committee toured Somenos Garry Oak Protected Area and Mt. Tzouhalem Ecological Reserve with the reserve wardens. Both sites are in Duncan. Both sites had conifers reduced to wildlife trees to restore or maintain Garry Oak ecosystems.

Project Steps

We have prepared a detailed timeline for the 5 year project which includes:

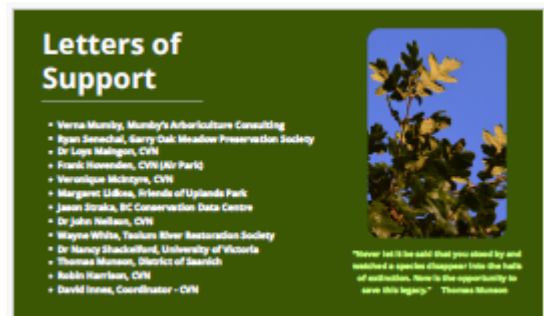
1. A tree risk assessment of the Garry oak grove prepared and submitted to the City of Courtenay. (this has already been carried out pro-bono by Verna Mumby)
2. Hazard trees already identified by the tree risk assessment to be mitigated in the fall of 2023 or early winter 2024.
3. Invasive plant removal by CVN to begin after tree mitigation in fall 2023 or early winter 2024
4. Reduction of 4 of the identified over-topping firs to wildlife snags and removal of 8 sweet cherries completed by tree care professionals in early fall 2024
5. The succeeding 4 years of the project are similar: invasive plant removal by CVN in fall and winter and conifer reduction work is completed by tree care professionals in the early fall.



Letters of Support

There were numerous letters of support submitted to council. These advocates remind us that Garry Oaks are an educational and cultural resource. They increase biodiversity, are adaptable to our warming climate and are resistant to fire.

Verna Mumby, Mumby's Arboriculture Consulting
Ryan Senechal, Garry Oak Meadow Preservation Society
Dr Loys Maingon, CVN
Frank Hovenden, CVN (Air Park)
Veronique McIntyre, CVN
Margaret Lidkea, Friends of Upland Park
Jason Straka, BC Conservation Data Centre
Dr John Neilson, CVN
Wayne White, Tsolum River Restoration Society
Dr Nancy Shackelford, University of Victoria
Thomas Munson, District of Saanich
Robin Harrison, CVN
David Innis, Coordinator, CVN
Dave Weaver, Beaufort Watershed Stewards

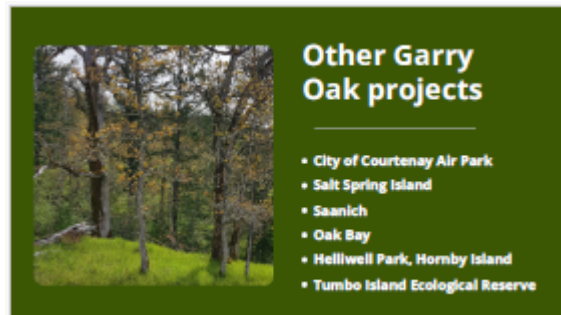


Thomas Munson (Environmental Planner / District of Saanich) wrote, "Never let it be said that you stood by and watched a species disappear into the halls of extinction. Now is the opportunity to save this legacy."

Other Garry Oak Projects

There are many communities where this type of restoration work has been done, including:

City of Courtenay Air Park, CVN Garry Oak Nursery, Salt Spring Island, Saanich, Oak Bay, Cowichan Valley, Helliwell Park on Hornby Island, and Tumbo Island Ecological Reserve.



You've received in your package a document with links to these projects.

Requests of the City

We request the following from the city of Courtenay:



1. \$5760 for the removal of identified hazard trees in fall of 2023 or the winter of 2024
2. Permission for CVN to begin the removal of invasive plants in the Garry oak grove starting as soon as the mitigation of hazard trees is completed
3. That the City of Courtenay agrees to pick up and dispose of invasive plants removed and collected by CVN members
4. \$3710 for the reduction of 4 conifer trees to wildlife trees in the fall of 2024 and each year for another 4 years. This represents 50% of the annual cost, with CVN matching those funds
5. Collaboration on outreach to the public regarding this project, for example: press releases, brochure printing, assisting at an open house.

Thank You

We'd like to end with a quote from Ryan Senechal, Chair of the Board of Directors for the Saanich Garry Oak Meadow Preservation Society



"Stewardship of Garry oak ecosystems is an act of recognition, appreciation, and support for Indigenous historic and ongoing management. Garry oak ecosystem patches have become increasingly fragmented and continue to degrade with low and no management approaches. Restoring practices of- ecosystem stewardship based in First Nations local knowledge and in using alternative practices (e.g., wildlife snag creation) where fire cannot be accommodated is crucial to reconnect community members to each other and to reconnect the community with nature."

Thank you for your time.

Eloise Holland, CVN
Karen Cummins, CVN

Appendix 1 - Timeline for Vanier Garry Oak 2024 to 2029

Certain tasks maybe performed on a monthly or yearly schedule. Such tasks will be:

- An annual biological species survey in the late spring of each year
- Annual monitoring of released oaks for epicormic growth
- Regular monitoring previous invasive control for regrowth
- An annual report will be prepared for City each December until 2029
- Removal of cherry and holly will be done in phases as well
- Acorn count annually Mid-August to Mid-September
- Annual analysis of work done in 2023 and revisit plans for next year
- Annual report to CVNS Board and City for 2023

2023

September/ October

- Hazard-Tree Assessment** by Verna Mumby of *Mumby's Arboriculture Consulting*
- Hazard-Tree Mitigation** quote from Aaron Wurts of *Grow Tree Care*
- Subordination and sweet cherry removal estimate** from Aaron Wurts of *Grow Tree Care*
- 2023-10-11 **Delegation** to Mayor and Council, Eloise, Ian, Karen and Jim

November-December

- City has **hazard-trees abated**, Trunks left on ground, branches chipped and spread out
- Begin 1st season of **invasive removal**, debris stored by SD fence. Larger Holly and Sweet Cherry no more than a third at this time (cherries <5m in height < 8cm DBH, free from entanglement hand tools only. Cut ivy stems on oaks in late fall/early winter
- Identify 1st cohort of conifers** (4 firs) to be sub-ordinated to oaks in Fall of 2024
- Identify 5 study oaks that will be released by 1st subordination**, photograph for epicormic monitoring
- Hold **public info meeting** on stewardship with **brochure**; Vanier High, KFN, and Neighbors
- Annual Report**

2024

January-March

- Continue with invasive removal, and invasive **re-growth**.
- Community Information event** with City, with KFN, TRRS, others participating
- CVNS to seek out **grant sources** for the CVN portion of cost of fir subordination

April to August

- Cut large flowering **common hawthorn** when blooming or seed just setting.
- Invite BCFS Pathologist **Dave Rusch** to investigate further the decline of the grand firs.
- Guided walks** by CVNS for those interested in stewardship
- Inform KFN archaeologist** when most of holly gone.
- Annually assess health** and status of all oaks in the grove

September to December

- Begin 2nd season Invasive removal
- Subordination of 1st cohort** of 4 firs identified in fall of 2023
- Identify 2nd cohort of conifers** (4 firs) to be sub-ordinated to oaks in Fall of 2025

Identify 5 released study oaks from 2nd subordination, photograph **for epicormic monitoring**

2025

January to March:

Invasive plant control and invasive regrowth
Identify possible areas for establishment of seedling Garry oaks.
CVNS to seek out grant sources for the CVN portion of cost of fir subordination.

April to August

Oak grove to be **monitored on a regular basis** and any concerns brought to City
Cut back regrowth of holly, Daphne, cherry, Ivy
Informative **Public walks**
Research **trench remediation** and use of LWD from of firs abatement
Assess health and status of all oaks in the grove

September to December:

Subordination of 2nd cohort of 4 firs identified in fall of 2024
Identify **3rd cohort** of conifers (4 firs) to be sub-ordinated to oaks in Fall of 2026
Identify **5 released study oaks**: photos for epicormic monitoring.
Have larger cherry trees removed by tree care professionals.
Begin 3rd year of Invasive plant control
Annual Report

2026

January to March

Invasive plant control and regrowth control continues.
Begin planting native **species of forbs and grasses.**
Transplant oak seeding trees (same genotype) and protect with fencing
Re-measurement of DBH and crown diameter of the released and control oaks
CVNS to seek out **grant sources** for the CVN portion of cost of fir subordination

April to August

Public informative walks
Monitor growth of seedling oaks and other native plants

September to December

Acorn survey post treatment of control, half and full treatment oaks
Subordination of 3rd cohort of 4 firs
Determine 4th cohort (4) of firs for subordination in 2027
Identify 5 released study oaks from subordination, photograph for epicormic growth
Annual Report

2027

January to March:

Winter invasive plant and **invasive regrowth** control continues.
CVNS will apply to **Grant sources** .
Stewardship group organized and working with City *and CVNS*

April to August

Spring and fall invasive plant control and invasive regrowth continues.

Stewardship group organized and working with City and CVNS

September to December

Subordination of 4th cohort of 4 firs identified in fall of 2026.

Identify 5th cohort of conifers (5 firs) to be **subordinated** to oaks in Fall of 2028

Identify 5 released study oaks, photograph for epicormic growth.

Control invasive plant regrowth

Annual Report

2028

January to April

Spring invasive plant control continues.

CVNS will apply to Grant sources.

April to August

Spring invasive and invasive **regrowth control** continues.

CVNS will apply to **Grant sources**.

Stewardship group organized and working with City *and CVNS*.

September to December

Subordination of 5th cohort of 5 firs identified in fall of 2027.

Identify 2nd cohort of conifers (4 firs) to be sub-ordinated to oaks in Fall of 2025.

Identify 5 released study oaks, photograph for epicormic monitoring.

Annual Report

2029

January –March

Assist Stewardship group with planning for future activities and CVNS may take less of a role.

April – August

Public outreach with City and Stewards

September to December

Final Report

Appendix 2 - CVN Work Completed Oct 2021 to Aug 2023)

| <u>Date</u> | <u>Item</u> | <u>Comments</u> | | |
|--------------------|---|---|--|--|
| 2021-10-10 | Tree survey of main Garry oak Grove | Report published April, 2022 and given to the Acting Director of Recreation, Culture and Community Services | | |
| 2022-07-12 | Stem Density and Diversity Survey, with Verna Mumby | Received Nov 5 2022 | | |
| 2022-07-19 | Walk with Craig R. and Nick P. | | | |
| 2022-10-07 | Walk with Susie, 5 from KFN, and Warren F. | | | |
| 2022-10-25 | SPEA; City's discretion what protection to provide | | | |
| 2022-11-16 | Proposal for Hydrological Assessment, GW Solutions | Pro bono professional Hydrologist's assessment and quote | | |
| 2022-12-26 | Video records of surface flows into and through VNP | Shows road ditch flows into park on Vanier Dr. | | |
| 2023-02-06 | TRRS Water Temperature Concerns | Met with TRRS, ground well monitoring and hydrologists quote resulted | | |
| 2023-02-24 | Walk with Botany and Bird Leaders | | | |
| 2023-03-23 | Tag Living Oaks, measure DBH | | | |
| 2023-04-18 | Walk with Susie | | | |
| 2023-04-27 | Botany Blitz, Jocie CVNS and I-Naturalist page created | | | |
| 2023-05-06 | Bird survey by CVNS identified 12 species of bird present | | | |
| 2023-05-31 | Ground Wells and Water Table Data Jan 12 to May 31 | Pending analysis | | |
| 2023-05-31 | GPS Oaks and other trees of interest & firs recommended for subordination | | | |
| 2023-06-28 | Invasive Polygon Mapping Report | Delivered to City June 28, 2023 | | |
| 2023-08-04 | Video Drone flight | Permit was for maximum height of 200 feet, in the general vicinity of Park | | |
| 2023-08-21 | Meeting with Susie @ City Hall | | | |
| 2023-08-28 | Meeting with Ian SD71 re access for city truck and chipper | Permission for City truck and volunteer access will be available | | |

| | | | |
|------------|---|--|--|
| 2023-08-31 | Acorn Count with Kevin Brown, more data collected on 20+ year US Forest Service study on Garry Oaks in the Pacific Northwest. | | |
|------------|---|--|--|

Stem Density and Diversity Survey

Mumby's Arboriculture Consulting, with CVNS volunteers assisting

- Data collected July 12, 2022, report received Nov. 5th, 2022
- Three sample plots, covering 942 square meters, about 1/10th of the Garry Oak grove were inventoried, a total of 68 trees.
- Species inventoried were Garry Oak (22), Sweet Cherry (31), Grand Fir (8), Big Leaf Maple (1), Hawthorn (3), Crab Apple (2), and Pacific Dogwood (1). Hollies were not counted.
- Reduction of the firs and cherry is seen as a way to promote growth in the oaks, maples, and dogwoods.

Proposal for Hydrological Assessment

Antonio Barroso professional hydrogeologist in Nanaimo was contacted by phone, and provided a quote and proposed tasks to be undertaken on the Park hydrology, done pro bono. The work would cost \$4,800, and the quote was provided to the City for their consideration.

Bio-Blitz for iNaturalist.org site, 2023-04-27

Jocie Brooks, a biologist with CVNS, lead a group of volunteers on a 1-day bio-blitz to record species in the Park. Currently there are photographs of 35 species in iNat, and a total of 66 species have been recorded in the 2015 and 2023 biological surveys. We will continue to do life surveys during the course of the proposal, as we expect to see a resurgence in native growth once the ground shading issues are reduced.

<https://www.inaturalist.org/places/vanier-nature-park-bc>

Ground Wells and Water Table Data Jan 12 to May 31

8 Ground wells were installed in the Park by Current Environmental in 2013. All wells are slightly less than 1 meter in depth, and go down to compacted soil. 5 months of data was collected weekly, but has not yet been analysed. 2 weeks of no rain in May resulted in no water seem in any of the wells. Standing water was only seen at the confluence of the Trib 1 and 2, near the SD storage yard in the spring.

Surface water flows Dec 26, 2022

A video study was done on surface flows into and through the Park. Water was entering the Park from Vanier Drive drainage, and from private properties

above the Park. Two semi-permanent flows result from seeps on this same private land.

GPS Oaks and other trees of interest

We used cell phone GPS to map all the oaks in the grove, and other species of interest. These GPS values have errors up to 10 meters, but will be ground truthed in the future, once the holly and cherry start to be removed.

We also identified 21 first we recommend for subordination.

Invasive Polygon Mapping Report, June 28, 2023

At the request of the City of Courtenay, we mapped the locations and density of 5 invasive species: Daphne, Holly, Cherry, Ivy and Black Berry. A few other non-native plants such as hawthorn were seen.

Bird survey by CVNS, May 6, 2023

A bird survey with 4 CVNS members on May 6th, 2023 recorded a total of 17 birds in 12 species. The Group has a pending request that Vanier Nature Park be declared a hot spot on the eBird site, which would attract a wider group of citizen scientists. The link to the Park is here: <https://ebird.org/checklist/S136333860>

Walk with Susie, 5 from KFN, and Warren F. 2022, Oct 10

We have arranged a number of walks every year since 2020, This particular walk had 5 representatives from K'omoks First Nation, invited by the City. On pervious walks we had representatives of the KFN Guardians, and the hereditary Chief on walks. At the request of the City, we have not directly approached KFN for support to date.

TRRS Water Temperature Concerns

The fish biologist for Tsolum River Restoration Society raised a question regarding possible changes in surface water temperature once overtopping firs are subordinated. CVN spoke with 3 experts (Antonio Barroso, Will Marsh and Loys Maingon) who agreed that surface water plays a small part in the total flows, as subsurface water contributes more to stream flow, and is effected little by air temperature.

Video Drone flight 2023-08-04

A permit for a video over-flight of the grove, below 200 feet of altitude was received, and the top of the grove was inspected.

Changes to Project

Time-line extended to 5 years from 3 years. Conifers on the south-west side of Tributary 1 delayed until year 3 monitoring is completed and TRRS consulted.

Tree Survey

Tree Survey: Mapped, tagged, and provided details on all the trees in the grove. It also pinpointed the 21 conifer trees that could be reduced to wildlife snags and the many sweet cherries that should be removed in order to provide more sun and less competition to the Garry oaks

Appendix 3 - Reference Projects

Comox Valley Nature Wetland Restoration at the City of Courtenay Airpark has been led by member Frank Hovenden since 1995 and has included planting Garry oaks and their associated plants. See the Airpark reports at the link below.

<https://comoxvalleynaturalist.bc.ca/cvns-wetland-habitat-restoration-project-reports/>

Comox Valley Nature Garry Oak Restoration and Nursery: since 2013 CVN member Dr. Loys Maingon has grown and distributed over 2,000 Garry oaks to be planted and stewarded on both private and public lands <https://goert.ca/comox-valley/>

Garry oak restoration projects like our proposal for Vanier Nature Park have been carried out in these Vancouver Island communities:

Saanich

Oak Haven Park in Central Saanich

<https://www.vicnews.com/news/central-saanich-park-among-sites-for-local-garry-oak-restoration-projects-84966>

Playfair Park Garry oak Restoration

<https://www.saanich.ca/EN/main/parks-recreation-community/parks/parks-trails-amenities/signature-parks/playfair-park.html>

Oak Bay

Friends of Uplands Park

<https://news.mongabay.com/2023/06/volunteers-first-nations-work-to-bring-back-a-disappearing-oak-prairie/>

<https://www.oakbaynews.com/community/decades-of-conservation-work-in-oak-bay-park-draws-national-attention-535477>

<https://www.gvnaturehood.com/post/caring-for-uplands-park>

<https://www.vicnews.com/news/restoration-of-uplands-parks-garry-oak-ecosystem-pays-off-45561>

Helliwell Provincial Park, Hornby Island (which involved both the removal or pruning of many conifers)

<https://goert.ca/ecosystem-restoration-in-helliwell-provincial-park-a-background-report/>

<https://www.campbellrivermirror.com/community/endangered-butterfly-species-to-be-reintroduced-to-hornby-island-1494686>

<https://engage.gov.bc.ca/bcparksblog/2022/05/13/beautiful-butterflies-in-helliwell-provincial-park/>

Victoria

<https://vancouverisland.ctvnews.ca/rare-garry-oak-meadow-to-become-victoria-s-newest-park-1.5194497>

<https://www.vicnews.com/community/garry-oaks-camas-reveal-agricultural-impacts-of-colonialism-on-vancouver-island-90771>

Cowichan Valley

Cowichan Garry Oak Preserve: <https://www.natureconservancy.ca/en/where-we-work/british-columbia/featured-projects/salish-sea/cowichan-garry-oak-preserve.html>

Somenos Garry Oak Preserve <https://www.yeyumnuts.ca/settler-voices/naturalists>

Salt Spring Island <https://www.stqeeye.ca/phwulhp>

Videos

CBC Documentary on Garry oak ecosystems 2023
<https://www.cbc.ca/player/play/2243236419537>

United States

San Juan Islands: San Juan Preservation Trust
<https://sjpt.org/see-garry-oak-directors-cut/>