

Lekwungen Housepost Garden Ecological Restoration Plan 2008



Medicinal and Food Native Plant Gardens Ecological Restoration 341

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1. Introduction

1.1 The Lekwungen Housepost Garden: An Ethnoecological Restoration Project

In June 2003, a contemporary Lekwungen Housepost was erected outside the Student Union Building at the University of Victoria. Commissioned by the graduating class of that year, the Housepost was carved by Lekwungen carver Butch Dick from a single red cedar log. It depicts a frog holding onto otters, which are symbols of power. The grandfather, symbolized by the sun, watches over them. A plaque at the base of the Housepost explains that it is "a dedication to the Lekwungen elders - past and present - and an acknowledgement of our heartfelt gratitude for the rich legacy their history and teachings have left for the children. We also recognize the importance of education, and strive to find a balance between culture and academics." The overarching meaning of the Housepost: Empowerment.

Today, this deeply symbolic and culturally important structure is virtually invisible to passers-by. It stands on a patch of uninspiring green turf, crowded by the overhanging branches of the large non-native trees that grow around it. The site is uninviting, inaccessible, and ecologically incompatible with the traditional Lekwungen culture the Housepost represents. It is our hope that by employing the ethnoecological restoration design on the following pages, the site can be transformed into one which honours the Housepost and the Lekwungen First Nation, and reflects the ecosystem qualities which are indigenous to this land (Higgs 2008).

As a group of students that is comprised of a majority of White settlers, and which is entirely comprised of visitors to this Salish Territory, we recognize the need to engage with the complex politics associated with our role as project planners. Our approach to the project and the design we have created have been significantly guided by a code of ethics for working with Indigenous peoples (See Appendix: Considerations for Working in a Culturally Significant Site). We have tried to be true to the Lekwungen Housepost's symbols of empowerment, strength, and respect and emphasis on history, education, and balance by imagining ways to restore the site that draw attention to these qualities, and invite individuals from the broader campus community to appreciate and celebrate them.

On the following pages, you will find the details of our ethnoecological restoration design. We begin by (1) analyzing the site's past and current ecological and cultural conditions to provide context for our ethnoecological restoration project. Second (2), we outline our policy, goals, and objectives with the intention of articulating the desired outcomes and most important features, and the values and strategies that guide our restoration project. Third (3) we instill our policy, goals, and objectives in a design that we believe adequately reflects them, and outline what the project could look once completed. Fourth (4), we provide a budget and timeline to guide the process of implementation. And last (5), we give direction for how the restored site can be monitored and evaluated.

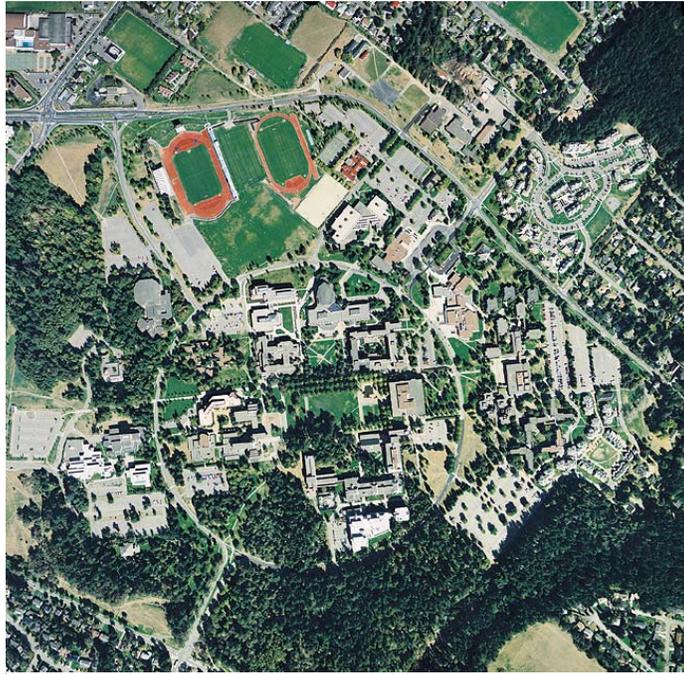
References

Higgs, Eric. (September 18 2008). Class Notes. Ecological Restoration 341. University of Victoria, Victoria BC.

1.2 Site Analysis

Leigh Joseph and Lauren Warbeck

Performing an in-depth analysis of the past and present ecological and cultural qualities of a potential restoration site is a critical first step to planning an engaging, effective, and efficient restoration project. It sets the foundation for the project by contextualizing the site, and revealing its limitations and opportunities. In short, we have to know where we are coming from to figure out where we ought to go next.



UVic Campus circa 1997 (Turner & Lovell 1999)

1.3. Ecological Factors and Physical Setting

Leigh Joseph

Introduction

It is important to understand the ecological, geographical and climatic factors that affect this region in order to plan a successful restoration project. This section describes the site of the housepost and begins with a broad overview of the general environment and climate, then moves to the specific site on campus where the housepost stands. The section will begin with some definitions of terms used in the site analysis to clarify the description of the restoration area; all definitions are from the ES 341 class material:

Biome: A largely naturally occurring community of flora and fauna occupying a major habitat. Biomes are shaped significantly by gradients (elevation, latitude) of temperature and precipitation. (Higgs, 2008)

Ecoregion (Biogeoclimatic Zones): A continuous geographical area across which the interaction of climate, soil and topography are sufficiently uniform to develop similar types of vegetation. (Higgs, 2008)

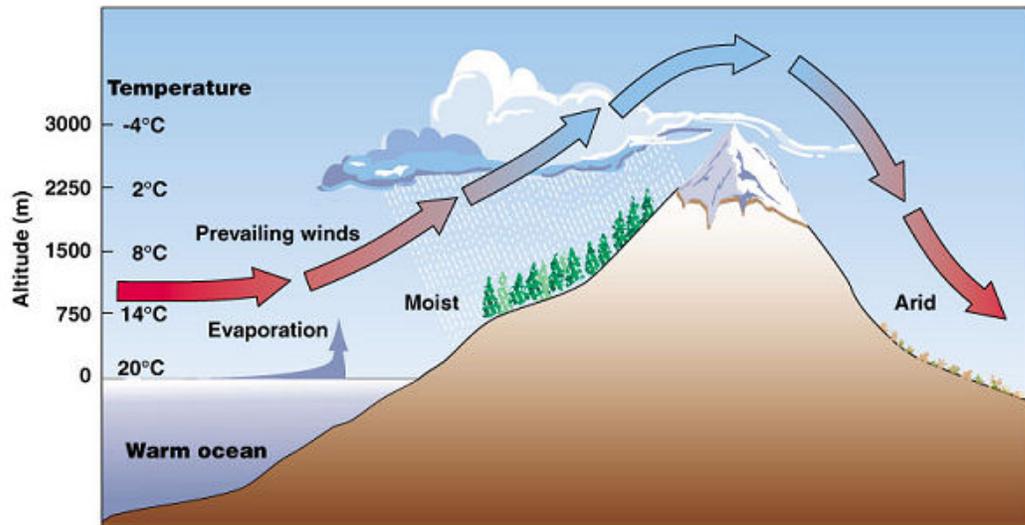
Ecosystem: Systems of living and nonliving components; physical, biological and ecological. (Higgs, 2008)

Ecological Qualities

This portion of the site analysis will give a description of the environment of the restoration site moving from broad to specific. The University of Victoria is located on the Southern tip of Vancouver Island. In this area of coastal British Columbia we live in the Temperate Coniferous Rain Forest Biome. The city of Victoria is located predominantly in the Coastal Douglas Fir Biogeoclimatic zone (CDFZ).

The CDFZ is characterized dry habitat and the dominant climax forest consists predominantly of Douglas Fir trees. Other dominant trees in the CDFZ are; Grand Fir, Arbutus, Garry Oak (dry end), Pacific Dogwood, Lodgepole Pine and Western Red Cedar (wet end) (Cannings, 1996). A set of plants known as the indicator species can be evaluated to confirm the identity of the biogeoclimatic zone that you are in. Some of the indicator plant species for the CDFZ are Western Sword Fern, Salal, Oregon Grape (tall and dull) (K. Wade, personal communication October 2nd, 2006). The presence, or lack there of, of indicator species can be used as a gauge of how in tact a certain ecosystem or zone is because certain plants flourish in particular ecological conditions (Klinka et.al, 1989). Garry Oak ecosystems once thrived in this dry environment and were a significant and specialized ecosystem to this region both culturally and biologically. There are still small pockets of Garry Oak Ecosystem that remain somewhat in tact around the UVIC campus (B. Beckwith, personal communication October 6th 2008).

The climate in Victoria is influenced by a natural process called the rain shadow effect. In this process the Coast Mountain range and the Olympic Mountain range drive up moist ocean air that has traveled over the Pacific Ocean gathering moisture as it goes. This forced lifting of moist air, also known as orographic lifting, causes much of the moisture to precipitate out of the air before it descends on the other drier side of the mountain range which in our case is down towards Southern Vancouver Island (Cannings, 1996). The general rain shadow effect is illustrated below:



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http://staffwww.fullcoll.edu/tmorris/elements_of_ecology/images/rain_shadow.jpg

[Accessed November 11th 2008]

The land that the university is built on was most likely predominantly Garry Oak savannah prior to European contact. This area would have been actively managed by local first nations through prescribed burning in order to maintain an open savannah like area for the harvesting of edible roots, hunting and prevention of large scale fires close to village sites. The drier climate of Victoria is well suited for this specialized ecosystem which prefers dry, Mediterranean-like climates (<http://www.goert.ca>, 2008). This is one reason, excluding human influences, that the Garry Oak ecosystem in BC is limited to south east coast of Vancouver Island and the southern Gulf Islands. Some of the significant plants of Garry Oak ecosystems are: Garry Oak trees themselves, Blue Camas, White Easter Lily, Yellow Western Butter cup, Chocolate Lily, Fawn Lilies, Hookers Onion and more (<http://www.env.gov.bc.ca>, 2008).

The Restoration Site

The housepost is located outside of the Student Union Building on the northwest facing side of the SUB and approximately 200 feet from the main bus loop. The site is rectangular in shape and approximately 600sq.ft. It is very fragmented as it has a walkway on two sides and ring road not far from the other two edges. The site consists of compacted dirt and mowed green grass. There are 3 trees immediately surrounding the housepost. There are two Scotts Pine and one Japanese Maple, neither of which are native to this region. The site is flat and does not have good drainage.

Some of the problems which need to be considered with the site are as follows:

- compacted soil & unknown nutrient levels in soil (it is important to try to evaluate soil moisture regime (SMR) and soil nutrient regime (SNR) as defined by the Biogeoclimatic classification system (<http://selkirk.ca/RR/bec/zones/pdf/whatis.pdf>, 2008)
- poor drainage due to the flatness of the area and the cement on every side
- pedestrian foot traffic through site

- fragmentation of site
- future expansion of the bus loop according to campus planning which would come very close to the restoration site itself
- rabbits eating roots and plants

We will address these problems in more detail in other sections.

It is essential to understand as much as possible about the ‘big picture’ of a restoration site in order to make predictions about what kinds of restoration may be successful based on the history of the land that you are working on. This understanding begins with defining the ecological, climatic, geographical and site specific environmental factors that will influence the restoration project. These considerations must also be in combination with the cultural considerations for ecological restoration.

1.4 Cultural Histories and Meanings of the Site

Lauren Warbeck

Introduction

By virtue of where it stands, the Lekwungen Housepost is immersed in a rich and complex cultural history. Over a period of at least 4000 years, the site of the Lekwungen Housepost has been utilized, interpreted, and inscribed with thoroughly varied and sometimes conflicting meanings. Indigenous inhabitants, British colonizers, early settlers, and the university itself have all participated in creating the contemporary cultural qualities of the site. This section provides an overview of the ways that human influences have synthesized to shape the site, and culminates in an analysis of how we might honour these cultural histories in our present-day restoration project as appropriately and ethically as possible.

Cultural History of the Restoration Site

For over 4000 years prior to the arrival of European colonizers, the southern tip of Vancouver Island, where the city of Victoria now sits, was occupied by the Lekwungen First Nation (Songhees Youth Group 1999). The Lekwungen First Nation is part of the Strait Salish language group, and is comprised of six families: Whyomilth, Teechamsita, Kosampsom, Swengwhung, Chilcowitch, and Chekonein. While each of these families followed the seasons to ideal fishing, hunting, and berry and root -gathering spots, they nonetheless held distinct territories which served as their winter homes (M'Gonigle & Starke 2006: 48). Specific resource areas and house sites were assigned to and managed by specific households, while other places within Lekwungen territory were treated as commons (M'Gonigle & Starke 2006: 48).



Map displays the traditional territories of the six Lekwungen Families (Songhees Youth Group, 1999)

Lekwungen Family Group	Names currently in use to describe lands reconfigured by colonizers
Teechamitsa	Colwood; southern Langford
Whyomilth	northern Langford; Thetis Lake; southern Millstream
Kosampsom	View Royal; Colwood; Royal Oak; parts of Saanich, Downtown, and Esquimalt
Swengwhung	Swan Lake; Oaklands; Fernwood; part of Downtown, James Bay; Fairfield; and a slim section of Oak Bay
Chilcowitch	Parts of Oak Bay and Saanich
Chekonein	Oak Bay; Uplands; Gordonhead, Saanich; bordering Haro Strait, and including both Chatham and Discovery Islands. The University of Victoria falls on the Chekonein land.

In the 18th century, Britain found itself in need of external resources to support the expansion of the nation and its economic interests. Colonization was one method in which they could secure them. British explorers James Cook, George Vancouver, and Sir Alexander Mackenzie began arriving on the Pacific Northwest Coast. These explorers assumed authority to claim British jurisdiction over this land, and named it British Columbia (Mattison 2004)

In 1842, Sir James Douglas, Chief Factor of the Hudson's Bay Company, arrived to Vancouver Island, anchoring his ship in what is now known as Cadboro Bay (M'Gonigle & Starke 2006: 49). Douglas and his cohorts immediately set out to evaluate the potential of Vancouver Island as a colony by surveying the land and resources. After discovering that the area was rich with promise, Douglas established Fort Victoria in 1843, a Hudson Bay Company trading post which allowed him to begin extracting resources.

According to British law, the process of making Fort Victoria an official colony required that the current occupants - the Lekwungen First Nation - surrender 'ownership' of the land to the Queen of England. In keeping with the British tradition of the time, this meant that Douglas would have to negotiate the sale of the land with the Lekwungen First Nation, and formalize the exchange in writing. The Douglas Treaties epitomize this process, and document the exchange. Below, a transcription of the treaty that was signed by the Chekonein family - who traditionally occupied the land on which UVic is built - gives the reader a sense of what this treaty process entailed.

Che-ko-nein Tribe - Point Gonzales to Cedar Hill

Know all men, we, the chiefs and people of the tribe or family of Che-ko-nein, who have signed our names and made our marks to this deed on the thirtieth day of April, one thousand eight hundred and fifty, do consent to surrender, entirely and for ever to James Douglas, the agent of the Hudson's Bay Company in Vancouver Island, that is to say, for the Governor, Deputy Governor, and Committee of the same, the whole of the lands situated and lying between Point Gonzales and Mount Douglas, following the boundary line of the Chilcowitch and Kosampsom families, the Canal of Haro, and the Straits of Juan de Fuca, east of Point Gonzales.

The conditions of our understanding of this sale is this, that our village sites and enclosed fields are to be kept for our own use, for the use of our children, and for those who may follow after us and the land shall be properly surveyed hereafter. It is understood, however, that the land itself, with these small exceptions, becomes the entire property of the white people for ever; it is also understood that we are at liberty to hunt over the unoccupied lands, and to carry on our fisheries as formerly.

We have received, as payment, Seventy-nine pounds ten shillings sterling.

In token whereof, we have signed our names and made our marks at Fort Victoria, on the thirtieth day of April, one thousand eight hundred and fifty.

(Signed)

Chayth-Lum his X mark and 29 others

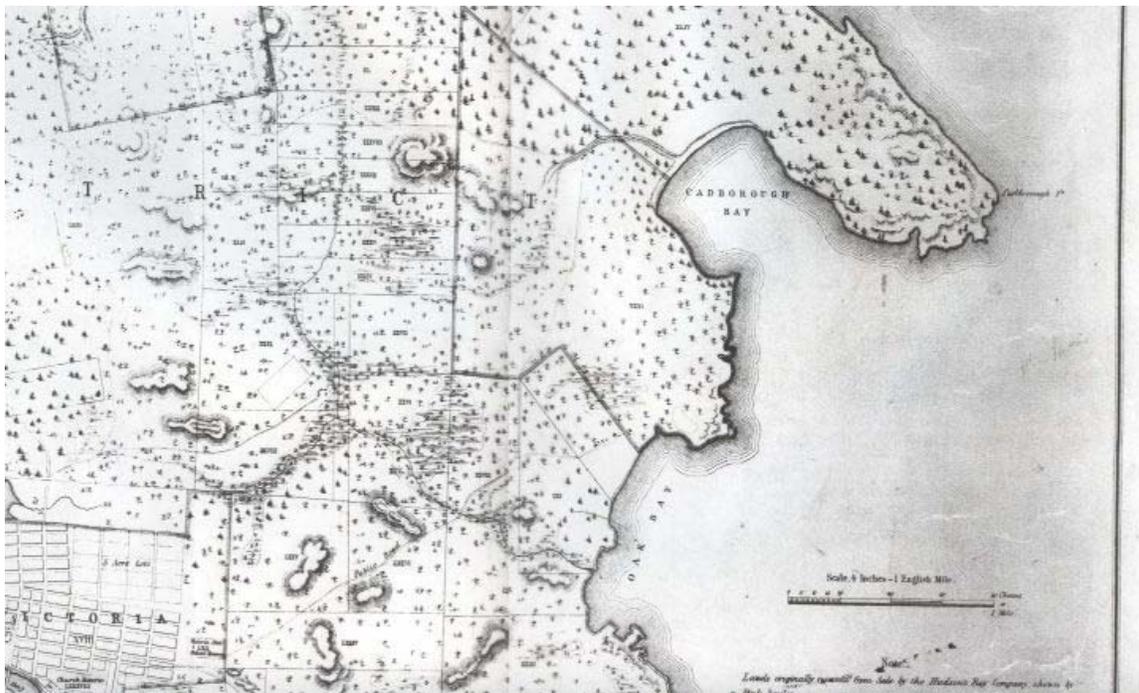
Done in the presence of (signed)

Alfred Robson Benson, M.R.C.S.L.

Joseph William McKay (Indian and Northern Affairs Canada 2008)

The legitimacy of this treaty has been hotly disputed on the basis of ethics, since the negotiation was initiated according to the cultural tradition and language of Sir James Douglas. Indeed, the validity of the Douglas Treaties is thoroughly questionable, and as such many consider the Lekwungen territories to remain unceded (Schrieber 2008). Nonetheless, at the time of their signing, the Douglas Treaties were understood by the British to affirm their right to establish a colony, and this in turn led to significant cultural change.

Immediately following the signing of the Douglas Treaties, the City of Victoria was declared a formal colony. Douglas re-named the Lekwungen "Songhees", and immediately began displacing the separate families to downtown Victoria so that he could utilize their land for development, resource extraction, and agriculture. (The Lekwungen Families posed considerable resistance, but nonetheless, by 1911, all of the families had been forced to re-settle in Esquimalt (M'Gonigle & Starke 2006: 54)



Map displays the reconfiguration of the land following the expulsion of the Lekwungen and its redistribution to Hudson's Bay Company employees (Day & Son 1861)

By 1859, 2200 acres of land had been reconfigured and parceled out to a handful of families, many of them Hudson's Bay Company employees. The Chekonein territory was interpreted by the colonizers to be ideal farmland, and the colony was in desperate need

of food. The settlers immediately began farming the area, altering the landscape as necessary. This included the building of cart trails (along old Chekonein pathways) and deforestation, among other processes (M'Gonigle & Starke 2006: 57). The first farm on Vancouver Island, Uplands Farm, was situated where UVic campus now stands, and by the 1870s, Spring Bank farm had also been established on UVic campus, its farmhouse near to where one now finds the university's central quadrangle (M'Gonigle & Starke 2006: 54). For several decades following the signing of the Douglas Treaties what is now known as Gordon Head was comprised of orchards, dairy and poultry farms, market gardens, and berry crops.

As Victoria became more formally established, both the population and human demands on the land increased. The landscape was reorganized once again to make way for more housing. Shelbourne Road was built, motorized vehicles moved in, and the economics of the area began to shift and change, becoming more complex. Large farm lots were broken up into smaller parcels of land, houses were built, and small-scale farming operations became increasingly popular. Farming continued in Gordon Head more generally, and on the university campus specifically, until the Second World War broke out in 1939 (M'Gonigle & Starke 2006: 57)

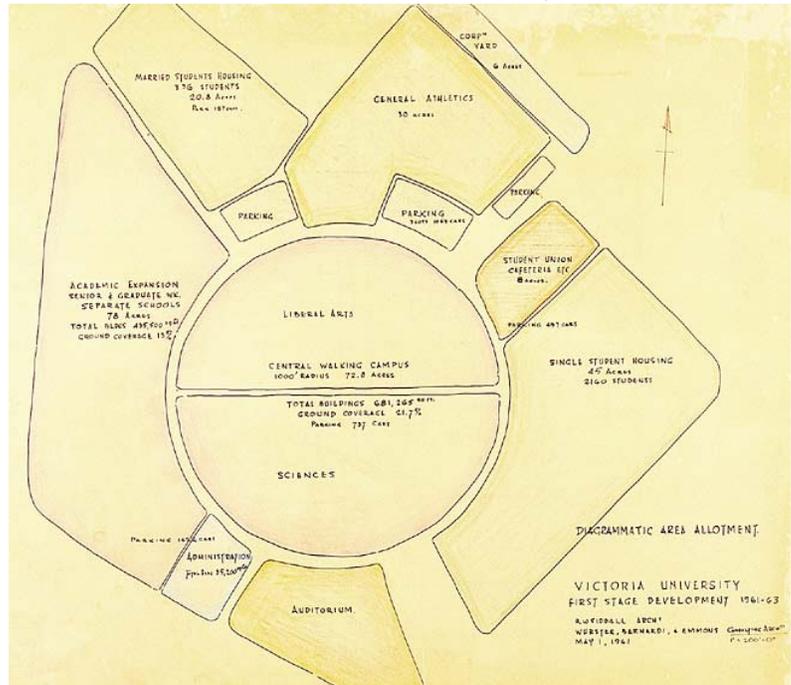
Faced with the threat of Pacific invasion, the Canadian government decided to establish a military camp at Gordon Head, on the land where the university now stands. The Gordon Head Army Camp (pictured) was completed in 1940, and was used as the officer's training centre for Western Canada (Turner and Lovell 1999).



Officers Training Centre, Gordonhead Camp, 1942
(Turner & Lovell 1999)

When the Second World War came to an end in 1945, the resulting economic boom led to an unprecedented rate of development in Victoria (M'Gonigle & Starke 2006: 58). Local farmers were pushed out of Gordon Head to make way for suburban homes, and also, for the university. In 1959, facing pressures from Victoria College to increase post-secondary enrollment in the city (Turner & Lovell 1999), and from the University of British Columbia in Vancouver to alleviate demand (Wurster et al. 1961), the University Development Board purchased the Gordon Head Army Camp and adjoining property from the Federal Government and the Hudson's Bay Company on the recommendation of architects (Wurster et al. 1961).

The University of Victoria was planned and built over the course of the 1960s, and its construction adhered primarily to the architectural and cultural morays of the time: It is focused on the constructed world - buildings, parking lots, and the like. It offers minimal opportunities for the creation of community. Although it has been meaningful in establishing a foundation for the university, the original campus plan no longer reflects the culture of the campus community. In 2003, the Campus Planning Committee released a campus plan that acknowledged the Lekwungen First Nation and put environmental sustainability, preservation of natural areas, community outreach, and the overall creation of an inclusive and welcoming landscape at the forefront of campus development (3). This signified the intentional creation of a new campus culture that is ecologically-oriented, ethnically diverse, and consultive. Arriving at our own moment in the site's cultural history, we have a window of opportunity to implement a restoration plan that reflects the goals of the updated Campus Plan and acknowledges the many parties who are culturally invested in the restoration site.



Programmatic Area Allotment: Victoria University First Stage Development, 1961-63. May 1, 1961. (Turner and Lovell 1999)

Conclusion

The site of the Lekwungen Housepost has been subject to thoroughly divergent landscape typologies (Hall) and extraordinary changes that have been motivated by complex political and economic processes. Through traditional Lekwungen-Chekonien land-use, colonization, agricultural use, military use, suburban development, and the establishment of the University of Victoria, it has accumulated multiple layers of cultural meaning. In our contemporary context, wherein the University is intentionally creating a culture of environmental stewardship, community engagement, and inclusion, we seek to implement a project that reflects these goals by restoring the site in a way that reflects and synthesizes its historical complexity, and gives special attention to those cultural meanings that have been erased through the imposition of political and economic power. It is our hope that the restored site will play a part in the ongoing creation of campus community, by creating a sense of place and an opportunity for everyone to engage with Lekwungen-Chekonein knowledge in an aesthetically-appealing and welcoming setting.

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1.5. Policy, Goals and Objectives

Jodie MacMillan

Introduction

The overall goal for restoration is that it should be “effective (restores ecological integrity), efficient (cost-effective), and engaging (respects socio-cultural linkages with nature)...” (Parks Canada and the Canadian Parks Council, 2008). The policy, goals and objectives for each specific restoration project will vary depending on the site and what you are trying to achieve. The policy is a brief and concise statement explaining why the restoration is being done. “The goals are ideals, and the objectives are concrete measures taken to attain these goals” (Society for Ecological Restoration International Science & Policy Working Group, 2004). Restoration projects that have been planned properly will accomplish the goals stated and to complete the goals the objectives must be met.

It is important that the goals for the project are realistic and therefore achievable, as they will guide the restoration project (Parks Canada and the Canadian Parks Council, 2008). For a successful restoration project it is necessary to set goals and objectives at the beginning of the project and before beginning the actual restoration. At the end of a project you can measure the success by how well the goals have been met.

For our restoration project, we are combining cultural and ecological values into our project, as it is necessary due to the houseposts cultural significance and the ecological surroundings. Currently the Lekwungen housepost as beautiful as it is not very noticeable due to the surrounding area. The surrounding area is a fragmented habitat of non-native plant species and the housepost is hidden underneath all of this. Currently there is no signage indicating the housepost is there and it is easy to walk past the site and not even notice the housepost. For this project we set out to design a site that will bring more awareness to the Lekwungen housepost.

All of our policies, goals and objectives have been formed with the thoughts gathered from all stakeholders and within our group members. We have taken into consideration the needs of all groups who will be affected when creating our policy, goals and objectives, as this is an important thing for effective restoration. Our goals and objectives will help guide our restoration project and will help us measure the success of the project.

Policy

The purpose of this restoration is to draw attention and awareness to the Lekwungen Housepost on campus and to create an opportunity for members of the campus community to learn about Lekwungen culture.

Lekwungen Housepost Restoration Goals

1. Draw more attention and cultural recognition to the housepost site.
2. Create a space which is accessible to everyone and which everyone can enjoy.

3. Include the University of Victoria and the local community in the consultation process.
4. Create an ongoing educational site regarding First Nations culture and native species plants.
5. Use the restored site as a reference point for future projects on campus.

Objectives

1. Draw more attention and cultural recognition to the housepost site.
 - Utilize signage to educate people on the sites significance by including signage in First Nations language first and English second.
 - Hold a ceremony of honor including Lekwungen First Nations elders, Butch Dick (the artist of the housepost) and local community to recognize the totem pole and whose land we are on.
 - Make the housepost more visible and appealing by;
 - Pruning trees in the area
 - Create a path leading up to the housepost and the housepost plaque
 - Plant four native plant species gardens
2. Create a space which is accessible to everyone and which everyone can enjoy.
 - Create a path leading up to the front of the housepost and around the gardens. The path will be created under the accessibility standards for the University.
 - Install a bench facing the housepost so people can sit and enjoy the housepost (possibly receive funds through a donor or the Grad Class Legacy Fund)
 - Planting gardens to add to the aesthetic value of the site
3. Include the University of Victoria and the local community in the consultation process.
 - Consult with the following stakeholders by holding meetings, emailing, telephone calls and further consultations to understand the requests or visions that the different groups have.
 - Lekwungen First Nations
 - Student Society
 - Native Students Union
 - Facilities Management
 - Office of Sustainability
 - Campus Planning and Sustainability
 - Members of the local community
 - Straits Salish (including Saanich First Nations groups)
 - Take into consideration what the above groups have to say and incorporate these into the restoration as best as possible. Important to include all of the above groups because the site affects them all.

4. Create an ongoing educational site regarding First Nations culture and native plant species.
 - Refer to Appendix to see the proposed plants which will be included in the gardens.
 - Installing signage which will explain the traditional usage of the plants in the Lekwungen dialect of the Straits Salish people first and English second, and according to Salish/Lekwungen speech patterns.
 - Invite elders to teach about the traditional uses of the plants
 - Use as an educational site for Environmental Studies classes
5. Use the restored site as a reference point for future projects on campus.
 - In future restoration projects this site can be used as a guide and template for future initiatives like this one on campus

Consultation

Consultation is key part of restoration and it is key to engage all stakeholders, as this will build “support and commitment for the project” (Parks Canada and the Canadian Parks Council, 2008). It is important from the beginning of a project to seek out all stakeholders and hear their thoughts and perspectives on the project. This will also ensure all stakeholders can voice their opinions and wishes and then be taken into consideration.

The Lekwungen Housepost Restoration project has been created with the help of input from many people and groups around campus and the local community. To date, input has been received through meetings with these people, emails and telephone calls. Continuing consultation with the following groups is a key component for success in this project.

- Lekwungen First Nations
- Student Society
- Native Students Union
- Facilities Management
- Office of Sustainability
- Campus Planning and Sustainability
- Members of the local community
- Straits Salish (including Saanich First Nations groups)

On November 5, 2008 we held an open consultation and information meeting at the housepost site. The purpose of this meeting was to inform people of what we were proposing for the site and to allow people to participate in our consultation process and voice any concerns or wishes they had for the project. Gary Dawson-Quatell from the Native Students Society, Neil Connelly from Campus Planning and Sustainability, and students from our Ecological Restoration class also attended the meeting.

Another component of our consultation process was how we worked as a group. It was very important to us to have open discussion to discuss our thoughts and concerns for the

project. As a group we met once a week to discuss the project and piece the project together; we also held a potluck as a group to work on our project. Our group worked closely together and consulted with one another constantly during construction of our restoration project plan.

The following people are key contacts for this project, some have already been contacted and consulted with, and others are suggested contacts. If we have consulted with them already then below discusses their input and what their visions are for this project. It was important and continues to be important to us that all ideas are welcomed and taken very seriously in the consultation process.

Dr. Eric Higgs

Environmental Studies Professor

(250) 471-5070

ehiggs@uvic.ca

Dr. Eric Higgs is the professor for our class ES 341: Ecological Restoration/ER 311: Principles and Concepts of Ecological Restoration.

Ryan Hilperts

Teaching Assistant

ES 341 & ES 311

(250) 472-5923

ryzome@uvic.ca

Ryan Hilperts is the teaching assistant for our class ES 341: Ecological Restoration/ER 311: Principles and Concepts of Ecological Restoration. Ryan was our initial contact and provided us with the necessary contacts for this project.

Sarah Webb

Sustainability Coordinator

Office of Sustainability

(250) 721-6678

swebb@uvic.ca

Sarah Webb is the Sustainability Coordinator for the Office of Sustainability at the University of Victoria. She is the main contact for this project and was one of the first person that we contacted for this project. We met up with Sarah and discussed the project and the main themes she thought were key for this project. We have also been in contact with her during this project over email. The following points lay out what we discussed with Sarah through our meetings and emails.

- \$2500 Budgeted for project
 - Office of Sustainability currently has \$2500 in budget
 - Potential for more if the project is pushed over into the following year
- First Nations Connection

- Noted the importance to include the Native Students Union and local community in the process
- Bring cultural awareness to the housepost site
- Traditional Plants
 - Planting traditional plants significant to the First Nations in the area
- Installing a bench on site.
 - Potential donors for bench: Grad Class Legacy fund, Students Society
- Interactive aspect
 - Including signage about the site, housepost, and native species gardens, cultural significance of site
- Issues of maintenance
 - Inner ring of turf around the housepost is prone to being wet so important to plant appropriate plant species
 - Planting of drought tolerant species so less maintenance required
- Issues of a pathway and accessibility
 - Path must be built to accessibility standards of UVic as it is a main area on campus
- Issues of bunnies
 - Appropriate fencing needed to keep the bunnies out of the gardens
- Ongoing lab
 - Possibility for using the site as an educational site for Environmental Studies Classes
 - Potential for Ethnobotany labs

Gary Dawson-Quatell

Firekeeper

Native Student Union

dawqua@uvic.ca

Gary Dawson-Quatell is the firekeeper for the Native Student Union and seemed very interested in this project and would really like be included if it actually goes forward. He also mentioned that he is very willing to be contacted and have open conversation about the restoration project. We had a chance to meet with Gary at our information and consultation meeting; the following are the things Gary voiced during this time.

- Cultural aspect is very important to him
- Respecting and recognizing whose land we are on and who made the artwork
- Possibility of bringing in an elder for a ceremony of honor/celebration
- Wants to see the artist, Butch Dick, a part of the project
- Gary noted it is important that he consults and discusses the project with his band

Butch Dick

Artist of Lekwungen Housepost

salishspirit@shaw.ca

Butch Dick is the carver of the Lekwungen housepost and was contacted via email. We feel it is important and respectful to include Butch in this project, as he is the artist of the main aspect of this project. He could also be a possible contact to find someone to commemorate the area. The following is his input on the project.

- Contacted and keen to be a part of project
- Would like to see a sign recognizing that it is Lekwungen land

Abe Lloyd

Ethnoecology M.Sc Student
arcadianabe@yahoo.com

Abe Lloyd is an ethnoecology Masters Science student under Dr. Nancy Turner, studying tidal flat root garden systems in Kingcome Inlet BC. When we met with Abe he provided us with knowledge about medicinal and food uses for plants and provided suggestions about plants that would do well in the fragmented habitat around the housepost.

Neil Connelly

Director
Campus Planning and Sustainability
(250) 472-5433
nconn@uvic.ca

Neil Connelly is the director at Campus Planning and Sustainability. Neil came out to our information and consultation meeting at the housepost site. In the future Neil would be an important contact to discuss any planning issues relating to the site. The main thing Neil mentioned during our meeting was that we should keep in mind that there might be potential restructuring of the road near the housepost due to the fact that the bus loop is nearing capacity. This issue will be important to take into consideration when looking at our spatial scale.

Caitlin Meggs

UVSS Chairperson
University of Victoria Student Society
(250) 721-8370
chair@uvss.uvic.ca

Caitlin Meggs is the chairperson for the University of Victoria's Student's Society. When we met with Caitlin she voiced interest in the project and noted she would donate funds from UVSS for the project. Caitlin should be consulted with to voice the Students wishes on campus.

Facilities Management

Main Office
(250) 721-7591

In the future Facilities Management should be contacted to discuss issues of planting, maintenance and accessibility.

Bentley Sly
Grounds Manager
(250) 721-7606

Bentley Sly is the Grounds Manager within the Department of Facilities Management. He was not contacted during the project, but would be an excellent contact for future site specific questions or project implementation questions.

Gordon Argyle
Accessibility Coordinator
(250) 472-5018

Gordon Argyle is the accessibility coordinator within the Department of Facilities Management. He was contacted regarding accessibility standards for the proposed pathway. Mr. Argyle approved of the use of square, flat flagstone tiles for an accessible pathway. He suggested the regular pruning of any overhanging branches above or on the sides of the pathway.

Suggestions for Future Contacts

Songhees Band Office
(Potential contact: Cheryl Bryce)
(250) 386-1043

Dr. Brenda Raye Beckwith
Department: Environmental Studies
(250) 721-6125
beckwith@uvic.ca

Dr. Nancy Turner
Department: Environmental Studies
(250) 721-6124
nturner@uvic.ca

References

Parks Canada and the Canadian Parks Council. 2008. *Principles and Guidelines for Ecological Restoration in Canada's Protected Natural Areas*. Gatineau QC.

Society for Ecological Restoration International Science & Policy Working Group. 2004. *The SER International Primer on Ecological Restoration*. www.ser.org & Tucson: Society for Ecological Restoration International.

2. Methods

2.1 Design and Implementation

Robyn Wooldridge

The housepost garden has been designed to meet the goals and objectives of this restoration project. The primary function of the garden is to draw attention to the housepost and its cultural relevance. A series of native plant gardens, each highlighting a distinct ecological or cultural aspect of the local landscape make up the majority of the restoration. The individual species and plant associations we propose for this restoration project are unlikely to have existed previously in the specific arrangement outlined below. Thus, we view the design as a way to showcase native ecosystems and highlight plants that are important to the Lekwungen culture. As such, the design of this restoration project reflects goals which are educational in nature more than they are ecological. The restored site will provide opportunities for future and ongoing education involving the history, culture, and native ecosystems of the area. The garden will also create an aesthetically pleasing, outdoor space that can be enjoyed and accessed by anyone. The main restoration action we are taking is to remove the existing exotic grassy species which currently occupy the area around the housepost and replace them with a highly structured assemblage of native species. We hope the completed housepost garden inspires and guides future campus restoration projects.

Design

The garden will consist of four groups of native edible and medicinal plants organized to bring attention and relevance to the housepost. Plant species have been chosen based on their historical relevance to the area and indigenous cultures, the likelihood that they will survive in this environment, and their ability to beautify the area around the housepost. The garden has been designed to include the housepost as its focal point. The area immediately surrounding the housepost will be converted to a circular estuary garden. This accomplishes two objectives. The estuary garden will be adapted to the wetland environment at the base of the housepost that does not support a wide range of plants. It also ensures visibility of the housepost and plaque since it is primarily composed of low lying plants. The estuary garden will be encircled by a flagstone pathway. The pathway both encourages visitors to look at the signatures on the back of the housepost and provides the opportunity to closely view the three other gardens. The remaining gardens will be organized around the sides and back of the housepost circle (see figure 1). They consist of a garry oak garden, a berry garden and a tea garden. The estuary garden and the garry oak ecosystem garden are composed of plants grouped into ecological categories, giving visitors an opportunity to learn about native ecosystems. The berry garden and tea garden contain plants grouped into cultural categories. This type of grouping provides a way for visitors to learn about cultural uses of native vegetation. These gardens are essential in achieving the goal of creating a site which provides an on campus template and physical space to educate students about First Nations culture,

native plant ecology and ethno-ecology. The four small gardens that will constitute the housepost garden as a whole are outlined as follows:

Estuary Garden: This garden will be composed of plants that can tolerate the wetter conditions that exist at the base of the housepost. In order not to block the front view of the housepost and dedication plaque, short plants, no greater than 12” high will be planted. At the back of the housepost taller plants including basket grass and devils club will be planted to frame the base of the housepost and slightly obscure the rear metal support. The estuary garden will be planted in a circular pattern around the base of the housepost and extending out for one meter. The following edible, medicinal, and functional plants will be planted in the estuary garden:

Pacific Silverweed	<i>Potentilla anserine</i>
Springbank Clover	<i>Trifolium wormskjoldii</i>
Strawberry	<i>Fragaria virginiana</i>
Basket Grass	<i>Carex obnupta</i>
Devils Club	<i>Oplopanax horridus</i>

Garry Oak Garden: This garden will showcase plants historically found in a garry oak ecosystem. All plant species in the garry oak garden are edible. Due to the high number of adjacent trees it is not possible to plant an actual garry oak in the garden. Additionally a large tree might overshadow the housepost. We recommend that if a nearby tree dies or has to be removed, that a garry oak tree be planted in its place. Plants up to 24” will be planted in the garry oak garden. The garry oak garden should be one meter wide. Proposed plant species for this garden are:

Common Camas	<i>Camassia quamash</i>
White Fawn Lily	<i>Erythronium oregonu</i>
Hookers onion	<i>Allium acuminatum</i>
Chocolate lily	<i>Fritillaria lanceolata</i>

Tea Garden: This garden will highlight edible and medicinal plants used by the Lekwungen people to make tea infusions. This garden should be one meter wide to match the width of the garry oak garden and the berry garden. Plant species reaching one meter in height will make up the garden. Plant species for the tea garden are:

Trailing blackberry	<i>Rubus ursinus</i>
Labrador tea	<i>Ledum groenlandicum</i>
Licorice fern	<i>Polypodium glycyrrhiza</i>
Cuxmin	<i>Lomatium nudicaule</i>
Field mint	<i>Menthe advances</i>
Stinging nettle	<i>Urticus dioica</i>

Berry Garden: This garden will emphasize native berry species. The berry garden will be composed of plants and shrubs that may reach a height of 3 meters. The high number

of edible berry plants in this section the garden helps to highlight the diverse food available to the Lekwungen people. The berry garden will be installed on the east side of the housepost garden next to the Student Union Building to provide a natural separation and peaceful space for visitors to enjoy. This garden should be one meter wide. Following is a list of desired plant species to be included in the berry garden.

Red Flowering Currant	<i>Ribes sanguineum</i>
Evergreen Huckleberry	<i>Vaccinium ovatum</i>
Red Huckleberry	<i>Vaccinium parvifolium</i>
Alaskan Blueberry	<i>Vaccinium aleskaense</i>
Oval-leaved Blueberry	<i>Vaccinium ovalifolium</i>
Blue elderberry	<i>Sambucus caerulea</i>

For photos and more specific information on plant uses, please reference the plant use table in the appendix.

Implementation

Plants will be acquired through, purchase, collection and propagation. Collection and propagation should be organized with the cooperation of future environmental studies courses. Species that are unavailable through collection or propagation will be purchased. Purchased plants should be locally sourced.

Planting will be undertaken by Facilities Management. Facilities Management is advised to seek the help of the university community and environmental studies class volunteers. Tools and non plant supplies including soil, mulch, and non-chemical fertilizer will be furnished by Facilities Management. To make the housepost more visible from within the garden overhanging branches of existing trees will be pruned.

During the planting phase of the project, temporary fencing in the form of one meter high chicken wire should be used to prevent damage from wildlife and pedestrian traffic.

After the garden is planted a bench and a flagstone pathway will be added to the area. The pathway will lead visitors to the bench and the front of the housepost. I consulted Gordon Argyle, accessibility coordinator of the facilities management department to ensure the garden design meets current University accessibility standards. Large, closely spaced, square flagstones with smooth tops meet current university accessibility standards and maintain a natural atmosphere in the housepost garden. Additionally, Mr. Argyle recommended that branches and shrubs infringing on the pathway be removed for safety purposes and to provide access to the blind. The pathway should be one and one half meters wide.

Permanent fencing and signage will be the final elements of the garden. Due to the high number of rabbits on campus, strong durable fencing is required. The fence will be composed of a cedar lattice lined with steel chicken wire. Fencing will be buried 10cm into the ground and extend one meter above ground. Each of the four gardens will be

completely enclosed by a separate fence. At the front of the housepost, fencing will be modified to allow a complete view of the housepost and dedication plaque.

The main goal of the signs is to introduce visitors to the site, highlight the importance of the housepost and explain the relevance of the plant species and assemblages to the site and Lekwungen people. While we did not undertake the specific design and text of the signs associated with this garden we recommend the following number and layout. An introductory sign where the pathway enters the garden will explain the history of the garden site, its cultural significance and draw attention to the housepost and native plants. Small signs at each garden will name and describe the function of the garden. Plaques with plant names will be staked into the ground next to a representative of each plant species. All signs will be printed in the Lekwungen dialect of the Straits Salish group and English. Design and text of the signs provides an excellent opportunity for a future project in an environmental studies course at the University.

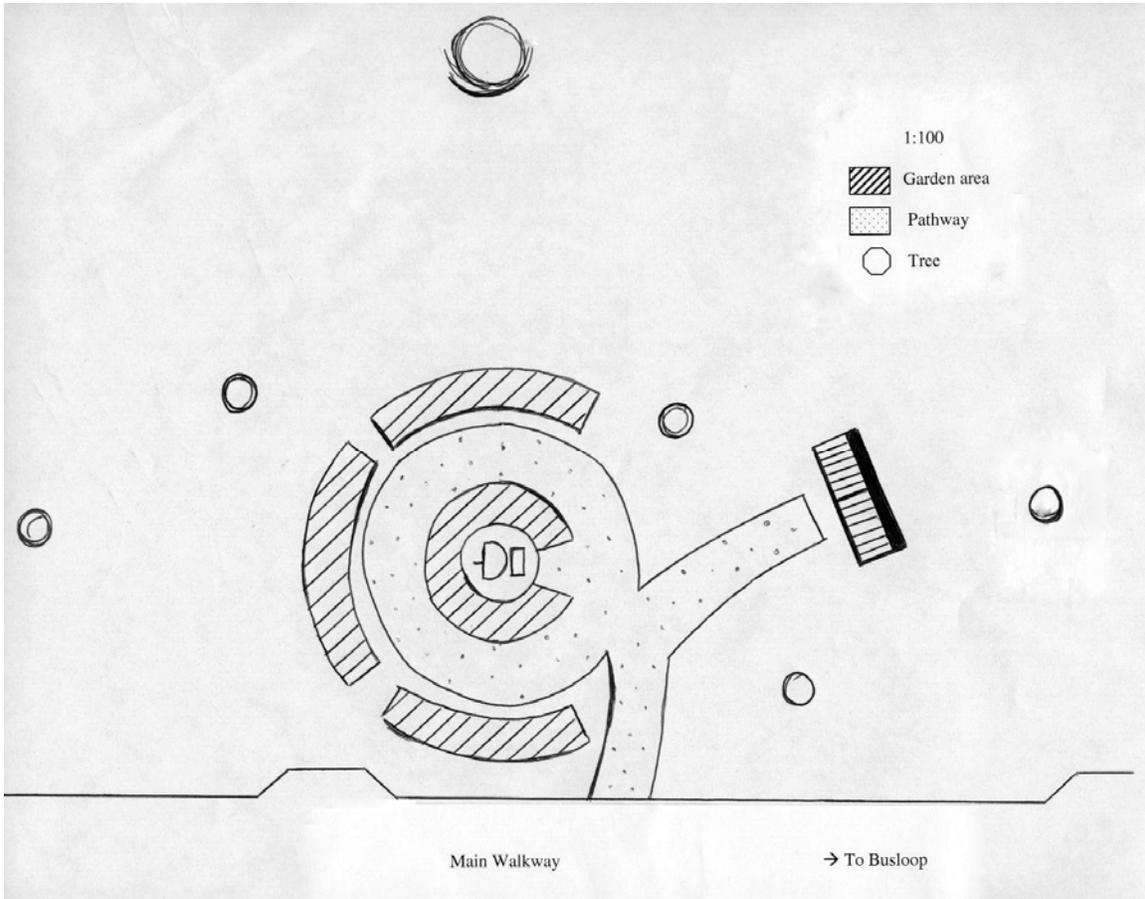
Upon completion of the garden, a dedication ceremony will be organized according to traditional Lekwungen practices. Butch Dick, the artist who carved the housepost, along with the local First Nations population and the Native Students Union will be invited to design a dedication ceremony honoring the housepost and introducing the native plant garden.

Conclusion

Since it is possible that we may not be present when this restoration project is implemented, we recommend that the goals and objectives we outlined are followed to the degree feasible. We understand that restoration projects need to be flexible in their design to accommodate unknown factors. If elements of this design plan need to be changed, we hope that the goals and objectives are upheld in the alternatives chosen.

Figure 1:

Shown is a to scale drawing indicating the layout of the housepost garden. The pathway enters from the east near the Student Union Building and continues to a bench or to the front of the housepost. The pathway continues around the housepost encountering the tea garden on the western side, followed by the garry oak garden behind the housepost, and finally the berry garden closest to the main walkway outside the Student Union Building. The estuary garden encircles the housepost with a cut out to allow for viewing of the dedication plaque.



Drawing by Kendal Benesh

References

National Parks Directorate, Parks Canada Agency. 2008. *Principles and Guidelines for Ecological Restoration in Canada's Protected Natural Areas*. Gatineau, QB.

Society for Ecological Restoration International Science & Policy Working Group. 2004. *The SER International Primer on Ecological Restoration*. www.ser.org & Tucson: Society for Ecological Restoration International.

Society for Ecological Restoration International. 2005. *Guidelines for Developing and Managing Ecological Restoration Projects, 2nd Edition*. Clewell, A., Rieger, J., and Munro, J.

2.2 Budget and Timeline

Emily Mordini

Budget

The Lekwungen Housepost restoration project, unlike other projects, already has money set aside in order to be put into place in the future. For the Lekwungen Housepost garden our group has been informed that it already has \$2,500 secured for the project. Although this is a good start, further funds would need to be procured when considering all costs for the project. Our hope would be that we would be able to secure donations from other groups on campus such as University of Victoria Student Society, Alumni Association, and other various groups that give to the campus. In our list of costs we added potential costs that may or may not be part of the budget when it comes to the real planting. We hope to procure as much financial support for the project as possible. We also hope to be able to create a learning aspect that would require no monetary value.

Depending on the size of the gardens that are approved, costs could fluctuate. We created the plan so that it could be adaptable to all the needs of the university, without losing integrity of our original idea. Accessibility was also a major concern and so a pathway needed to be integrated into the design that could be wheelchair accessible. We came up with the plan to plant for separate small gardens each relating to an aspect of the plant life found on Vancouver Island and around them would be the pathway so the gardens could be viewed from all angles. The gardens include Garry Oak ecosystem garden, estuary garden, berry garden and a tea garden. All of the plants can either be found on, or are unique in some way, to Vancouver Island and all of the plants hold significant values for all coastal First Nations peoples, whether it be for food, ceremony or medicine.

It should be noted that some of the plants in the theme gardens have uses throughout the different categories, for example, strawberry leaves were used by some groups for tea but it also fits into the estuary garden category. The theme garden breakdown is a way to display a variety of plants that all hold ethnobotanical significance.

Garry oak Ecosystem garden

Type of plant	Amount	Price
Camas (<i>Camassia leichtlinii</i>)	10 pack of bulbs	\$8.99
White Fawn lilies(<i>Erythronium oregonum</i>)	5 pack of bulbs	\$8.99
Chocolate lily (<i>Fritillaria lanceolata</i>)	6x per bulb	\$10.00
Hookers onion (<i>Allium a cuminatum</i>)	3x per bulb	\$14.97

Total:
\$42.95

Estuary Garden

Type of plant	Amount	Price
Basket grass (<i>Carex obnupta</i>)	1 gallon pot	\$6.99
Devil's club (<i>Oplapanax horridus</i>)	1 gallon pot	\$5.99
Pacific silverweed (<i>Potentilla anserine</i>)	2x 1 gallon pot	\$7.99
Springback clover (<i>Trifolium wormskjoldii</i>)	4x4 inch pot	\$11.96
Strawberry (<i>Fragaria virginiana</i>)	2x4 inch pot	\$5.98

Total:
\$38.91

Tea Garden

Type of plant	Amount	Price
Cuxmin (<i>Lomatium nudicaule</i>)	3x 1 gallon pot	\$17.97
Labrador tea (<i>Rhododendron groenlandicum</i>)	2x 1 gallon pot	\$15.98
Licorice fern (<i>Polypodium glycyrrhiza</i>)	1 gallon pot	\$7.99
Nutka rose (<i>Rosa nootkana</i>)	1 gallon pot	\$7.99
Wild mint (<i>Mentha arvensis</i>)	4x 1 gallon pot	\$19.96

Total:
\$69.89

Berry themed Garden

Item	Amount	Price
Red flowering currant (<i>Ribes sanguineum</i>)	3x 1 gallon pot	\$26.97
Evergreen huckleberry (<i>Vaccinium ovatum</i>)	2x 1 gallon pot	\$15.98
Red huckleberry (<i>Vaccinium parvifolium</i>)	1 gallon pot	\$8.99
Alaskan Blueberry (<i>Vaccinium alaskaense</i>)	3x 1 gallon pot	\$38.97
Oval leafed blueberry (<i>Vaccinium Ovalifolium</i>)	2x 1 gallon pot	\$38.97
Blue elderberry (<i>Sambucus Caerulea</i>)	3x 1 gallon pot	\$45.00

Total:
\$174.88

Other costs

Item	Amount	Price
Soil	8x 18liter bags	\$39.92
Various gardening tools	various	\$260.00
Landscapers	\$30/hour	\$360.00
Honorarium fund	1	\$100.00
Fencing materials	8 meters	\$199.00
Signage	18	\$450.00
Pathway materials	12 meters	\$379.99
Bench	1	\$548.00

Total:
\$2,336.91

Total estimated cost of restoration project- \$2,663.54

* It must be noted that these prices were collected from Portland Nursery and therefore do not contain tax.

Timeline

The timeline for our project began the moment we began the project. We visited the site ourselves to get a sense of the place and what could potentially be planted. We wrote a site description and mapped the area and then met with Abe Lloyd who is one of Nancy Turner's grad students. Abe specializes in Native plant knowledge and was very helpful in giving us an idea of what would and would not grow in the area. We came up with the plan to plant 4 native plant gardens, each with a theme relevant to the island. Having finished our design for the area we felt that the project could not truly be part of the class unless the class was somehow involved. We initiated the idea to hold a design hour to receive input from both stakeholders, who have a financial say in the project, but also to the stakeholders that would be interacting with the site day after day and the ones primarily using the space, the students. We found that the people that came were truly helpful with the ideas they gave and helped us to integrate some of their ideas into the project.

Timeline is highly dependent on the growing season of the plants we chose. After having spoken with Sarah Webb, her hope was that things could start to be planted in February or March of 2009, giving the plants the best chance of survival and ultimately cutting down on cost for having to replant plants that have died. However we were careful to choose plants that would have the largest chance of survival with minimal care. But even with hardiness, the issue of infestation of rabbits on our campus has proved to be the biggest budget and time consuming aspect of the project. A fence would need to be installed just after planting in order to keep the rabbits from eating the vegetation. However fencing is a costly aspect of design and should be continued to be looked into in order to find the most cost effective plan.

Once the site is completed we would further integrate the cultural aspect into the project. Our group believes that the sacred land we sit on is too often forgotten and so we would want the area commemorated by a member of the Lekwungen nation. We would allocate a sufficient amount of our budget in order to see that an elder of the community was properly recognized for blessing the work that had just been accomplished. Our hope is that the garden will be of significance to future restoration classes and also of cultural significance to the local First Nations people. We want this garden to be one that will hopefully only have to be kept up by facilities management a couple times a year but yet is fully functioning and brings some aesthetic value to the housepost and cultural value to our campus.

Once the project has been fully approved the timeline for the project will begin with:

Week 1:

Day 1	Measuring out and marking garden perimeters, cutting out turf, roto-till, bring in soil.
Day 2	Place soil in specific garden beds where needed. Add peat moss if needed.
Day 3	Build fences for the garden.
Day 4	Begin planting and add mulch.
Day 5	Place fences accordingly around the garden and begin watering plants.
Day 6	Clean up site. Watering plants.
Day 7	Install flagstone path.

Week 2:

Day 1	Begin daily water regime, to ensure plants can receive a proper root base and best chance of survival.
Day 2	Put in signs displaying plant names and prune existing trees back.
Day 3	Take photos of plants for monitoring phase of project.
Day 4	Measure plants for growth documentation.

Week 3: Continue daily watering regime.

Week 4: Continue daily watering regime. Coordinate a Lekwungen ceremonial opening of the site, according to Lekwungen practice.

After a month of rigorous monitoring, occasional monitoring will continue and upkeep of the site will be more on a monthly basis. Environmental studies classes should be the primary group to be accountable for recording growth. Facilities management will be responsible for land management.

References

National Parks Directorate, Parks Canada Agency. *Principles and Guidelines for Ecological Restoration in Canada's Protected Natural Areas*. Gatineau, QB. 2008.

Society for Ecological Restoration International Science & Policy Working Group. 2004. *The SER International Primer on Ecological Restoration*. www.ser.org.

3 Results and Discussion

3.1 Monitoring and Evaluation Plan

Kendal Benesh

Long term success of the Lekwungen Housepost restoration project, along with any restoration project, requires continued monitoring and evaluation of the site. Acknowledgment of whether or not individual goals and objectives are being met through implementation of the restoration design is fundamental, as pointed out by the Society for Ecological Restoration (SER). SER suggests answering two essential questions upon evaluation of a restoration project: whether or not the objectives were accomplished and whether or not the goals were reached (SER International Primer on Ecological Restoration, 2004).

With appropriate steps taken in garden care, data collection, and monitoring, these questions will be answered and management may be adapted appropriately. According to these criteria, our project will ideally have reached our goals when: more attention and cultural recognition has been drawn to the housepost; a fully accessible site has been created in which all UVic community members may enjoy; the UVic and local community (and all stakeholders) have been included in the consultation process; an educational site has been created which encompasses First Nations culture and native plants; and the housepost site is restored to a state in which it may be used as a reference point for future projects on campus (For a review of this projects specific objectives, please see Section #, Pg. #). Although it may be difficult to quantitatively measure these, a plan has been developed to maximize the potential of the housepost gardens.

In Parks Canada's *Ecological Restoration Principles and Guidelines* (2008), the final step in ecological restoration requires monitoring, evaluating, adapting, and reporting the changes that ecological restoration will bring to specific areas. Therefore we have implemented all of these elements into our plan to continually manage this site, and have broken down our final steps in restoration into these categories. Determination of a specific monitoring plan customized to this project will aid in measuring success, while obtaining essential information to expand and adapt the design as needed.

Monitoring

The monitoring portion of this plan requires short and long-term efforts to ensure both a healthy garden, and continued activity from the community in appreciating and recognizing the importance of the housepost on the UVic campus. Parks Canada maintains that effective adaptive management includes such efforts and measures in order to guarantee success of the restoration (Ecological Restoration Principles and Guidelines, 2007). This project will require more initial management and monitoring than some other ecological restoration projects as it is not designed to recreate a fully functioning ecosystem, but is essentially a series of gardens that need maintenance just like any other

ornamental garden. The most important steps in monitoring the housepost project will include:

- Short term landscape management and plant care by Facilities Management, including maintenance of the housepost gardens and the surrounding environment as specified in previous meetings. This will include monitoring and actions to ensure initial plant survival, for example: bi-weekly watering of the gardens, assurance of protection from rabbits and human traffic, and any necessary replacements of dead plants. This more extensive monitoring will take place for the first year following garden planting while species develop proper root structure and establish themselves in the gardens.
- Long term landscape management and plant care by Facilities management, as specified in previous meetings. This will include monitoring and actions such as: weekly visits to the garden for monitoring, appropriate pruning, replanting when needed, removal of debris from gardens, edging of garden parameters, pruning of surrounding trees to prevent over shading of gardens, and removal of invasive plants that have settled in the area. Therefore continued communication with Facilities Management is integral in understanding whether or not the gardens are healthy.
- Qualitative and Quantitative monitoring by subsequent Environmental Studies classes or volunteers. This will primarily include continuous data collection and photography of the site to track progress of plants as well as communication with Facilities Management for their outlook on the gardens health. This will result in both gain of practical knowledge of the gardens progress as well as increasing learning and community involvement.
 - *Data Collection*: Individual plant health can be measured for most of the species planted. For example, measuring the length of plant leaves and numbers can be used in quantifying plant health in a number of species. In addition, the amount of produce that can be sustainably harvested in a traditional manner once plants have substantially developed may also be used as quantifiable data for later evaluation.
 - *Photography*: Initial photographs will be taken upon planting and monthly thereafter to track the progress of both garden integrity and individual plant health as well as development of the project over subsequent years. Visual data will also help in designing following restoration projects around campus involving similar objectives and goals.
- General monitoring of the amount of visitors to the site will also be used for later evaluation in success of goals regarding improved community ties to the housepost. This can be accomplished through surveys (as discussed later) and through Facilities Management or volunteer observation of public use of the area.

Evaluating

Evaluating the success of the housepost project is dependant on determining whether or not initial goals and objectives presented at the beginning of the project have been met. Success therefore will be measured in both an ecological and cultural. This will be aided by:

- Evaluation of collected data and photography through monitoring in comparison relative to projected objectives. Thus, information gathered by Facilities Management, future Environmental Studies classes, and volunteers will be compiled for evaluation. This is especially important during the first 2 years as awareness and recognition of the housepost is projected to increase dramatically.
- In order to evaluate socio-cultural success of the restoration, a survey has been developed aimed at UVic community members (students, faculty, staff, and others that use the UVic campus). This survey contains a series of questions designed to determine changes in how the housepost site is being used once restoration is complete. Additional questions will include individuals feelings about the 'before and after' of the housepost restoration project, and whether such restoration activities would be relevant to other sites on campus. See Appendix for the full survey. This will allow an assessment on whether or not those goals and objectives regarding social aspects of the project were met.
- If evaluation of collected data, photography, and survey material is successful, these should have resulted in an area around the housepost that is beautiful, healthy, educational, appreciated, and used. This will come in the form of growing and well established plants, as well as feedback from UVic community members that enjoy the new area and appreciate the beautiful piece of artwork it represents along with acknowledging the presence of the Lekwungen people on this land.

Adapting

Although the housepost project has been designed around specific goals and objectives, the plan is adaptive and flexible just like any living system. If the project fails to meet those goals and objectives stated previously through monitoring and evaluation techniques, then appropriate action may be taken. Adaptation may be in the form of:

- More intensive management by Facilities Management to increase health of the gardens if found to be unhealthy.
- Possible further expansion of the Gardens to increase available space and accessibility for UVic community use.
- Increased advertisement of the housepost garden to increase awareness of its change and availability for UVic community members.

Reporting

Continued communication with stakeholders and the general UVic community is an integral part of this project. Both successes and failures of this project will be reported to those directly involved in the project, including Facilities Management, Sarah Webb, the UVSS, the NSU, and others via email and telephone contact. Parks Canada recommends such communication so that any changes needed in the design or management can be efficiently implemented (Ecological Restoration Principles and Guidelines, 2007) and to keep stakeholders continuously involved in the decision making process. For the first year, a bi-annual report will be made to communicate with stakeholders the important changes that have developed through restoration of this site. This will enable those involved to know what positive effects have occurred since implementation of this plan, as well as inspire them to be involved in further similar projects. Additional reports can be made on an as-needed basis if something substantial happens to the gardens.

Monitoring and Evaluation as Long Term Learning Tools

As one of the main goals of this project is to utilize the educational potential of the housepost, this restoration design can be used in a progressive manner to be implemented as both a learning tool in future Environmental Studies courses and as a reference tool for similar sites on campus where beautiful and meaningful pieces of artwork or land are not being appreciated. Future ES classes will be encouraged to use this restored site in several ways:

- As an educational resource regarding native plants, namely edible and medicinal species. Future Environmental Studies classes will use these gardens to learn more about the variety and structure of native vegetation and traditional harvesting techniques.
- Future Ecological Restoration classes can also use this site for another ecological restoration design project, for example: designing a larger garden or more infrastructure (i.e. benches, more fencing, additional signage etc.) around the housepost, designing a website to help advertise and discuss the importance of acknowledging native artwork and presence on this land, or use as a reference point for similar projects around campus.
- This space may also be utilized by Native Elders to teach others in their communities about local plant species that may not be readily available to them.

References

National Parks Directorate, Parks Canada Agency. *Principles and Guidelines for Ecological Restoration in Canada's Protected Natural Areas*. Gatineau, QB. 2008.

Society for Ecological Restoration International Science & Policy Working Group. 2004. *The SER International Primer on Ecological Restoration*. www.ser.org.

3.2 Conclusion

Imagine that you are enrolled in an Environmental Studies, or Biology, or Indigenous Studies class at the University of Victoria. A class field trip on a sunny Spring day brings you, your professor, and your colleagues to the Lekwungen Housepost Garden. A Lekwungen elder meets you there, and explains the Lekwungen's historical use of plants on this land, all the while referencing plants that are immediately in front of you.

Imagine you are meeting a friend for lunch on Uvic campus. Wanting to escape the bustle of the Student Union Building and the Centre Cafeteria, you meet at the Lekwungen Housepost. There, you enjoy your lunch and pleasant conversation out of doors, in relative quiet, enjoying the greenery of the garden and the artfulness of the carving.

Imagine the opportunity to learn more about the culture that is Indigenous to this land.

Imagine the opportunity to make UVic a truly diverse and inclusive campus that honours its history.

Imagine the opportunity to implement a parcel of land that reflects the ecology native to this area.

Imagine the possibilities if we implement an ethnocological restoration project at the site of the Lekwungen Housepost.

3.3 Discussion

The process of carrying out this project was meaningful for each of us in different ways, yet the meanings we derived also overlap and collide in interesting and unforeseen ways. To best articulate what this project meant to us, as a group, we have separated our discussion into three main topics: ecological restoration in practice, where we live, and ourselves.

Ecological Restoration in Practice

Ecological restoration, we discovered, is experienced very differently in practice than it is in theory. From the first day we went to the site of the Lekwungen Housepost together, the project became a tangible reality – something that we could immerse ourselves in not just intellectually but also physically, and even emotionally and spiritually in some respects. The many different ways that the project engaged us gave the learning experience a liveliness that is absent in classes where we are made to simply write papers or sit in discussion groups. It gave us a sense of how theory can be actualized in meaningful ways. We also discovered that restorationists are basically the modern-day equivalent of the renaissance person – they need to know a little bit of everything! A thorough and accountable restorationist needs at minimum a basic grasp of communication and writing skills, social skills, mathematics and accounting, physical

sciences, and mapping. It was exciting at times for each of us to move out of the areas of knowledge in which we are well-versed and competent, and try to grasp ways of thinking that are beyond our comfort level.

Where we live

A second meaningful aspect of the project for us was developing a more complete understanding of, and appreciation for Victoria. Learning about the ecosystems that are native to the island inspired us to imagine the landscape prior to the arrival of European explorers, and to envision possibilities for restoring our urban environment. Learning about the Lekwungen peoples served as an entry point to understanding the Salish cultures more thoroughly. Learning about the process of colonization helped us to identify the history of the neighbourhoods and streets that we move through and on every day, and the structures that shape our city. Together, what we learned about the city of Victoria over the duration of this project has created within us a greater sense of place and an orientation point for understanding how we fit into the unfolding ecological and cultural history of this land we call home.

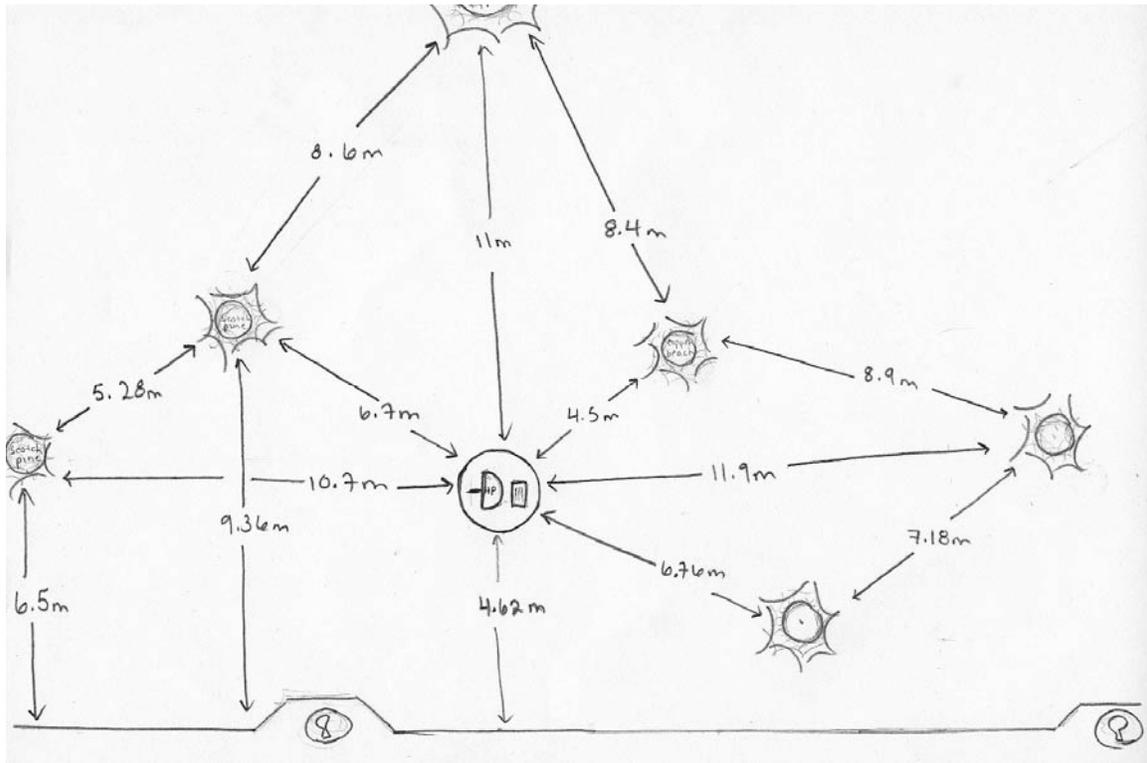
Ourselves

The third and final meaningful outcome of this project was the way it impacted each of us personally. We were lucky that, from the outset, we worked marvelously as a group: We listened attentively to one another, practiced openness and flexibility, accommodated one another's strengths and weaknesses, encouraged one another and shared and built upon one another's ideas. All members of our group put in an appropriate amount of time and work. Sharing dinners and getting to know one another better at our meetings was the icing on the cake. Having participated in group projects at the university level for between two and five years each, we all recognize the efficiency, support, and amicability that characterizes our group as an aberration in the realm of group work. In discussion about this unique group work experience, we realized that it was due in large part to the type of collaboration that restoration demands that helped our group function so well. Bringing together a wide range of skills and interests made our group stronger. Together, we invested ourselves in creating a project that is meaningful for us as people and ultimately has become more than just a sum of its parts.

APPENDIX

Site Map

The following site map provides an aerial view of the housepost and surrounding area. The housepost can be seen in the center of the drawing with distances to adjacent trees and landmarks measured in meters. All round objects with six pointed figures surrounding them are trees. The main walkway on the western side of the Student Union Building borders the lower edge of the map. The circular figure shown in the indent of the walkway is a lamppost.



Drawing by Kendal Benesh

Considerations for Working with a Culturally Significant Site

Leigh Joseph

Some suggestions to consider when working with First Nations peoples in the realm of restoration are:

- 1) To involve people from the start and find out if there are particular protocols or a particular significance to the area that is being restored.
- 2) To consider the specific First Nations group that you are working with and to work to develop a plan that incorporates or considers the appropriate language dialect, land based stories, significant sites or biota etc. to those peoples.
- 3) Involve the local First Nations people in the restoration work if possible and find out if there is someone in that community who could plan for an appropriate ceremony or event to recognize the restoration project.
- 4) Consider how the restoration project can contribute back to the First Nations community. For example we hope that the native medicinal and edible plant garden could be a place that Lekwungen elders and children could come to teach and learn about culturally significant plants and to see the housepost.

These are just a few suggestions that we considered when developing our restoration plan, the main message is to do your research to find out whose traditional land you are working on and who you should contact to discuss the project further.

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Plant Use Table

Leigh Joseph

Photograph	Scientific and Common Name	Some of the Traditional Uses ^{1,2,3}
Garry Oak Ecosystem Themed Garden		
 <p>http://www.ubcbotanicalgarden.org/potd/camassia_quamash.jpg</p>	<p>Camassia quamash Common Camas</p>	<p>The bulbs were pit cooked for a long period, usually for about 24 hours. The bulbs are a source of carbohydrates in the form of Inulin which is broken down into fructose through the cooking process.</p>
 <p>http://www.dereila.ca/dereilaimages/ChocolateLily.jpg</p>	<p>Fritillaria lanceolata, Chocolate Lily</p>	<p>The bulbs of the plant were steamed in cook pits and eaten by many different Coast Salish groups.</p>

 <p>www.pnt.org/.../wildflowers/white_fawn_lily.jpg</p>	<p>Erythronium oregonum, White Fawn Lily</p>	<p>Plant from Garry Oak ecosystem, confined to Vancouver Island and areas south.</p>
 <p>http://www.islandnet.com/beaconhillpark/graphics/201f_Hooker's_onion_5K175.jpg</p>	<p>Allium acuminatum, Hookers Onion</p>	<p>Has small, strong tasting bulbs that were sometimes eaten by some northwest coast groups. This is a restricted species and shouldn't be harvested in the wild.</p>
<p>Estuary/Wet Area Themed Garden</p>		
 <p>http://www.cof.orst.edu/cf/wildlife/images/species_photos/plants/carex_obnupta-slough_sedge.jpg</p>	<p>Carex obnupta, Basket Grass, Slough Sedge</p>	<p>Is a popular basket making material for Nuu-chah-nulth and Makah. And is harvested by local individuals for weaving as well.</p>
	<p>Potentilla anserine ssp. pacifica, Pacific Silverweed</p>	<p>Pacific silverweed was eaten by almost all coastal groups. The roots are harvested and steam cooked. The flavor and texture have been likened to that of sweet potato.</p>

 <p>Photo by Leigh Joseph</p>		
 <p>Photo by Leigh Joseph</p>	<p><i>Trifolium wormskjoldii</i> Springbank Clover</p>	<p>The fleshy rhizomes are an important food source for northwest coast people. They are often prepared along with silverweed.</p>
 <p>Photo by Leigh Joseph</p>	<p><i>Oplopanax horridus</i> Devils Club</p>	<p>This is a very significant medicinal plant on the BC coast. The roots and the inner bark are the main medicinal parts used. But there are many uses for all parts of the plant</p>
 <p>Photo by Leigh Joseph</p>	<p><i>Fragaria virginiana</i> Wild Strawberry</p>	<p>Wild strawberries were only eaten fresh as they were too juicy to be dried and stored. The Saanich steeped fresh leaves to make tea.</p>

Tea Garden

 <p>www.fs.fed.us/.../shrub_white/Rubus_ursinus.jpg</p>	<p>Rubus ursinus</p> <p>Trailing Blackberry</p>	<p>The berries were a common food source for northwest coast peoples. The dried leaves can be used for tea and the leaves and roots were used for various medicines.</p>
 <p>www.ct-botanical-society.org/.../ledumgroe.html</p>	<p>Ledum groenlandicum</p> <p>Labrador Tea</p>	<p>Tea made from the leaves were used to treat sore throats and colds. Tea should be consumed in moderation. Important to ID properly! It is similar in appearance to bog laurel, trappers tea which are dangerous to use.</p>
 <p>Photo by Leigh Joseph</p>	<p>Polypodium glycyrrhiza</p> <p>Licorice Fern</p>	<p>The rhizome tastes of licorice and were chewed on for sore throats and as a sweetener for bitter medicines.</p>
 <p>www.islandnet.com/.../contents/chapter21.htm</p>	<p>Lomatium nudicaule</p> <p>Indian Consumption Plant</p> <p>Cuxmin</p>	<p>The seeds of the plant are chewed for colds, sore throats. The seeds are high in vitamin C and were widely used to treat consumption during the last century</p>

 <p>flickr.com/photos/7551546@N08/2232012242/</p>	<p>Mentha arvensis Field Mint</p>	<p>The leaves are used commonly for making tea. The tea was drank by the Nuxalk</p>
 <p>www.helfgotblog.com/food-as-medicine/</p>	<p>Urticus dioica Stinging Nettle</p>	<p>The leaves can be cooked and eaten as greens. Nettles can be used to make a tea for a spring tonic. The fiber made from stinging nettle was used for fishing nets and snares. *Caution, use gloves when harvesting and do NOT EAT RAW.</p>
<p>Berry Theme Garden:</p>		
 <p>Photo by Leigh Joseph</p>	<p>Ribes sanguineum Red Flowering Currant</p>	<p>The berries were eaten fresh but usually not collected for drying by various Coast Salish peoples.</p>

 <p>www.wnps.org/plantimages/vaccinium_ovatum_je.JPG</p>	<p>Vaccinium ovatum Evergreen Huckleberry</p>	<p>Berries were eaten fresh by Straits Salish and other Coastal Groups. They were often eaten with oil and dried into cakes.</p>
 <p>Photo by Leigh Joseph</p>	<p>Vaccinium parvifolium Red Huckleberry</p>	<p>These berries were eaten by all Coastal First peoples. They were eaten fresh and dried into cakes for winter use. Juice was consumed to stimulate appetite.</p>
 <p>depts.washington.edu/.../image002.jpg</p>	<p>Vaccinium Alaskaense Alaskan Blueberry</p>	<p>Berries were eaten fresh and dried by most coastal groups.</p>

 <p>www.ag.uidaho.edu/sandpoint/research.htm</p>	<p>Vaccinium ovalifolium</p> <p>Oval-leaved Blueberry</p>	<p>These berries were highly regarded as a food item by all coastal aboriginal peoples. Berries were eaten fresh or dried into cakes.</p>
 <p>www.boskydellnatives.com/lewisandclark.htm</p>	<p>Sambucus caerulea</p> <p>Blue Elderberry</p>	<p>This plant has a limited range and is found on Vancouver Island. The berries were eaten but usually cooked first. They were dried with other berries into cakes for winter use.</p>

References

Camassia quamash: http://www.ubcbotanicalgarden.org/potd/camassia_quamash.jpg
[accessed November 13th 2008)

Chocolate lily: <http://www.dereila.ca/dereilaimages/ChocolateLily.jpg>

Fawn Lily: www.pnt.org/.../wildflowers/white_fawn_lily.jpg

Hookers Onion:

http://www.islandnet.com/beaconhillpark/graphics/201f_Hooker's_onion_5K175.jpg

Slough Sedge

http://www.cof.orst.edu/cf/wildlife/images/species_photos/plants/carex_obnupta-slough_sedge.jpg

Trailing Blackberry: www.fs.fed.us/.../shrub_white/Rubus_ursinus.jpg

Labrador Tea: www.ct-botanical-society.org/.../ledumgroe.html

Indian Consumption Plant: www.islandnet.com/.../contents/chapter21.htm

Field Mint: flickr.com/photos/7551546@N08/2232012242/

Stinging Nettle: www.helfgottblog.com/food-as-medicine/

Evergreen Huckleberry: www.wnps.org/plantimages/vaccinium_ovatum_je.JPG

Alaskan Blueberry: depts.washington.edu/.../image002.jpg

Oval Leaved Blueberry: www.ag.uidaho.edu/sandpoint/research.htm

Blue Elderberry:

The following are my pictures: (Licorice Fern, Flowering Red Currant, Red Huckleberry, Devils Club, Strawberry, Pacific Silverweed, Springbank Clover

Housepost Photographs

Photo #1: Housepost



Photo #2: Site



Photo #3: Group Photo



Housepost Survey

The Housepost	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
Prior to today, I was aware of the Lekwungen housepost situated outside of the S.U.B.					
If so, I was aware that it represented the important presence of the Lekwungen people on this land.					
Visiting the Housepost					
I have visited this area for reasons other than convenience (i.e. transit).					
If so, I felt that the previous surrounding vegetation (i.e. turf and non-native trees) was an appropriate habitat for the Housepost.					
If not visited before, I feel that a surrounding of turf and non-native trees would be appropriate for this area.					
Changes to the habitat					
I feel the changes made to the Houseposts surrounding area are an improvement.					
I feel this space will more readily be used by students as a place of interest and tranquility.					
I feel the additional signage helpful and educational.					
I feel the new surroundings help draw cultural recognition to the Housepost.					
Revisiting the Housepost					
I would visit this area again for reasons other than convenience (i.e. transit to the bus loop)					
I would suggest friends or colleagues to visit this area.					
The future					
I feel the overall appearance of this area has been improved.					
I feel the overall appearance of this area better represents the Housepost than its previous surroundings.					
I feel this site can be used as an educational tool aimed at educating students on things like native plants and harvesting techniques.					
I would like to see more sites on campus improved in this way.					
I would be interested in volunteering to help restore sites like these and other sites around campus in the future.					
Additional Comments:					

Thank you for completing this brief questionnaire regarding The Housepost Project. It will hopefully help to start other restoration initiatives on UVic campus, and result in more beautiful, meaningful areas like this!

~ UVic

Environmental
Studies, ES 341

Please return to:
Environmental
Studies Head Office,
SSM Building

The Housepost



~ A quick questionnaire about your knowledge and feelings about this beautiful piece Lekwungen artwork and its surroundings!!