

UBC Social Ecological Economic Development Studies (SEEDS) Sustainability Program

Student Research Report

UBC Farm Interpretive Signage Project

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EXECUTIVE SUMMARY

The UBC Farm serves as an area for research, learning, and community engagement. It is visited by students, children, Indigenous community members and the general public. Currently, the Farm lacks a formal method of communicating important aspects about the values and goals of the UBC Farm, such as educating people about the cultural and biological diversity on the farm.

Interpretive signage on the UBC Farm has the potential to effectively extend knowledge about the values, history and significance of the farm will be both a learning opportunity for visitors, and will also allow them to gain a deeper understanding of the farm. Proper signage can also play an important role in promoting food literacy, food sovereignty and food citizenship.

The ultimate aim of this research project is to develop the content and design for a series of interpretive signs at the UBC Farm. Specifically, the objectives of this study were to (1) understand what UBC Farm stakeholders would like to see communicated on the signs about social and biological diversity at the UBC Farm, (2) investigate the most effective ways of communicating narratives about sustainability to the public using interpretive signage and (3) develop three interpretive sign design mock-ups and a final report to present to the Centre for Sustainable Food Systems project team in order to jumpstart the process of installing interpretive signs on the farm.

In order to begin drafting the signage, a series of semi-structured interviews with the UBC Farm stakeholders were conducted. These interviews yielded a wealth of information about essential elements that the stakeholders believed ought to be included in the signage. We then conducted literature review and interviews regarding the best practices by which to design and build the signs. Our results included accurate details about the historical importance of the Maya in Exile garden within the Farm, information regarding where the signs should be located, and how interpretive signs should be designed that is in keeping with the aesthetic of the Farm. We also developed a budget for interpretive signs. Finally, we developed three different prototypes of our signage focusing on the Maya in Exile Garden, Ecological Diversity, and Research at the UBC Farm. In addition to these signs, a fourth "introduction" sign was designed that would situate the UBC Farm with the broader University of British Columbia community.

Our results yielded a variety of responses from stakeholders regarding placement and content, suggesting that there are more than three ideal locations and topics to cover within the UBC Farm signage project. Our findings highlighted the need for additional signage which this project did not cover. This includes signage for the main farm entrance, signage for the indigenous gardens and the signage for the children's garden. Hence, it is evident that there is great interest and importance surrounding signage at the UBC Farm. Our research hopes to inform future signs using the information we have collected regarding potential locations, recommended interviewees and desired content of signs according to respondents. Once implemented, this signage will be able to establish the UBC Farm as an educational and sustainable site.

We would like to express our sincere thanks to Melanie Kuxdorf for advising us and to SEEDs for supporting this project.

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1. INTRODUCTION

The UBC Farm is a space for community engagement, learning, research, and food cultivation. This latter function of the Farm, however, often overshadows the learning and community-development goals of the Farm. The UBC Farm currently lacks a permanent means of communicating these values and goals to farm visitors, which include students, community members, and Indigenous groups. The goal of this project is to consult with UBC Farm stakeholders in order to jumpstart the development of interpretive signs that offer a solution to this problem.

2. PROJECT CONTEXT

2.1 PROJECT GOALS AND OBJECTIVES

This project has three principal objectives:

1. Interview UBC Farm stakeholders to ascertain their values, interests, and expectations for interpretive signage.
2. Develop a project budget with low, medium, and high-cost options for implementation.
3. Develop and design three interpretive sign mock-ups for the UBC Farm.

2.2 RELEVANCE TO SUSTAINABILITY

2.2.1 FOOD LITERACY AND FOOD SOVEREIGNTY

It would greatly benefit UBC Farm visitors to have open and easily-accessible information regarding the UBC Farm's various values and goals. This would allow visitors to gain a deeper knowledge of the farm, and learn more about things relevant to the farm, and would also thereby contribute to the academic goals of the Centre of Sustainable Food Systems (CSFS).

Food literacy is key aspect of this project. Through interpretive signage, visitors can gain information about the aspects of the food system such as food cultivation techniques, (agro-)biodiversity, pollinators, etc. This would

have positive effects on the food literacy of UBC Farm visitors, which are mainly UBC students but may also include people living in West Point Grey, or people looking to buy produce from the farm.

By increasing awareness about the role of biodiversity, these signs aim to influence the behaviour of visitors to help protect land and biodiversity. Research suggests that interpretive signage has the potential to influence one's decisions, motives and behaviours (Law and Ting, 2011; Wharf, Brewster, Buxcey, & Robinson, 2015). Hence, it is important to ensure that the interpretive signage that is installed at the UBC Farm is inspiring, and incorporates a call to action.

Given that the UBC Farm is so connected to the land it is founded upon, it is absolutely necessary that visitors to the UBC Farm are aware of the history and culture of Musqueam, on whose unceded land the UBC Farm is located.

Implementing a series of aesthetically pleasing and thought-provoking signs at the UBC Farm demonstrates the importance of the farm to all visitors to the farm, including faculty, students, and the general public. With the addition of signage, the Farm will be better portrayed as an educational and interactive space wherein the community is free to learn and engage with the land.

2.2.2 POLICY CONTEXT

Implementation of signage at the UBC Farm will directly align with the goals of the Centre for Sustainable Food Systems (CSFS) at UBC. In particular, the CSFS at UBC Farm is a living lab that aims to increase food literacy, educating students and the public about sustainable food systems and food cultivation, as well supporting Indigenous food sovereignty, practices and knowledge.

The project also aligns with the goals of the UBC Public Realm Plan (The University of British Columbia, 2019). The plan strives to implement various informal learning

opportunities for the UBC community and beyond.

Additionally, this project is also congruent with some of the goals set by the Government of Canada's Federal Sustainable Development Strategy (Government of Canada, 2019). For example, the goals include achieving a more sustainable food system, creating connections between Canadians and Nature and to maintain healthy wildlife populations.

Lastly, on a global level, this project aligns with various United Nations 2030 Sustainable Development Goals (United Nations, 2019). These goals include promotion of education for the general public, encouraging equality within a community and promoting biodiversity and preservation of land.



Figure 1. Wayfinding sign at the UBC Farm (The University of British Columbia, n.d.)

3. LITERATURE REVIEW/ BACKGROUND

3.1 INTERPRETIVE SIGNS

Many different studies have been able to show the impact of signage on human behaviour. For example, a study about a public farm in Guangdong found that the location, size and content of signage placed

on their farm can greatly impact the visitors motives and knowledge intake (Law and Ting, 2011). It was also found that signs that were placed in visible areas with appealing content better inspired people to protect the environment and promotes engagement (Law and Ting, 2011).

Another study in parks on the Salt Spring Island, where some areas are commonly littered and vandalized, found that signs could impact visitors' behaviour (Wharf, Brewster, Buxcey, & Robinson, 2015). Signs that highlighted ecology and biodiversity of the area were implemented, and successfully reduced the incidence of these unwanted behaviours (Wharf, Brewster, Buxcey, & Robinson, 2015).

Interpretive signage can also increase 'naturalist intelligence' and allow observers to become more aware of the natural environment, improving the recognition of diverse species (Bryant, 2005). Any sign on the UBC Farm, whether it is about crop fields or forest biodiversity, can incorporate elements of species identification.

Adding signage can help define a space. For example, a study found that even if signage does not necessarily increase knowledge of a site, visitors may still leave with an increased sense that a location is an educational space rather than just a park or typical public space (Hughes & Morrison-Saunders, 2002).

The campus farm on the University of Michigan recently developed their own interpretive signage. In order to create effective signage, the team relied on feedback from farm staff and faculty at the university. The farm was able to come up with a few different prototypes that incorporated all the details required by the stakeholders (University of Michigan School of Natural Resources and Environment, 2014).

Recently, the use of Quick Response (QR) codes has been shown to be a low-cost means of increasing engagement (Perez-Sanagustin, Parra, Verdugo, García-Galleguillos, & Nussbaum, 2016). Despite this, viewers seem to prefer methods other than QR codes even if QR codes can demonstrably increase engagement (Perez-Sanagustin et al. 2016).

Another study compared several different methods of communication with park visitors, such as GPS tracking, MP3 audio tours, signage and pamphlets (Wolf, Stricker and Hagenloh, 2013). The study found that visitors generally preferred the interpretive signage over all other methods of communication. The study also found that visitors had higher knowledge retention after interacting with text rather than images (Wolf, Stricker and Hagenloh, 2013).

A study by Chua (2015) found that visitors to the Phipps Conservatory and Botanical Garden in Pittsburg, Pennsylvania demonstrated higher audience engagement and information retention when interacting with interpretive signs and self-guided tours. The study found that visitors interacted with staff and went on guided tours 25% and 2% of the time, respectively, and neither of these methods had statistically significant correlations with knowledge creation. By contrast, display panels and self-guided tours were used 66% and 51% of the time, respectively, and both had statistically significant correlations with knowledge creation by visitors (Chua, 2015).

A study at a seal watching site in Iceland found that visitors preferred the presence of signs rather than having no signage at all, and that teleological (i.e. educational) signs had the greatest influence on humans (Marschall, Granquist & Burns, 2017). The study also found that families were the most likely visitors to require interpretive signage within an educational site (Marschall,

Granquist & Burns, 2017), indicating that interpretive signage might be highly beneficial for families who visit the farm.

It is evident that signage has the potential to significantly influence people's motives, decisions and behaviour. In addition, signage will help the UBC Farm portray itself as an educational site.

3.2 INTERPRETIVE SIGN DESIGN

In order to make a lasting impact on visitors, however, it is important that signs are designed in aesthetically-pleasing and engaging ways. According to a study conducted by Wandersee and Clary (2007), interpretive signage has key elements that correspond with the effectiveness of the signs. Key elements of signs included number of words, number of sentences, average number of words per sentence, reading level, visuals, and frequency (Wandersee & Clary, 2007). After a detailed analysis, the researchers created a list of specific criteria for creating effective signage (Figure 2).

Suggested Target for Interpretive Science Trail Sign Evaluation and Writing
Signage System Criteria:
• 70 words per sign
• 8-word average sentence length
• 80% minimum active voice sentences
• 15% maximum unique words
• 8th-grade reading level
• one main topic per sign
• conversational, non-pedantic style
• invites visual comparison and contrast
• interesting, coherent, logical
• frequent signs—to make the trail feel like it is being narrated by a knowledgeable tour guide
• both common and scientific names supplied
• accompanying graphics provided to aid identification
• no specialized science knowledge assumed
• scientific questions posed and/or inquiry about the site stimulated
• interaction promoted among group members and with the site itself at each waypoint
• diverse sign topics, rather than a thematic series
• multivocal signs, representing the voices of a variety of stakeholders
• narration or exposition relates both practical and applied, as well as multidisciplinary, science to the site
• some topics are art-, humanities-, or cultural history-oriented to entice the reluctant science reader
• signs meet this study's recommended quantitative, text-based analysis guidelines for optimal readership and maximal opportunity to learn
• signs promote critical thinking and meaning making

Figure 2. The suggested criteria for interpretive signage (Wandersee & Clary, 2007).

Research suggests that visitors generally prefer concise and easy to read signage; studies suggest that viewers will read interpretive signage for no more than 25 seconds (Wandersee & Clary, 2007; Hughes & Morrison-Saunders, 2002; Švajda & Činčera, 2017). However, it should be noted that the appropriateness of a sign to a site has been found to have the greatest impact on visitor engagement and appreciation rather than other design considerations such as the text-to-image ratio (Hughes & Morrison-Saunders, 2005), indicating that sign placement is an extremely important factor for effective interpretive signs.

4. RESEARCH METHODOLOGY AND METHODS



Figure 3. Ploughing the Maya in Exile garden. (The UBC Farm, n.d.)

4.1 METHODOLOGY

This project follows a Community Based Action Research (CBAR) approach, which means the community partner (UBC Farm) has agreed to take an active part in the research process. Our main research methods, stakeholder interviews and a criteria survey, were administered with extensive support from the UBC Farm. By following the CBAR approach, research feedback is continuous and informs research focus moving forward and all stakeholders should feel that the researchers respected them throughout the project.

The course of the CBAR approach began with a literature review, in which we collected studies done on the efficacy of different signs, and the effects of food education on the public. This informed potential designs, and the approach taken in the next steps of the project.

Stakeholder interviews were scheduled shortly before a survey was created to assess the preferences of UBC Farm staff. By seeking input from most interested stakeholders throughout the entire project, there is high confidence that these results are representative of general feelings of major UBC Farm stakeholders.

4.2 STAKEHOLDER INTERVIEWS

We interviewed major UBC Farm stakeholders, including staff, faculty directors, and program managers using semi-structured

interviews and a “snowball method”, wherein a major aspect of the interview is seeking further people or institutions to follow up on for more stories or funding sources.

For each interview, all of the main questions were written down beforehand, including possible follow-up questions in case the interviewee did not have an answer to the main question (Appendix 1). All interviewees were asked if they would mind being recorded, and all of them agreed. This allowed us to transcribe each of the interviews into a single document (Appendix 1) and code all of the most relevant points by underlining them.

4.3 UBC FARM STAFF SURVEY

The criteria survey was sent to UBC Farm staff (including UBC Farm permanent employees, interns, and potentially visitors) through the farm-wide bulletin service in order to assess which sign content is most sought by the UBC Farm community. Surveys were created using the UBC Survey Tool (<https://it.ubc.ca/services/teaching-learning-tools/survey-tool>), and according to Behavioural Research Ethics Board (BREB) recommendations.

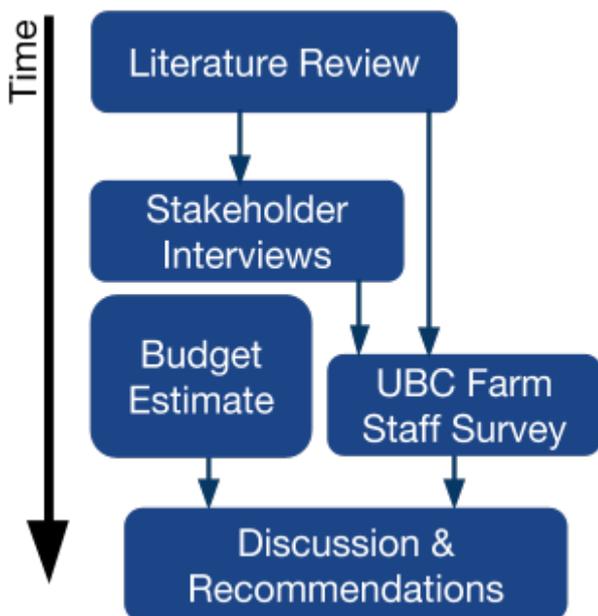


Figure 4. Research Methodology & Timeline

5. RESULTS/FINDINGS

5.1 STAKEHOLDER INTERVIEWS

The stakeholder interviews were all conducted between the 5th of February and the 20th of March, 2019. An extensive document with typed transcripts from all interviews was created (Appendix 1), and each of the interview transcripts were coded by underlining sections that were particularly pertinent for UBC Farm interpretive signage. In total, we conducted 8 interviews with stakeholders.

5.2 UBC FARM STAFF SURVEY RESULTS

The criteria survey was sent out through a UBC Farm staff mailing list. There were 22 possible respondents, and 12 recorded responses (n=12). The survey contained 30 questions, and was divided into three sections: demographic questions, sign content questions, and sign design questions. The survey was closed seven days after the last response was submitted. Responses were recorded between March 18 and March 25, 2019. A report was prepared outlining all question responses in an easily-readable format (Appendix 2).

In section 1, survey respondents were asked to share their role on the farm and the number of years they have been involved in the farm. The minimum number of years involved with the UBC Farm was 1, the maximum was 10, the mean was 4.33, and the mode was 3 (3 responses).

In section 2, respondents were asked to rank different themes that should be communicated to the wider community via interpretive signage. Where a lower number indicates a higher rank, the top three choices were, in descending order of rank, “Indigenous History and Current Activities” (Mean = 2.75), “Learning and Education” (Mean = 2.92), and “Food Cultivation” (Mean = 3.58). The respondents were then asked to provide any other additional suggestions for interpretive sign themes, which in many cases they did. Survey respondents were then asked to choose the top 3 locations on a map of the UBC Farm where they thought it would be beneficial to install an

interpretive sign, which was automatically displayed by Qualtrics as a heatmap (Figure 5).

Section 3 of the survey asked respondents to comment on what they liked and disliked about five different examples of interpretive signage design, and then to rank the five signs based on six different criteria: "Aesthetics", "Layout", "Colour palette", "Font", "Audience Engagement", and "Construction Material". Sign 4 (Figure 6) was selected as the best sign for 4 out of 6 criteria (aesthetics, layout, colour palette, and audience engagement).



Figure 5. Heatmap of UBC Farm staff preferred interpretive sign locations (Full size image in Appendix 2)



Figure 6. Image of interpretive sign 4, which was ranked by survey respondents as one of the best interpretive signs from five choices (LaHue and Associates, 2016).

5.3 INTERPRETIVE SIGN DESIGN MOCK-UPS

Four design mock-ups of interpretive signs for the UBC Farm were made (Figures 7 - 10; Full size images in Appendix 3) according to the results of the background literature review, stakeholder interviews, and the UBC Farm staff survey responses. The initial objectives of the project only called for three mock-ups, but survey responses heavily favoured the idea of having an “introductory” sign near the entrance of the farm. For this reason, we also made a mock-up of such an introductory sign. The mock-ups were created using the online program “piktochart”, and are saved as .PNG files.

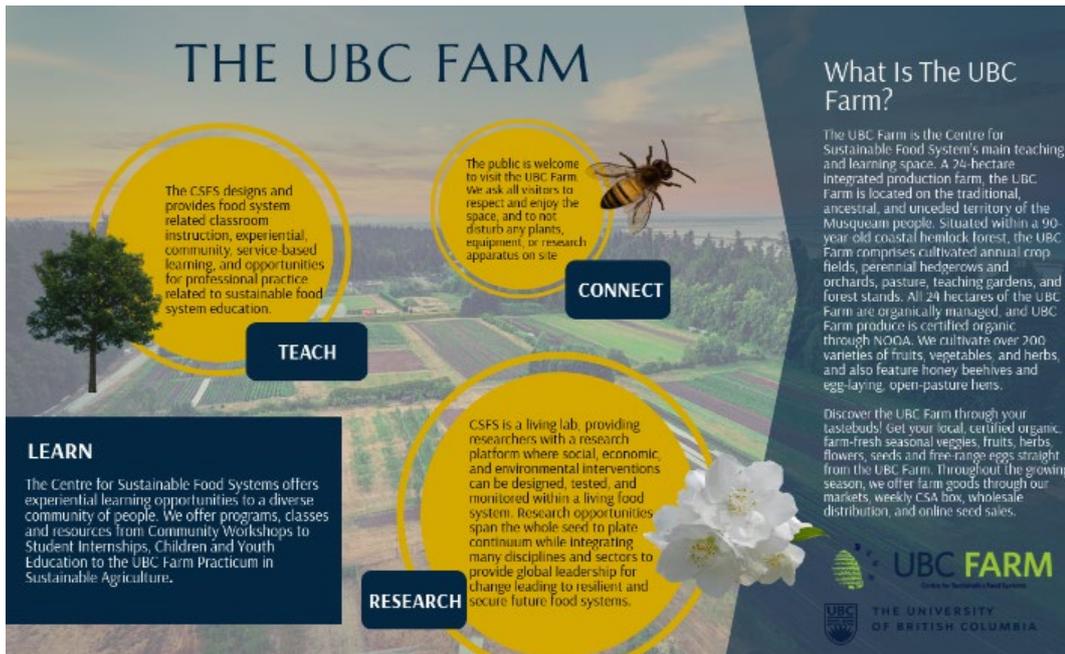


Figure 7. First interpretive sign design mock-up. An introduction to the UBC Farm.



Figure 8. Second interpretive sign design mock-up. A general discussion of UBC Farm's relationship with research.

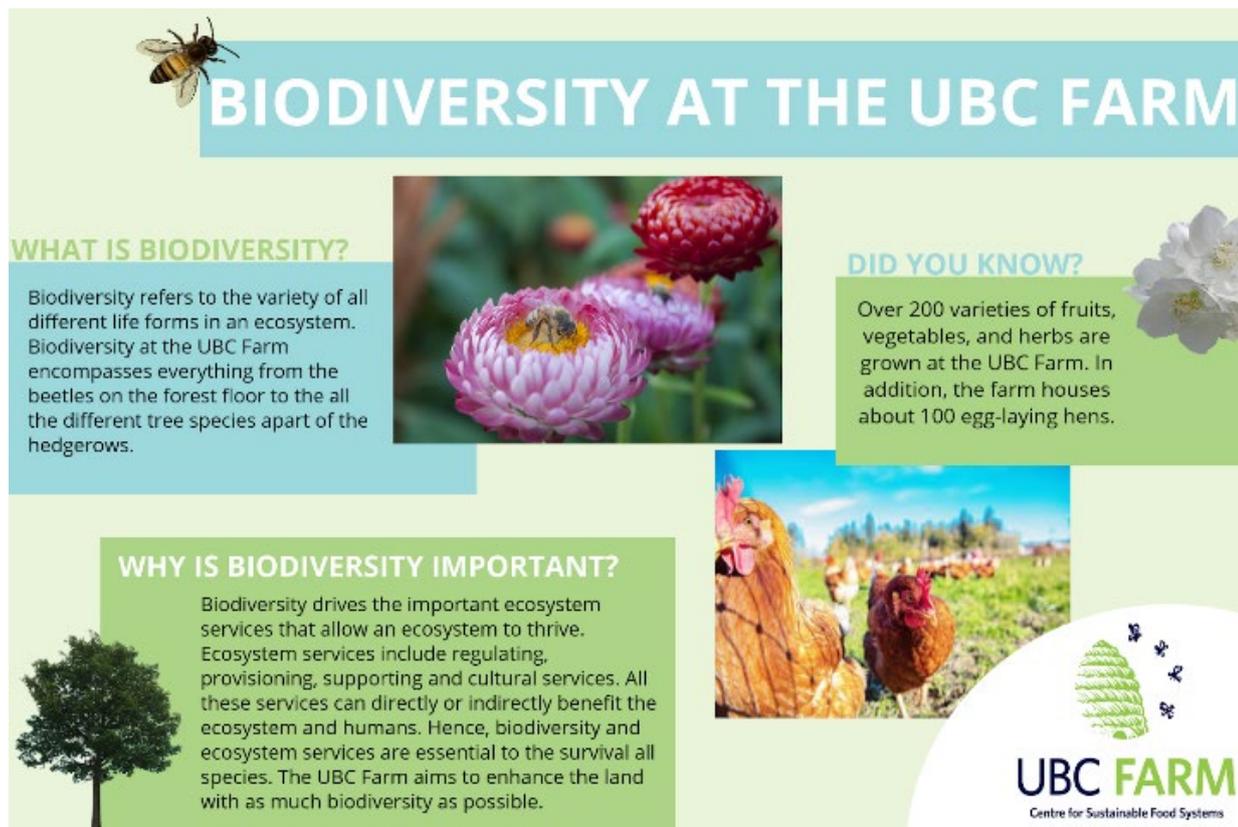


Figure 9. Third interpretive sign design mock-up. A discussion about the importance of biodiversity.

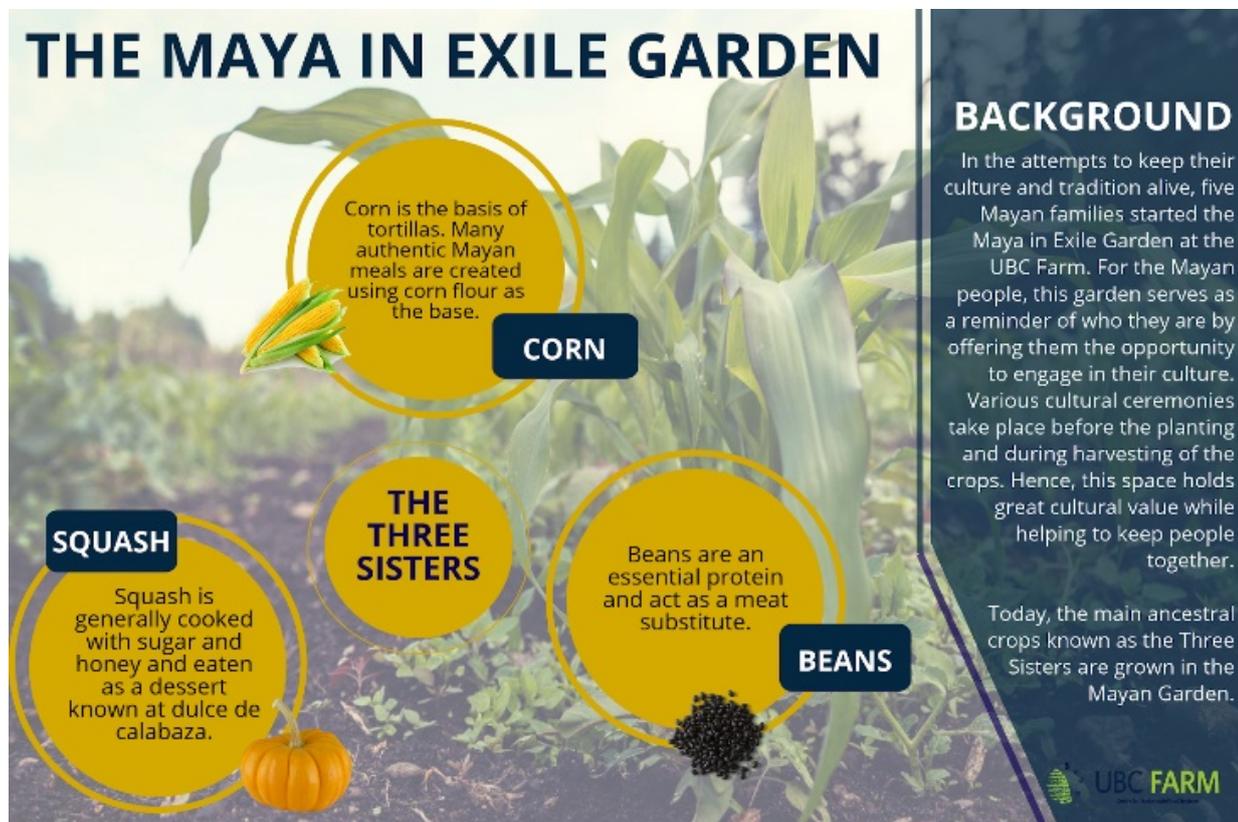


Figure 10. Fourth interpretive sign design mock-up. An introduction to the Maya in Exile garden, and Mayan culture in general.

5.4 BUDGET ESTIMATE

In order to meet the needs of the UBC Farm client, a budget document was created (Appendix 4) which includes these features:

- List of possible funding sources (with embedded website links)
- List of four signage designers (including names, addresses, and contact information) who provided valuable recommendations of signage fabricators
- List of 21 signage fabricators (including names, addresses, and contact information) located in the Greater Vancouver area.

All signage fabricators were reached out to for quotations either via email or phone, and out of all 21, four replied with valuable budgetary information that has been compiled into a budget table with product descriptions and high, medium, and low budget estimates. The highest budget estimate placed sign fabrication and installation at \$1,850 per sign (30" x 72"), and the lowest placed it at \$41.80 per sign (24" x 12").

Many of the signage fabricators that provided quotations mentioned that their quotations were extreme estimates, and that they would be able to provide more accurate product descriptions and quotations once the budget for the project had been finalized.

6. DISCUSSION

6.1 RESULTS AND LITERATURE REVIEW

Survey and interview results largely agreed with the review of secondary literature on the topic. However, there were several areas of disagreement. Our research indicated that QR codes can be used as a low-cost method of increasing engagement (Perez-Sanagustin, Parra, Verdugo, García-Galleguillos, & Nussbaum, 2016). Contrary to this, we found nearly universal opposition to the use of QR codes on UBC Farm interpretive signs. A common reason offered for this is the view that QR codes encourage the use of phones and

other devices that tend to direct attention away from the site rather than promote deeper on-site engagement. Although farm stakeholders are consistent in opposition the use of QR codes, a possible future research avenue will be to gauge the interest of target interpretive sign demographics to understand whether this position is unique to Farm stakeholders or applies to Farm visitors as well.

The literature also suggests that word count should be kept to a minimum to increase engagement (Hughes & Morrison-Saunders, 2002; Wandersee & Clary, 2007; Švajda & Činčera, 2017). In survey results, the sign selected most often as the top choice of respondents had considerably more verbiage than other options. This discrepancy could have several causes. Survey respondents were limited to five signs to rank as an initial test of 10 ranked signs proved difficult and frustrating to manage. It is possible that more options or different options could have altered the outcome to be more in line with the literature. Another possibility is that the stakeholders selected for the survey could have tastes and preferences that are much different than the general public. This again suggests that future research should engage with the intended audience of interpretive signs to differentiate between designs that farm stakeholders find engaging and those which increase engagement among the intended sign users.

6.2 STAKEHOLDER INTERVIEWS

The strategy of conducting interviews to develop sign narratives proved difficult. Though interviewees were universally passionate about participating, the process did not lend itself very well to establishing clear narrative arcs for interpretive signage. When asked directly about desired sign narrative, it was common for responses to either direct toward an information source or to suggest topics to be covered. Some examples: "The website has a lot of great content ... When the garden was set up, why we changed locations, who started it, why it was started, and what happened over time" (Anonymous, personal interview, March 2019).

Of course, that such sources exist speaks to prior work done to document important projects at the UBC Farm.

Though it was more complicated to generate narrative from interviews, they consistently opened alternative research avenues, framed the Farm's values in interesting ways, or generated interesting sign design ideas. That "the Farm doesn't produce as much as we could because food production isn't really our goal" (Anonymous food cultivation manager, personal interview, March 2019) provided an interesting frame in which to view how stakeholders aim to balance social, ecological, and economic sustainability goals of the farm.

One manager suggested weaving Indigeneity throughout signage and cited the example of highlight crops currently under cultivation that were grown by Indigenous groups (Anonymous Farm Manager, personal interview, March 2019). This would also serve an interesting purpose of having signs that don't exist in isolation from each other and direct their audience to signs at other Farm sites.

6.3 UBC FARM STAFF SURVEY

Although having survey respondents rank different examples of interpretive signs provided a good metric concerning the aesthetic tastes of UBC Farm staff, and which should be taken into account when designing signage on the UBC Farm in the future, perhaps the most important insights were offered through raw text entry questions that asked for "other suggestions".

Regarding research, for instance, one respondent noted that "All on-going major research projects at the farm should have signage, whether or not it's about management practices. e.g., biodiversity, etc.". Although we did design a research-related sign mock-up, it did not specifically mention any of the current or past research projects on the UBC Farm, because these interpretive signs should be permanent, and our community partner expressed concerns that talking about specific research projects could make the signs

outdated in the future. This respondent, however, raises a valid point that research on the farm is currently not very well-marketed; perhaps one large sign near the entrance of the farm with a list of all ongoing research projects could be installed so that the research activities of the farm are better represented.

Another respondent suggested a similar idea of seasonally-rotating signs that could be moved depending on which crops are being grown in which fields (since they change every year, there is not a permanent solution): "a large general sign that represents the crops common to specific fields could be employed [and it] could be mobile and re-installed each year, as fields rotate".

Another great result of the survey was the heatmap of preferred sign locations (Figure 5). This map is what prompted the creation of a fourth introductory sign outside the scope of this project (Figure 7). However, as another survey respondent points out, "the location of the sign should be decided in collaboration with farm staff to assure the sign won't be in the way of current activities or future activities".

Unfortunately, all the useful comments from the survey cannot be added to this discussion, so the survey results report should be reviewed by a future group of signage designers.

6.4 PROPOSED SIGNAGE

The signage created for the Mayan garden (Figure 10) features a visually appealing background of corn being grown on the field. The content of this sign is focused on the history and what is grown on the site, featuring the 'Three Sisters' polyculture combination of corn, beans, and squash. Displaying the cultural importance of the Mayan garden was a crucial component in the design.

Signage that is centered around UBC Farm research focuses on the broad, long-term goals and values of the research being conducted (Figure 8). For this sign, it was crucial to include things that reflected upon the

broader scope of the research since these signs are intended to last 10 or more years. Hence, the sign focuses on the concepts of food sustainability and climate change since these can be applied for many years into the future rather than details of the current research being conducted at the Farm.

While creating a sign about biodiversity, we found it critical to include definitions of biodiversity and the relevance to humans so that this sign could be easily understood by everyone (Figure 9). It was also necessary to include examples of biodiversity within the UBC Farm to make it relevant to this ecosystem in particular. This sign utilizes the official colours and fonts of the UBC Farm.

Lastly, a fourth additional sign was created to outline the UBC Farm role in the UBC campus (Figure 7). This sign combines design elements of both UBC and the UBC Farm. The content of this sign is solely based on the information within the official UBC Farm website. We also chose to incorporate a small bee image on each sign as an icon for farm visitors to be able to distinguish interpretive signs. If the UBC Farm thought it was appropriate, this could be turned into a fun game for visitors to play to increase audience engagement. For instance, the introductory sign might say something like: "There is a bumblebee hidden on each sign around the farm, see if you can find them all!"

7. CONCLUSION

Interpretive signage has the potential to greatly enhance a space, influence human motives and behaviours, and create awareness about educational sites (Hughes & Morrison-Saunders, 2002). There are certain characteristics of signage such as sign location, word count, and word-to-image ratio which can optimize the effectiveness of the signs. Therefore, it is crucial to design interpretive signage while referring to past research.

To create signs for the UBC farm, we focused on what various stakeholders would like to see displayed on the signs along with

suggestions for placement. Our findings suggest that there should be several signs on the farm with a main farm entrance sign being essential. Our findings are also crucial as a repository of stakeholder interview transcripts and UBC Farm staff survey responses for future signage designers to take advantage of. Once implemented, the interpretive signage will improve the UBC Farm's image as an educational and sustainable space.

8. RECOMMENDATIONS

8.1 ACTION ITEMS

Based on our results, we recommend that the UBC Farm pursue the following courses of action:

1. UBC Farm should continue to develop interpretive signage for the UBC Farm according to the thematic areas that were deemed most important by farm stakeholders through interviews and survey responses:
 - a. Apple orchard (Food Cultivation, Biodiversity)
 - b. Children's garden (Learning & Education)
 - c. Indigenous gardens (Indigenous Activities)
 - d. UBC Farm Forest (Biodiversity)
2. UBC Farm should design a sign to be located near the entrance of the farm, which introduces the interpretive signs and establishes an aesthetic or logo that the interpretive signs could all incorporate for enhanced audience engagement
3. UBC Farm should build a relationship with Musqueam, who can help vet and possibly collaborate on a Musqueam-themed sign.
 - a. Since the signage process may take a long time, the relationship should be built by a long-term UBC Farm staff member so that there is a stable point of contact.
4. UBC Farm should maintain a relationship with current indigenous stakeholders who have an active interest in collaborating

on interpretive signage. These stakeholders are:

- a. Lix Lopez (Maya in Exile garden)
 - b. Wilson Mendes, Eduardo Jovel (Xwci'c'esam garden)
5. Following completion of the sign designs, UBC Farm must seek funding for the fabrication and installation of the interpretive signs.
- a. The budget estimate reported herein (Table 1) can be used as a rough estimate to aid the search for funding.

8.2 FUTURE RESEARCH

Although most future work concerning the UBC Farm interpretive signage project was outlined in section 8.1, we have identified an additional avenue for future research:

1. Following implementation of the interpretive signs, audience engagement with the signs can be studied to further inform future signage projects both on- and off-campus.

REFERENCES

Ballantyne, R., Packer, J., and Hughes, K. (2008). Environmental Awareness, interests and motives of botanic gardens visitors: Implications for interpretive practice. *Tourism Management* 29:3, 439-444.

- Bryant, M. (2005). Interpretive signs designed to trigger naturalist intelligence at two American zoos. Lynn University. Retrieved from <https://search-proquest-com.ezproxy.library.ubc.ca/docview/305373806/fulltextPDF/C6F9C59877AE462BPQ/1?accountid=14656>
- Chua, F. W. (2015). The Impact of Interpretive Messaging on Sustainable Landscape Practices in Public Horticulture Institutions (master's thesis). University of Delaware, Delaware, United States.
- Davis, S. K., & Thompson, J. L. (2011). Investigating the Impact of Interpretive Signs at Neighborhood Natural Area. *Journal of Interpretation Research*, 16(2), 55–66. Retrieved from <http://web.b.ebscohost.com.ezproxy.library.ubc.ca/ehost/detail/detail?vid=0&sid=cd8da0a6-abc1-4d8f-a92b-3ca9f9aa95cf%40pdc-v-sessmgr01&bdata=JnNpdGU9ZWhvc3QtbGl2ZSZZY29wZT1zaXRl#AN=69923718&db=eue>
- Government of Canada. (2019). Achieving a Sustainable Future: A federal sustainable development strategy for Canada. Retrieved from <http://2016-2019.fdsd-sfdd.ca/index.html#/en/detail/all/goal:G12>
- Hughes, M., & Morrison-Saunders, A. (2002). Impact of Trail-side Interpretive Signs on Visitor Knowledge. *Journal of Ecotourism*, 1(2–3), 122–132. <https://doi.org/10.1080/14724040208668119>
- Hughes, M., & Morrison-Saunders, A. (2005). Influence of On-site Interpretation Intensity on Visitors to Natural Areas. *Journal of Ecotourism*, 4(3), 161–177. <https://doi.org/10.1080/jJET.v4.i3.pg161>
- LaHue and Associates. (2016). Interpretive Sign. Retrieved from <http://lahueandassociates.com/interpretive-signs/>.
- Law, R. & Ting, J. (2011). The Impact of Visitor Behaviour on the Environmental Protection of Tourist Farms in Guangdong. *Asia Pacific Journal of Tourism Research*, 16:3, 307-323, DOI: 10.1080/10941665.2011.573244
- Marchall, S., Granquist, S. M., Burns, G. L. (2017). Interpretation in wildlife tourism: Assessing the effectiveness of signage on visitor behaviour at a seal watching site in Iceland. *Journal of Outdoor Recreation and Tourism*, 17, 11-19.
- Perez-Sanagustin, M., Parra, D., Verdugo, R., García-Galleguillos, G., & Nussbaum, M. (2016). Using QR codes to increase user engagement in museum-like spaces. *Computers in Human Behavior*, 60(1), 73–85. <https://doi.org/10.1016/J.CHB.2016.02.012>
- The UBC Farm (n.d.). Maya Garden: Public Drop in Gardening Sessions. [photograph]. Retrieved from <http://ubcfarm.ubc.ca/events/maya-garden-public-drop-in-gardening-sessions/>
- The University of British Columbia (n.d.). Educational Institute. Ubcfarm [Photograph]. Retrieved from <https://www.landfood.ubc.ca/ubcfarm/>
- The University of British Columbia. (2019). Public Realm Plan. Retrieved from <https://planning.ubc.ca/vancouver/planning/policies-plans/public-realm-plan>
- The University of British Columbia. (2019). UBC Farm About Us. Retrieved from <http://ubcfarm.ubc.ca/about/>
- United Nations. (2019). Sustainable Development Goals. Retrieved from <https://sustainabledevelopment.un.org/?menu=1300>.

- University of Michigan School of Natural Resources and Environment. (2014). A Rooted University: Growing Resiliency, Community, and Engaged Food Citizens at the UM Campus Farm. Retrieved from <https://deepblue.lib.umich.edu/handle/2027.42/106572>.
- Wandersee, J. H., & Clary, R. M. (2007). Learning on the Trail: A content analysis of a university Arboretum's Exemplary Interpretive, Science Signage System. *The American Biology Teacher*, 69(1), 16-23.
- Wharf, J., Brewster, H. L., Buxcey, J., & Robinson, S.-R. (2015). Interpretive by Design: Engaging a Community to Create Interpretive Park Signage. *Journal of Park and Recreation Administration* Fall (Vol. 33).
- Wolf, I. D., Stricker, H. K., Hagenloh, G. (2013). Interpretive media that attract park visitors and enhance their experiences: A comparison of modern and traditional tools using GPS tracking and GIS technology. *Tourism Management Perspectives*, 7, 59-72.
- Švajda, J., & Činčera, J. (2017). Evaluation of the attention capture and holding power of interpretive signs among visitors to a self-guided trail in the High Tatras National Park (Slovakia). *Envigogika*, 12(2). <https://doi.org/10.14712/18023061.549>

APPENDICES

APPENDIX 1. STAKEHOLDER INTERVIEWS DOCUMENT

UBC Farm Interpretive Signage Project - Interviews

Terms of Confidentiality

[Link to Consent Form - to be printed out and signed for every interview.](#)

List of Interviews

Date	Interviewee	Interviewer	Topics	Consent Form Signed?
5 Feb	Tara Moreau	Francis	Botanical Garden signage process, budget, general tips.	No
15 Feb	Matt Mitchell	Francis	Future sign ideas (biodiversity monitoring related). A bunch of biodiversity-related sign ideas. Sign template.	Yes
15 Feb	Dean Gregory	Francis	Dean's needs (sign structure), his perception of effective interpretive signage.	Yes
12 Mar	Hannah Wittman	Dinjot	Stories, design, installation	Yes
11 Mar	Tim Carter	Adam	Practical matters	Yes
11 Mar	Clare Cullen	Adam	Stories, design, installation	Yes
20 Mar	Wilson Mendes	Dinjot	Indigenous Garden	Yes
19 March	Lix Lopez	Francis	Maya in Exile	Yes

Contacts

Matt Mitchell - Researcher on UBC farm - biodiversity studies (matthew.mitchell@ubc.ca)

Questions (Feb. 5):

1. Do you have any questions before we begin the interview?
2. I'm interested to know if you have any ideas about any kinds of signs that you wish existed on the UBC Farm.
3. So, this is the most important question in the interview: what kind of subject matter would you like to see discussed on UBC Farm signs?

- a. Follow-up about biodiversity monitoring plan: If we were to include a sign about the biodiversity monitoring plan, how would you want to see it represented?
 - b. Follow-up about biodiversity: Since you're tied in most explicitly with biodiversity on the farm, I was interested to see what you thought were the most important forms of biodiversity on the Farm that we should include on our signs.
4. Do you have a favourite sign?
- a. If they don't know how to answer: Can you think of any specific signs that you have seen in the past, and which you thought were particularly effective or memorable (either on or off campus)?
5. Snowball: Is there anyone else you recommend we talk to?
- a. About more stories?
 - b. Anyone that can help us raise our budget?

Transcript (Feb. 5) (important points underlined)

Francis: Do you have any sign ideas that you wished were on the UBC Farm, but aren't right now?

Matthew: Yeah. Just as you come in, on the grassy area, there's all those apple trees in the orchard. Showing people all the different varieties of apples there are, and talking a little about it. The hedgerows. Information about when they were planted, why they were put in. It would be interesting to have a map, or something, "here's where all the pieces are and where you are". There's also an arboretum on the farm - you probably know this - on the far end of the yurt, past the indigenous garden, on the right there's an arboretum. It needs some work, but ideally there would be signs for each of the different species of trees there. Some species are pretty unique, actually; some species are from New Zealand or Tasmania or something. Wayfinding signs, as well.

F: It's tricky, huh, wayfinding, since stuff on the farm moves around so much. Even just year-by-year changes were really big.

M: Yeah, but there are some things that are more permanent than others, so those could have signs. Maybe an idea might be to have signs that are moveable.

F: Yeah! I was thinking that there could be a sign structure that is permanent, but a sign face that is modular and removable.

M: Yeah, you'd think that would exist. That's a cool idea.

F: So, anyway, what kind of content do you think should be on the signs? What's a big goal of the farm that needs to be communicated?

M: Well, given my position, maybe some signs that highlight the biodiversity on the farm, and maybe a sign for our monitoring work as that starts to get going. You know, like pollinators on the farm, and especially if there's a crop that relies on pollinators, like the blueberries for instance. Signs about the diversity of plants, I'm thinking hedgerows, and forests. Signs in the forest would be nice, since you could have a sign in there for people when they go on a walk. All the ecosystem services of the forest are important - it's always under threat of being removed, so communicating some of its values would be really important. We have this 11-year dataset on birds on the farm and metro vancouver, so being able to highlight all the bird species we've seen on the farm over the years, would be interesting. Also the crop diversity, you know? Like, "we grow this many varieties of crops every year. It ranges from..." you know? The diversity of crops is pretty amazing. What else about biodiversity? A lot of it would come out of the monitoring- i mean we'd like to do some monitoring of camera traps to get a sense of some of the mammals, earthworms amphibians. So once we have some baseline data on that, we could definitely use some signage. Juli Carillo, one of the researchers, is actually talking about making some habitat for

replies and whatnot. So once that's up, it would be nice to have a sign about it. What else?... The other thing I can think of is a sign about invasive species - there are some places where invasive species are a problem, like I'm thinking of blackberries. I love blackberries myself, I love eating them ... most people do, but they're also an invasive species. So talking about both of those things on a sign would be cool and educational for the farm. So those are most of them. The other sign that might be useful for the biodiversity monitoring program - I've kind of jumped right into individual species - but it would be great to have a sign that talks about the monitoring itself. That might make more sense once the monitoring starts, but I'm thinking that once it starts there might be some room for citizens to contribute to monitoring, so the sign could talk about some citizen science on the farm. One of the parts of the biodiversity monitoring plan is thinking about landscape diversity and habitat diversity on the farm. So something about how big the farm is, it's got this much forest and this much fields, but it's surrounded and it links these different habitats around it, that would be cool. I know this was a big list of signs.

F: No, this is really good stuff. As for the monitoring stuff, one of the products is a template for future signs so that once you finalize you, you could have a sign for the project.

M: There's been talk by the biodiversity steering committee and C-BIRD - you know C-BIRD? - that it would be great if there was some signage around campus highlighting biodiversity. And ideally if we did that, there would be some common template for signs around campus. I know there's people on campus planning and operations who have talked about how great it would be to have a common kind of template.

F: I only have one more major question - do you have a favourite sign that is memorable or that communicated something well?

M: Hmm, that's a good question... Favourite sign...

F: Yeah, it's a tricky question. I mean, for instance, we saw a sign that was like a post that you could put your phone in and take a picture, and then submit it to twitter and you could see a time-lapse of the landscape.

M: Well that just made me think of something different. One thing we're thinking of with the biodiversity monitoring plan is looking at the phenology of plants. So they have these camera setups that you can buy and set up and it'll take a picture every so often, and you get a sense of when things start blooming and leaves coming out. But you could actually do that, partly, with people's phones, if you had a place somewhere on the farm where you could take a picture and get a sense of when these plant phenologies are happening. So this would get into how climate change is affecting plant phenologies and all that. Anyway, I haven't thought of this before, but that's a really good idea. I'll have to think about it. Anyway, I don't think I have a favourite sign. I really like the botanical garden signs, and the idea is that they're there for a long time. But otherwise I can't think of a sign that really wowed me or anything like that.

F: No worries. Well we want to do some snowball interviews sort of thing, so if you can think of any other people we should talk about, that would be great.

M: Well, I'm sure you're talking to farm staff like Clare Cullen and Mel Sylvestre and all of them. You might want to ask Liska or David if there's other people on campus that have had discussions about signs on campus, or a common template. I'm just thinking of the farm specifically. How long is this project going for?

F: Just until the end of the term.

M: Ah, well, that's too bad, it would be great to ask the people that come to the farm. Well otherwise you could talk to all the researchers on the farm. And ask them what kinds of research signs they want to see. There's also the people who run the Mayan garden. Another thing you could do is involve the children, cause there's the children's garden. I can't really think of anyone else. There could be people in forestry, just involved in the forested part of the farm. But I'm not sure who you could talk to about that. Maybe talk to Hannah [Wittman] about that. And as for the budget part, maybe there is money at UBC. I'm just thinking there might be a campus teaching and learning fund on campus, cause there might be

some way you could include it in some teaching or research component. You could be doing research about how people react to different mock-ups of signs, or if they react differently once the signs are up. I feel like people like Hannah would have a better sense for this part. There's also a new research manager on the farm, maybe you could talk to her. There's also Mark Johnson, who's setting up a water monitoring system. They got a grant to monitor water usage and all the stuff like that. You should also talk with Zia Mehrabi, cause he's putting together this Farm App. I don't know exactly what's happening, but maybe you could make signs that are interactive with the farm app.

F: Okay. Well, thank you for all your help.

Hannah Whitman (hannah.wittman@ubc.ca)

Questions:

6. Do you have any questions before we begin the interview?
7. As the academic director of the CSFS, what would you recommend we prioritize when it comes to designing content for the signs on the UBC Farm?
8. What do you think are the most important stories that we should tell on the signs? (for instance, we know the Maya in Exile Garden has a beautiful story behind it)
9. I'm interested to know if you have any ideas about any kinds of signs that you wish existed on the UBC Farm.
10. Do you have a favourite sign?
 - a. If they don't know how to answer: Can you think of any specific signs that you have seen in the past, and which you thought were particularly effective or memorable (either on or off campus)?
11. Snowball: Is there anyone else you recommend we talk to?
 - a. Anyone that can help us raise our budget?

Transcript:

Dinjoy: What do you recommend that we prioritize when it comes to designing the signs at the UBC Farm?

Hannah: Are they just the forest signs or are all over?

Dinjoy: We've been given recommendations for specific locations but we would love to hear your recommendations for anywhere on the farm.

Hannah: The challenge is that many people don't know what's going on at the farm.. they either see it as a park to walk their dog, classes come out, students come out but we need to do a better job of communicating what we are doing experientially to people who are on site at the farm. Signs need to identify what's going on but also inspire people to want to know more. Not a sign like "this is the children's garden" but rather what is the children's garden for. There has to be a balance between the long term identification and objectives and short term research projects. Short term have more temporary signs which are already doing a good job but those change season to season. We also need some long standing permanent signs that are up year round that indicate bigger picture and long term purposes. Childrens garden and forest and good places to start – because they are longer term. They are areas that have long term priorities. Entrance to forest and maybe the blueberry field, group houses, bees.

Dinjoy: We have also been recommended to create signs for the indigenous gardens and mayan gardens. So, just to summarize, if you had to recommend 3 areas to start with, what would they be?

Hannah: Indigenous garden and mayan garden are high priority and they need to be led by those programs. So you'd have to be talking to those programs. Are you in talks with anyone from those areas?

Dinjoy: Yes, we will be contacting Wilson Mendes tomorrow.

Hannah: What about Lix Lopez and Eduardo?

Dinjot: We haven't been able to contact Eduardo yet but a group member is getting in contact with Lix.

Hannah: If you could speak to him, the mayan garden would be a really good area to prioritize. So that is high priority, the indigenous garden is high priority, and the forest is high priority. In terms of getting the right people to talk to and in time to finish your class, the children garden is another option. Because we need a sign there and you can easily access those people. I think the practicum space would be a good one, the teaching, the farmers program.

Dinjot: Those sound like great options. We were also considering making a sign about biodiversity at the farm. What do you think about this?

Hannah: That would be a really good one. We need all those signs. I think you should pick the three that you have the most consultation on and therefore feel the most confident that you can design something that's likely to be implemented.

Dinjot: That makes sense assuming that eventually the farm will have all these signs we talked about.

Hannah: Yes, eventually we should have like 20! So that might be one your deliverables.. say you make 15 sign suggestions that might become like a work plan for the farm. Like here what we actually need signage on, that's actually a strategic piece that needs to be done if you guys could put that in your report that would be very helpful to us. In terms of topic, location, who needs to be consulted. Basically an agenda for future work. You can say here's the landscape for what needs to be done, who needs to be talked to, and where these signs theoretically need to be located, and here's the designs for 3..

Dinjot: We do have a list of topics within a survey that we created and we will be sending it out within this week. It has some similar questions- so we will send that out to you and hope that it can help inform future work like you suggested.

Hannah: Cool!

Dinjot: Do you know of any stories that would help inform the content of the signs?

Hannah: like the history of the farm- there could be a farm entrance sign which we don't have. Identify maybe the long history of farm- indigenous territory first and then a place of learning, when it became cleared- maybe as a timeline like how we have on the website. But as a welcome sign that would be amazing.. and its principle to say when you walk through that gate you acknowledge that you are on musquem territory and these are our objectives and this is the history of the farm. That would be a really good one to prioritize first.

Dinjot: That's a great suggestion. We were also thinking of creating a welcome signs which would inform the public about the other signs to be viewed on the farm

Hannah: Yeah like whenever I go on a hike or to a regional park, its so informative and interesting and they usually have an "if you want to know more go check out this website".. so you could say to learn more go to ubc.ca... A welcome sign would be great!

Dinjot: For our project we need to create three interpretive signs so I am not too sure if a welcome sign would count towards our deliverable. So basically we need one sign to explain one concept on the farm.

Hannah: Well history of the farm could count as an interpretive topic. What is this space.. just acknowledge all the pieces of it.

Dinjot: That's right.. we will definitely take that into consideration.

Dinjot: Do you have any favourite types of signs? Something that really stand out to you?

Hannah: I love the signs at the provincial parks. Because they often have a mix .. like they will have a historic photo, or a drawing, or a did you know.. they are visually interesting and educational.

Dinjot: Awesome. Is there anyone else you recommend we talk to?

Hannah: Have you talked to Clare, Juli- one of our researcher, lix lopez, Hannah lewis-she has a long history at the farm and knows a lot about the public who visits the farm. One of the struggles she has is that sometimes the public comes to buy vegetables but there's no way for them to know that this is actually different – this is actually a teaching place – a learning place and buying vegetables is just like

an added benefit but its not the primary purpose. In my opinion these are secondary purposes and the primary purpose is that this is a university farm and its obligation is for public education.

Dinjoy: sounds good! Is there anything you would like to add?

Hannah: Nope, I am looking forward to seeing the report!

Dinjoy: It will be up on the seeds website. Thank you so much for your time.

Tara Moreau - Botanical garden (tara.moreau@ubc.ca)

Questions (Feb. 5)

12. Do you have any questions before we begin the interview?
13. We would like to ask about how the process of introducing signs at the botanical garden went.
 - a. What was the process?
 - i. How did Cygnus go about asking stakeholders about sign content?
 - b. What were the goals?
 - c. What were the costs? Of design? Of materials?
 - d. Any advice?
14. Snowball: Is there anyone else you recommend we talk to?
 - a. Anyone that can help us raise our budget?

Transcript (Feb. 5) (important points underlined)

Francis: What was the design process that Cygnus used for the Botanical Garden signs?

Tara: I can tell you it was a big process. Cygnus is a design firm that we worked with, and it was honestly a process over many years. In terms of our own internal process of "what does the garden want, what are we trying to say?", we had to make a request for proposals. Since we're a public institution, we made a call for proposals, and brought a bunch of different design firms out onto the garden and talked about what kind of project we were looking for. We dated a couple design firms looking at their skills, telling them what we wanted to convey. Then we went through I can't even remember how many design sessions. As part of the process they would give us these big documents, where there were some earlier documents about "what's our vision, our key central theme, what design elements did we like? What colours, shapes, forms?" Then we picked a palette throughout the whole garden. We ended up with 65 signs, and since we don't have wayfinding on the garden, we chose to do coloured groups of different areas on the garden instead. So there was a big process of approving the design process and the colours and the font, and working on the tone of the message, etc. There's a bit of a formula: there's a catchy title to draw people in, a line with a bit more information, and then a big paragraph with a lot of the nitty gritty details. Cygnus also made some infographics and a map - these of course are why the design costs were so high. We made a Google Document for each of the signs with the key message, the top-level title, the subheading, the details, etc... And that's probably where we spent the bulk of the time was writing the content.

F: Did Cygnus have a process of figuring out the content, or did you do it internally?

T: There was a big process, we brought in a bunch of different teams and by the end we had a core working group, just three of us, who would sit with a projector and talk about the different signs, like "is this text okay?". We had different expertises, and so we divided the work and did broad strokes, and as time went on we would look at signs and think "that doesn't sound so good". The big thing that Cygnus made for us were infographics. We had sort of big themes: biodiversity, horticulture plants, and the importance of conserving plants for humans. We went through a lot of iterations until we just couldn't see any more faults with the signs anymore.

F: You mentioned there was a budget of \$250,000, was that for the signs themselves or for everything?

T: That was for everything. Just printing and installing the signs, including the hard materials, was about \$2,500 per sign, not including the labour required to install the signs. In the years leading up to this, we tried to do makeshift signs to put us in the mood, but they ended up being pretty crappy. I think there's great value in, let's say, "less is more". Maybe consider making three nice-looking signs instead of a bunch of crappy-looking signs. When we put up the makeshift signs up, we got a lot of feedback from people who expected a higher caliber from the botanical garden.

F: Were they rustic-looking signs?

T: Yeah, they were painted, you know, like a piece of paper laminated, just trying to convey information and say something but in the end we took them all down. So when doing it on a budget, I'm not totally sure, but I would just say focus on a few good signs.

F: Talking about goals, going into it, did you have the funding and then you wanted to make the signs with it?

T: Our goals were not wayfinding, but rather we wanted to make interpretive signs so that people could use these signs either in a tour or any guest could come to the garden and see the signs.

F: Do you have any general tips? Was there some part of the process that you really enjoyed, or a part that you thought "hm that was unnecessary"?

T: As a team, we expected that Cygnus would do a lot more of the writing. Our team ended up doing most of the writing. I suppose we were also the technical experts. The writing was a huge element of it. We were initially trying to target people of an age 9, but in the end the writing style wasn't what we were looking for, and we ended up writing it differently. So an important thing to think about is the style and tone and message of the writing. Especially on the horticultural things, since we're in the faculty of science, it has to be correct, so that's why I think starting with less is always a good idea.

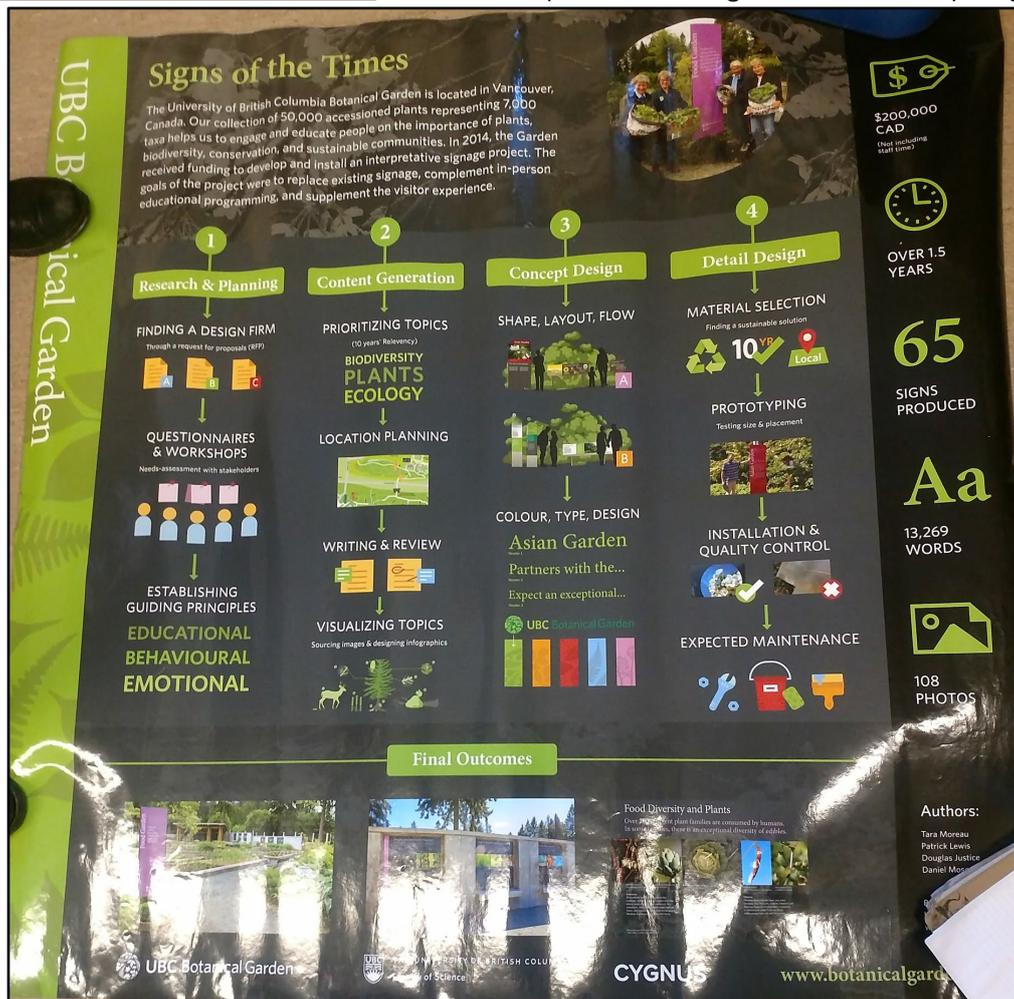


Figure 1. Presentation poster made by Tara Moreau about the UBC Botanical Garden signage process.

Wilson Mendes - Xwǰíc'əsəm (“whuh-tsee-tsum”) and Tu'wusht (“to-whust”) Gardens
(wilsonpmendes@gmail.com; Indigenousgardenlfs.irp@ubc.ca)

Transcript:

Dinjot: We would like to make interpretive signs that provide a narrative of the work being done in the indigenous gardens. If we were to make signs about these gardens, what would you like to see displayed on these signs?

Wilson: Can you explain what you mean by interpretive?

Dinjot: So we want to focus on more than just the location of the garden and more of explaining what's actually being done at the garden, what's the story behind it, what's the history and what would be an ideal narrative.

Wilson: So, there are four indigenous gardens. There's Mayan, Tu'wusht, Musqueam, xwǰíc'əsəm. All have very different histories and stories.

Dinjot: We do already have a contact at the Mayan garden. Would you be able to speak about any of the other gardens?

Wilson: Have you been to our website? The website has a lot of great content that will provide you with a lot of background information. When the garden was set up, why we changed locations, who started it, why was it started, and what happened over time? Did you get that information?

Dinjot: We haven't had an in depth look at the information yet. But we wanted to hear from someone directly associated with the garden along with other sources of information. In particular, we wanted to hear what people wanted displayed on the signs. It's different because maybe you want a really different story on the signs that isn't available online. That's what I really would love to hear from you.

Wilson: I can speak to some of it but I think the right person who can give you the depth of the story is with that person who actually started the gardens- which is Eduardo Jovel who is a professor here. I would think Eduardo would provide an in-depth story. For example I could share some of the stories I have witnessed and the stories that I heard about the place because I have been the garden coordinator there for the past- this is my 3rd year so there's a lot of more history there than what I can actually share- over time you hear bits and pieces of it right - from Eduardo, from other members and so what I can share with you is limited because I am new too- 3 years. And I'm not really sure- I think it needs to be complemented from Eduardo's story. I would think. For us to create a story that could actually be added to the sign, that tells the story of the place- needs a bit more context and he will be the person to follow up with.

Dinjot: Sounds good. What is the best way to contact Eduardo?

Wilson: I would recommend- he's often in his office and you should just show up and check in with him in person. I been working with him for 4 years and he has an open-door policy.

Dinjot: Great!

Wilson: So, what's the first question?

Dinjot: What can you speak on that can be complemented with Eduardo's knowledge? Like the stories or what you think is essential to include in the signs.

Wilson: The overarching goals of the garden and the reason why the garden was actually created. It was actually created under Eduardo Jovel when he was the director of the institute of aboriginal health. And because they were addressing the need for having spaces where the conversation about aboriginal health and direct interaction with the land -land is central - land is central to the people and health is related to the land..because they were addressing issues of health and wellbeing and urban spaces and so they need a place to ground that conversation. So the garden was center to that conversation- bringing it to more like physical place- centered at UBC Farm.- So again Eduardo can give you more context of how that came to be. My understanding is that is stemmed from the work he is doing with the institute of aboriginal health. Cultural relevant space - the garden. And then so when he left, he

transferred here for LFS and Dr Lee Brown took over the center and he carried on with the work at the garden. Over time he brought in the tobacco at the farm – necessity for the community – ceremonial tobacco and those type of things. And within that, knowledge holders and elders came in to be part of the project as well along with many others. Then they formed a medicine collective which is a group of elders and knowledge keepers that were then centered they grounded themselves to this space. Addressing healing and health from a holistic perspective where all of them brought in their own knowledge perspective and brought in the plants to place in the garden. After that, they would bring in youth to the garden in an 8 month program called CRUW. This program was fostered at the garden to work with indigenous youth in foster care to connect them with land, culture through ceremonies, songs, teachings of the land and make medicine, addressing food, food sovereignty, food security. So over time the garden has become a hub for healing, a space where community are coming in to learn, from the elders and knowledge keepers and also learning from the land itself. We called it a culturally relevant space. Where we bring in this intergenerational approach of knowledge transmission with the intention of providing a safe space for people to heal. Specifically focused to the youth but also open to the whole community. And then over time, we have know over 50 something plants- medicinal plants- some of them from here- some from other parts of turtle island, Europe as well. So basically, a culturally relevant and safe space specifically for people to connect with land and to connect with culture.

Dinjot: That is really interesting!

Wilson: Yes so I recommend that you consult the website for more information about CRUW and other background information

Dinjot: We definitely will. Is there anything else you would recommend we do?

Wilson: Just to speak with Eduardo as well.

Dinjot: Sounds good. Thank you!

Clare Cullen - Operations Director, UBC Farm

Questions:

15. Which stories are important to tell?
16. How can we best convey narratives to the public?
 - a. Sign design?
 - b. Wording choice/ reading level?
17. What signs do you wish existed on the UBC Farm?
18. What would be some ideal locations for signs?

Transcript:

Adam: What signs would you like to see at the Farm?

Clare: Well, how many are we allowed to have? I guess it's a chicken and egg situation...

Our goal is to produce three sign designs, although in another iteration of this project that could be expanded.

It would be nice to see [a sign] at the Indigenous Health garden. There is a sign there now but it's not super informative, so that would be a really useful one to have. We have to have some little signs around the hedgerows that talk about biodiversity but it would be nice to have something more around biodiversity – what's happening on the farm and what we encourage on the farm. And then the forest. I think it would be nice to have some signage around the forest and the agro-forestry trail. And maybe what traditional foods were in the forest and still are found in the forest and harvested – I think that would be really interesting.

We've had some different suggestions around signage. For example, we had a meeting with the Indigenous program leaders last fall and there was some interest in identifying some of the crops that we grow that are actually traditionally from Indigenous traditions, and not necessarily from this region. But someone was saying, "oh, pumpkins are traditionally grown by some tribe and tribes in the states." And they've heard of them as tribes, though I can't remember what tribe off the top of my head. It would be interesting to have signage about how pumpkins are traditionally grown in this region by Indigenous Peoples. Things like that I find quite interesting.

So to speak of the heritage of different crops currently in production...

Yeah, but from an Indigenous perspective as opposed to a colonial or settler approach. Because usually when we talk about heirloom varieties it's from a European origin [and perspective]. It was brought over by settlers. But, wait a minute, what about things were already kind of grown by Indigenous people here or in North America at least? So that's an interest.

Do you know who would be a good person to speak to about Indigenous foods in the forest?

Wilson Mendes would be a good person. He'd probably be the first person to speak to and then Eduardo Jovel. We're meeting this Wednesday. We've just signed a memorandum of understanding with the Faculty of Forestry. They're [Musqueam] are going to help us more formally co-manage the forested areas and make sure they're well-maintained and cared for. The idea is to get a Musqueam approach or understanding of what they would like to see in terms of caring for the forest. It might be a good opportunity to bring it up. So maybe I can get you a little bit more information [about this] or who might be a good person to talk to. It's also not just food. It's food and medicine too.

I'm wondering what your interest is. What signs have your group identified?

We're definitely interested in signage about Indigeneity around the Indigenous Health and Research garden. Biodiversity around the forests. Potentially research in terms of climate change and sustainability. That's been our focus so far but we're open to changing focus.

I think those are great. The thing with research is it's always changing, right? I know Sean Smukler and his team have been doing research on climate change for quite a while but what if he decides to wrap that up in two years? I don't think that'll happen, but research is always changing. I think something about climate change would be really great.

I think the research focus would be like, “what takeaway from your research would be relevant ten years from now?”

Yeah, great. That's perfect. Make it bigger than just what's happening right now.

Are there are stories or narratives about the farm that you'd like people to know but find that people often don't know?

There are but I'll have to think about that and follow up by email.

There's one that I can think of that Art Bomke often tells when he comes to the farm or is giving a tour. He talks about when the farm was first starting up there was research going here in the Faculty of Forest and [Faculty of] Science. They had these strips of land like, 'this is the botany section,' 'this is the soil science section,' and they didn't intermingle or cross – like cross-pollinate – their information or their processes or approach. So when the farm came along, we just integrated all of those things together. We took a much more holistic view kind of literally broke down these, not quite fences, but siloed areas. We were like, 'hey, let's try to take all these things further.' It's a much more integrated approach and I think that's an interesting thing. I didn't realize that's the way things were done before the Farm came here. So it just shows the farm has this benefit of taking a much more holistic approach. That's an interesting history here, though it was 20 years ago now. It wasn't like the farm you see today at all. You often hear a story that there was this empty land with nothing happening. There were some things but it just wasn't very integrated, exciting, or productive.

Have you spoken to Art Bomke?

Not yet but we were hoping to.

He's pretty great. He's got so much history of the farm. So if you wanted history and particularly about how students got involved. He's very passionate about the fact that this was student driven. And that's something interesting too. Did you know that this was started by students? And I feel like everyone knows that but then you realize that actually they don't. Not everyone knows that anymore but it's not told as much. But I think it's really encouraging to show that students can have a voice and make change and push against the university. And then the university will come around eventually. So I think that's a nice story too.

We were talking about taking down academic silos. I wonder if you have a similarly holistic view of linking, say, production, research, and community integration. Or how they influence food security or sustainability.

Yeah, pretty much all of the research that goes on here is connected to food sustainability. We don't really do anything not related to those issues. So from Sean's stuff around climate change, and two different composts and things like that to use on the soil, to... Juli's doing research around insect infestations and how to naturally divert them. We're also doing all the different seed trials. That's all around sustainability. Then we can communicate it out to other farmers, across BC, and across North America. Globally as well, though it's probably more of a North American focus. Hopefully it can all be translated out in the real world. We're not trying to do things so specific that they won't have applications in the broader world, the real world, and the broader community. It's really important that we're doing things are relevant and then we try to communicate that to the broader community to community members who are maybe not farmers or researchers but that are still engaged in the food system and interested in food. That could be people who come to our markets to buy eggs and vegetables but we also want to inform them about the research that's going on here, so that they can feel that they're connected to something bigger too. So it's not just a place to shop. There's all of this work that will hopefully reach out beyond the borders of the farm. This year we're going to have a research table at the market, too, to hopefully get that message out and keep it integrated with everything else we're doing.

This may be a difficulty question but how do you envision the signs looking? Or what do you think is the best way to communicate [these messages]?

There were interpretive signs that I saw on Salt Spring that I really liked. There were two types. One vertical and had a little roof, like a kiosk almost. There were two and one had a map of the site and highlighted different areas. It was all focused on biodiversity there because that was main reason for saving or buying the land. They were quite substantial, large wooden signs. Then if it was raining, you could stand underneath the awning. There were other ones that were just sort of table height but sloped slightly with images like butterflies and insects. They were visually appealing.

I think something with wooden posts would be good. Something natural and organic would be really nice. I know they can get really expensive but the stuff they were printed on, it wasn't coroplast but some kind of really rigid plastic or polymer. But it wasn't metal. I know we're an academic institution but I don't want them to be too formal or fussy-looking. But interesting and attractive to the eye. I'd like them to have a bit of a low profile so if you had them out at the farm they wouldn't interrupt the view of the landscape but they were still substantial enough that you could see them. I think it's important to think about where they'll be placed on the farm so they're not obstructing things like tractors and where people have to go with vehicles and things like that.

Are there any issues with branding? Like aesthetics?

Yeah, Melanie's spent a lot of time and we worked with a branding company to make a slightly refreshed logo. We have some very specific colours we use. And we have specific fonts that we use. It would be good to run it past her and make sure it's all matching. I'm not that concerned about exact colours but as long we've got our logo on there and have matching fonts we use that would be good.

What would be the target audience for the signs?

That's a good question. It wouldn't be researchers. It would be community members. Also, students if they come up here for a class or for a one-day visit. They'd be able to get more out of their time here and get engaged and interested to come back. So, I would students and community members from Wesbrook and further afield who come here for our workshops. It'll give them a more in-depth perspective of what goes on here. What are your ideas?

Maybe for text, like young adult reading level. But visually appealing enough to grab the attention of younger kids, even they might not be able to fully understand the text.

Oh yeah. That sounds really good. Yeah, young adults, sort of twenty-something university students. So not overly technical but not too dumbed down or simplified. But something visually appealing for kids would be great to have. Some images, especially for biodiversity. It could have different animals, insect, and amphibians. Stuff like that would be really cool. You could maybe have little games. "How many of these have you seen on the farm? How many frogs? Have you seen the eagle's nest?" That kind of thing might be fun. But then that's definitely for kids.

How do you feel about interactive signs? Say, a sign that would play a sound or have a QR code that you scan with your phone?

I think I'd something that engages people more in the space. We did have an audio tour developed for the farm. It's kind of old now. That had QR codes that were posted at different spots around the farm. But they were put up on laminated pieces of paper and weren't super durable. The problem with that is it needs to get updated all the time and, if no one's in charge of updating it, it just sort of falls away. That was five or six years ago, before I was here. So I'm a little bit hesitant to get into something that's going to need updating every couple years like audio or a QR code thing. And do you want people to suddenly pull away and get onto their phone or to actually look around? It might be interesting to have signs that talk about one area of the farm but then say, 'this is connected such-and-such activity happening in this other part of the farm.' So it almost might lead people to go to different sections of the farm.

You could have a sign at the Indigenous garden that says that we grow pumpkins or other products that are indigenous and you could check them out in the field or something. To, again, link everything overall with continuity and connection.

So the signs sort of give a tour...

Almost! Sort of, we suggest you go to the next place or something. Something like that might be easier to manage and serves that purpose of reinforcing the interconnectedness of everything.

I think that covers everything. Is there anything else you want to add?

No, but I'm going to follow up with any narratives or stories. And I'll send those to you.

Thank you!

Dean Gregory - Landscape Architect, UBC

Questions (Feb. 15)

- a. What is your process when doing landscape designs for UBC?
 - i. (Criteria analysis, like us?)
- b. What are the regulatory considerations for sign development at UBC?
 - i. Do these apply to UBC Farm? If so, where/when?
- c. Does UBC have a set of preferred icons and typefaces for signage?
- d. Do you have any recommendations about language usage on campus signage?
 - i. If it's a difficult question: For instance, Tara Moreau mentioned that early in the Botanical Garden signage project, they were trying to make signs for an 9-year-

old's reading level, but they realized that they wanted to include some botany-related jargon so that the signs would be precise and correct.

- e. Do you have any recommendations for making signs eye-catching and engaging?
 - i. Specific to sustainability messaging?
 - ii. Do you know of some particularly effective resources that we could learn from?
- f. Do you have a favourite sign?
 - i. If they don't know how to answer: Can you think of any specific signs that you have seen in the past, and which you thought were particularly effective or memorable (either on or off campus)?

Transcript (Feb. 15) (important points underlined)

Francis: To begin with, I am interested to know if, as the campus landscape architect, you play a large role in making signage for the UBC campus?

Dean: Yes. My role as university landscape architect is to participate in any decision-making regarding the design and use of open space on campus. So anything related to design on campus, I have my finger in it. But I work with my fair share of colleagues who have their own expertise and subject matter, too, so we collaborate together on a number of things as they relate to design on campus. In terms of signage, I've been peripherally involved in the wayfinding signage on campus, it's not been my focus, there are other people who work on that, I'm not designing signage, I'm not developing content for signage, so it's kind of peripheral to my work. However, I have an interest in developing signage that can convey to the campus community some of the initiatives that we have taken in terms of green infrastructure for rainwater management, planting design, the fact that in the Library Garden project we've adopted the [sustainable sites initiative](#). Sites is equivalent to LEED for buildings if you've ever heard of LEED - leadership in energy and environmental design. Anyway, this is a framework that supports you in determining whether you've designed a sustainable landscape or not. Most landscapes look like good things, but how good are they really? I have an interest in letting people know a number of things that we've done. We've conducted a public realm plan evaluation a year and a half ago and one of the things we've heard from the campus community was, we want a sustainable campus, we want you to manage rainwater on campus. Well, the fact is that we've already been doing a number of these things and people just don't know about them.

F: As far as your process for designing things goes, we have an interest in things like biodiversity and indigeneity, and research. I wonder if you have a process of interviewing stakeholders for what criteria they are looking for in the final product.

D: Well, I'm the client. I want the signage to be out there. In terms of interviewing people, it's really our initiatives that we're discussing, so we'll provide content and then work with the branding office to develop layout. The missing link for me is just trying to get a prototype of a design for what these - you know - the branding office will develop a prototype for what they look like and what the layout is and what logos go on it or graphics, and sustainability bla bla bla. But I also need, what is the structure that these things are sitting on.

F: As far as the structure goes, is it mainly cost that...

D: Yeah I mean, we've got a design for monuments to - like, the president wanted a tree planted and he wanted a sign saying when it was planted, why it was planted, who planted it. It's just a piece of steel aluminum with a bend in it, and it's inscribed. It's quite expensive. Because the messaging in these interpretive signs may change over time, I don't want to invest money in something that could change.

F: Has anyone ever come to you with a sign that's very resilient, but with modular less-expensive sign faces?

D: No. That's what we need to develop. I think the School of Landscape Architecture is working on this, I need to touch base with them.

F: I'm also interested in what kinds of signs you'd like to have on Campus.

D: One of the signs I'd like to see is the cascades on university boulevard. I want to let people know that rainwater falling on Main Mall is redirected to that feature, and is recirculated. I want to let people know that plants there are all native, and bla bla bla. Memorial road between the lyserra building and the old administration building is another rain garden. So there's a number of those kinds of features, including letting people know in the library garden that the redesign of that was undertaken with the Sustainable Sites Initiative, and that we were the first project in Canada to do that.

F: I was wondering, for the signage that you're looking for, whether you had a target reading level to have it directed to.

D: No.

F: Well, for instance in this Botanical Garden they tried to keep it at a 9-year-old reading level at first, but then they realized that they needed more jargon to discuss botany on the signs.

D: In those terms, I think it's just who's in the campus community. Student, staff, faculty, visitors to campus. I don't think the average grade schooler would care, or would be informed about those kinds of things.

F: That makes sense. I was wondering if you had any recommended resources that pertained to communicating sustainability, or design?

D: Not really. You just google "interpretive signage" and see what comes up. There's all sorts of examples.

F: My understanding is there's a preferred set of icons and typefaces for signage.

D: Whitney. What's what it's called. And then there's logos. UBC should always be present on anything. You can talk to the branding office about those sorts of things.

F: OK, here's the last question. Don't worry if you don't have an answer, but I was wondering if you had a favourite sign.

D: Talking about sustainability or something?

F: It could be anything, just something that communicated well.

D: None that I remember. In my mind's eye I can imagine something with a little bit of colour, perhaps a description of a natural process, or something that gives a little dynamism. Something that' not simply just text. It's kind of got to grab someone's eye, it's got to be interesting. You know, there's the bat houses by the Bioscience Building on the other side of the mall. There's bees that have some signage around the bee houses that have been installed near Scarfe. They're pretty rudimentary, and homely. Or the signs related to the agronomy garden with tiles and stuff. It's nice but it's deficient of UBC, it's deficient of "What's the bigger picture" or "where do you get more information". Everything we do outside of the buildings in particular should always strive to convey a unified message from the university. Something bigger than a particular project; something about how that project relates to the bigger mission.

F: That's a good answer, thank you, that's the end of the interview. And if we end of making a good product, I'll let you know and send it over.

Lix Lopez - Maya in Exile Garden

Questions (March 19)

19. Do you know the complete history of the garden?

a. If not, do you know who does

20. We were hoping to include Mayan poetry or music or a quote or some art on the sign... Do you have any thoughts on whether this should be added?

a. And if so, what should it be?

21. Would you be comfortable if we used what we've talked about today when we write the history of the Mayan garden on the permanent signs?

- a. Or would you prefer to have a stakeholder from the Mayan Garden write the story themselves?

Transcript (March 19)

Francis: The story of the Mayan is really clear in all the documents that I've seen published online. But for the interpretive sign, we were wondering if you had any ideas about Mayan culture in general or ideas about the garden that you recommended we focused on?

Lix: Well, the way it reads now, the sign, it just says "Maya Garden in Exile". So I don't know if it's possible to add some more or improve it, because I think it's very simple, and there's no question about what type of garden it is. Except what it has, corn beans squash, it's not there, but once people get into the garden they'll see once again what's there - what we have. So I don't know, what have other indigenous project suggested?

F: Actually you're the first one we're interviewing so far. So I guess the first question might be, would you like a sign that talked about Mayan culture, and why Mayans in Guatemala were exiled to Mexico and Canada? And Mayan spirituality and farming practices?

L: OK, this is the thing. At the very entrance of the farm, there is a sign that indicates where all the projects are located - their direction. I think that will probably stay as simple as it is. Now, I think the signs your project is discussing might go right where the garden is. Because then people will be able to read it in 30 seconds about what is there in the garden. Because there is no space, really, where all the signs are located in the entrance. So, now, there is already a sign that has been created, and it is down now because there is nothing. It is called "Tal A'xin", which means "Children of the Corn". There is a website called "Corazon de Maiz". Maybe you know this, but the reason why we put this simple sign up, is because corn is what has sustained our people for thousands of years. And anthropologists have come up with this slogan; "children of the corn", and that means that without the corn, we wouldn't be here, because that's our bread, we have it every day, breakfast, lunch, dinner, snack. So, we cannot miss it, it's always there, even when we're here, when we have been away from home since '73. And I still like to have my tortillas, my tamales, so I make my tortillas. Not every day, but I make enough for 2 or 3 days. This is more than, what, 46 years? And I can eat potatoes, rice, or any other things that go with a meal, or bread, but it's not the same as having tortillas. You can feel in your stomach that you have eaten, even if you have 3 or 4 tortillas. Even being far away for so many years, and the same for other Mayan people that have left the country, being refugees or any other reason, they still have the corn as part of their diet. That's why that sign, "Children of the Corn", "Tal A'xin". I think that's important to have here. Perhaps it would be good to add the beans, and the squash, because those are the three sisters. And they go together. The beans are like our meat, the protein, and the squash is our dessert. I still have some arguments with my wife, she's a Cree from Saskatchewan, and we have been together for 36 years. But she likes, and she grew up with, baking squash. And I say, "no", it's like a vegetable for her, but I said, no, I like to boil it and add some sugar or honey, and it's like a dessert. So we have a little argument over

that. Or a disagreement. And the rest, the other greens, we grow up also amaranth, nichat, parsley, which grows naturally. We only brought the seeds for the amaranth and the nichat, and now it comes back - it seeds itself. Those are very important greens for us. But perhaps that's the least of the things - those three main crops, I think, could go on the sign. Now, how it would appear, that's another question - I think we'd have to see how we could fit it in the signage.

F: That was a great answer, thank you. We were definitely thinking of including the three sisters on the sign. We were also wondering if you had any suggestions for art or poetry or writing or any other Mayan cultural things that maybe we could include on the sign, if you think that's a good idea.

L: Hmm. It depends on the size of the sign. I have a book of poetry written by a women in Guatemala. I'll check if she has any poetry that has to do with corn.

F: Whats her name?

L: Calixta Gabriel, but she likes to go by just "Kaly".

F: We were wondering if it would be OK for us to write up these signs and design them, or if you wanted someone who was connected to the Mayan garden to vet it, or write the content, or make the design?

L: I'm not an artist myself, but I would like to see what you are working on with the sign, to see if I can help.

F: We were also wondering if it would be appropriate to have multiple indigenous signs all on one sign, or if you would prefer to have them all on their own signs.

L: It would be better to just have one sign, and somewhere there it could appear something very simple, regarding how the idea of this garden came up as a reminder of who we are. Because the garden, really, as you have read on Facebook and other information you have found, is that one of the very first Mayan families came as refugees, I did not come up as a refugee, I was already here because I was offered a job after I finished school in Belgium, so I was travelling in Canada and came to Vancouver, and then I was offered a job. This was back in '79. But I guess in a way I became a refugee because once I started working, and because of the nature of my work, which had to do with international indigenous politics, I could not go back home. But in '85, that' when the first three Mayan families came to Vancouver, and so a year later in '86 we started talking about making reminiscences about home, and the fact that they had been forced to leave. So everybody was feeling nostalgis, and I said "why not have a project that will pull us together", and then we could not just have some food, but we could do something. And someone said "what about a garden". And so that's how the idea of a garden came, and we were out in Barston island the first 12 years, near Portman bridge, a little island in the middle of the Fraser river. And we had to go all the way there, and in the late '90s the group has opened up to other friends and supporters, and there was a professor from UBC, who came and as a part of a group, and then one of his students. They realized how far we had to go to garden - i mean it was a big garden, maybe as big as the one we have now - and the student said "why not apply to UBC farm, it's a community garden there, called 'Roots and Shoots'." She helped us to apply in 2000 or 2001, and we were granted a spot there. But this is to say how the idea of the garden came up. Because we are far away from home, we wanted something that will keep us together. And among our discussion, we talked

about who we are, and why we came out here, so far away from home. And we know our parents, grandparents, greatgrandparents were always farming, planting corn, beans, squash and all the greens, that was their life. We were the first generation that did not farm. But our parents - that was their life. So I guess we wanted to continue somehow with that same idea - that same work. Although it is secondary, you know, it's like a hobby, but still it reminds us of who we are and also the other part is that it offers ceremonies that we have before planting and when we are harvesting. So that's part of our culture.

F: I'm curious how you got into contact with the first 3 families from Guatemala in 1985.

L: Well, I was the only Mayan person here. I think there was another one, but I didn't have much contact with him. Or two other - one guy was at the international college, he got a scholarship back in '78 or '79. And they came for political reasons, but I didn't know them really until these 3 Mayan families contacted me in '85, I think, or maybe '84. They were in Mexico and somehow got my address, so they contacted me and my wife and I helped to get some papers going on and gave a letter to the embassy like "yes we know them..." to facilitate the process of all the paperwork. So that's how I got to know them. The first family that came here, we went to the airport to meet them, and same as the second family. And since we speak the same language, it was easy to communicate.

F: I'm also curious about how you make your own tortillas. Where do you get the corn from to make those tortillas?

L: Well, you see, the corn that we grow here is not much. So we use it to have a corn roast at the end of the harvest, we invite some friends and volunteers that helped. Then we distribute among the members some corn on the cobs that they can take home and put in the freezer and eat when they want. And a few other cobs are kept for the seeds. So it's not really enough to sustain us to keep us going, so we get our corn flour from the Mexican store. To make tortillas it's a whole process. It's not easy or simple.

Because you have to have the grains all dried, then once you want to make the tortillas you need to take a kilo or two of corn, and boil them with a bit of lime. It's that white powder, the lime, which helps to get the very fine skin off the kernel. Once it is boiled, there is a point at which it must be boiled - if it is over-boiled it's not good, and if it's not boiled enough it's not good either. So then it's washed, then when it's ready then you have to grind it to make the dough, and with the dough you make the tortillas. So it's a whole process. With the corn flour, you just have to go to the store and get a few pounds or a whole 50 pounds bag - it'll last for a while - so we just add water and we have the dough.

F: OK, that makes sense. Thank you. That's all the questions I had for you. Did you have anything else you wanted to add?

L: Perhaps in the sign there would be something about how the garden reminds us who we are. And also something to do about culture - how it keeps our culture strong. Culture meaning, in that sense, well culture is a way of life. And also the spiritual part, is important. As well as the language, because each type of corn seed has a name. Same as for the beans. Each type has a name in our own language. Yeah, so I think that's the main thing.

F: OK, well thanks for talking to me.

L: OK, well I hope you have a good project.

UBC Farm Interpretive Signage Survey Results Report

Surey Title: LFS 450 UBC Farm Interpretive Signage Project - Stakeholder Criteria Survey

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Section 1: Demographic Questions

Question 1 - What is your role at the Centre for Sustainable Food Systems at UBC Farm?

Perennial and Biodiversity Coordinator

Sales Assistant

Academic Program Assistant Worklearn

Saturday Market Manager & Field Worker

Researcher

To explore and exemplify actions, systems, and communities that foster food systems that are economically, environmentally, and socially sustainable.

Sales Manager

data manager

Coordinator

Site admin

Communications

Children's Program Coordinator

Question 2 - How many years have you been involved at the UBC Farm?

Field	Minimum	Maximum	Mean	Std Deviation	Count
How many years have you been involved at the UBC Farm?	1.00	10.00	4.33	2.87	12

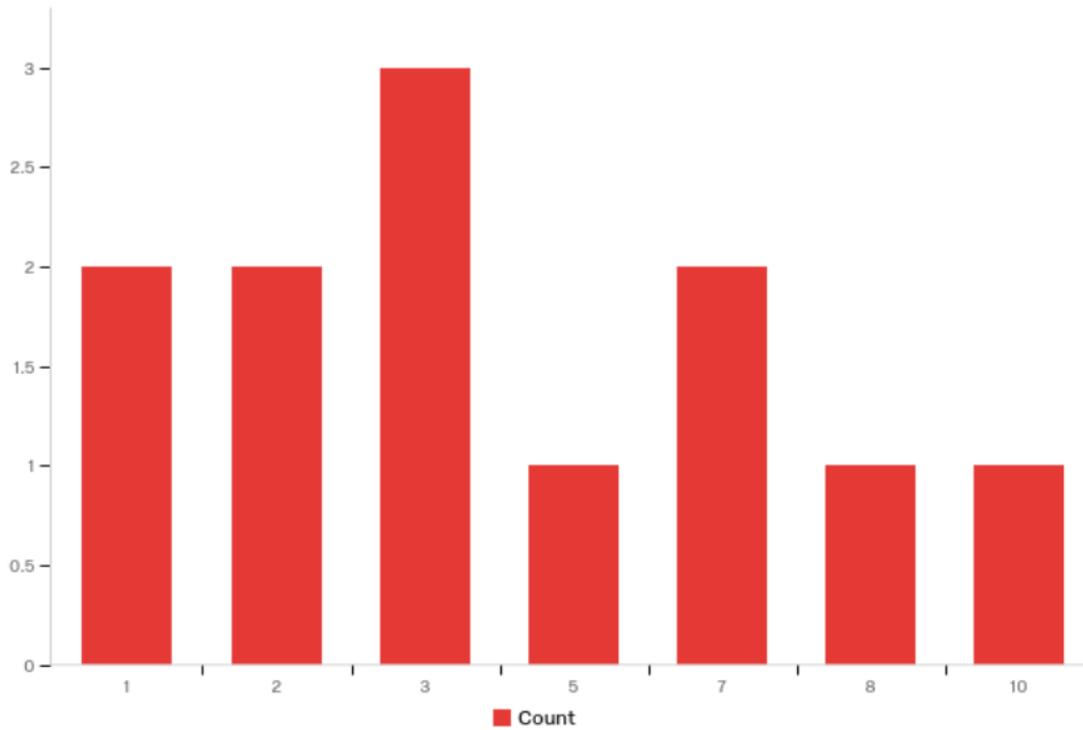
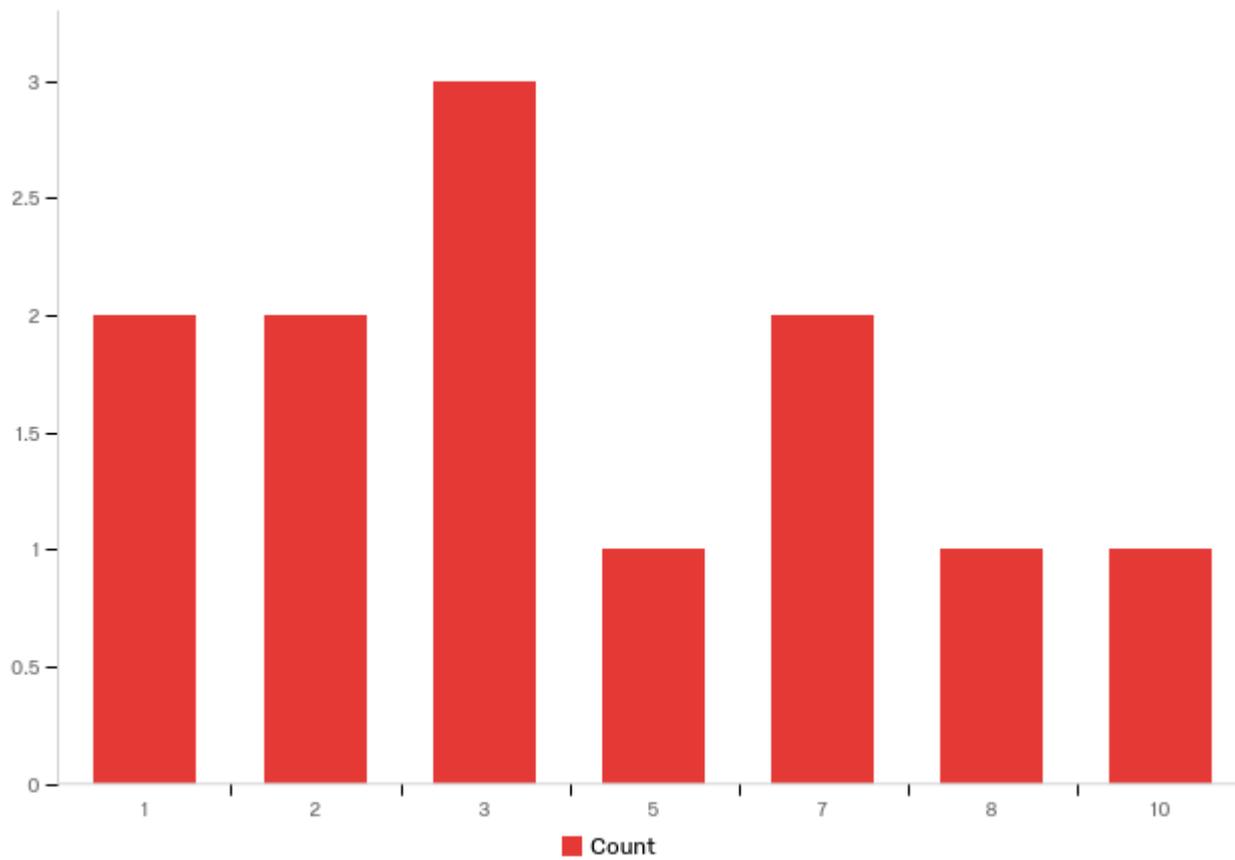


Figure 1. Number of responses to survey question “How many years have you been involved at the UBC Farm?”



Section 2: Sign Content Questions

Question 3 - What do you think are the highest-priority themes of the UBC Farm that should be communicated to the wider community through interpretive signage (Lower number = Higher priority)?

Field	Mean	Std Deviation	Count
Food Cultivation	3.58	1.66	12
Indigenous History and Current Activities	2.75	1.09	12
Learning and Education	2.92	1.85	12
Research	4.08	2.33	12
(Agro)Biodiversity	5.75	1.42	12
Climate Change	6.58	1.71	12
History of the UBC Farm	4.42	2.18	12

Question 4 - Select which of these themes related to Food Cultivation should be explored on UBC Farm interpretive signs.

Answer	Count
Volunteering	4
Food Sovereignty	3
Farmers' Market	4
Community-Supported Agriculture (CSA)	4
Total	23

Other Suggestions:

Field practices

Certified Organic practices and FAQ

Organic vs. conventional agriculture

Suggest 2 large panel permanent signs that describe ways for 1) Community members to get involved (Farmer's Market, CSA, Vol, Workshops, Practicum, etc.

Organic production / certification and why it is significant

Issues in local food systems/local food economy

I would combine farmers market, CSA, and wholesale under one signage called "Diversified Sales"

And the 2nd large panel sign summarizing ways that students can get involved (Courses, Internships, Work-Learns, Vol, Practicu, Workshops, etc.)

Question 5 - Select which of these themes related to Indigenous History and Current Activities should be explored on UBC Farm interpretive signs.

Answer	Count
Stories and discussions about indigeneity and colonization in general	7
Stories about x ^w cičəsəm: Indigenous Health Research and Education Garden	9
Stories about the Tu'Wusht Garden Project	8
Stories about the Maya In Exile Garden	7
Land acknowledgement	8
Total	44

Other Suggestions:

Specific history & information about Musqueam history on these lands, both as the original custodians and their present relationship and work here.

Indigenous food sovereignty

A Sign about CRUW

Musqueam grounding & stories

A Sign about a CSFS-crafted statement explaining how it aims to decolonize food systems

Question 6 - Select which of these themes related to Learning and Education should be explored on UBC Farm interpretive signs.

Answer	Count
Children's educational content	6
Community workshops	5
Intergenerational Landed Learning Project	4

UBC Courses conducted on the UBC Farm	4
UBC Students involved at the UBC Farm	7
Total	29

Other Suggestions:

Organic and Local Agriculture systems

Practicum program

Tours available to classes, organizations or other groups

Question 7 - Select which of these themes related to Research should be explored on UBC Farm interpretive signs.

Answer	Count
Undergraduate research in general	3
Research about management practices	5
Total	12

Other Suggestions:

All on-going major research projects at the farm should have signage, whether or not it's about management practices. e.g., biodiversity, etc.

research and data collection associated with long-term research station. Quick note - these categories seem a bit vague, and I think the above (graduate/post-graduate level research projects) should have its own category. I don't understand why "undergraduate research" has its own category, or what "past, present, future of research" means.

Research by CSFS-affiliated faculty

ongoing and previous graduate and post-graduate level research projects

Question 8 - Select which of these themes related to (Agro)Biodiversity should be explored on UBC Farm interpretive signs

Answer	Count
The long-term biodiversity monitoring project on the UBC Farm	0
Seed saving and seed diversity	0
Total	0

Question 9 - Select which of these themes related to Climate Change should be explored on UBC Farm interpretive signs

Answer	Count
Climate Adaptation	1
Pest-related issues	1
Water-related issues	1
Total	3

Question 10 - Select which of these themes related to History of the UBC Farm should be explored on UBC Farm interpretive signs

Answer	Count
Founding of the UBC Farm	4
Major Events & Collaborations	4
Total	11

Other Suggestions:

History dating back to the 20th century e.g. clearing of the forest by Forestry researchers

History of the land at the farm and surrounding neighborhood including Indigenous history, ag research uses pre-dating UBC Farm, and leading up to today.

Stages of the 'founding': students 'jumping the fence' and going rouge to practice growing hands on, through the the Save the Farm movement, and the integration of the Farm into the CSFS and UBC at large.

Question 11 - Do you have any other sign content suggestions?

A diagram showing a simplified food system (soil, agriculture, food processing, food consumption, food waste/recovery, and what are the main issues along the way.

Perennial shrubs, trees, herbs with edible & medicinal (fiber, etc.) properties should be identified with concise, clear, permanent signage

A sign explaining the importance of considering triple bottom line sustainability when it comes to food systems (economic, environmental, and social), potentially with examples of the current main issues under each of those pillars of food sustainability.

Ideally, cultivated annual crops would also have similar signage; however, tractor use makes that difficult. However, perhaps a large general sign that represents the crops common to specific fields could be employed; and those signs could be mobile and re-installed each year, as fields rotate each year.

Question 12 - Using your mouse, click three locations you would wish to see interpretive signs.



- 1. Honeybee Hives and Research Trailer
- 2. Tai A'xin: Maya In Exile Garden
- 3. Research Plot
- 4. Events Field
- 5. xwé'clem: Indigenous Health Research & Education Garden
- 6. Poplar Grove

- 7. Tu'wushu Garden
- 8. Yurt
- 9. Children's Learning Garden
- 10. Forest and Agroforestry Trail
- 11. Farm Centre
- 12. Harvest HubMarket

- Farm Visitors register for Free
2-hour parking
- Washroom
- Fenced (no access)





Figure 1. Heat map automatically generated based on survey respondents' top 3 choices of sign location.

Section 3: Sign Design Questions



Figure 2. Image of Sign 1

Question 13 - What did you like most about the design of Sign 1?

Nice wooden frame

Large text for name & location, images add to the story

The wood exterior and the information layout

Natural/wooden framing and feel, incorporation of images, large and visible lastercut/engraved signage title (looks even better as it weathers), creative shape

text and pictures

That it is a eye sight level and look super sturdy.

Prominent, easy to find

attractive, finished-looking post. Nice pictures.

Lots of info

Tall

The wood border.

natural aesthetic

Question 14 - What did you like least about the design of Sign 1?

small writing

Height prevents smaller visitors from reading.

Not big enough to notice.

Layour of text and pictures is a bit boxy, less engaging/eye-catching

Could be more visually catchy

Too much text. Title of the sign is not visible enough (black on brown).

Text too dense

Maybe too much text. Slant at top is a bit weird.

Lots of info (both a positive and neg)

Frame too bulky

The slope at the top is strange. It looks a bit to "national park-y"

the header



Figure 3. Image of Sign 2

Question 15 - What did you like most about the design of Sign 2?

The visual aspect of it.

Straight forward

Small, non-intrusive

Small and not too obtrusive

Simple design. Different way to engage audience - I like the bird call idea.

Opporunities for multi-media

Multiple points of engagement- good for larger crowds and for providing a lot of info.

It's simple and big enough to notice

Indigenous names

incorporating auditory sense

Images of birds to ID

Ease of installation

Question 16 - What did you like least about the design of Sign 2?

QR code didn't work in the past here

I would never scan a QR code.

There isn't much to read or engage with; QR codes just don't work in my opinion

I don't know anyone that uses QR codes, and it is a barrier for a lot of different groups to access the sign content (eg. children, people with english as an additional language)

Not sure everyone will use QR codes but it's an interesting idea

Wood will rot in this climate. I don't believe in QR code (we've tried them in the past without success; we received the feedback that not everyone wants to upload the QR code scanner app).

Must have technology to learn something beyond the name,

Not sure if people use QR codes. Post looks unfinished.

Not accessible to folks without smartphone!

QR code - no one uses them!

Requires internet connection at access content.

relying on QR codes - who even knows how to use them? (I think urls are less intimidating)



Figure 4. Image of sign 3.

Question 17 - What did you like most about the design of Sign 3?

Visual, nice with colour

The integration of images and text. Slanted for easy reading.

the birds eye view

positioning with an overhead photo

Overview photo

It shows the subject of interest and has big titles

I like this one. Especially if it says "this is where you are".

Good visuals

Everything!! I like that it's oriented at waist height facing up, I like that it has a picture of what you're looking at with labels to help you ID what you're looking at, I like the different languages, the text boxes pop more and are easier to see, the website and QR codes are there for folks who want them

Colorful design & bi-lingual information.

Color scheme. I like the idea of providing an overview image/map and overlaying information as text and images.

Balance of photos and text

Question 18 - What did you like least about the design of Sign 3?

too crowded visually, text too small

The text is so small.

The colours are too similar.

Seems a bit text-heavy

I think it's mostly good, but looks information dense.

How do I know what I'll learn at this sign?

From the photo, I'm not sure why it is one big sign, as opposed to three separate signs.

Cartoon leaves

Can't think of anything!

All metal, would prefer wood but wouldn't last as long

A map might be easier to interpret and more informative than an aerial image in our case.



Figure 5. Image of sign 4.

Question 19 - What did you like most about the design of Sign 4?

Well layout, nice design

Lots of images & information! I love the extended horizontal format and the height of the sign- I can imagine many people crowded around and all being able to read the sign.

I love the photos and balance of text to photos

Love it also! Very engaging colours and size, pictures are high quality and give you a good sense of what you're looking for in the surrounding landscape, the text doesn't take up the whole space

plant closeups and illustration

I like this one too. The colors. The visual aspect.

Clear title of what info to find here.

Color scheme. Good picture to text ratio.

Plant ID is good.

Educational, great for hedgerows and biodiversity info

Lower to the ground and slanted for more accessibility, for children, etc. The dark background looks like and is a good contrast to the foliage behind it.

beautiful photographs

Question 20 - What did you like least about the design of Sign 4?

Seems quite huge

N/A, best one yet

Maybe the white/light green contrast in the title will not age well and become hard to read?

Maybe it should be higher off the ground.

I think this sign looks great!

I don't understand why the first plant was given such prominence. I think the sign could be better formatted.

Hard to tell but it looks a bit low - to read the small print at the bottom so folks may have to bend down but maybe that's better for people in wheelchairs/kids? Which is great!

focus on flowers and fruits makes it difficult to ID plants in other seasons.

A little low to the ground



Figure 6. Image of sign 5.

Question 21 - What did you like most about the design of Sign 5?

When you photograph it, there is a nice background (as opposed to the ground). A plus for sharing on social media?

Simple text, not too much

Seems concise

It stands out and is a feature of the land

It appears quite visible in the landscape. I like the graphic design, with the chard as a background image. The text is large and readable.

Interesting vertical design. Opaque picture background.

I like that the header is not just "This is the Food Garden" but actually tells you what it's doing! The semi-transparent image in the background is a nice touch. Good balance of text and images. Very eye-catching and engaging; I like the use of vertical space.

Eye catching, tall, modern

clear intention of sign content

Clean, attractive design, vertical shape

Clean design

Beautiful. Looks expensive.

Question 22 - What did you like least about the design of Sign 5?

Too high but not sure

It feels like it would be quite dominant.

It doesn't have as much design elements or color.

Maybe a QR code/website link would be good to add

could have more photos

faded image in the background confusing

Could use more informative pictures to balance the amount of text. Justification of text seems a bit off. Serif font is harder to read than sans-serif.

Vertical orientation seems space-hogging

Too much blank space, dark colour

Too tall and obtrusive. Would be hard for children to read.

Space seems like it is used inefficiently. I don't love the layout.

In the following questions, rankings that received the most votes are highlighted in light blue. Rankings that received between 50% and 75% of the votes are highlighted in medium blue. Rankings that received 75%+ of the votes are highlighted in dark blue.

Question 23 - Rank the aesthetics of the 5 signs.

Question	Sign 1		Sign 2		Sign 3		Sign 4		Sign 5		Total
1 (Best)	8%	1	0%	0	17%	2	58%	7	17%	2	12
2	9%	1	9%	1	18%	2	36%	4	27%	3	11
3	27%	3	9%	1	45%	5	0%	0	18%	2	11
4	27%	3	27%	3	9%	1	9%	1	27%	3	11
5 (Worst)	27%	3	55%	6	9%	1	0%	0	9%	1	11

Question 24 - Rank the layouts of the 5 signs.

Question	Sign 1		Sign 2		Sign 3		Sign 4		Sign 5		Total
1 (Best)	0%	0	0%	0	27%	3	64%	7	9%	1	11
2	18%	2	0%	0	45%	5	36%	4	0%	0	11
3	9%	1	18%	2	18%	2	0%	0	55%	6	11
4	64%	7	9%	1	9%	1	0%	0	18%	2	11
5 (Worst)	9%	1	73%	8	0%	0	0%	0	18%	2	11

Question 25 - Rank the colour palettes of the 5 signs.

Question	Sign 1		Sign 2		Sign 3		Sign 4		Sign 5		Total
1 (Best)	9%	1	0%	0	9%	1	73%	8	9%	1	11
2	18%	2	18%	2	27%	3	18%	2	18%	2	11
3	27%	3	0%	0	27%	3	0%	0	45%	5	11
4	27%	3	18%	2	18%	2	18%	2	18%	2	11
5 (Worst)	18%	2	64%	7	9%	1	0%	0	9%	1	11

Question 26 - Rank the fonts of the 5 signs.

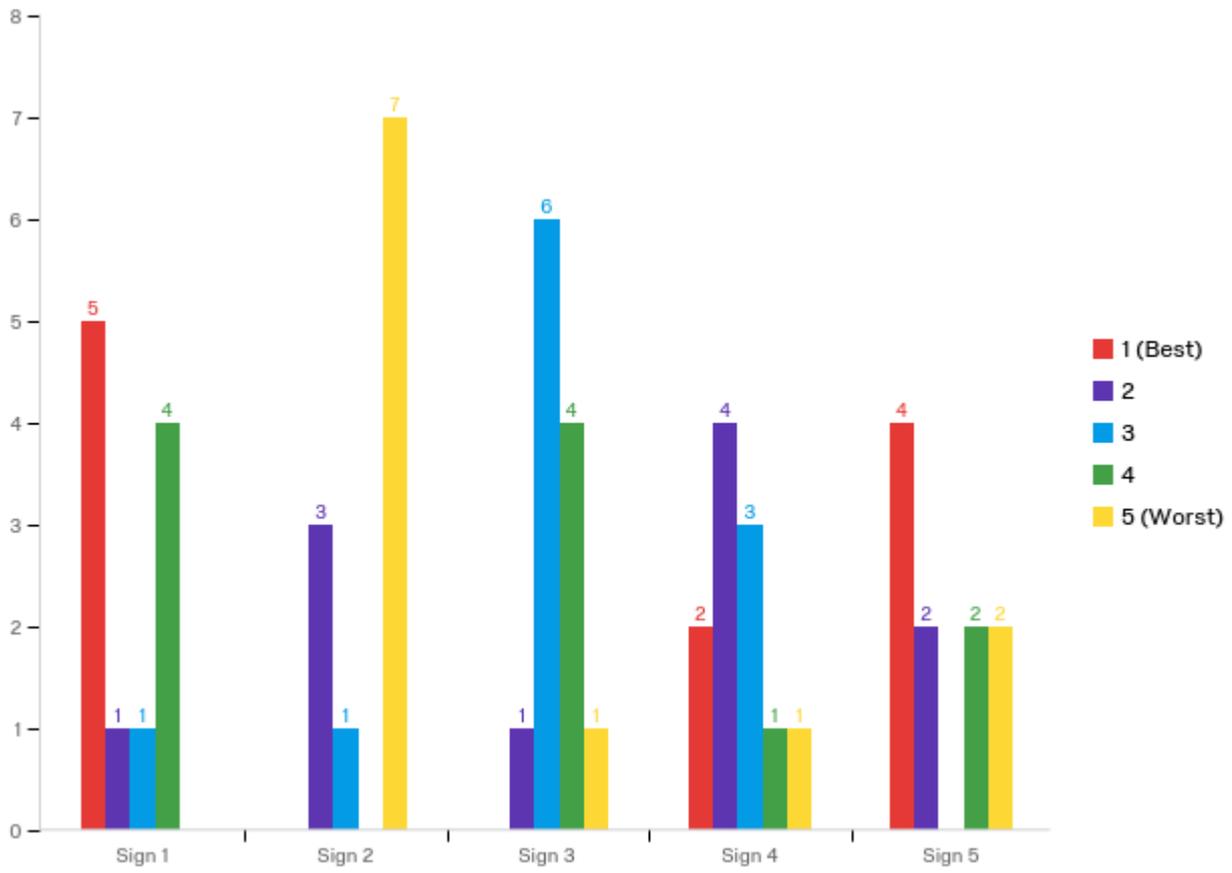
Question	Sign 1		Sign 2		Sign 3		Sign 4		Sign 5		Total
1 (Best)	9%	1	0%	0	18%	2	27%	3	45%	5	11
2	9%	1	18%	2	27%	3	36%	4	9%	1	11
3	36%	4	9%	1	18%	2	18%	2	18%	2	11
4	55%	6	27%	3	0%	0	9%	1	9%	1	11
5 (Worst)	27%	3	45%	5	18%	2	0%	0	9%	1	11

Question 27 - Rank the audience engagement of the 5 signs.

Question	Sign 1		Sign 2		Sign 3		Sign 4		Sign 5		Total
1 (Best)	9%	1	0%	0	27%	3	45%	5	18%	2	11
2	9%	1	0%	0	36%	4	45%	5	9%	1	11
3	36%	4	18%	2	9%	1	0%	0	36%	4	11
4	64%	7	0%	0	9%	1	0%	0	27%	3	11
5 (Worst)	18%	2	82%	9	0%	0	0%	0	0%	0	11

Question 28 - Rank the construction materials of the 5 signs.

Question	Sign 1		Sign 2		Sign 3		Sign 4		Sign 5		Total
1 (Best)	45%	5	0%	0	0%	0	18%	2	36%	4	11
2	9%	1	27%	3	9%	1	36%	4	18%	2	11
3	9%	1	9%	1	55%	6	27%	3	0%	0	11
4	36%	4	0%	0	36%	4	9%	1	18%	2	11
5 (Worst)	0%	0	64%	7	9%	1	9%	1	18%	2	11



Question 29 - Do you have anything else you would like to add?

Have aesthetic that matches the farm is really important. Also the location of the sign should be decided in collaboration with farm staff to assure the sign won't be in the way of current activities or future activities.

A fourth signage location - based near the corner of the trufiere and the Maya garden overlooking the fields at that end of the farm.

Thank you for working on this!

The last section on rating the sings was very difficult as a user.

I would also like to see a sign about the UBC Farm as a long-term agroecological research station

Really want to emphasize that I think plant ID should be prioritized in this project. SO many workshops and practicum students are keen to learn what is the identity of specific plants. This seems to me the paramount need for educational signage!

Thank you!It would be great to have a sign and community board outside of the UBC Farm gate, so people can see it while walking by.

Question 30 - What else should UBC Farm consider when developing interpretive signage?

Where we want people to stop/gather. Where will a tractor or other equipment be passing through. Can it be mowed around/weed-whacked easily. Can the entire sign be moved if necessary by Farm staff, or would it need to be dug out, etc.What kind of info will stand the test of time since some areas of the Farm change rapidly. Other things don't (IE permanent fixtures such as the hedgerows, biodiversity elements, history)

Think about the audience. We have all ages coming to the farm. Which group is the least well served and could enjoyed signs.

Objective of what learning material to provide in each space of the farm. Consider whats the purpose of putting a sign there and how can it be accessible for all of the diverse site users who visit the space.

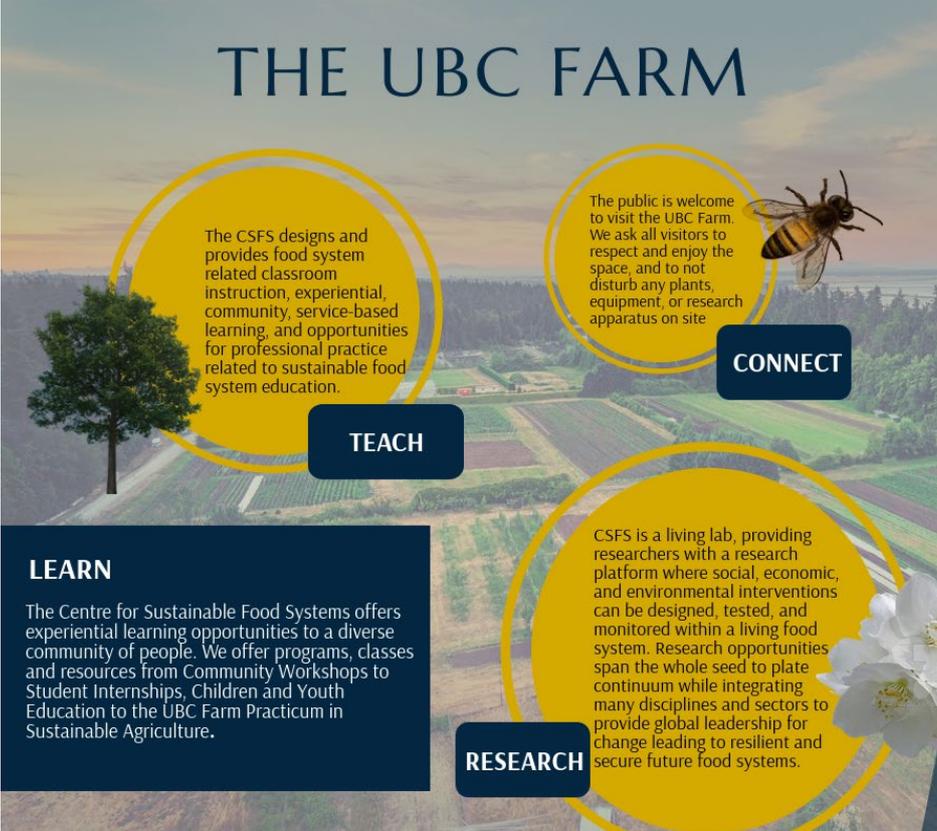
Multiple languages, Musqueam permission

Make it more image and color heavy with occasional text refrains. There doesn't need to be an info dump or a photo blast. Balance is best.

Maintenance, how quickly will it fade with weather conditions. I think there should be at least 1 overview sign, perhaps about farm history, OUTSIDE of the farm gate, preferably on Ross Drive so that people can see it when walking by and if the farm isn't open.

Adding Chinese translation, Pictures where possible so that children can understand as well

THE UBC FARM



The CSFS designs and provides food system related classroom instruction, experiential, community, service-based learning, and opportunities for professional practice related to sustainable food system education.

TEACH

The public is welcome to visit the UBC Farm. We ask all visitors to respect and enjoy the space, and to not disturb any plants, equipment, or research apparatus on site.

CONNECT

LEARN

The Centre for Sustainable Food Systems offers experiential learning opportunities to a diverse community of people. We offer programs, classes and resources from Community Workshops to Student Internships, Children and Youth Education to the UBC Farm Practicum in Sustainable Agriculture.

CSFS is a living lab, providing researchers with a research platform where social, economic, and environmental interventions can be designed, tested, and monitored within a living food system. Research opportunities span the whole seed to plate continuum while integrating many disciplines and sectors to provide global leadership for change leading to resilient and secure future food systems.

RESEARCH

What Is The UBC Farm?

The UBC Farm is the Centre for Sustainable Food System's main teaching and learning space. A 24-hectare integrated production farm, the UBC Farm is located on the traditional, ancestral, and unceded territory of the Musqueam people. Situated within a 90-year-old coastal hemlock forest, the UBC Farm comprises cultivated annual crop fields, perennial hedgerows and orchards, pasture, teaching gardens, and forest stands. All 24 hectares of the UBC Farm are organically managed, and UBC Farm produce is certified organic through NOOA. We cultivate over 200 varieties of fruits, vegetables, and herbs, and also feature honey bees and egg-laying, open-pasture hens.

Discover the UBC Farm through your tastebuds! Get your local, certified organic, farm-fresh seasonal veggies, fruits, herbs, flowers, seeds and free-range eggs straight from the UBC Farm. Throughout the growing season, we offer farm goods through our markets, weekly CSA box, wholesale distribution, and online seed sales.



UBC FARM
Centre for Sustainable Food Systems



THE UNIVERSITY OF BRITISH COLUMBIA



BIODIVERSITY AT THE UBC FARM

WHAT IS BIODIVERSITY?

Biodiversity refers to the variety of all different life forms in an ecosystem. Biodiversity at the UBC Farm encompasses everything from the beetles on the forest floor to the all the different tree species apart of the hedgerows.



DID YOU KNOW?

Over 200 varieties of fruits, vegetables, and herbs are grown at the UBC Farm. In addition, the farm houses about 100 egg-laying hens.



WHY IS BIODIVERSITY IMPORTANT?

Biodiversity drives the important ecosystem services that allow an ecosystem to thrive. Ecosystem services include regulating, provisioning, supporting and cultural services. All these services can directly or indirectly benefit the ecosystem and humans. Hence, biodiversity and ecosystem services are essential to the survival all species. The UBC Farm aims to enhance the land with as much biodiversity as possible.







UBC FARM
Centre for Sustainable Food Systems

CLIMATE CHANGE

The UBC farm strives to find solutions to issues that face our world today. Hence, there is an abundance of research being conducted about climate change, composting, soils, natural pest management and the list goes on! This research will help us mitigate the effects of climate change and help us understand how to take better care of our planet.

WHY IS RESEARCH IMPORTANT?

The UBC Farm is a living laboratory that utilized by UBC professors and students to conduct research surrounding many important issues. The findings of this research can go on to reach global scales helping other areas achieve sustainable food systems. Hence, this research strives to improve the broader community.

RESEARCH AT THE UBC FARM

FOOD SUSTAINABILITY

Majority of the research at the UBC Farm deals with issues of food sustainability. That is, the focus is on improvement of community health and wellbeing.

DID YOU KNOW?

The UBC campus is Canada's first Fair Trade campus!

UBC FARM
Centre for Sustainable Food Systems

THE MAYA IN EXILE GARDEN

BACKGROUND

In the attempts to keep their culture and tradition alive, five Mayan families started the Maya in Exile Garden at the UBC Farm. For the Mayan people, this garden serves as a reminder of who they are by offering them the opportunity to engage in their culture. Various cultural ceremonies take place before the planting and during harvesting of the crops. Hence, this space holds great cultural value while helping to keep people together.

Today, the main ancestral crops known as the Three Sisters are grown in the Maya Garden.

Corn is the basis of tortillas. Many authentic Mayan meals are created using corn flour as the base.

CORN

THE THREE SISTERS

Beans are an essential protein and act as a meat substitute.

BEANS

SQUASH

Squash is generally cooked with sugar and honey and eaten as a dessert known as dulce de calabaza.

UBC FARM
Centre for Sustainable Food Systems

UBC Farm Interpretive Signage: Budget Document

Budget Table

Sign Fabricator	Description of Product	Quotation
Sandbox Signs + Graphics (High Budget)	 24" x 24"  30" x 72"	<ul style="list-style-type: none"> - 20 displays at 24" x 24" - \$925 / sign (supply + install). - 10 displays @ 30" x 72" - \$1,850 / sign (supply + install).
Eminent Signs (High Budget)	2' x 4'	<ul style="list-style-type: none"> - Design \$75/hour - Print \$48 - Laminate \$20 - Mount onto 3 mm aluminum composite sheet \$75 - Non-glare clear top acrylic \$45 - Plywood backing and metal frame ~\$120 - Posts and installation, very rough estimate \$400 - Sum: \$783 / sign
Signarama (Medium Budget)	High quality metal interpretive sign metal frame with 2 stands plexi face with printed vinyl and lamination of extra protection.	<ul style="list-style-type: none"> - 2' x 1': \$289 / sign - 3' x 2': \$327 / sign - 5' x 2': \$385 / sign
NuTrends Signs & Printing (Low Budget)	Material: 3mm Alupanel Finish: Gloss Laminated Print type: Single sided	<ul style="list-style-type: none"> - Size: 24" x 12": \$41.80 - 43.80 / sign - Size: 24" x 60": \$125.50 - \$141.3 / sign

Table 1. Product descriptions and quotations from various sign fabricators that responded to general quotation request. Higher-budget signs are listed above lower-budget signs.

Possible Funding Sources

[Aviva Community Fund](#)

Two levels of funding: small ideas under \$50,000 and large ideas between \$50,000 - \$100,000. Project categories include: Community Resilience; Community Health; and, Community Development. Grant selections are initially made by securing votes from project supporters (online voting competition format). Panel of judges will select the final winners.

Field of Interest: Community Development, Culture & Diversity, Children & Youth, Seniors, Indigenous, Arts, Culture & Heritage, Capacity Building Link

[Columbia Power Corporation - Community Sponsorship Grant](#)

Description: Wide range of support for activities including arts and culture, education, youth-centered projects, recreation activities, health, heritage, environment and First Nations initiatives.

Field of Interest: Community Development, Culture & Diversity, Children & Youth Indigenous, Arts, Culture & Heritage

[Canada Foundation For Innovation](#)

Description: A range of funding programs for leadership, innovation, infrastructure and scholarship programs. Proposals accepted only from eligible institutions (see website). Non-profits, universities, colleges and research hospitals are all eligible if they can prove that they support and conduct research.

Field of Interest: Community Development Link

[Columbia Basin Trust](#)

Description: The Columbia Basin Trust manages several heritage funding programs: Community Development Program; Built Heritage Grants; Community Initiatives and Affected Areas Programs; Heritage, Museum and Archive Grants

[First People's Cultural Council](#)

Description: Funding to support First Nation's language, arts and culture. Available to communities, organizations, individuals and language groups in two areas: Arts and Language.

Field of Interest: Culture & Diversity, Indigenous, Arts, Culture & Heritage Link

[Heritage BC](#)

Description: Supports heritage conservation across BC through education, training and skills development, capacity building in heritage planning and funding through the Heritage Legacy Fund.

Field of Interest: Arts, Culture & Heritage

[National Trust For Canada](#)

Description: National charity that inspires and leads action to save historic places, and promotes the care and wise use of our historic environment. Programs for youth, scholarships and promoting Canada's historic places.

Field of Interest: Arts, Culture & Heritage Link

[Vancouver Foundation](#)

Description: Grants support thousands of projects every year to help build healthy, vibrant, and livable communities across BC. Field of Interest Grants for arts & culture, education & training, environment & animal welfare, health & social development (up to \$75,000). See website for individual grants and their eligibility.

Field of Interest: Community Development, Culture & Diversity, Children & Youth, Arts, Culture & Heritage

[Support For Interpretation And Translation](#)

Description: The Support for Interpretation and Translation sub-component assists organizations in providing services in both official languages at public events. It also supports the availability of an increased number of documents in both French and English.

Sign Fabrication

List of Signage Designers

These firms might be able to help us find a sign contractor that has more experience doing interpretive signage mounts and panels than the people listed above (who seem to be mostly focused on commercial signage)

1. EDG Experience Design Group

- a. 200-1788 W 5th Ave, Vancouver, BC V6J 1P2
- b. (604) 688-9656
- c. Not a sign fabricator, but they would recommend:
 - i. Knight signs

2. Cygnus Design Group (see: UBC Botanical Garden signs)

- a. 606-318 Homer Street Vancouver, BC V6B 2V2
- b. 604-261-3330
- c. vancouver@cygnus.group
- d. They will design the content, and they can make a construction drawing that will make it work
- e. Fabricators usually use illustrator files, or even a pdf
- f. Different fabricators specialize with different types of signs, volumes, materials
- g. Multigraphics - would make the sign face, and outsource the mount
- h. Knight signs - all-round company

3. Place Projects Inc.

- a. 507-1383 Marinaside Crescent Vancouver, British Columbia Canada V6Z 2W9
- b. 604-306-8697
- c. info@placeprojects.ca
- d. [Notes]

4. Aldritch Pears Associates

- a. 800 — 1281 West Georgia Street Vancouver, BC V6E 3J7
- b. +1 (604) 669-7044

- c. info@aldrichpears.com
- d. [Notes]

Contacted Signmakers

1. Knight Signs

- a. 7462 Progress Way Delta, BC, V4G 1E1
- b. (604) 940-2211
- c. Sent a request for quote

2. FASTSIGNS

- a. 200-, 625 W Kent Ave N, Vancouver, BC V6P 6T7
- b. (604) 327-3278
- c. They'll send me a quote for a 3' x 4' sign
- d. They could help mount, too, but the quote estimate would be very different(?)

3. Sandbox Sign Group Inc.

- a. 3731 N Fraser Way, Burnaby, BC V5J 5J2
- b. (604) 439-7446
- c. Sent a request for quote, got a quote back.

4. The Sign Place

- a. 2305 Kingsway, Vancouver, BC V5R 5G8
- b. (604) 248-4762
- c. Sent a request for quote

5. Sign Me Up Designs

- a. 415 W 5th Ave, Vancouver, BC V5Y 1J9
- b. (604) 558-1001
- c. Sent a request for quote
- d. Response: "Hi Francis, Im happy to put some prices together for you but without detailed shop drawings and just going from a photo, it makes it near impossible to quote anything accurately. And our metal fabricator wont quote me this with no

exact quantity and no drawings so if you can get a little more details that would be helpful. Im afraid it doesn't work the other way around with pricing out on estimated sizes, it takes a long time to price out a job. Also do you need us to install them or will your people do that?"

6. Anchor Signs

- a. 190 3rd Ave, Vancouver, BC V5Y 1E9
- b. (604) 299-7446
- c. Sent a request for quote

7. Instant Imprints

- a. 4835 Victoria Dr, Vancouver, BC V5N 4P5
- b. (604) 620-5626
- c. **Would not be able to do interpretive signage**

8. Zippy Signs

- a. 105 W 6th Ave, Vancouver, BC V5Y 1K3
- b. (604) 734-4341
- c. Sent a request for quote

9. Signmaster Signs Ltd.

- a. 2206 Clark Dr, Vancouver, BC V5N 3G8
- b. (604) 874-2722
- c. Sent a request for quote

10. Amber Sign & Design Signage, Vancouver

- a. 2908 Commercial Dr, Vancouver, BC V5N 4C9
- b. (604) 682-0100
- c. Sent a request for quote

11. Graphic Brilliance Signs and Designs
 - a. 170-422 Richards St, Vancouver, BC V6B 2Z4
 - b. +1 800-651-6731
 - c. Sent a request for quote

12. Franklin Sign Company
 - a. 1112 Franklin St, Vancouver, BC V6A 1J6
 - b. (778) 999-8468
 - c. **Would not be able to do interpretive signage**

13. Signarama Vancouver
 - a. 1729 Powell St, Vancouver, BC V5L 1H6
 - b. (604) 909-7506
 - c. Sent a request for quote, got a quote back

14. Jensen Sign Artistry
 - a. 320 East Esplanade #3, North Vancouver, BC V7L 1A4
 - b. (604) 987-2322
 - c. Sent a request for quote

15. Nor-Wes Signs Services Ltd.
 - a. 236A Esplanade East, North Vancouver, BC V7L 1A3
 - b. (604) 985-1944
 - c. Sent a request for quote

16. North Shore Signarama
 - a. 828 Harbourside Dr #110, North Vancouver, BC V7P 3R9
 - b. (604) 227-4467
 - c. Sent a request for quote

17. Eminent Signs
 - a. 930 W 1st St #107, North Vancouver, BC V7P 3N4
 - b. (604) 990-9990
 - c. Sent a request for quote, got a quote back.

18. Innovative Signage Inc
 - a. 208 - 1075 W 1st St, North Vancouver, BC V7P 3T4
 - b. (604) 984-4395
 - c. Sent a request for quote

19. Address Signage Co
 - a. 120 Pemberton Ave, North Vancouver, BC
 - b. +1 888-798-7446
 - c. Bad Reviews

20. NuTrends Signs & Printing
 - a. 196 Pemberton Ave, North Vancouver, BC V7P 2R5
 - b. (604) 929-1587
 - c. Sent a request for quote

21. Fine-Line Signs
 - a. 1305 Welch St #219, North Vancouver, BC V7P 1B3
 - b. (604) 985-7058
 - c. Sent a request for quote