

Water Management at UBC Okanagan

Part 2: Water Features



UBC Okanagan 2007

Angele Clarke
A SEEDS Work Study and Directed Studies Project
July 13, 2009

Faculty Supervisor: Dr. John Wagner
Staff Supervisor: Roger Bizzotto

Table of Contents	Page
Introduction	2
Project Description	2
Goals and Objectives	2
Methods	3
The Symbolic and Cultural Values of Water	3
Landscape Aesthetics Relationship to Water	5
UBC-Okanagan Campus Landscape and Water Features	8
Water Features and the Built Environment Campus Community Questionnaire	11
Methods and Criteria	11
Questionnaire	14
Results	15
Comparative University Campus Water Features	18
UBC-Okanagan	18
University of Colorado- Denver	18
Tsinghua University	19
UBC-Okanagan Campus Recommendations	20
Conclusion	21
Reference	22
Appendices	25
Appendix A: Questionnaire Results	25
List of Figures	
Figure 1: Societal Landscape Preferences	7
Figure 2: Map indicating location of Groundwater Flow and Surface Water Catchments	9
Figure 3: UBCO retention pond/naturalized wetland	10
Figure 4: UBCO campus central courtyard pool and fountain	10
Figure 5: Lotus Pond at Tsinghua University	19

Introduction

UBC-Okanagan is a small, new university nestled in the semi-arid Okanagan valley, and both the university's management and entire campus community are aspiring to attain global recognition for social and environmental leadership, much like UBC-Vancouver. To attain this type of recognition, UBC-O has to do much more than speak about its goals and aspirations and rather take action. In part one of this report I have reviewed the way in which water is used at UBC-Okanagan, and in this part, part two, I am going to discuss how water is perceived, symbolically and aesthetically, and how the two water features on the campus are valued by the campus community. First, I am going to discuss the goals and objectives of the project, and the research methods I have utilized. Next, the symbolic and cultural values of water in different global locations, and landscape aesthetics and their relationship to water will be reviewed using the literature resources I have included in my references list. I have also created a questionnaire titled 'Water Features and the Built Environment' and administered it to the UBC-O campus community. I will discuss the goals and objectives of this questionnaire, the process of creating the questionnaire and administering it, the questionnaire methods and criteria, the questionnaire itself, and the results. I will also review the role of water use and water features at UBC-Okanagan in comparison to the University of Colorado-Denver, and Tsinghua University in Beijing, China. Lastly, I will discuss the importance of understanding the associations between water, symbolism, and aesthetics for the purposes of sustainable water management.

Project Description

Goals and Objectives

The objectives of this directed studies course are to research the following topics:

- Water symbolism and the relation of water, as symbol, to landscape aesthetics, campus culture and sustainable water management practices.
- To conduct a survey of social science literature on the topic of water symbolism as it pertains to the built environment.

- To design and administer a questionnaire for the purpose of assessing the attitudes of the UBC-Okanagan campus community towards the water fountain and pond located at the center of campus and the ‘naturalized’ wetland located at the southeast corner of the campus.
- To conduct a survey of literature and reports describing “campus greening” initiatives at selected universities and assess the extent to which those initiatives are shaped by aesthetic sensibilities and inclusion of water features.

Methods

Literature Research: I have drawn my information about water symbolism, landscape aesthetics, and universities from peer reviewed journal articles, relevant, reliable websites, and books. All of the references I have used are listed on pages 21-23.

Campus Community Questionnaire: I administered an online questionnaire to members of the UBC-Okanagan campus community and visitors to the campus through an online website link. Further information about the questionnaire can be found on pages 11-16 and pages 24-36.

Presentations: I have presented this research on three occasions; at the University of Alberta FRUCHT Undergraduate Anthropology Conference, the UBC-Okanagan World Water Day Ceremonies, and the UBC-Okanagan Undergraduate Research Awards Student Conference. Presenting on these occasions has given me the opportunity to talk about the research and inclusive topics with many individuals, and also, hopefully, it has caused others to begin thinking about how water plays a role in their lives and how they feel about the presence of water features.

The Symbolic and Cultural Values of Water

Water is a basic need for human survival and therefore it plays an essential role in our everyday lives. Whether or not you live in Paris, Port Moresby, Cape Town, or Kelowna, water is a universal, fundamental need to which humans have attached symbolic and cultural values. Depending on our cultural values, water has provided and aided in many

activities for humans, for example, cleanliness and hygiene, agriculture, horticulture, and aquaculture, aesthetics, and recreation. The variety and type of activity that each individual uses water for varies depending on climate, affluence, spirituality, education, geographic location, and politics. These water using activities also vary from culture to culture as well as from individual to individual. I am going to discuss some of the different global perspectives that surround water from the literature I have reviewed.

Interactions with water take place within a cultural landscape which is the product of specific social, economic, and political arrangements, cosmological and religious beliefs, knowledge and material culture, as well as ecological constraints and opportunities (Strang 2004:5).

In *The Meaning of Water* Veronica Strang illustrates water as an “ultimate” fluid, with associations to healing, soothing, arousing, embodiment, disembodiment, language, spirituality, science, power/status, money, recreation, survival, health, hygiene, etc. Understanding these associations are fundamental to understanding water and its sense of place (Strang 2004). She also discusses the healing power of water, water as a symbol for a ‘fountain of knowledge’, water in heaven and religion, water as a continuum between the natural and the cultural, the basic human need for water, and water as a metaphor in many different contexts. Strang believes that human sensory experience of water is to some degree universal (2004:49) but it also varies for particular individuals and within particular cultures (2004:245). According to R. Litton and Robert Tetlow, “water has been described as nature’s mirror of the landscape on which inverted images appear” (1974:84).

These symbolic associations and romantic views of water have perhaps shaped the way in which water is used and perceived in North American cities, and in Kelowna in particular. The way in which water is used and symbolically perceived at UBC-Okanagan in Kelowna, B.C is much different than in other parts of the world. For example, in Rajasthan, India, their lack of water is not thought of as scarcity, but rather they learned to conserve every drop and live healthy lives. This perspective is attributed to the local society and indigenous culture (Mishra 2001:23). A proverb from Rajasthan

that illustrates this cultural perspective is: 'Running water, pure water'. "The principal behind this is simple: to hold the drops of rain or palar water in a very clean space and stock it...to preserve for tomorrow the drops that have fallen today" (Mishra 2001:53). This respect for water is also seen in Hindu mythology, where water is symbolized as a primal substance from which everything comes from and to which everything returns (Baartsman 1990:210). Water symbolism and the values attached to water vary from culture to culture and from individual to individual, but it is observed that it always is associated with positive feelings and innate needs.

The Relationship of Landscape Aesthetics to Water

The symbolic and cultural values we attribute to water affect what we consider to be aesthetically pleasing water features. Aesthetics plays a role in our everyday lives, as we are constantly judging our surroundings with our own perceptions of what we believe is beautiful, healthy, natural, and on the opposite side of the spectrum, ugly, unhealthy, and unnatural.

Aesthetics is the field of philosophy that studies the ways in which humans experience the world through their senses. Environmental aesthetics extends beyond the narrow confines of the art world and beyond the appreciation of works of art to the aesthetic appreciation of human-influenced and human-constructed as well as natural environments (Carlson 2002).

Aesthetic value is often measured by looking at human preferences (Kapper 2004:302), but evaluating these preferences is often a very complex problem as there are many variables and different perspectives. The 'big' criticism surrounding aesthetics is that assessing what is aesthetically pleasing is very subjective. When an individual approaches an area with different intentions, a different state of mind, and different life experiences, their expectations of the water and therefore their experience with the water will differ. Questions such as, 'how did the person get to the environment?', 'and what happened once there?' are important to consider (Litton 1974:7-8).

Water's visual appearance is continuously changing and this creates a mesmerizing experience, either calming or exhilarating. The sounds of water also have these types of effects as they are frequent and repetitive. A study of visual landscape preferences done by Dramstad, Tveit, Fjellstad, and Fry (2006) which included the viewing of thirty photographs and a score value system had strong results in regards to preference of water. Water was visible in one of the pictures, and there were multiple pictures with riparian vegetation and other vegetation associated with waterways; all of these photographs scored very high for preference in contrast to pictures with no association to waterways (Dramstad et al. 2006:471). A similar study by Lee, Ellis, Kweon, and Hong (2008) involved distributing 800 surveys to single families in a neighbourhood in College Station, Texas. These surveys asked questions regarding the family's satisfaction with their neighborhood; the main focuses were on vegetation type, location, and other spatial information. The area was mapped with satellite imagery, and features, vegetation type, pavement, etc. were detailed on these images. The responses were correlated to the different parts of the neighborhood, and results were derived from this information. The respondents generally preferred natural environments, specifically those with lots of vegetation. Lee, et.al. (2008:67) concluded that

Humans and landscapes are interactive and understanding their relationships is important to avoid the creation of adverse environments for both humans and landscapes. This is particularly critical for suburban environments in which a few landscape elements, including remnant stream networks, small forests, and rangelands, still exist. Human perception appears to be important in understanding these relationships.

In contrast to much of the subjective nature of aesthetics I am discussing is Thomas Kapper's ideas about aesthetics and beauty perceptions. He believes that in general, people agree on what is beautiful and not beautiful, and this is so even if they cannot explain what beauty is or what it looks like (Kapper 2004:302). Dr. Werner Nohl, a landscape architect, believes that there has been a recent loss of aesthetically pleasing landscapes and human perception of aesthetics has also become narrow. Both of these

viewpoints approach aesthetics as a universal truth with a universal spectrum of aesthetic perspectives. There is evidence though, that what water features are considered aesthetically pleasing may also depend on culture. For example, in traditional Japanese landscape design, they concealed at least some part of a body of water so it is never

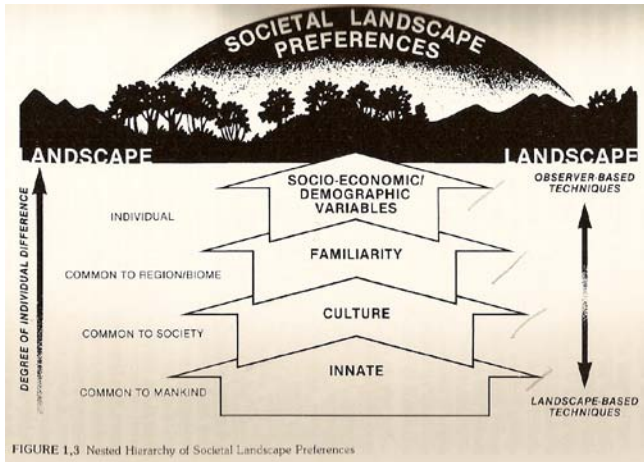


FIGURE 1,3 Nested Hierarchy of Societal Landscape Preferences

Figure 1: Societal Landscape Preferences.

Source: Dearden 1989.

totally visible from any one viewing position (Litton 1974:79). This is a desire for visual mystery which may not be present in all cultures or enjoyed by all individuals. In Rajasthan, India, when some of the artificial lakes dry up in the dry season, statues which are submerged in the wet season become visible and look like beautiful parts of a palace.

This indicates that planning and engineering for a year round aesthetically pleasing landscape is important (Mishra 2001:83). In contrast, for more than half of the year at UBC-Okanagan, the pond and fountain are dried up or full of snow with no regard to their aesthetic appeal.

J. Douglas Porteous discusses the landscape tastes in British Columbia as being mainly taken from English colonial preferences when settlers first came to the province. The province's mountainous areas and dense forests were seen as inhabitable and they were thought about in negative terms. The famous group of seven landscape painter, Emily Carr, was one of the individuals whose work began to change the attitudes about 'native landscape' in the English colonial's eyes from positive to negative. The novelist Malcolm Lowry also changed the general British Columbian ideal of the landscape being used for mainly mining and forestry to also preserving it. Now there is much more focus on the preservation of beautiful British Columbian landscapes, and natural landscapes are seen as much more aesthetically pleasing than they once were (Porteous 1996:107-109). Dr. John Wagner, assistant professor of cultural anthropology at UBC-Okanagan, believes that much of the culture in the Okanagan valley has been shaped by the values

brought with settlers from Europe, and these values have influenced the way water is used and perceived (Wagner 2008). From participating in the Okanagan lifestyle for nearly four years (July 2005- current) , I have observed that the Okanagan is seen by many as a “playground” in which one can “get away” to enjoy wine, water sports, and golf with little acknowledgement of the amount of water used and polluted in the process of these activities. This attitude towards water and the landscape may have an impact on how the Okanagan valley will continue to develop and how water will be used and allocated.

UBC-Okanagan Campus Landscape and Water Features

The UBC-Okanagan landscape, and particularly the water features on campus, are very important in many ways to all previous, current, and future members of the campus community. In general, a university campus’s landscape and buildings can express the campus’s personality, the school’s educational mission, as well as an aesthetically pleasing campus can provide many benefits including improved quality of life, recruitment and retention of students, safety and sustainability, and the overall image of the campus will improve. Arthur Spruch’s article regarding campus landscapes focuses on the importance of creating a campus ‘personality’ and campus ‘character’. This character evolves over years, and development of this needs to be handled strategically. Stephen Daniels work, *Fields of Vision: Landscape Imagery & National Identity in England and the United States* makes the connections between imaginative geographies of landscape, such as the nation state, and aesthetics in modern culture. He believes that “Landscape imagery is not merely a reflection of, or distraction from more pressing social, economic, or political issues; it is often a powerful mode of knowledge and social engagement” (Daniels 1993:8). So, essentially, our created landscape (e.g. UBC-Okanagan central courtyard) creates and shapes our identity, much like the creation of landscapes in the United States has shaped their national identity.

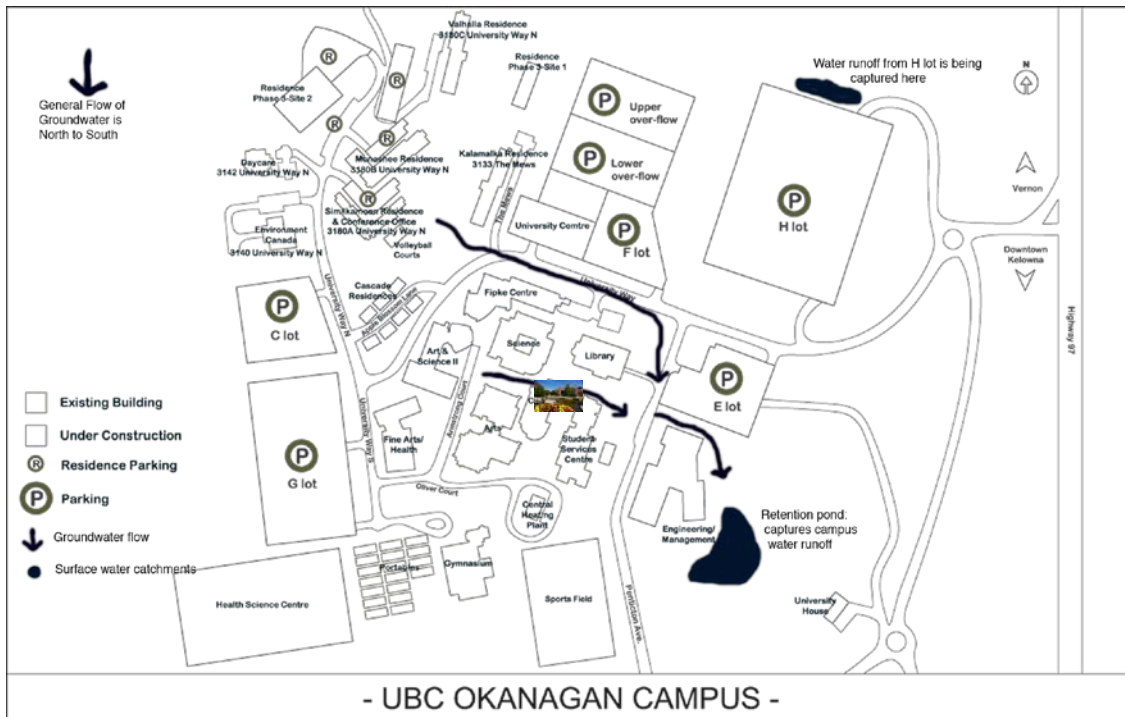


Figure 2: Map indicating location of groundwater flow and surface water catchments. Source of base map: UBC Okanagan AVP Operations 2008.

The two water features on campus, the retention pond/naturalized wetland located at the southeast corner of the campus, and the water fountain and pool located at the center courtyard on campus, have very important cultural functions. UBC-O is lucky to have a beautiful naturalized wetland/retention pond; this wetland has formed because of



Figure 3: UBCO retention pond/naturalized wetland. Source: photograph by author.

the natural flow of groundwater, the lower elevation, and the management of flow at UBC-O. The construction of a new engineering building above the pond and the overall rapid development of the campus have made some campus community members worried about the water and the flora and fauna who call the pond home.

The second water feature on campus, the pool and fountain is located in the central courtyard and therefore it greets all students,

faculty, and staff on campus. The water in the pool sits in concrete and flows out through three basalt rock fountains. The fountain is used from April to October, but it is drained and left unused due to the freezing temperatures from November to March. The pool and fountain has been a part of the campus central courtyard for many years now, and it is a large part of the campus aesthetics, culture, and overall environment. Some people question, however, whether this is an appropriate use of water in this semi-arid environment and what kind of message it sends to have this water feature at the centre of campus.



Figure 4: UBCO campus central courtyard pool and fountain.

Source: photograph by author.

According to Arnold Berleant, the ‘town square’ and the fountain are powerful traditional examples of features that are significant to humans. He tells us that fountains are ‘magnetic’ and ‘magical’, drawing in people to them because of the sounds and sights they offer (Berleant 1992:94-95). Understanding the significance of the pool and fountain, as well as the naturalized wetland/retention pond at UBC-Okanagan is important to consider in order to ethically and responsibly weigh out the positive and negative aspects of both.

Water Features and the Built Environment Campus Community Questionnaire

The question of, “what water features are considered symbolically and aesthetically valuable to the UBC-Okanagan campus community?” is essential. If we are to begin altering the way water is used, and therefore the water features on campus, it is important to understand if the presence of that water has special meaning to the campus community. This is a strong point of motivation for undertaking this questionnaire.

The online questionnaire titled “Water Features and the Built Environment” was designed with the purpose of assessing the attitudes of the UBC-Okanagan campus community towards the physical layout of the campus and the aesthetic and environmental values associated with these two water features on campus. The questionnaire is composed of 22 questions with sections on ‘demographic information’, ‘the campus and central courtyard’, ‘the courtyard pool and fountain’, and ‘the retention pond/naturalized wetland’. A total of 84 usable questionnaires were collected from the dates March 12th to April 24th, 2009. 12 questionnaires were discarded because they were not complete. The results of the questionnaire will be provided to UBC-Okanagan facilities management to help in the future development of the campus landscape, central courtyard pool and fountain, and surrounding natural areas.

Methods and Criteria

Before being able to administer the questionnaire, approval from the UBC Research Ethics Board was needed. The application was submitted as a low risk human behavioral study and was reviewed by the Behavioral Research Ethics Board. Final approval was received on March 10th, 2009.

I recruited forty initial subjects for a questionnaire pilot study. The participants were approached in three public spaces on campus; the arts, student service centre, and science buildings’ foyers. Twenty-five of these questionnaires were administered via a paper form, and fifteen were administered via a laptop and online link. I was able to go through and observe individuals doing the online questionnaire themselves to see whether there were any difficulties navigating or if there was any confusing material.

Every effort was made when approaching potential subjects to interfere as little as possible with an individual's private activities. Random sampling methods were also applied as much as possible. I alternated the buildings, so on day one I spent two hours, from 11:00am to 1:00pm in the Arts building, then on day two for two hours during the same time in the student service centre, then the last day, day three I spent two hours during the same time in the science building.

Once I completed this pilot study, Dr. John Wagner and myself refined the questionnaire to be suitable for the online version and submitted the revised questionnaire to the UBC Research Ethics Board. The questionnaires obtained during the pilot study were not included in the final results. Once the minor changes were approved, the link to the questionnaire was advertised on the main page of www.ubc.ca, on a digital advertising board in front of the university, in faculty newsletters (2), on www.facebook.com, and in person in the UBC-Okanagan arts, student service centre, and science building foyers. Subjects were not asked to sign a consent form, as a covering letter on the first page of the questionnaire included the statement “If the questionnaire is completed, it is assumed that your consent has been given”. This applied to both researcher administered surveys and self-administered online surveys.

The questionnaire was available to all members of the UBC-Okanagan campus community, which consists of a student population of 5,325, a faculty population of 353, a staff population of 389 (full and part-time), and to campus visitors. Individuals who are new to the campus and did not feel qualified to answer questions about outdoor spaces, and anyone without a reasonable fluency in English, were excluded from the questionnaire. If a research subject needed special assistance to complete the questionnaire, e.g. vision impaired, then both the covering letter and questionnaire were read aloud and assistance given. Risks were minimal, and in order to protect the confidentiality of information, the name of the subject was not asked or recorded. The benefits to the research subjects were to be able to voice their opinions about the design of outdoor campus spaces in terms of symbolism, aesthetics, and sustainability.

The Questionnaire

(See appendix A for full wording of closed-ended questions)

- 1) Have you previously completed this questionnaire?
- 2) Position at UBCO (faculty, student, staff or visitor).
- 3) Gender.
- 4) Age.
- 5) Year of studies (students only).
- 6) Degree program or teaching area (students and faculty only).
- 7) Home country.
- 8) How would you rank the visual appeal of the UBCO campus?
- 9) How much time do you spend outside on campus during the warmer months of the year?
- 10) Please rank the following in terms of where you spend the majority of your outside time (central courtyard, outside residences, athletic fields, cafeteria patio, forest area, other).
- 11) Please rank the following activities in terms of how much time you devote to each when in the central courtyard area (reading, eating, socializing, relaxing alone, sports, other).
- 12) Would you like to see changes made to the central courtyard as a whole?
- 13) If changes were to be made to the central courtyard area as a whole, which of the following changes would you consider most desirable (more seating space, more space for sports, more native and drought resistant plants, more ornamental plants of any kind, other)?
- 14) How would you rank your level of enjoyment of the pool and fountain in the courtyard area?
- 15) Does having a pool and fountain in this location have any symbolic meaning for you?
- 16) If yes, please briefly describe the nature of this symbolic meaning.
- 17) Would you like to see the pool and fountain replaced by another landscape feature?
- 18) What aspects of the pool and fountain are most important to you when deciding whether it should stay or not?
- 19) Were you aware of the retention pond/naturalized wetland that is located below the site of the new engineering building?
- 20) If yes, how much time do you spend in that area during the warmer months?
- 21) Would you prefer to see this naturalized wetland/retention pond remain on campus or do you think that area could be just as well used for other purposes in the future?
- 22) In your opinion, what is the most important factor that should be considered in deciding whether the retention pond should stay or be removed?

Results (see pages 25 to 39 for full results to the questionnaire)

At 64 %, the majority of the responses to the questionnaire are from the student population, while 21.4 % are from staff, 13.1 % from faculty, and 3.6% from visitors. 67.9 % of the respondents are female and 32.1 % are male, and for the age range, 13.1 % are aged 20 and younger, 44 % are aged 20 to 29, 17.9 % are 30 to 39, and 25 % are 40 and older. Among the 64 % of the respondents who are students, 14.8 % are first year, 9.3 % are second year, 24.1 % are third year, 29.6 % are fourth year, and 22.2 % are graduate students. The 77.1 % of respondents who are students or faculty were broken down into which program or teaching area they participate in; 53.7 % are arts, 3 % are fine arts, 13.4 % are sciences, 3 % are nursing, 4.5 % human kinetics, 1.5% social work, 4.5 % engineering, 4.5 % management, and 16.4 % education. There were no responses from individuals in the health studies department. All of the respondents, except for three consider Canada their home country.

The responses to question 8: “How would you rank the visual appeal of the campus in relation to the overall design of buildings, the outdoor space (landscaped areas, courtyard, etc.), and surrounding ‘natural’ areas (forest, grasslands)” have similar results for all three sections. The majority of respondents ranked all three areas as ‘moderate’, with the next most popular category being ‘high’ and the last, ‘low’. For question 9: “How much time do you spend outside on campus during the warmer months of the year?” 45.2 % of the respondents said frequent (between 30 minutes/day to 2 hours/day), with the next closest category at 31 % being ‘occasional (rarely more than 30 minutes/day)’. For question 10 “Please rank the following in terms of where you spend the majority of your outside time” 42 of the respondents (which is 50%) say they spend most of their outside time on campus in the central courtyard. “Please rank the following activities in terms of how much time you devote to each when in the central courtyard area” (question 11) 34.5 % of the respondents say they spend most of their time eating lunch, 25 % spend most of their time reading, 21.4 % socialize, 15.4% do other activities, 14.3 % relax, and 3.6 % play sports. With this in mind, question 12: “Would you like to see changes to the central courtyard as a whole?” 51.2 % of the respondents said yes, 22.6 % said no, and 28.6 % were unsure. “If changes were to be made to the central courtyard as a whole” (question 13), the changes which were ranked as the most

favorable were ‘more seating space and room to relax’ at 53.6 % and ‘more vegetation (with emphasis on native and drought resistant plants and shrubs) at 44.6 %.

For question 14, “How would you rank your level of enjoyment of the pool and fountain in the courtyard area” 27.4 % said they enjoy it very much, 35.7 % enjoy it, and 27.4% are neutral. Only 6 % dislike it, and 3.6 % strongly dislike it. The results from this question show a very positive attitude towards our central courtyard and the pool and fountain. The question “Does having a pool and fountain in this location have any symbolic meaning for you”(question 15) had only 19 % say that yes it does, while 81 % said that no it does not. This type of response may be because of the confusing nature of the question; for example, not everyone may understand how to express themselves in this way or they may not understand the meaning of ‘symbolic’. When asked to “describe the nature of this symbolic meaning” in question 16, there were a total of fifteen responses, and ten of these were a positive response to the pool. The pool was described as peaceful, calming, reflective, serene, as well as two respondents related the pool to a fountain of knowledge and one respondent related it to life and spirit. Three respondents said that they liked the idea of a pool and fountain, but just not the pool that we have; for example there is not enough vegetation around it and the concrete is too dirty and dreary looking. And lastly, two respondents believe that the pool symbolizes the false impression we have in the Okanagan that water is abundant. For question 17, “Would you like to see the pool and fountain replaced by another landscape feature?” the responses became a bit more confusing as 17.9 % of the respondents said yes, 53.6 % said no, and 28.6 % were unsure. “What aspects of the pool and fountain are most important to you when deciding whether it should stay or not?”, which is question 18, had 50 responses total. Twenty one of the respondents believe that the pond brings a positive aspect to the campus; for example that it is peaceful, a calm spot to be, aesthetically pleasing, and aurally pleasing. Seven respondents said that the waste of water, the ugliness, and lack of function in the winter should be taken into consideration when making decisions about the pool and fountain. Ten respondents said that many questions and considerations about what would be replacing it are needed, and lastly eleven respondents felt that there were both positive and negative aspects to the pool and fountain to take into consideration.

For the question “Were you aware of the retention pond/naturalized wetland that is located below the site of the new engineering building?” (question 19), 53.6 % said that yes they were, while an astounding 46.4 % said that no they were not. This is a very large percentage of the campus community who are unaware of such a diverse, natural feature on our campus... To those respondents who were aware of the retention pond/naturalized wetland, question 20 “How much time do you spend in that area during the warmer months?” was asked. The majority of the respondents, at 63.5 % say they spend very little time there, 20.6 % use it occasionally (rarely more than 30 minutes/day), 15.9 % use it regularly (generally between 30 minutes/day to 2 hours/day), and only 1.6 % use it extensively (over 2 hours/day). This brings me to the next question, question 21, “Would you prefer to see this naturalized wetland/retention pond remain on campus or do you think that area could be just as well used for other purposes in the future?” A significant amount of respondents, at 76.2 % believe that it should remain, while 20.2 % had no opinion or they didn’t care, and 3.6 % believe that it should be moved. 18 of the respondents who were unaware of our naturalized wetland/retention pond still believe that the area should remain in its current condition. I believe this type of response signifies the great emphasis we, as a community, place on a healthy ecosystem and natural water features.

The last question in the questionnaire, question 22, “In your opinion, what is the most important factor that should be considered in deciding whether the retention pond should stay or be removed?” had 53 responses total. Of the responses to this question, forty five respondents said that natural habitat; including vegetation, animals, and ecosystem health were an important factor to consider. Ten respondents think teaching opportunities were important, five think that trails and a natural place to visit are important for the campus community, two think aboriginal lands and beliefs should be considered, and one person thinks that simply, it is already there, so why develop it? Only one person thought that the area could be used for better purposes than the pond.

Comparative University Campus Water Features

I have chosen to briefly review two universities in addition to UBC-Okanagan; The University of Colorado-Denver in the United States, and Tsinghua University in Beijing, China. The University of Colorado-Denver is a mid-sized university with a student population of 12,325, while Tsinghua University is significantly larger at 26,746. Both universities have semi-arid to arid climates, just like the semi-arid Okanagan valley. Climate was the key factor in choosing these universities. I wanted to see if the climate had any effect on whether they have water features, and if so how many water features did they have, and are the campus communities enjoying the water features?

UBC-Okanagan: As I have discussed previously, UBC-Okanagan has two water features on campus; the central courtyard pool and fountain, and the retention pond/naturalized wetland. The pool and fountain is a very obviously man-made feature composed of mainly just concrete and with little surrounding vegetation. From the questionnaire results, we know that the pool and fountain are enjoyed by many for its calming and aesthetic qualities, but the purpose of its presence is also questioned and criticized. A feature such as this may symbolize different things to different people; in this semi-arid climate it may symbolize our over consumption and disregard for excessive use of water, and it may also symbolize a celebration of and respect for water.

University of Colorado-Denver: The University of Colorado-Denver is located in an arid climate, and the campus has two outdoor fountains currently in use in its central courtyards. A creek, Cherry Creek, also runs along the length of the campus, and there are lakes within walking distance from the campus. I spoke with facilities management on May 13, 2009 over the telephone, and they told me that the outdoor fountains are used by the campus community extensively for studying and socializing, and Cherry Creek is a favorite place for students, faculty, and staff to have their lunch and socialize. From review of the university website, I found extensive information about storm water runoff protection and water conservation. This includes educational information such as tips on how you can protect water quality and reduce consumption; “To conserve and protect our water resources for the sustainability of our ecological systems, the university has both a

water conservation program and a storm water education program” (University of Colorado-Denver 2008).

Tsinghua University: Tsinghua University has a total of 949.378 acres of gardens, treed areas, and man-made lakes. These spectacular gardens and lakes are attributed to the fact that it was once a royal garden for the Qing Dynasty. In 2007, there were a total of 500 varieties of trees, “over 44,300 arbors, over 184,500 bushes, over 86,700 bamboo, over 32,400 flowers, and over 100 ancient trees on campus” (Tsinghua University 2009). From photographs on the university website, I have observed that their man-made lakes are natural looking, have vegetation growing both in and around them, and they represent the mysterious and somewhat hidden appeal that R. Burton Litton and Robert Tetlow observed in traditional Japanese culture.



Figure 5: Lotus Pond at Tsinghua University. Source: Tsinghua University 2009.

UBC-Okanagan Campus Recommendations

Researching landscape aesthetics, campus culture, and water symbolism, as well as creating and administering the campus community questionnaire ‘Water Features and the Built Environment’ has provided some important insight into what UBC-Okanagan management can do for the future benefit of the campus community and natural environment. As indicated by the questionnaire and participant observation, the central courtyard is a very popular area for members of the campus community to spend time in during the warmer months. Over half of the respondents to the questionnaire indicated that they would like to see changes to the central courtyard and of those changes the most popular responses were more seating space and space to relax, and more native vegetation. I found that the majority of the respondents do enjoy the pool and fountain during warm weather, but regret the limited functionality of the space and lack of aesthetic appeal in the cooler months. The harsh, lined, hot concrete and lack of nearby vegetation in the warmer months were also perceived as undesirable by some respondents. After reviewing the questionnaire results, I suggest improving and expanding upon seating around the pool and fountain, and retrofitting to improve the aesthetic appeal in both the summer and winter months. The area may be improved aesthetically by, at least, including more native vegetation around the pool and fountain and in the courtyard in general, and by keeping the pool and fountain area clean and well kept in the cooler months. Future development of the area may yield removing the concrete and replacing it with a much more natural pool and fountain and perhaps including a plaque with information about our semi-arid climate, the celebration of water, and its role in our lives and on our campus.

The retention pond/naturalized wetland on our campus is certainly not as well known as the pool and fountain to our campus community. This lack of knowledge may be in part due to the inaccessibility of the area since construction of the new engineering building commenced, as well as lack of information to students, faculty, or staff of its existence in general. However, the presence of this wetland area brings up strong emotions and a strong connection for many individuals. I suggest, based on the questionnaire results and personal knowledge from both my major in anthropology and minor in earth and environmental science, that the retention pond/naturalized wetland be

preserved in its now natural state, the trails through the area be improved upon and made accessible, the area be promoted as a place to visit, and plaques with information about the flora and fauna species be placed along the trails.

Conclusion

The relationship between water sustainability and perception of water and landscape aesthetics is important to understand in environmental and landscape management. I believe that understanding a community's symbolic and cultural values towards a natural resource, such as water, will in turn provide a more clear understanding as to why the resource is used in the manner and volume it is. Joseph Gellar and Robert Corning's "Designing a Unified Campus" acknowledges the importance of feedback from students and alumni, motivation on the part of the school's president and board of trustees, and the use of the master plan tool in improving a university campus (Gellar 2007:70). I also believe that these three things are key and fundamental in creating positive change in a campus community. In particular, UBC-Okanagan needs to begin asking the opinion of the campus community in all landscape development and campus sustainability decision making processes. If UBC-O takes both the cultural and environmental values of the campus community into account, they will ensure that their solutions for issues that are associated with development can be responsibly and more accurately derived. I believe it is essential though to continue to work towards more sustainable water using options at UBC-Okanagan, and according to Dr. John Wagner, "Achieving a culture of sustainability will thus require the development of a new landscape aesthetic, one grounded more deeply in local ecological realities" (Wagner 2008:34).

References

Baartsman, Frans

- 1990 Apah, The Sacred Waters: An Analysis of a Primordial Symbol in Hindu Myths. B.R Publishing Corporation. New Delhi, India.

Berleant, Arnold

- 1992 The Aesthetics of Environment. Temple University Press. Philadelphia, USA.

Brandon, Robert, and Arthur Spruch

- 2008 Inspired Landscapes: Turning tired campuses into classic spaces. Retrieved March 30, 2009 from <www.school designs.com>.

Carlson, Allen

- 2002 Environmental aesthetics. In E. Craig (Ed.), *Routledge Encyclopedia of Philosophy*. London: Routledge. Retrieved March 30, 2009, from <<http://www.rep.routledge.com/article/M047SECT1>>.

Dear den, Philip, and Barry Sadler Eds.

- 1989 Landscape Evaluation: Approaches and Applications: Western Geographical Series Volume 25. University of Victoria. Victoria, British Columbia.

Dramstad W.E, M. Sundli Tveit, W.J. Fjellstad, and G.L.A. Fry

- 2006 Relationships between visual landscape preferences and map-based indicators of landscape structure. *Landscape and Urban Planning* 78:465–474.

Ekman, Richard

- 2007 Creating Campus Appeal: *Architecture's effect on the message conveyed about an institution*. Retrieved March 30th, 2009 from <www.universitybusiness.com>.

Geller, Joseph T., and Robert M. Corning

- 2007 Designing a Unified Campus: When landscape and other site designers get creative, a campus's character can shine. Retrieved March 30th, 2009 from <www.universitybusiness.com>.

Kapper, Thomas

- 2004 Bringing Beauty to Account in the Environmental Impact Statement: The Contingent Valuation of Landscape Aesthetics. *Environmental Practice* 6:296-305.

Lee, Sang-Woo, Christopher D. Ellis, Byoung-Suk Kweon and Sung-Kwon Hong

- 2008 Relationship Between Landscape Structure and Neighborhood Satisfaction in Urbanized Areas. *Landscape and Urban Planning* 85(1):60–70.

Litton, R. Burton, Robert Tetlow, et.al.

- 1974 Water and Landscape: An aesthetic overview of the role of water in the landscape. Water Information Centre. Port Washington, New York.

Mishra, Anupam

- 2001 The Radiant Raindrops of Rajasthan. Research Foundation for Science, Technology, and Ecology. New Delhi, India.

Nohl, Werner

- 2001 Sustainable Landscape Use and Aesthetic Perception- Preliminary Reflections on Future Landscape Aesthetics. *Landscape and Urban Planning* 54:223-237.

Porteous, J. Douglas

- 1996 Environmental Aesthetics: Ideas, Politics, and Planning. Routledge. London, United Kingdom.

Strang, Veronica

- 2004 The Meaning of Water. Berg Publishers. Oxford, United Kingdom.

Survey Monkey

- 2009 Survey Monkey.Com. Retrieved last May 17, 2009 from <<http://www.surveymonkey.com/>>.

Tsinghua University

- 2009 Tsinghua University Campus Tour. Retrieved May 10, 2009 from <http://www.tsinghua.edu.cn/eng/campuslife_tour.jsp?boardid=42&bid2=4205&pageno=1>.

UBCO

- 2007 University of British Columbia. Retrieved May 14, 2009 from
<<http://web.ubc.ca/okanagan/about.html>>.

University of Colorado-Denver

- 2005 Environmental Impact. Retrieved May 10, 2009 from
<<http://administration.ucdenver.edu/admin/facilities/engineering/energy/envimpact.html>>.

University of Colorado-Denver

- 2008 University of Colorado-Denver Downtown Campus Map. Retrieved May
10, 2009 from <<http://www.ahec.edu/campusmaps/ahec3d.pdf>>.

Wagner, John

- 2008 Landscape Aesthetics, Water, and Settler Colonialism in the Okanagan
Valley of British Columbia. *Journal of Ecological Anthropology* 12(1) 22-
38.

Appendix A: Questionnaire and Results

UBC-Okanagan: Water Features and the Built Environment		
Have you already completed this questionnaire?		
Answer Options	Response Frequency	Response Count
YES (Please do not complete this questionnaire more than once)	0.0%	0
NO	100.0%	84
<i>answered question</i>		84
<i>skipped question</i>		0

Position:		
Answer Options	Response Frequency	Response Count
Student	64.3%	54
Faculty	13.1%	11
Staff	21.4%	18
Visitor	3.6%	3
<i>answered question</i>		84
<i>skipped question</i>		0

Gender:		
Answer Options	Response Frequency	Response Count
Male	32.1%	27
Female	67.9%	57
Other	0.0%	0
<i>answered question</i>		84
<i>skipped question</i>		0

Degree program or teaching area (students and faculty only):		
Answer Options	Response Frequency	Response Count
Arts	53.7%	36
Fine Arts	3.0%	2
Sciences	13.4%	9
Nursing	3.0%	2
Health Studies	0.0%	0
Human Kinetics	4.5%	3
Social Work	1.5%	1
Engineering	4.5%	3
Management	4.5%	3
Education	16.4%	11
<i>answered question</i>		67
<i>skipped question</i>		17

Age:		
Answer Options	Response Frequency	Response Count
under 20	13.1%	11
20-29	44.0%	37
30-39	17.9%	15
40 and over	25.0%	21
<i>answered question</i>		84
<i>skipped question</i>		0

Year of studies (students only):		
Answer Options	Response Frequency	Response Count
1	14.8%	8
2	9.3%	5
3	24.1%	13
4	29.6%	16
Graduate	22.2%	12
<i>answered question</i>		54
<i>skipped question</i>		30

Home country:	
Answer Options	Response Count
	84
<i>answered question</i>	84
<i>skipped question</i>	0

Home country:	
Answer Options	Response Count
	84
<i>answered question</i>	84
<i>skipped question</i>	0
<i>Canada 81, Brazil 1, England 1, Bhutan 1</i>	

How would you rank the visual appeal of the UBCO campus in relation to:				
Answer Options	High	Moderate	Low	Response Count
Overall Design of Buildings	22	48	14	84
Outdoor space (landscaped areas, courtyards, etc.)	20	51	13	84
Surrounding 'natural' areas (forest, grasslands)	35	38	11	84
<i>answered question</i>				84
<i>skipped question</i>				0

How much time do you spend outside on campus during the warmer months of the year?		
Answer Options	Response Frequency	Response Count
Very little or no time (mainly just moving from one building to another)	7.1%	6
Occasional (rarely more than 30 minutes/day)	31.0%	26
Frequent (generally between 30 minutes/day to 2 hours/day)	45.2%	38
Extensive (over two hours/day)	16.7%	14
<i>answered question</i>		84
<i>skipped question</i>		0

Please rank the following in terms of where you spend the majority of your outside time:

(please rank using "1" as most amount of time to "6" as least amount of time; "7" as no time)

Answer Options	1	2	3	4	5	6	7	Response Count
Central courtyard area	42	13	12	3	3	6	5	84
Outside student residences	7	7	2	2	5	7	54	84
Athletic fields	4	5	6	8	7	11	43	84
Cafeteria patio	5	10	10	12	9	11	27	84
Forested areas	13	13	7	8	7	9	26	83
Other (Do not rank if this category does not apply)	5	6	3	3	2	1	4	24

Other: 22 different choices reported

Arts Atrium --> you should turn the science courtyard into an atrium as well!

Walking the sidewalk perimeter of the campus

natural field and wetland area (when not under construction)

Beach

picnic tables in portable village area

atriums

walking trails and sidewalk around ring road

Education Garden and Pond

Learning garden

Learning Garden

library and parking lot

grassy knoll in front of well

At the bus stop

parks

by bus stop

path and seating area around the Gym building

Grassy hill beside the gym

Private road west of the campus which skirts Robert Lake.

Parking lots

The Campus Garden

Walking pathsMeditating in the forest

answered question 84

skipped question 0

Please rank the following activities in terms of how much time you devote to each when in the central courtyard area:								
(please rank using "1" as most amount of time to "6" as least amount of time; "7" as no time)								
Answer Options	1	2	3	4	5	6	7	Response Count
Reading	21	15	15	5	5	5	18	84
Eating lunch	29	13	22	3	4	5	8	84
Socializing (hanging out with friends)	18	20	19	8	5	5	9	84
Relaxing (by yourself)	12	14	13	16	8	4	17	84
Playing sports	3	4	2	3	15	9	48	84
Other (Do not rank if this category does not apply)	2	3	1	2	2	1	2	13
<i>answered question</i>								84
<i>skipped question</i>								0
Other: 8 choices reported								
waiting for the bus, working, conducting meetings, doing homework, running on trails, hacky sack, meditating in the forest, university events e.g. Remembrance Day events, or building evacuation during fire drills								

Would you like to see changes made to the central courtyard as a whole?		
Answer Options	Response Frequency	Response Count
YES	51.2%	43
NO	22.6%	19
UNSURE	28.6%	24
<i>answered question</i>		84
<i>skipped question</i>		0

If changes were to be made to the central courtyard area as a whole, which of the following changes would you consider most desirable:							
(please rank using "1" as the highest value to "6" as the lowest value)							
Answer Options	1	2	3	4	5	6	Response Count
More seating space and room to relax	45	17	14	4	3	1	84
More space for sports and physical activities	6	10	16	13	6	33	84
More vegetation (with emphasis on native and drought resistant plants and shrubs)	37	18	8	10	6	4	83
More vegetation (without concern for native or drought resistant qualities)	9	9	9	14	11	32	84
Other: (Do not rank if this category does not apply)	3	1	1	2	3	3	13
<i>answered question</i>							84
<i>skipped question</i>							0
Other: 8 responses given							
Remodel the pond to be more naturalistic, and follow that approach through the rest of the courtyard; out with the straight lines!							
More shade-bearing vegetation for those days when it is extremely hot.							
Plant lots of native trees, remove concrete; the place is too open, concrete attracts too much heat; or use heat more efficiently.							
Flowers							
More linear trails for walking around the campus (and the exterior campus limits)							
find a way to deal with wasps so that you can eat lunch in peace							
Remove the water fountain.							
Don't want to see more vegetation; it will get in the way of sports lounging; but changing plants to drought-tolerant is fine.							

How would you rank your level of enjoyment of the pool and fountain in the courtyard area:		
Answer Options	Response Frequency	Response Count
Enjoy very much	27.4%	23
Enjoy	35.7%	30
Neutral	27.4%	23
Dislike	6.0%	5
Strongly dislike	3.6%	3
<i>answered question</i>		84
<i>skipped question</i>		0

Does having a pool and fountain in this location have any symbolic meaning for you?		
Answer Options	Response Frequency	Response Count
YES	19.0%	16
NO	81.0%	68
<i>answered question</i>		84
<i>skipped question</i>		0

If yes, please briefly describe the nature of this symbolic meaning:	
Answer Options	Response Count
	15
<i>answered question</i>	15
<i>skipped question</i>	69
Responses:	
It fills my heart with feelings of peaceful serenity	
I like having running water around when I'm reading, especially when the sun is up and it's nice out. But, the way this one is set up is very gray and dreary. Ponds with more natural landscaping, with plants and a suitable accompaniment in the surrounding landscaping, would definitely be more relaxing than what we have now.	
Fountain of knowledge..... and its relaxing...	
It symbolizes the general belief in the Okanagan that there are plentiful supplies of water to be used for decorative or more luxuries purposes.	
Water, reflection, water in the desert	
a campus is supposed to be a fountain of knowledge, therefore it symbolizes the purpose of the campus	
Its the most peaceful thing on campus, its calming, it creates a community of peacefulness, its beautiful and the fountain is very soothing	
water=life and spirit	
It's been there since UBCO (OUC) has been there! Provides peaceful setting when weather permits.	
water is nice	
Not symbolic but its nice to have it there... very peaceful...	
I like the relaxing nature of the water, but its often rather dirty. I think water is the most refreshing symbol to see but it must be clean and well kept and more natural looking would be better as opposed to the cement everywhere....	
I like to see and hear water, However there is not enough vegetation near it -- the feature is too exposed	
its nice looking :)	
How wasteful we are of water. It creates the false impression of water abundance in the Okanagan, just like Okanagan Lake.	

Would you like to see the pool and fountain replaced by another landscape feature?		
Answer Options	Response Frequency	Response Count
YES	17.9%	15
NO	53.6%	45
UNSURE	28.6%	24
<i>answered question</i>		84
<i>skipped question</i>		0

What aspects of the pool and fountain are most important to you when deciding whether it should stay or not?	
Answer Options	Response Count
	50
<i>answered question</i>	50
<i>skipped question</i>	34

Responses:

It's nice to hear and see the water, it could be replaced with a different fountain or pool.

I like water, I just don't like the existing feature right now. I think it should be retrofitted with a either a more natural setting, or a giant 100-person hot tub using the existing geothermal network in place.

The sounds it makes, running water has a very soothing noise, for it to stay, but it's mostly just a waste of water and space.

Fountain

It seems like a waste of energy. It's empty most of the time during the fall and winter semesters so it sits as a cement hole.

the cooling effect physically and psychologically

Visual appeal in the spring, summer and fall months

its nice... but the skate bowl idea is cool

I like water features-I think they give a great feel to an area.

The relaxing sounds of the water

The degree to which it fits with the ecological realities in the valley. How much water it is using/wasting.

The design is concrete and tacky, needs to be more natural. More natural rock.

it is beautiful and calming to look at and the sound is lovely. water features add something soothing to an environment, i think. it's nice just to look at it and i feel sad every year when they drain it for the winter. :(i love the change they made last year by adding the three stone features which made the whole thing even more waterfall-esque. i LOVE the pond!

It just adds a relaxing, calming and finished touch

it is ugly in the winter

Its nice, it could be more beautiful or more interesting to look at, or have fish, but its beautiful, its calming and its lovely to sit around.

Removing it would be a grave mistake

whether there is actually water in it. Even in months that are warm it is often empty
Aesthetically pleasing
I like it aesthetically, as it breaks up the green a little. It's like an oasis of sorts in our dry climate.
It is beautiful and calming but I worry about water wasting.
Water shortage, efficient land and energy use, campus sustainability, great space for a campus garden
water conservation, cleanliness
It is relaxing and nice to sit around in the summer months.
the location, vegetation and ecosystem that has developed surrounding that area.
the aural stimulation it provides with the falling water. The rocks are a nice touch, and the ducks it brings in are nice too!!
waterfowl resting spot
Whether it uses a lot of water, or not.
Visual break in the vegetation and concrete, helps cool the courtyard, or at least doesn't produce heat.
It is too surrounded by concrete. A showcase for wedding photos, not for learning. Make it organic and shady. A place for animals.
Amount of water used and sustainability of that water use
pretty, sound of water is nice
Area surrounding it... if its accommodating to a lot of students etc... with chairs etc.
wastes too much water
water is important, signifies life and it is very welcoming and relaxing. A more natural environment appearance would emphasize a relaxing area and brighten up the beautiful landscape surrounding UBC O and the valley
Looks pleasing
Its beautiful
it creates a nice diversion to everything else that is already around
Sustainability
pool is wasted space and looks like a useless swimming pool. Fountain not musical.
I would not say remove it, but it could do with revamping -- it is sooo artificial
i think its a calm spot to be, the water running and the warmth months...relaxs you.
It provides a place for friends and classmates to come together, socialize, eat, read. It's a great central focus of the university.
how the new landscape looks in the winter
maintanance of the area is important
What it would be replaced with
Can the space be used for sitting, studying, eating lunch, socializing, playing "backyard games"?
Is it high maintenance and costly?
Is it environmentally stressful?
The wasting of water that it represents; ugliness and complete lack of function in winter.
I like that there is water in the central area. I would prefer the water feature to be more natural so that ducks and other native plants and animals could use it. I strongly dislike the copper that has to be added to keep the feature 'clean'. That is a toxic compound.
Peaceful
The pool/fountain seems out of place in this dry valley. Surely much of the water must be lost to evaporation in the heat of the summer, which isn't exactly environmentally friendly, and sets a poor example to the community. Trees and shade are sadly lacking, and I avoid sitting outside because I can't get out of the sun usually.

Were you aware of the retention pond/naturalized wetland that is located below the site of the new engineering building? (photograph and map from previous page):

Answer Options	Response Frequency	Response Count
YES	53.6%	45
NO	46.4%	39
<i>answered question</i>		84
<i>skipped question</i>		0

If yes, how much time do you spend in that area during the warmer months:

Answer Options	Response Frequency	Response Count
Very little	63.5%	40
Occasional use (rarely more than 30 minutes/day)	20.6%	13
Regular use (generally between 30 minutes/day to 2 hours/day)	15.9%	10
Extensive use (over two hours/day)	1.6%	1
<i>answered question</i>		63
<i>skipped question</i>		21

Would you prefer to see this naturalized wetland/retention pond remain on campus or do you think that area could be just as well used for other purposes in the future?

Answer Options	Response Frequency	Response Count
It should remain	76.2%	64
No opinion/don't care	20.2%	17
It should be moved	3.6%	3
<i>answered question</i>		84
<i>skipped question</i>		0

In your opinion, what is the most important factor that should be considered in deciding whether the retention pond should stay or be removed?	
Answer Options	Response Count
	53
<i>answered question</i>	53
<i>skipped question</i>	31
Factors reported by person	
environmental sustainability	
Should remain but could be moved if necessary	
If it is ecologically sound.	
It's a natural pond, and should be restored to it's natural state... I've notice a lot of trash floating around in there. That being said, the area around the pond should be developed with light infrastructure such as paths and garbage bins, perhaps some form of unobtrusive lighting (because we certainly have enough of that on campus already)... with the intent of keeping damage to the natural space s kept at a minimum, as well as securing the pond's place as part of the campus	
Its a nice place to go soemtimes, quite, pretty. Other organisms depend on it, like the ducks! Water is a nice thing to have around, why move it when its already there, already in existence, especially in the name on 'development' and 'progress'?	
The importance of wetlands in the local ecosystem	
It's a naturalized wetland and should be preserved to have some natural space on campus. There are so many resident students on campus, they should have a natural space to go to for relaxation or just to "get away" from it all.	
Environmental, ecosystem	
Wetland and habitat conservation plus opportunity for teaching and research.	
Usefulness of the retention pond to academic and non academic purposes.	
The wildlife that have ceated a niche habitat in that area	
If it is not causing any issues or problems where it is, there is no reason to fill it in. I am sure it is an important water source for much of the wildlife in the area.	
How it will effect the surrounding landscape.	
Is it useful habitat for important plant and/or animal species?	
The pond is next to the Learning Garden - which raises awareness of native plants - and supports charities and schools in the Okanagan. Water is a sacred aboriginal symbol for life. Ridiculous to remove it.	
The pond has migrating ducks	
the first consideration should be the environmental impact. if it will harm the landscape and ecosystem, we shouldn't move it/fill it in.	
It has been there long enough that there are faunal members of the community that call it home. We should respect our brother creatures.	
the natural environment, plant and wildlife that depend on it.	
As we build out the campus more of the naturalized environment is being destroyed. The first thing that is done with each building is to cut down all the trees. the retention pond is home to a wide variety of wildlife and als serves as a teaching resourse in the biology dept.	
No opinion	
Where the water run-off would be diverted to.	
It is useful in its present state: for courses, etc. It won't be if it is "cleaned up", so don't.	
It is not hurting anything by being there, and its a great place to go and see nature untouched. UBC has gotten rid of enough of the natural habitat around the campus and by getting rid of this it would just prove that they really don't care about nature at all.	
Is it helpful and important to local wildlife and for the maintenance of indigenou plant diversity?	

Lack of vegetation already too high. Do we really need another Tim Hortons? Teaching benefit is irreplaceable.
Ecological disturbance
use by wildlife
There are birds that live in the pond and the pond is its habitat.
The health of the wildlife that relies on the pond. (Our respect for the environment)
Ecosystem that has developed in this area. Taking the pond away would force the animals to relocate somewhere else.
there are a number of migratory birds that now use the pond as habitat and breeding grounds
environmental reasons- wildlife habitat etc integrating nature with learning opportunities
There was more sites for wildlife - the building development over the past few years has taken this away
It provides a habitat for animals that would not otherwise visit our campus. It is also an excellent place to do research for several disciplines (geography, education etc). While the pond was 'created' it has taken on a 'natural' aspect as ducks and deer have made the pond their home. As well, it is nice to have a 'natural setting' on a campus that is extremely manicured with green lawns and fountains that demand a large water supply in a semi-arid environment.
Biodiversity, teaching opportunities, preservation of a natural environment on campus
<ul style="list-style-type: none"> - Migratory species make their nests there and depend on the site for food - Symbols of Okanagan tradition, including the rushes and symbol of water as life - Shrinking natural spaces on campus very disheartening - Include aboriginal elders in all decisions regarding use of campus land, this is their territory. - Proximity to the Learning Garden where UBCO students, and school children gather and learn. - The forest adjacent to the Learning Garden was already clearcut, when does the destruction stop - to make way for 'green buildings'? Please see UBCO land as a living site, held in public trust, that requires a lot more thought.
Water fowl use it as habitat as well it is a natural filter for runoff from parking lots etc
Preserve the ecosystem
the natural life that will be destroyed if it is unnecessarily being moved. the best thing to do is to make it so that wild life can still find homes.
wildlife and ecosystems that depend on it!
ecological impact, efficiency
Things can live in it.
That it supports an ecosystem that is water orientated
it was there before they decided to built more buildings. it should be left alone.
If it is not known or used, then it should be removed. Unless it is home to lots of wildlife, in which case it should stay.
the native species that inhabit the area
Nature life would be affected if it moved.
habitat loss/fragmentation for species at risk
I think that a nice linear trail that is easily accessible and advertized with proper trailhead signs would be nice.
Removal of pollutants from stormwater runoff from campus surfaces; provides aquatic and nesting habitat.
All wetlands have value as habitat for plants and animals. Also, I know that the wetland area is used in the teaching of some courses.
the natural habitat that resides there (plants and animals)
The pond should be removed if it (a) poses a health hazard (e.g. mosquito habitat and possible source of West Nile Virus), or (b) needs to be removed for construction. I'd rather see the pond removed (it is not a natural pond), than see parts of the forest (which are natural) removed.