Letter To Mike Redpath – Director of Metro Vancouver Regional Parks (Formerly GVRD)

Dear Director Redpath,

I am currently a student doing a bachelor's degree in English at UBC Vancouver, and have completed a report on how viable a coyote-tracking app would be to safeguard people from coyote activity around Pacific Spirit Regional Park and the UBC Point Grey campus. The following report presents my findings and conclusions.

I have extensively researched the recent uptick of coyote activity on UBC Point Grey campus since the COVID-19 pandemic. I have also surveyed a large sample of UBC students and residents of the campus community, collecting and analysing data on the demand for a coyote-tracking app.

Moreover, I have examined how coyote aggression vastly increases when the animal is habituated to humans, and observed how coyote behavior has become more aggressive in other Metro Vancouver parks, using the model of Stanley Park.

It is my sincere hope that Metro Vancouver Regional Parks will consider marketing an app to the public to better track coyotes and help safeguard people from them in and around Pacific Spirit Regional Park, along with other forests in Metro Vancouver that are in close proximity to populated areas.

Thank you for taking the time to review my report. If you have any inquiries or comments about any of it, please get in touch with me at ploskerliam@gmail.com.

Kind regards,

Liam Plosker

Implementing a Coyote-Tracking App in Response to Increased Coyote Activity on UBC Point Grey Campus

For Mike Redpath,

Director of Metro Vancouver Regional Parks,

Vancouver, BC

By Liam Plosker,

ENGL 301 Student,

The University of British Columbia

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Abstract:

Wildlife tracking using digital technology is already in use in many of Canada's national and provincial parks. For instance, bears' movements are regularly tracked and documented throughout Banff National Park, to safeguard visitors from potential attacks. The technology also helps to keep these bears safe – making sure they are clear of areas of potential danger like the TransCanada Highway or the TransCanada railway line that traverses the park and has seen numerous collisions with bears in the past.

Additionally, it provides the national park service with census-like information on the population of bears in the park, whether it is growing at a fast rate or is endangered and dying out, and so on.

In a dense city such as Vancouver which shares immediate borders with so much nature, implementing technology like this which is readily available to the public is of paramount importance.

The UBC Point Grey campus is the most populated tertiary education campus in British Columbia, with a population that swells up to 60,000-80,000 people at peak hours during the school season. It also directly borders Pacific Spirit Regional Park, a well-known coyote habitat.

The data I have collected via surveys indicates a very high demand for a coyote-tracking app on campus. Additionally, almost a quarter of respondents said they have had an encounter with a coyote on campus which made them feel unsafe.

Wildlife-tracking technology has been used internationally for some time, tracking sharks to safeguard swimmers at popular beaches, bears to protect hikers on popular trails, and so on. These technologies have proven to be vastly effective in mitigating aggression by these animals on humans.

This report supports the argument that the same technology should be applied to Pacific Spirit Regional Park.

Introduction:

A): Background on the History of UBC Point Grey and Pacific Spirit Regional Park:

In 1908, the Provincial Legislature of British Columbia allotted the lands on the Point Grey Peninsula to be the site of the premier university of the province, what would become known as The University of British Columbia. Up until this point, higher education in British Columbia had been provided through denominational colleges which were linked to large universities in Ontario and Quebec, such as The University of Toronto, McGill University and McMaster University.

This 1908 Act passed by the Provincial Legislature allowed for the province to finally have its own institution for higher education, rather than relying on more populated provinces out east.

The Point Grey Peninsula, which would later become known as the University Endowment Lands, was the habitat of much wildlife. Along with coyotes, several species of bears used to roam the park, however since the area became built up, the population dwindled and eventually died out.

The coyote population of the forest adjacent the site of BC's newest, biggest university, a designated park that would be known as Pacific Spirit Regional Park, however, continued to flourish.

B): Background on Coyote Activity on Campus Pre- and Post-COVID Pandemic:

Due to the high amount of students and faculty on campus, coyotes typically stayed within the park itself. Sightings outside of the park were relatively infrequent – so much so that students were known to film a sighting of a coyote and post it on social media, given the novelty of it.

However, when in-person lectures on the campus shut down for an extended period of time during the 2020 COVID pandemic, along with local residents remaining in lockdown, the park's coyote population began to venture outside its boundaries and roam more freely through the UBC neighbourhood.

Coyotes from the park began to treat populated areas as an extension of their habitat and began to get used to people, seemingly unafraid of their presence.

The result is an increase in boldness of coyotes. Coyotes are known to approach people on campus, particularly if they are walking by themselves, rather than keep their distance. This is a feature of aggressive behavior in coyotes which have become habituated to humans. A similar phenomenon occurred in Stanley Park in 2021. While this is a clear

safety concern to everyone who spends time on campus, this is a particularly troublesome trend for families with young children, as habituated coyotes have been known to target small children even when they are in the presence of nearby adults.

C): The Purpose of This Report and Its Intended Audience:

The purpose of this report is to analyse the public's view on safety regarding coyotes on campus, whether a coyote-tracking app would have high demand, and whether such an app would be viable in helping mitigate coyote aggression against people on UBC Point Grey campus. Additionally, this report will emphasize the need for supplementary safety measures to be brought in by Metro Vancouver Regional Parks, such as more prominent signage in areas where a coyote has recently been sighted, and more wildlife education for people, through video ad campaigns, posters, or knowledgeable speakers who could visit classrooms and community centers on campus, to inform people on exactly what steps they should take if they do encounter a coyote.

The chief intended audience of this report is Mike Redpath, Director of Metro Vancouver Regional Parks. The secondary intended audience is Dr. Erika Patterson, ENGL 301 Professor at The University of British Columbia.

D): Description of Data Sources and Methods of Inquiry:

The primary data collected in this report is sourced from an online Qualtrics survey from a QR code leaflet handed out to members of the UBC Point Grey community around campus, including students and residents.

The online survey was composed of seven multiple choice questions, in which individuals could offer their views on coyote activity on campus, whether they felt safe on campus, and whether they wanted an app to track coyote activity.

In addition, as a UBC resident myself, observational data was taken from members of my apartment block, asking each resident of my apartment block if they had spotted a coyote on campus over the last three weeks (21 days), and if so, how many times.

Email correspondence with Director Mike Redpath also confirmed that Pacific Spirit Regional Park had had a marked increase in coyote sightings from the COVID-19 Pandemic in 2020 onward. It was said there were at least “double” the amount of coyote sightings during or after the pandemic than before the pandemic.

Supplementary, secondary sources include articles on aggression among habituated coyotes, the success of wildlife tracking in national parks across Canada, and an examination of Stanley Park’s coyote aggression problem.

E): Limitations of the Report

One limitation of this report is a lack of data specifically from the opinions of families with small children who live on campus. This is an important demographic, as this is the group most threatened by the increase in coyote activity on campus.

Thus, this report does not accurately portray the perspectives of this demographic, due to the low sample size of members who identify as being part of this group. This report is limited as it does not reflect whether there is high demand among families with young children on campus for a coyote-tracking app.

F): Scope of Inquiry

This report covers five main points of inquiry:

1. What measures are currently in place to safeguard people from coyote aggression on UBC Point Grey Campus
2. What is the UBC Point Grey community's opinion on current safety measures to mitigate coyote aggression on campus?
3. On average, how often do people encounter coyotes across campus?
4. Does Metro Vancouver Regional Parks have any current plans to increase their safety measures in Pacific Spirit Regional Park?
5. What other parks have seen wildlife aggression mitigated through the implementation of wildlife tracking technologies?

DATA SECTION:

A): The Dangers Posed By UBC's Habituated Coyote Population:

Habituated coyotes – coyotes which have become accustomed to human activity in their environment, and are no longer weary of people – are much more likely to act aggressively toward people than coyotes living in remote areas where they encounter few people.

Couple this with coyotes' annual mating season which runs through the spring months, and these coyotes are extremely likely to be aggressive and territorial, even when unprovoked.

They are unafraid of people – even large groups – will approach them, and do whatever it takes to preserve the sanctity of their territory.

B): Current Safety Measures To Mitigate Coyote Aggression on UBC Point Grey Campus

At present, few measures exist to help warn people of up-to-date coyote movements on campus, and to educate them about what to do in an encounter.

On trailheads throughout Pacific Spirit Regional Park, there are posters put out by Metro Vancouver Regional Parks which read "HABITUATED COYOTE IN AREA" with a brief description of the coyote, its known behaviours and the most recent time and place it was spotted.

However, these posters are often weeks or even months old, and do not reflect a coyote's current movements, being an animal which will roams across a wide area depending on where it can find prey.

C): The Dangers of A Collectively-Uninformed Public:

Additionally, Metro Vancouver Regional Parks currently have currently sparse – and sometimes conflicting – information on posters throughout UBC Point Grey campus, and on Pacific Spirit Regional Park trailheads, on what to do if you encounter a coyote. Some posters say you need to stomp your feet and make as much noise as possible. Other posters suggest you don't make a scene and just slowly back away. Yet more argue the key is to only use a "low-pitched voice" as you back away, never losing eye contact with the coyote as you repeat a phrase like "Hey Coyote, hey" in a guttural tone.

With no clearly-laid out, standardised information disseminated to the broader UBC Point Grey community on what to do when an individual encounters a coyote, individuals are more likely to accidentally provoke the coyote, leading to a potential attack from the coyote, and also contributing to that particular coyote's "habituation" – their fearlessness of humans – making the community's problem even worse.

D): Extrapolating Data from Other Parks in Metro Vancouver

Stanley Park also had sparse information up on what to do if someone encounters a coyote. The result, an uninformed public, led to some visitors and tourists to the park feeding coyotes, contributing to their reliance on humans and the aggression they showed toward people in the park. Eleven attacks in the park which resulted in minor to severe injuries were recorded throughout the summer of 2021. Large groups of coyotes were known to swarm individuals walking the seawall on their own, bold and unprovoked behaviour which was the consequence of a public who were relatively uninformed about the wildlife in the park, and would approach

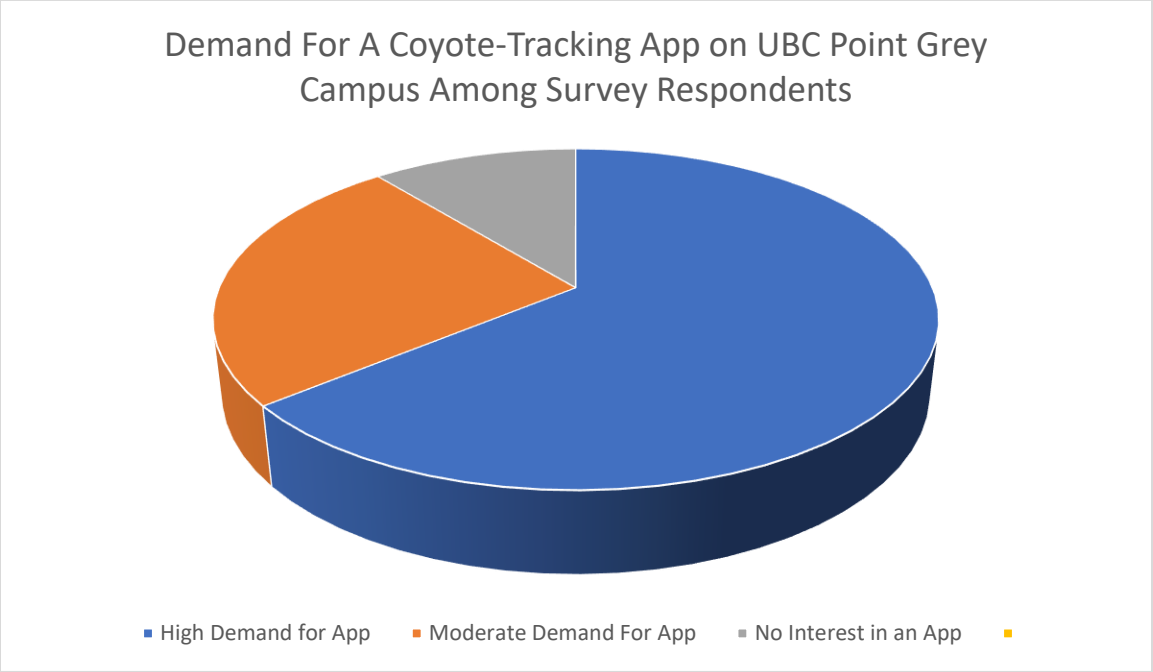
coyotes to take pictures with them or offer them food. Had there been greater information campaigns about coyotes for visitors to Stanley Park, these 2021 attacks would almost certainly have not occurred in their number and severity. The same can be applied to Pacific Spirit Regional Park and the UBC Point Grey community, who must be informed of how to interact with coyotes when they come across them.

E): Analysis of Collected Data and Feasibility Discussion

The results of the Qualtrics survey I conducted online with a large sample size of respondents (over 150), indicated that there is a high demand for a coyote-tracking app on campus, a technology that would work with help from Metro Vancouver Regional Parks.

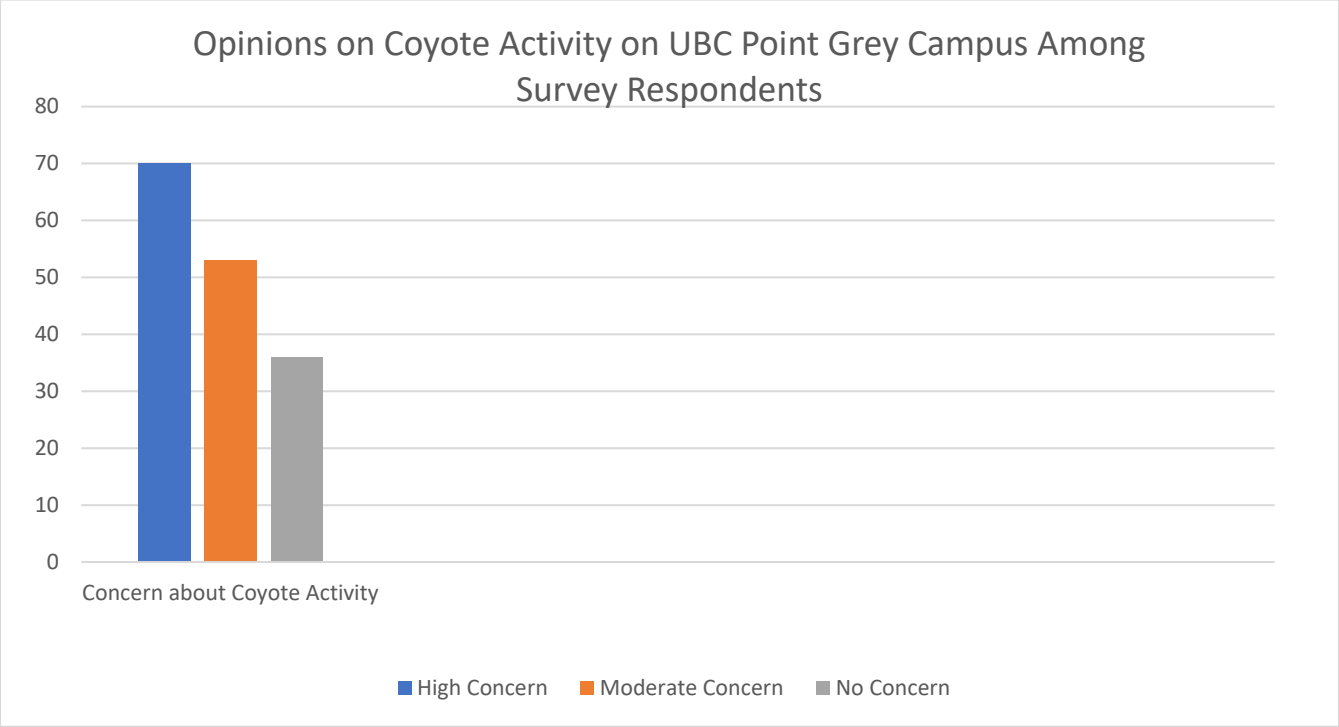
Over 88% of respondents (135 respondents) expressed their desire for such an app to be available for UBC Point Grey campus.

Fig 1.



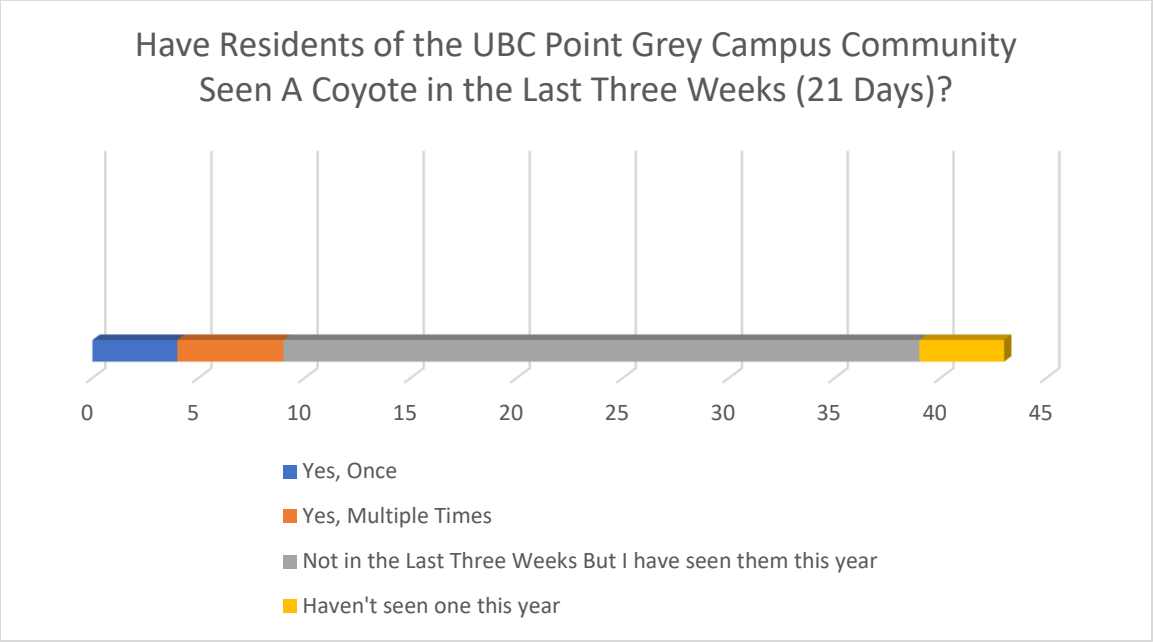
Moreover, a similar number of respondents, 81% (123 respondents) expressed mid-to-high levels of concern over the current uptick in coyote activity on campus.

Fig. 2



Being a UBC Point Grey resident myself, I also surveyed my apartment block (48 respondents) and asked them whether they have sighted a coyote in the last three weeks (21 days), and if so, how many times had they seen a coyote. Almost a fifth of my apartment block, approximately 19% of respondents (9 respondents), had seen a coyote near our apartment block in the last three weeks, with 10% of respondents (5 respondents) having seen a coyote multiple times in the last three weeks (21 days). All of the respondents who had seen a coyote, aside from one, said their encounter made them feel unsafe.

Fig 3.


Have Residents of the UBC Point Grey Campus Community Seen A Coyote in the Last Three Weeks (21 Days)?
0
5
10
15
20
25
30
35
40
45
Yes, Once
Yes, Multiple Times
Not in the Last Three Weeks But I have seen them this year
Haven't seen one this year

CONCLUSION

A): Summary and Interpretation of Findings:

UBC Point Grey Campus is frequented by tens of thousands of students during its fall and winter semesters. Over the summer, these numbers fall but are still replenished by summer class students, summer camps geared toward children, sporting competitions, beachgoers, museum-enthusiasts, trail-hikers, and conferences for international visitors. This doesn't even account for the 11,000 permanent residents on campus, including myself, making this a thriving community year-round.

Thus, UBC Point Grey is a year-round destination for recreational or competitive activities, along with academic ones. The habituated coyote population poses a clear threat. The lack of current safety measures implemented by Metro Vancouver Regional Parks, along with a relatively uninformed public about coyote activity, makes UBC Point Grey the perfect storm for the coyote aggression that was witnessed in other popular areas, such as Stanley Park in 2021.

Almost a quarter of the over 150 respondents to the Qualtrics online survey conducted said they had had an encounter with a coyote on UBC Point Grey campus which made them feel unsafe. Additionally, almost 90% of respondents (88%) expressed high to moderate demand for a coyote tracking app.

These findings suggest that the development of a free-to-use coyote-tracking app in partnership with Metro Vancouver Regional Parks would have a large number of users on campus contributing their sightings to its database, helping better notify individuals on campus when

there is a coyote in their area, along with providing them with easy-to-follow, standardized information through the app about what to do when they encounter a coyote.

These would in-turn safeguard the whole community, as it would help educate people on how to interact with coyotes, making sure the coyotes don't become more habituated and aggressive to members of the community, like occurred in the case of the Stanley Park coyotes in 2021.

Metro Vancouver Regional Parks has a responsibility to update its safety measures to ensure coyotes and humans can coexist in a peaceful manner in places like Pacific Spirit Regional Park that immediately border on vastly-populated urban areas.

B): Recommendations:

Through the collection and analysis of the aforementioned data, I have compiled a list of recommendations to Metro Vancouver Regional Parks. These are as follows:

1. The Immediate Development of A Coyote-Tracking App:

The immediate development of a free-to-use, downloadable-to-your-phone coyote-tracking app would be the best way to start reinforcing safety measures against coyotes. Users can contribute their own coyote sightings to the collective database, adding a precise location, timestamp and any context, like if the coyote was spotted with cubs, to their sighting filing on the app. This would immediately send a notification to the phones of other users in within a close radius to that area that a coyote is nearby, and to be vigilant.

The app would also include clear, easy-to-understand steps on what to do if you see a coyote, along with video content demonstrations from knowledgeable experts.

Having this all be accessible on individuals' phones is a much more practical platform than putting up posters of trailheads and allows for to-the-minute updates about current coyote movements, while poster warnings quickly become irrelevant.

2. Additional, Supplementary Measures:

More frequent posters which contain a QR code to download the app. Posters particularly in need are those containing clear, standardized step-by-step information on what to do if you see a coyote, along with video ads for those in the area, and having speakers knowledgeable on coyotes from Metro Vancouver Regional Parks give addresses in UBC classrooms and

community centres, would all help better educate the public about what to do if they encounter a coyote, and make sure people do not provoke coyotes to become aggressive. These speakers could also hand out leaflets containing a QR code to download the free-to-use app.

APPENDICES

Multiple-Choice Survey Questions:

(The Questions for the Online Survey Conducted on Qualtrics)

What is your current age?

- 18-24
- 25-35
- 36-50
- 50-65
- 65 +

How often do you come to campus?

- Daily
- I Live Here
- A Couple times a week
- Once a week
- Once a month
- Rarely

Given the increase in coyote activity since the pandemic, do you feel safe on campus?

- Yes, very safe
- Yes, fairly safe
- No, a bit unsafe
- No, very unsafe

What are your thoughts on the current safety measures in place to warn people about coyote movements?

- It’s great
- It’s satisfactory
- It’s not enough

How much interest do you have in a free-to-use coyote-tracking app for UBC Point Grey campus?

- High demand for an app
- Moderate demand for an app
- No interest in an app

How often would you use a coyote-tracking app?

- Daily
- Once or twice a week
- A couple times a month
- Rarely

How many encounters have you had with coyotes on campus since 2023?

- No Encounters
- 1 Encounter
- 2-4 Encounters
- 4 + Encounters

If yes, did you feel unsafe in this encounter?

- Yes, very unsafe
- Yes, unsafe
- No, I didn’t feel unsafe

Do you feel you know what to do if you encounter a coyote?

- Yes, I know clearly what steps to take

- I know roughly what steps to take
- I only know a small amount of information on what to do
- I don’t know what to do at all

Do you feel there should be more education in the community about what to do if you encounter a coyote?

- Yes, there needs to be way more
- Yes, there needs to be a bit more
- No, there’s enough as it is

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