

Blue Mountain Birch Cove Lakes Summer Student Report

Hailey Stapleton

Taiten Kinch

Laura Patterson

Table of Contents

Introduction	2
Methods	2
Projects	3
Daily Trail and Visitor Log	3
Visitor Experience Survey	5
Visitor Experience Survey, Part 1	5
Visitor Experience Survey, Part 2	6
Fish Survey	7
Themes	8
Access Points	8
Trail Maintenance and Marking	10
National Urban Park	14
Dogs and Dog Walking	16
Illicit Activity in the Wilderness Area	20
Prohibited Fires and Fireworks	20
Vandalism	20
Destruction of Plants and Trees	21
Littering	22
Nudity	22
Squatting	25
Public Awareness of Friends of Blue Mountain Birch Cove Lakes	25
Shared Use of Area	27
Time Averages Based on Use	29
Discussion	33
General Summary	33
Summer Student Experiences	33
Next Steps	34
Conclusion	35

Introduction

The purpose of this report is to give insight and information to aid the Friends of Blue Mountain in their pursuit of improving and preserving the area. Throughout these weeks of observation, we have compiled a set of data pertaining to access points, weather, activities, people, dogs, vegetation, and wildlife within the borders of Blue Mountain. Our process included hiking and engaging with people, counting cars, counting dogs, doing surveys, and collecting general information on the trails. The spreadsheet of raw data is representative of these interactions and observations. The data has since been arranged into a number of charts and tables to better display what was gathered throughout the months of June and July. Our goal as summer students was to compile enough relevant information for the Friends of Blue Mountain, in hopes that this area of land could one day reach National Urban Park status.

Methods

The Daily Trail and Visitor Log is an Excel document that was used to collect daily trailhead data including date and time of recording; weather; locations checked; number of cars observed at trailhead; number of people (calculated by multiplying the number of cars by 1.25); number of dogs on and off leash; and additional information (groups encountered, notable events, etc.). The trail log can be accessed in full here:

BMBCL.xlsx

The Resident Survey is a door-to-door survey that was completed on June 25, 2022. We interacted with residents in the following areas: Hamshaw Dr, Little Fox Lane, Spruce Lane, Saskatoon Drive, Collins Rd. The survey was informal in nature, with general questions about use of the area and resident perspectives to elicit conversation. The Resident Survey can be found here: Resident Survey

The Visitor Experience Surveys are two Google Forms surveys. Two QR codes were generated for easy access to these surveys. When scanned, QR codes load surveys, making them a convenient tool for those who are not connected with Friends on social media, via membership, or through newsletter subscription. Visitors were invited to complete the surveys in real time using QR codes on the trail. The survey was also posted to the Friends of Blue Mountain Birch Cove website and social media. Finally, survey links were distributed to individuals who signed up for guided hikes with CPAWS and for the Nurture in Nature event hosted by Halifax Northwest Trails Association. Part 1 of the Visitor Experience Survey (found here: Visitor Experience Survey, Part 1) consisted of 13 questions about wilderness area access, visitor demographics, and perspectives on dog walking. Part 2 consisted of 10 additional questions that further probed visitor knowledge of the Friends of Blue Mountain Birch Cove Lakes Wilderness Area, the history of the area, and perspectives on the future National Urban Park (found here: Visitor Experience Survey, Part 2)

The Fish Survey is a data collection survey spanning both the Kearney run and Six Mile watersheds. Data collection consisted of surveying and asking local anglers on "what species they caught" "where they caught it" "what time and date, if possible" "any significant changes of the local water bodies they have noticed" (ex. Invasives, algal blooms). Furthermore, data collection also consisted of angling the lakes by one of the students at different time periods. The purpose of this study was to collect data on the fish and other aquatic species that live in the water bodies in the two watersheds within and out of the BMBCL wilderness area. An excel sheet was used to organise, format and process the data. It can be viewed here: Fish species of BMBCL V2.0.xlsx

Projects

Daily Trail and Visitor Log

The daily trail and visitor log consisted of 302 data collections taken between June 1 and July 22, 2022. Data was collected between 6 am and 9pm, seven days per week, including holidays (see <u>Time Averages For Weather Location and Day Based on Observed use (Temp Title</u>). Students inputted data into an Excel spreadsheet during the data collection process (see <u>Methods</u>). The log was used to gain information about people and dogs visiting the trails, with other subsections described at length in the <u>Discussion</u> section of this document. The purpose of the Daily Trail and Visitor Log was to create a unified document wherein students could collect real-time trail use data and document daily observations.

While this log was valuable for accountability and allowed us to collect some data, due to the massive size of the wilderness area it is not a comprehensive account of all visitor activity in BMBCL during the collection period. We most often visited high use locations (see Access Points for more details). This approach allowed us to get more survey respondents, talk with more guests, and regularly remove trash from popular locations. Our approach was not without drawbacks; we ended up with fewer collection events at less popular trailheads and did not spend much time interacting with backcountry trail users. Data should be cautiously interpreted with this in mind.

Unique observations that are not discussed in other sections of this report include a drone sighting on June 8, 2022; an encounter with a visitor unicycling in the Susie Lake area on July 7, 2022; and the closure of Kearney Lake to swimmers due to bacteria on July 21, 2022.

To view the Daily Trail and Visitor Log: ■ BMBCL.xlsx

Resident Survey

The resident survey was conducted to gain more clarity on what it is like living next to one of BMBCL's busiest trailheads, as well as the Maskwa boat club. We went door to door along Saskatoon Dr, Hamshaw Dr, Little Fox Lane, Spruce Lane, and Collins Road. The majority

of responses came from those who lived closest to the area, on Hamshaw and Saskatoon. There were limited responses from homeowners on Collins Road.

Based on responses, many residents had been homeowners for a number of years. One resident we spoke with had been living there for six years, and the longest time spent in the area recorded was forty-five years. Everyone reported that they love living in the area. Some comments are as follows:

"I think it's great! Even growing cities need protected green space; look at Central Park in New York!"

"I feel blessed to live here!"

"I love the park!"

"It is very important to work with local residents and get our opinions- I wish Makwa had done this!"

Almost all residents know of the park's existence, and some use it frequently for activities such as walking, hiking, running, swimming, fishing, or family walks with dogs. When asked about concerns, residents had lots to say on the influx of traffic from the Maskwa boat club and Kearney Lake Road beach, especially in the summer months. The roads in the neighbourhood are narrow and parking occurs on both sides when these places are busy. These factors cause concern as lots of children live in the area and emergency vehicles may have access difficulty. Residents reported that speeding is also an issue. Other concerns include out of control fires, trash/pollution, contamination to lakes, lack of signage on trails (people stumbling into backyards), dog walkers/dog poop, fireworks, and proposed development.

When asked about possible improvements/changes they would like to see implemented, some stated that there is a need for more communication with the community and Maskwa, as well as communication between BMBCL, Maskwa, Lake Users Association, and the city. People would also like to have some way to control/regulate high traffic in the area. In terms of improvement on the trail, more facilities, dog walker rule enforcement, and ample parking at entry points would be ideal.

For the full range of responses:
Resident Survey

Visitor Experience Survey

The visitor experience surveys were created to collect more in-depth and valuable information from trail users. Made using google forms, the initial survey was split into two parts, to avoid making it long. This way, we had the chance to ask more general questions first. Then, if people had more insight to offer, they could do so in the second part.

Visitor Experience Survey, Part 1

The first part of the visitor experience survey featured questions about trail use, access points, and opinions on dog walking. As of July 28th, there were 47 responses to the survey. Response to each question was not mandatory, with 6/13 questions responded to by all participants, and 10 responses to the "additional comments" section.

Respondents could optionally provide the first 3 digits of their postal code for demographic purposes. Maps indicating these areas can be found below. An interactive map displaying the number of respondents by location can be found <u>Here</u>.



Fig 1.1, Map of Survey Respondents by Postal Code

Fig 1.2, Map of Postal Codes in HRM

As demonstrated in the above map, all survey respondents who opted to provide a postal code reside in Nova Scotia, with the majority located in Halifax Regional Municipality (HRM). Respondent postal codes included: 1T8, B0P, B0T, B2TB2W, B2X, B2Y, B3A, B3G, B3H, B3K, B3L, B3M, B3N, B3S, B3T, B3Z, B4A, B4B, B4E, B4V.

Respondents ranged in age from youth under 20 to seniors over 60 years old. Half of all respondents were between 35 and 60 years old, 32.6% were 20-35, 15.2% were 20-35, and the remaining 2.2% were youth under 20.

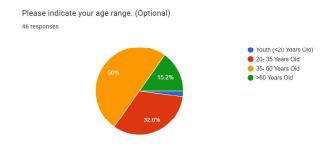


Fig 1.3, Pie Chart of Age Ranges of Visitor Experience Survey, Part 1 Respondents

Of the 47 respondents, 48.9% indicated that they visit the area once or twice a year, 17% reported that they visit weekly, and 34% stated that they visit a few times per month. No respondents reported daily visitation.

The Visitor Experience Survey, Part 1 is discussed in depth throughout the Themes portion of this report.

View Visitor Experience Survey, Part 1 responses in full Here

Visitor Experience Survey, Part 2

Part Two focused on questions pertaining to the Friends of Blue Mountain and their goals, challenges facing BMBCL, and the area's history. As of July 28th, there were 19 responses to the survey. As with Part 1, responses were non-mandatory, with 5/10 questions responded to by all participants, and 5 responses to the "additional comments" section.

When asked how they discovered the area, 2 respondents reported they discovered it while looking for places to hike in Halifax, but did not provide a specific site or brochure. Other responses included 'through the media' (2), 'from a friend' (5), 'on a guided hike/ Eventbrite' (2), 'Facebook' (2), 'AllTrails' (4), 'a hiking site' (unspecified; 1); 'from a trail running group' (1); and due to property backing on the area (1).

Favourite parts of the wilderness included lakes (Fox Lake, mentioned in 4 responses; Susies Lake, 5; Ash Lake, 3; Charlies Lake, 2), look offs (mentioned broadly 5 times with specific mentions of lookoffs over Fox, Charlie, Susies, and Ash Lakes), and the Blue Mountain Summit (mentioned 5 times). Many responses were broad with "trails" being listed by 5 respondents, with many emphasising beauty, cleanliness, trees, water, and length/ multitude of trails as highlights.

Further discussion of Visitor Experience Survey, Part 2 responses occurs throughout the Themes portion of this report.

View Visitor Experience Survey, Part 2 responses in full Here

Fish Survey

The Fish Survey was constructed to create a better understanding of the water bodies that are within the BMBCL boundaries and the watersheds that run through BMBCL.

The main goal of this survey was to create that understanding and record data on what potentially lives in the water bodies of BMBCL. This data was collected via three different approaches.

The first was manually collecting through rod and reel. Spending time on the BMBCL lakes is important, not only for this survey, but also to understand the biodiversity that surrounds

the lakes and the environment it creates for the people who access BMBCL. Waterfowl, songbirds, amphibians, species at risk like the common nighthawk, snakes, hares, coyotes, rodents, and many other animals were recorded at the many water bodies along with a diverse collection of fish.

The second method was to approach anglers and ask them survey-esque questions but in casual conversation. These questions included; where they fished, the time and date (if possible), and if they had noticed any significant changes of the local water bodies (e.g., invasives; algal blooms). Getting angler input was important and let us know where, when, how to find fish in the area, what kind of fish are present in different water bodies, and if some water bodies do not contain fish at all.

The last approach was searching online for any sources of data. Studies, apps, discussions groups were all used in the efforts of collecting data for a population estimate on these lakes.

This project is still being updated and completed as the Kearney Run and Six Mile Run watersheds are two huge watersheds with many lakes. Where the problem lies, however, is in accessing the lakes, accessing equipment, and getting responses.

As of July 31st 2022, the only invasives were found in Kearney Lake.

The American eel, a species listed by the Committee on the Status of Endangered Wildlife in Canada (COSEWIC), was found to be in Kearney and several other lakes in the watershed. Nova Scotia Department of Natural Resources (NSDNR) lists Brook trout as sensitive. Brook trout were found in several of the lakes in BMBCL.

For the complete set of data, click Fish species of BMBCL V2.0.xlsx

Themes

Access Points

Daily trail logs and visitor experience surveys indicated that the most commonly used access point was the cul-de-sac at the end of Collins Road (used by 69.6 % of visitors, in conjunction with visitor surveys), followed by the Maskwa Club entrance on Saskatoon Drive (39.1%- Visitor Survey Data), and the entrance behind the Kent in Bayers Lake (37%- Visitor Survey).

Other identified access points included areas in the Kingswood Subdivision (19.6%), including the cul-de-sac at the end of Lakeshore drive, an access road along Lakeshore Drive, and the cul-de-sac at the end of Anahid Court. These access points offer a quick route to the "Blue Mountain Summit."

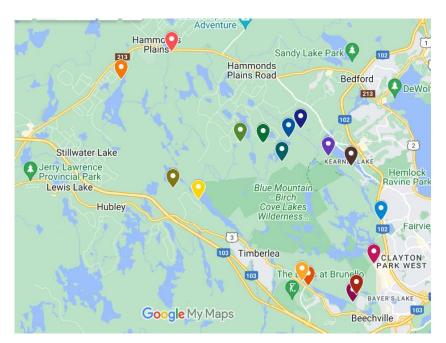


Fig 2.1, Access Points Map (Click Link to View in New Browser)

The Brookline Subdivision was indicated as an access point by 13% of respondents. At the time of this report being written, significant construction was still underway in the surrounding area and the trail-head parking lot had not been completed. The trail also had unrepaired damage, including washout into Black Duck Brook due to construction materials (i.e., crusher dust). There were several "Construction, No Trespassing" signs at different entry points to the Brookline extension. It is likely that this access point will have higher levels of use in the future, when trailheads and the surrounding community are more established.

Access points along the Beechville-Lakeside-Timberlea (BLT) trail were identified in our visitor experience survey including Dominion Crescent in Beechville, and 'Rails to Trails.'

We were able to identify several points of access to the area by hiking along this trail, including an ATV road across from Raines Mill Road in Timberlea, and a path near Six Mile Brook which was accessed by parking at the Trinity United Church on Trinity Way.

Some respondents were vague, indicating that they were "not sure," had "followed others in" or accessed the area from "off the highway."

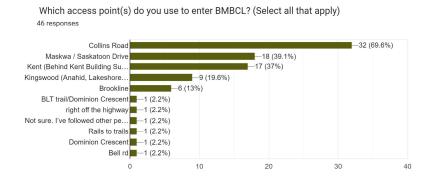


Fig 2.2, Visitor Experience Survey Access Use by Number and Percentage

Overall, the visitor reports corresponded closely with what was observed during daily field work (data indicated below in Figure 2.3).

People										
Location	# Observations	Total # People	Mean # People	Median # People	Max # People					
Collins Rd	98	777.5	8.36	6.35	33.75					
Maskwa	100	615	6.21	5	31.25					
Anahid Dr	6	8.75	1.75	2.5	2.5					
Lakeshore Dr	3	2.5	0.83	0	2.5					
Kent	17	40	2.5	1	11					
Other	2	0	0	0	0					
Brookline	4	5	1	1	2					
Total	230	1449								

Note: people initially calculated (for first 4 weeks) by # cars X1.25 (under Mel's instruction)-

Fig 2.3, Total People Encountered in BMBCL by Location, from Daily Visitor Log Data

The majority of visitor survey respondents reported that they accessed BMBCL by vehicle, most often driving themselves or carpooling with others. Visitors also reported arriving to the area on foot (walking or running to the area), and biking to the area. Less popular options included accessing the area by bus (1 respondent), taxi/ Uber (1 respondent), and by boat (1 respondent). See the Figure 1.3 below for more information.

How do you typically travel to the area? (Select all that apply) 47 responses

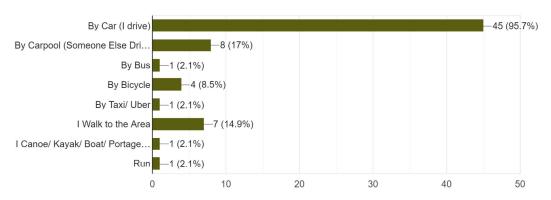


Fig 2.4, Transportation to BMBCL by Count and Percentage, from Visitor Experience Survey

The size of the area, as well as visitors accessing the area on foot or by boat, makes it difficult to determine the true number of visitors in the area at any given time. This sample may under-represent individuals visiting the area through lesser-known access points including via private properties adjacent to the wilderness area. In the future, it may be advantageous to reach out to local community groups in Timberlea, Tantallon, and Hammonds Plains to further determine wilderness area use in these communities.

Trail Maintenance and Marking

Trails within the BMBCL area were created through many years of use and have no official markings or signage. This has led to issues such as braiding and bushwhacking, which have potential to leave a negative ecological impact and lead to confusion. The topography of the wilderness area varies moderately, meaning conditions will fluctuate depending on location. For instance, after a heavy rainfall the lower areas will become wet and undesirable to walk through. People have found ways to avoid these areas and go around, creating braids in the trail. When trees fall in the way, they will often stay for a prolonged period of time until removed. This leaves enough time for a separate trail to form parallel to the original. We have managed to mark some of these braids on the map.

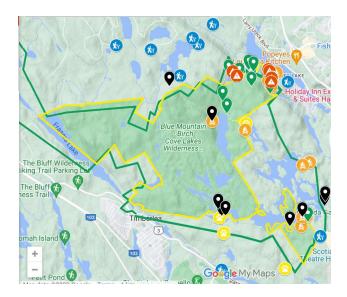


Fig 3.1, **BMBCL** Layered map

Trail maintenance and marking were the most requested improvements for BMBCL in the visitor experience surveys, accounting for 53% (24/55) of all written answers and comments. The visitor experience survey responses offered information on trail maintenance in terms of walking conditions and signage. Some important statements are as follows:

"Trails to be managed in a more sustainable way (durable surface, remove or hide informal trails, better way finding). Right now the trails are a mishmash of inter-connected trails, especially at the start and poor roots are taking a hit with erosion and over usage of the trails. I know this requires funding and manpower but it is a necessity."



Fig 3.2, Evidence of Erosion and Braiding on Popular Trails Near Kearney Lake

"It needs trail markers badly. If not for my phone I would have not made it out each time I went. It discourages me from going. If trails were clearly marked I would be there all the time."

"Bridging over wet areas -- even some large flat rocks would help but as natural as possible. Some signs are fairly faded from weather so an update would help. It would also be helpful to cut off access to the multitude of side trails but I'm not sure how. It's a real maze in there and such a shame. People are making their own work around paths and lots of people are cutting branches, etc. Don't know how you stop this but many don't know or choose not follow LNT."



Fig~3.3, Evidence~of~Trail~Expansion~and~Braiding~Around~Marshy/~Wet~Trail~Sections~Between~Hobson's~Lake~and~Ash~Lake

The current signage has been helpful for many people, but most of these maps are damaged and hard to navigate due to weathering or smudging when people point. Proper signage and markings would be extremely helpful from a safety standpoint, and also for user enjoyment so phones are not a primary source for navigation (enabling users to 'unplug' and enjoy the natural setting). Signage for dog poop, portages, and fires have also been placed in various locations.

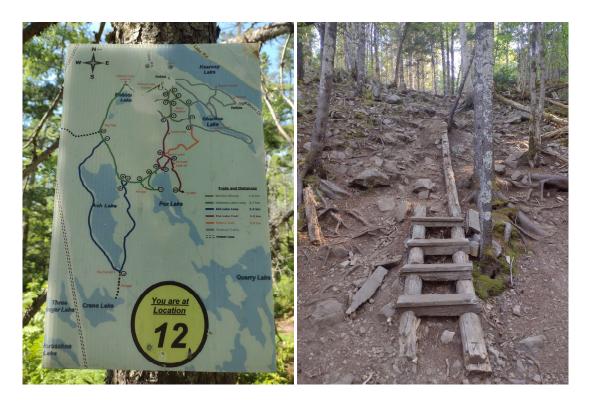


Fig 3.4, Current Map of (Most Popular) Kearney Lake Trails With Evidence of Fading (Left) Precarious Braids Surround Either Side of a Former-Staircase, Enroute to Charlie's Lake (Right)

Although the majority of comments requested improved trail maintenance and signage, a handful of respondents reported that they want the trails to be 'left natural.' These comments often coincided with remarks hoping that the trails will become less popular and/or less advertised. As previously detailed, most survey respondents indicated that they learned about the area through word of mouth and by searching online; these sources of 'advertising' cannot be controlled. The area's proximity to the urban core, coupled with the expansion of Halifax and increased development in surrounding areas, make it likely that BMBCL visitor numbers will only continue to increase in the future.

We propose that the best way to ensure that the park remains as natural as possible is to improve trail maintenance and signage in order to prevent the destruction of plant and wildlife habitats through braiding and bushwacking, reduce erosion, and decrease littering and destruction in the area. Trail maintenance and signage is essential for minimising the risks to visitors both now and in the future. We believe it is the most important factor for mitigating the time and monetary costs of search and rescue operations in the area. As demonstrated in pictures throughout this section, trails currently pose a risk to visitors, with concerns such as tripping hazards (loose rocks, eroded root systems, holes, fallen branches), and dangerous overhang (dead trees and branches over paths).



Fig 3.5, Dead Trees Loom Over Trails Near Hobsons Lake and Charlies Lake, Supported by Saplings, Dead Stumps, or Branches

Plants and Wildlife

BMBCL is a popular destination for individuals who are interested in flora and fauna identification, with 36.2% of Visitor Experience Survey respondents reporting visiting the area for this purpose. A further 8.5% of respondents indicated that they use the area for fishing, and one individual stated that they take nature photography in BMBCL.

In Part 2 of the Visitor Experience Survey, visitors listed interesting plants and wildlife that they had seen in the area.

Plants listed included: wild blueberries, wild asparagus, purple pitcher plants, orange jelly fungus, tree lungwort, fishnet cladonia, toad lichen, northern red belt, pseudocyphellaria holartica, giant cladonia lichen, jelly lichens (in general), greater whipwort, forest mosses, clubmosses, common pipewort, white pine, mountain sandwort, and old growth forest (in general).

Animals listed included: owls, foxes, bobcats, river otters, nighthawks, ospreys, coyotes, snakes, beavers (and evidence of beaver activity), Canadian lynx, and porcupines.

In the field, one visitor reported finding corydalis sempervirens (rock harlequin). We observed many plants throughout the season including: monotropa uniflora (ghost pipes), cypripedium (lady slipper orchids), sarracenia purpurea (pitcher plants), hypericum perforatum (Saint John's Wort), cornus canadensis (bunchberry dogwood), witch hazel, black spruce, red spruce, white pine, red pine, jack pine, balsam fir, northern red oak, gray birch, paper birch, tamarack, American mountain ash, trilliums, rhodora, bluebead lilies, huckleberries, creeping snowberries, wild blueberries, partridge berries, eastern tea berries, crowberries, bog cranberries, cinnamon ferns, a variety of lichens, and more.

Bird species observed in the field included: bald eagles, ospreys, dark eyed juncos, Canada jays, oven birds, robbins, bluejays, loons, chickadees, Canadian geese, turkey vultures, common nighthawk and more.

Aquatic species observed in the field included: wood frogs, leeches, green frogs, bull frogs, pickerel frogs, eastern American toads, spring peeper, Canadian toad and more. Local residents reported seeing Blanding's turtles, snapping turtles, eels, rainbow trout, black brook trout, and speckled trout. They also reported that they had heard of koi and smallmouth bass being introduced in Kearney lake.

Wildlife species observed included: maritime garter snakes, northern ringneck snakes, eastern ribbon snakes, eastern red-backed salamanders, hares, deer, and more. Coyote scat was observed in the wilderness area. Residents reported encountering deer, porcupines, coyotes, bears, and groundhogs.

Insects observed included: luna moths, giant water beetles (toe biters), dragon flies, damselflies, and more.

Some reported and observed sightings could be considered a species at risk by IUCN, COSEWIC, or the SPECIES AT RISK NOVA SCOTIA councils. These species and their status include; common nighthawks (threatened), Eastern ribbon snake (threatened), Canadian lynx (endangered), brook/speckled trout (sensitive and dwindling), American eel (threatened), Blanding's turtle (endangered), snapping turtle (vulnerable).

National Urban Park

Future protection and conservation of BMBCL was a concern expressed by visitors on trail and in resident and visitor experience surveys. We noted that many visitors on the trail were surprised to hear about the shortlisting of BMBCL as an area of consideration for a future Parks Canada National Urban Park Program. The Visitor Experience Survey, Part 2 explicitly addressed the future Parks Canada National Urban Park designation, with questions about visitor awareness and preference.

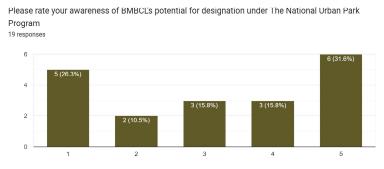


Fig 4.1, Awareness of BMBCL's Potential For Designation in Visitor Experience Survey, Part 2 Score of 1= Not aware at all; Score of 5= Very Aware

The National Urban Park Program is a novel program designed to support a network of National Urban Parks across Canada. In July, 2021, a state... in a possible future BMBCLs National Urban Park? 19 responses

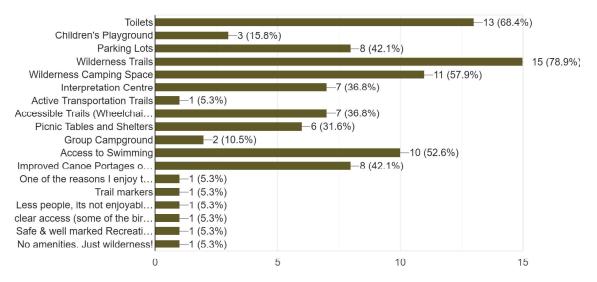


Fig 4.2, Facilities and Amenities Requested by Visitor Experience Survey, Part 2 participants

These responses indicate a preference for the future Urban Park to maintain wilderness trails, camping, and swimming. Due to the limited number of responses to the Part 2 survey (19 responses in total), and our informal observation that many guests are not aware of this project, we believe that further research should be done to determine preferences and feasibility related to facilities and amenities.

Visitor Experience Survey, Part 2, also included general questions about the perceived threats to the establishment and conservation of BMBCL. As detailed in the table below, nearly 1/3 of respondents indicated that they were "not aware at all" when asked to rate their awareness of challenges to the establishment of the park, while just over 10% indicated that they were "very aware".

Please rate your awareness of current challenges to the successful establishment of the BMBCL park
19 responses

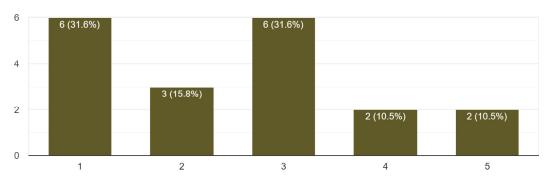


Fig 4.3, Awareness of Challenges by Visitor Experience Survey, Part 2 participants

In a followup question, respondents were asked to indicate their perceived challenges to the establishment of BMBCL as a park. Responses are detailed below.

Please indicate challenges to the successful establishment of the BMBCL park (Select All That Apply)

16 responses

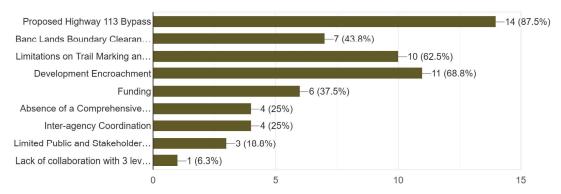


Figure 4.4, Perceived Challenges to BMBCL Establishment, from Visitor Experience Survey, Part 2

The high number of respondents who indicated that they were not aware of threats to the establishment of the park, as well as this table indicating perceived threats by respondents, can be used to direct further public outreach and engagement opportunities. During our field conversations with visitors, we were able to discuss some of the threats and challenges to the area. We observed that many visitors were shocked to learn about development proposals and asked follow up questions about steps to take to preserve the area.

Improving public awareness of ongoing threats to the area is essential. This may be done through avenues such as guided hikes, attendance of community events, and media interactions. Crafting of a pre-drafted letter to send to local MLAs and/or a petition to distribute to impassioned visitors could also be a beneficial next step.

Dogs and Dog Walking

Dog walking is a common pastime in BMBCL. In all, 434 dog encounters were recorded throughout the season, with as many as 25 dogs being seen between trail head visits (See Figure 2.2 below). Many individuals walked with 1-2 dogs, however, up to 14 dogs were noted with a single dog walker.

		Dogs			
Location	# Observations	Total # Dogs	Mean # Dogs	Median # Dogs	Max # Dogs
Collins Rd	98	178	3.3	1	25
Maskwa	100	248	3.3	2	14
Anahid Dr	6	1	0	0	1
Lakeshore Dr	3	0	0	0	0
Kent	17	6	1	1	2
Other	2	0	0	0	0
Brookline	4	1	0	0	1
Total	230	434			

Fig 5.1,. Dogs Encountered in BMBCL by Location, from Daily Visitor Log Data.

In total, 35.7% of Visitor Experience Survey respondents indicated that they walk dogs in the area. Of these respondents, 58.8% reported that they walk dogs off leash in the area and 41.2% said that they exclusively walk their dog on leash. Resident survey participants regularly indicated that they walked their own dogs in the wilderness area. Despite nearly half of the participants indicating that they walked their dogs on leash, data from daily observations suggests that off-leash use is far more prevalent in BMBCL.

With a total of 127 on leash dogs compared to 307 off leash dogs observed in the BMBCL wilderness area, a 3:7 ratio is created. Nearly 71% of individuals walked their dog off leash, while only 29% walked their dog on leash. (refer to figure 2.1)

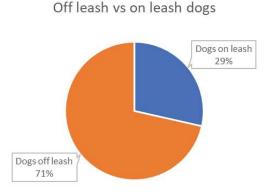


Fig 5.2, . Off VS On leash dogs observed in BMBCL wilderness area displayed as percentage.

The discordance between Visitor Experience Survey and Daily Trail and Visitor Log dog leashing data may have several explanations. The Visitor Experience Survey may have been prone to self-report bias, with visitors under-reporting behaviours which may be perceived as undesirable, including off-leash dog walking. The difference in data sets may demonstrate sampling bias in The Visitor Experience Survey; the survey was voluntary and visitors who are concerned with environmental issues in the park (including the impacts of unleashed dogs in wilderness areas) may have been more likely to respond. Furthermore, none of the survey respondents identified themself as professional dog walkers. Throughout the season, we observed several off-leash dog hiking companies using the area. On average, each walker had

between 4-8 off leash dogs. All dogs encountered in BMBCL were included in the Daily Trail and Visitor Log, so our off-leash count may be inflated due to repeated encounters with the same off-leash hiking companies.

Twenty-seven answers and comments mentioned dog walking in the Visitor Experience Survey. Opinions ranged from one individual who stated that they would prefer if dogs weren't allowed in the area, to respondents stating that they loved seeing dogs in the area. Two respondents reported that they had "no opinion."

Leashing rules were a common topic, with 8/27 comments indicating a preference for dogs to be kept on leash. Concern for wildlife and improved visitor experiences (e.g., ability to walk their own dog, fear of dogs, concern for children and pets) were cited as reasons for a preference for leashing. Comments also frequently mentioned concerns about individuals not having control over dogs, as well as pollution due to dog refuse bags. Similar concerns were reported by locals in the Resident Survey, with three separate residents scrutinising the lack of regulation and enforcement for dog walkers in the area.

Dog walking in the area occurred both with visitors walking their own pets, and with professionals using the area. Several professional dog walkers were observed to regularly visit the area including Hare and Hound Hiking Company. We observed that a few professional dog walkers primarily access the wilderness area from Collins Road, arriving at around 9:30 am most days. At least 2 more regular dog walkers access the area from the Saskatoon Drive entrance at Maskwa, typically arriving closer to 10:30-11. In conversation with one of the regular professional dog walkers (Janet) we learned that the professional dog walkers who use the area have a text chain that they use to update each other regarding ongoing events in the area (for example, we were told that the dog walkers had communicated with each other about the commencement of day camps at Maskwa, so that they could plan routes to avoid congested paths). Professional dog walkers appeared to be among the most regular visitors in the area, appearing on the trail in all weather conditions including moderate to heavy rain.

Visitor Survey perspectives on professional dog walkers varied. We believe that it would be advantageous to liaise with professional dog walkers in the area in the future in order to gain their perspectives. Some survey respondents felt that professional dog walkers were more likely to take responsibility for the animals in their care, while others voiced concerns about the lack of regulation, citing issues with dogs being out of control and making a mess.

Relevant comments are as follows:

"I feel as though at large the dogs aren't doing much harm, the dogs I have come across in a group or otherwise have mostly been pleasant and/or kept under control by the dog walker. I have had more problems with people walking their own dogs than the dog walkers, who tend to be a little more responsible than your average dog

owner. It would be a shame to lose the area for dogs because of misconceptions or a few bad experiences."

"Most encounters with dog walkers have been great, a majority have the dogs under control. I can comfortably walk back there with a small group or my own dog without any worries. It's important that everyone with animals and kids for that matter are held accountable for how they act and what they leave on the trail."

"I'm fine with it so long as the dogs are friendly and not skittish of other dogs, but one time nine dogs came upon me at once, scaring me half to death! Shortly behind, the dog walker in charge of all these dogs appeared. I feel like 2-3 dogs per owner should be enforced."

"I do find sometimes people who use the area for dog walking can have way too many dogs, not under their control and they leave a big mess which we try to pick up with our poop bags. We always keep our dogs close and leash them when we see people and only go at off peak times. I appreciate the new signs reminding people to pick up after their dogs."

"I'm okay with it as long as they don't have a big pack of dogs they can't control. I do take my dogs there and have never had an issue but do come across some large packs of dogs and also go at off peak times."

In our experience, most professional dog walkers were respectful of the area. At least one told us that she attended the Stewardship Training program at the Bluff Wilderness Trail and regularly collected trash including other visitors' dog refuse bags. Another dog walker named Janet was very knowledgeable about the area, drawing our attention to different trails and braids.

We witnessed one conflict between a professional dog walker (an individual who remains unknown to us) and other visitors on June 6, 2022. In the incident in question, the dog walker had 6-7 off leash dogs who did not respond to recall efforts, and approached the other visitors (a woman walking with two children and a small dog that was being held during the conflict). The woman with the children indicated that she had a phobia of large dogs and that the dogs had approached her without the walker in sight. When we arrived, the woman with the children asked if they were our dogs. Moments later, the dog walker appeared. A verbal altercation occurred between the dogwalker and the visitors wherein the dog walker said the woman tried to hit the dogs with a stick, while the woman accused the dog walker's dogs of being aggressive. The dog walker put the dogs she was walking in her vehicle and left.

Illicit Activity in the Wilderness Area

Prohibited Fires and Fireworks

Prohibited fires and fireworks were frequently mentioned as causes for concern throughout Resident and Visitor Experience Surveys. The establishment of new campfire locations was ongoing throughout the season, even during fire bans. BMBCL is a large area, wherein downed trees, dense brush, ground covering (dry lichen, moss, leaves, and pine needles), and old growth forests could serve to fuel a wildfire. This is especially true in conjunction with increasingly hot and dry summers.

Aside from the spread of campfires, fireworks and smoking also pose a threat to the area as potential incendiaries. We noted debris from used fireworks in the parking lot at Maskwa and regularly collected cigarette butts throughout the park, especially from lookouts. Fireworks, in particular, were noted as a cause of grievance in the Resident Survey, with residents citing fire risk, noise pollution, and impacts on wildlife and pets as reasons for concern.

Suggestions to curtail the threat of fires and fireworks include increasing enforcement/ fines for those engaging in risky activity in the area, posting up-to-date fire ban information and/or QR codes to fireban sites, increasing signage, and encouraging visitors to report unlawful activity.

Vandalism

Vandalism to signage in the area was observed throughout the season, with visitors removing government signage prohibiting fires in the Susie Lake area. Writing on signage was another form of vandalism that occurred in the area. It should be noted that some marking on signage may have been viewed as helpful (e.g., people marking un-included trails on informal maps in BMBCL), while other writing is more evidently destructive (e.g., "circumcision is child abuse" scrawled on signage at "End of Birch Cove Trail by Lake" (GPS coordinates: 44.660484055341904, -63.687433016971184; green pin in Figure # below)

Spray painted graffiti was observed on rocks adjacent to Susie's Lake (approx GPS Coordinates: 44.657872, -63.692791; blue pin in figure # below). More spray painting was noticed on private land (former Sisters of Charity Land) adjacent to the wilderness area along Quarry and Susie Lake. Carvings were observed in the granite towards, just past the sign indicating the wilderness area boundary at Susies Lake (see Figure #.#)



Fig 6.1. Google Maps Image of Susies Lake Demonstrating Locations of Graffiti (Blue Pin) and Sign Graffiti (Green Pin with White Hiking Icon)



Fig 6.2, Photograph of Carving in Granite Near Entrance of Susies Lake

Destruction of Plants and Trees

Destruction of plants and trees is widespread throughout the wilderness area. Common forms of destruction included intentional cutting down of live trees, presumably for the purpose of campsite or fire establishment; incidental destruction of plants and vegetation through trail braiding and bushwacking (see section titled "Trail Maintenance and Marking" for more details); damage to plants from poorly controlled dogs, including digging up and chewing on vegetation (refer to "Dogs and Dog Walking" for further information); picking and collecting plants in the area.

Visitors were encountered picking wild plants at two points throughout the season. On June 15, 2022, three individuals were observed exiting the Collins Road area with Sobeys bags full of vegetation, when approached they did not speak English and we were unable to determine

what they had collected. In another instance, a woman was observed leaving the Maskwa parking lot with a bouquet of flowers including trilliums and lady slippers at a distance. We were unable to reach her before she left the area. In addition to these encounters, several lady slippers were observed to show signs of damage including deheading (often with the heads nearby) while in season. We were unable to determine the cause of these damages.

Littering

Concerns about littering were mentioned 6 times in Visitor Experience Survey comments. The large majority of these comments (83%) expressed concern about dog refuse bags being left in the wilderness area. Three locals from the Resident Survey also indicated that increased litter was a major concern for them.

Throughout the season we collected trash every day, from every section of BMBCL that we visited. The most common forms of litter included dog refuse bags, food and drink wrappers, and cigarette butts. We informally observed that dog refuse bags seemed to be most prevalent along the Maskwa trails behind Kearney Lake, as well as along the Hobson Express trail. Cigarette butts and wrappers were most frequently collected from popular resting areas such as lookoffs in the Susie Lake and Kearney Lake hiking areas. Regular visitors who we frequently interacted with, including dog walkers and locals, often told us about the litter that they had also picked up in the area. Anonymous additions to the trails, including "pick up your poop" signs throughout the Kearney Lake trails, and a trashcan and dog poop bag dispenser at Collins Road, were praised by visitors regularly.



Fig 7.1, Photographs of Dog Poop Bag Dispenser, Signage, and Dog Poop Bag in Tree Near Collins Road Proposed solutions from visitors, residents, and students include increased regulation and compliance (i.e., ticketing), as well as increased distribution of receptacles and dog poop bag dispensers throughout the area.

Nudity

Susie Lake and the lookoff point, Flagpole Hill (GPS Coordinates, 44.65843930159307, -63.689567366230555), are popular locations within the wilderness area. Throughout the

season, these destinations were a featured location on guided hikes by Friends and other organisations including CPAWS. We obs area was frequented by hikers, campers, and swimmers alike, including families with children. We also ran into a hiking party that included three adults with intellectual disabilities in this area. Despite the popularity of Flagpole Hill and Susie Lake, we became aware that this area is frequently used for nude swimming and sunbathing (hereafter referred to as "naturists").

Naturists were encountered in the Susie Lake area several times throughout the season, in groups ranging from 1 to 4 members. They were most commonly observed swimming from the large granite face of Flagpole hill, pictured below in Figure #. Due to the sloping nature of the hill and the thick bushes that crowd its midsection, it was often impossible to discern the presence of naturists in this area prior to emerging immediately upon them at the shoreline.

In Figure 8.1, below, the area in red displays where naturists were most often found. The area in the yellow border is a steep embankment, making water difficult to access.



Fig 8.1, Google Maps Image of Flagpole Hill

Naturists were encountered a few times throughout the season, with interactions ranging from benign to uncomfortable. In one uncomfortable instance, a female summer student was alone, reading on the lookoff at flagpole hill. A middle aged man approached the student and said "this is a well known skinnydipping spot." The man stood over the student for several minutes before loudly announcing that he was going around the bend to nude sunbathe.

On another occasion, two summer students encountered an individual on flagpole hill who was nude. When they approached to inquire about ownership of a nearby tent which was suspected to be abandoned, the individual manipulated himself in the students' direction.

On the same day, the students encountered a couple who were unclothed and engaging in intimate activities in Susie Lake. The couple continued these activities after acknowledging the students' presence.

A quick Google search revealed that online sources document (and sometimes even advertise) nude swimming and sunbathing in BMBCL. These accounts range from supportive to distressed.

User "Muddy" posted the following to a forum on the website East Coast Mountain Biking

"So I just received this from a friend: My best friend just had an upsetting experience at Whopper today, around 1pm and I wanted to see if you've heard of anyone else experiencing something similar. She was coming from Susie lake heading towards whopper, just past the signage you put up and bam, there was a naked man. sneakers and a hat, nothing else, clothes were nowhere in sight. Needless to say she was panicked and ran as fast as she could. Have you heard of this before? She is contemplating reporting it but isn't sure. She recognizes his face, but can't place it. She feels like maybe she's seen him on the trail, either running or biking. He could very well just be enjoying nature but it did freak her out, as it did me.

Anyone ever seen this guy before? She is going to call the police, which I think is the right thing to do." (View link to thread here: Whopper Nudity - Off Topic - ECMTB)

Susie Lake is pictured and mentioned in several articles about "skinnydipping" in the independent newspaper "The Coast." One article, titled "How to be a Nudist in Halifax" states:

"There are plenty of other great spots to strip down and swim in Halifax. The Federation of Canadian Naturists recommends Susies Lake, though the treasurer and secretary of the Bluenose Naturist Society cite "too many teenagers and kids" as reasons not to go there." (Lizzie Hill, "How to Be a Nudist in Halifax")

In a later "The Coast" article titled "Strip Down and Cool Off with the Halifax Skinny Dippers," author, Every Hornbeck, discusses attending a naturist meetup at Susie's Lake. This article says of the group at Susie Lake:

"the skinny dippers all tell me they avoid those formal groups" (referring to the Bluenose Naturist Society).

A Meetup group suggestion for those who are looking for alternatives to pre-existing groups called "Halifax Drama Free All Welcome Skinny Dippers" is linked in the comments and may be valuable as a point of contact or investigation in the future (Link to Meetup group: Click Here)

One popular hiking website, Halifax Trails, refers to Susie's Lake as "A freeing experience that the clothing-optional crowd knows all too well." (<u>Halifax Trails, "Superlative Summer Sanctuaries"</u>). Susie's Lake is also mentioned as a spot for skinny dipping in several threads on the well known internet forum. Reddit:

- <u>u/Galactic Explosion</u>, Best Skinny Dipping Places Outside the Halifax Area
- https://www.reddit.com/r/halifax/comments/8vl1fq/any_other_nudeclothing_optional places to swim/
- https://www.reddit.com/r/halifax/comments/4rckh8/swimming_in_susiesquarry_lakes/

As illustrated in both summer student and online accounts, opinions and experiences regarding naturists in the wilderness area vary greatly.

Possible avenues to explore in the future could include increased policing, reaching out to have forums remove or alter posts, alternative routes for guided hikes (or warnings about possible nudity), reaching out to known naturists groups to explain conflicts of interest and try to find a compromise (for example, the official designation of a less popular area as 'clothing optional'; having official signage to warn guests; having designated hours).

Squatting

Squatters camps were observed throughout BMBCL including (description of GPS coordinates/ lake by squatters camp), accessed from the BLT trail, and at the entry to Susies Lake. Issues surrounding squatting in the area are complex. We recognize that Halifax is currently facing an unprecedented housing crisis, leaving many unhoused individuals with few choices aside from sleeping rough. Furthermore, camping is permitted in BMBCL, provided leave no trace principles are abided.

In the case of the two previously mentioned established locations, squatting intersects with several other threats to the wilderness area. These sites demonstrated evidence of disregard for the area, featuring excessive litter, damage to and cutting down of trees, and evidence of the establishment of campfires. In one camp, we discovered spent shotgun casings and therefore we suggest that Friends proceed with caution before approaching squatters in the wilderness area. We recommend that future squatting locations should be reported to higher authorities. If squatting persists and/ or increases in the future, it may be beneficial to establish working relationships with local harm reduction and humanitarian aid groups to promote safe and respectful use of the area. As addictions are overrepresented in unhoused populations, guides and stewards should consider adding a free naloxone kit (for opioid overdose prevention) to their trailbags alongside first aid kits.

Public Awareness of Friends of Blue Mountain Birch Cove Lakes

In liaising with visitors, we discovered that individuals accessing the wilderness area ranged from members of the Friends of Blue Mountain Birch Cove Lakes to individuals who had never heard of the society.

Please rate your awareness of The Friends of Blue Mountain- Birch Cove Lakes Society 19 responses

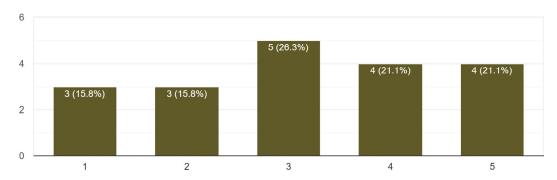


Fig 9.1, Visitor Experience Survey, Part 2, Participant Awareness of Friends of Blue Mountain-Birch Cove Lakes Society

Many individuals expressed interest in membership and took business cards, but nobody opted to sign up while out in the wilderness area. We propose that the length of the signup process may be a deterrent for individuals signing up along the trail side, as visitors tend to visit the area for active recreation and may be reluctant to stop for long periods of time. We believe that the best opportunities to gain new members include public drives (for example, we had 3 new members sign up at a booth at a very small farmers market) and guided hikes in the area.

Informally, we observed that access to guided hikes appears to be a selling point for membership, and suggest that signup could be bolstered if upcoming guided hikes were scheduled a few months in advance. We regularly heard from visitors that they were interested in the guided hikes but would not be able to make 'short notice' hikes (1-3 weeks from date of interaction). This observation may have been seasonally influenced, with visitors citing vacation and childcare as main reasons that they could not attend upcoming events.

Approximately ¼ of respondents to our visitor experience surveys were members, and roughly half of all respondents indicated that they were not yet members, but were interested in membership.

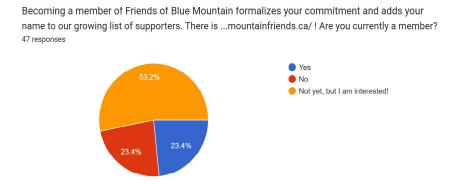


Fig 9.2, Visitor Experience Survey, Part 1, Membership Question

Becoming a member of Friends of Blue Mountain formalizes your commitment and adds your name to our growing list of supporters. There is ...mountainfriends.ca/! Are you currently a member?

18 responses

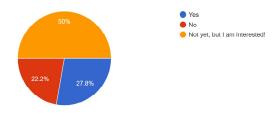


Fig 9.3, Visitor Experience Survey, Part 2, Membership Question

Shared Use of Area

BMBCL encompasses a large area and features many opportunities for individual and group recreation.

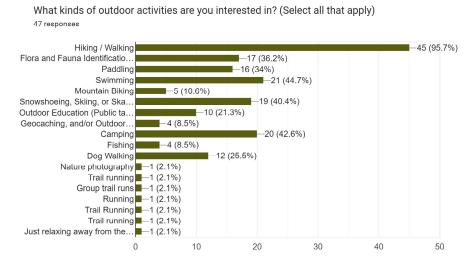


Fig 10.1, Outdoor Interests Reported in Visitor Survey, Part 1

Throughout our daily field activities and while talking about the wilderness area with residents, we discovered that many other organisations and groups regularly access or have vested interest in the wilderness area. Additionally, several businesses make use of the area. We have compiled a list of businesses and groups that we have encountered in the area. In the "Next Steps" section of this document, we provide some suggestions on how this list may be used to increase public awareness and membership.

Groups Encountered:

- Hare and Hound Hiking Co. https://www.hareandhound.ca/
- Wild Child Forest School https://wildchildns.wordpress.com/

- NS Women's Trail Running Meetups https://www.facebook.com/groups/1470551186425285
- CPAWSNS https://cpawsns.org/
- Ecology Action Centre https://ecologyaction.ca/
- Halifax Northwest Trails (Nurture in Nature Events Held in BMBCL) https://www.halifaxnorthwesttrails.ca/
- Nova Scotia Nature Trust https://nsnt.ca/
- Maskwa Canoe Club https://maskwa.ca/
- BioBlitz Canada http://bioblitzcanada.ca/events-flagships-halifax.aspx
- Water Rangers https://waterrangers.ca/

Groups Not Explicitly Encountered, Who May Also be Interested in the area based on posts tagging the area and/or shared borders:

- Halifax Field Naturalists http://halifaxfieldnaturalists.ca/hfnWP/
- Women Who Explore: Halifax, NS https://www.facebook.com/groups/334298810486446
- Nova Scotia Mycological Society https://www.facebook.com/groups/355584021179041
- Canadian Association for Retired Persons (CARP) https://www.carpnovascotia.ca/
 (Has previously done hikes with James Boyer and CPAWS/ MSVU community garden)
- NS Hiking Adventure https://www.facebook.com/groups/1171449999881399/
- Hike the Maritimes https://www.facebook.com/groups/hikethemaritimes/
- East Coast Mountain Biking https://ecmtb.net/
- BLT Rails to Trails https://blttrails.ca/
- Woodens Rivershed Waterland Ecosystem Organization https://wrweo.ca/wp/

University and College Groups

- Dalhousie Outdoor Society https://www.facebook.com/DalOutdoors
- Dalhousie Faculty of Earth and Environmental Sciences
 https://www.dal.ca/faculty/science/earth-environmental-sciences.html?fbclid=IwAR1
 CtvoqP0aeh3LkNsQEV5RNfQ5AICDi_MzKnAKG1EocHcMruOnIGwsQixM
- The Mount Community Garden https://www.facebook.com/groups/363117623730552 (has previously done hikes in BMBCL with CARP and
- Saint Mary's Environmental Society http://community.smu.ca/societies/smues/about.htm
- University and College Departments for Related Professions including: earth sciences, environment, recreation therapy, landscape painting (NSCAD), biology

Additional Groups

- Local Residents Associations (Kearney Lake Residents Association)
- Lake Users Associations
- Dog walking recreation groups

- Birding groups
 Other biking groups (e.g., Giant and Halifax Cycles often do local events on trails)
- The Parks of West Bedford https://www.theparksofwestbedford.ca/

Time Averages Based on Use

As mentioned, a diverse range of groups use the BMBCL wilderness area. These groups visit the area throughout the week depending on a variety of factors such as weather, day of the week and location/access point. Furthermore, groups, such as the dog walkers, were found to gather around the same time each day depending on location and weather.

Shown below, is the average for all 3 factors and a general overview average including all 3. These averages show the most popular times that people visit the wilderness area depending on weather, location, and days of the week based on data collected from 6 AM to 12PM and the specific time people would access BMBCL wilderness area. There is a margin of error to this data due to human error, and only catching some individuals as they left instead of entered.

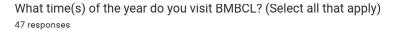
To begin with, the time averages for weather were not very surprising. With many individuals enjoying the sunlight around midday, and arriving later if it was raining or overcast. However, a few individuals accessed the park bright and early during a fog and a heavy rain. This shows that some extremes wont deter groups, and people will use the park no matter the weather. Furthermore, individuals accessing the park during a heat wave further proves how much use this park gets especially during extreme weather. (refer to Table. 11.1)

Table 11.1, Time (24/hr) averages for observed use based on weather for the BMBCL wilderness area. **Weather**

Weather	Average	6 - 9 AM	9 - 12 AM	12 - 3 PM	3-6 PM	6 - 9 PM	9-12+ PM
Sunny	13:25	07:34	10:37	13:44	16:40	19:01	21:30
Sunny, Slight Wind	12:57	N/A	10:49	14:18	15:30	N/A	N/A
Sunny and Hot	11:07	07:50	10:20	12:49	15:15	N/A	N/A
Sunny - Heat Warning	13:18	N/A	N/A	13:18	15:00	N/A	N/A
Partly Cloudy	12:49	N/A	10:45	13:22	12:52	20:32	N/A
Cloudy with Spitting Rain	13:43	N/A	10:19	14:49	15:16	N/A	N/A
Overcast, Windy	16:24	N/A	N/A	14:19	17:48	18:00	N/A
Overcast	15:10	07:45	09:00	N/A	16:52	19:00	N/A
Overcast with Showers	15:50	N/A	10:33	13:25	16:40	19:50	21:00
Foggy	06:10	06:10	N/A	N/A	N/A	N/A	N/A
Raining	14:25	06:15	11:04	13:48	16:28	18:57	N/A

Heavy Rain	09:56	07:00	10:07	12:30	N/A	N/A	N/A
Total	12:56	07:05	10:23	13:38	15:50	19:13	21:15

According to the visitor survey, fall and summer were the top 2 most voted seasons with summer taking up 78.7% and fall taking the lead with nearly 90% of votes. This correlates with the weather theory; the hotter and nicer the weather, the more access the park gets. As summer is easily one of the busiest times of the year for the park, especially when it is midday and 30 plus degrees out. It's no surprise that fall has nearly 90% of the votes either. fall for HRM is one of the busiest and prettiest times of the year and many people around the world come to Halifax to see the leaves change colour. However, spring and winter were not too far behind on votes either. Being only within a 10 vote margin from fall. This shows that the park gets access all year around from various dedicated groups. (refer to Fig. 11.2)



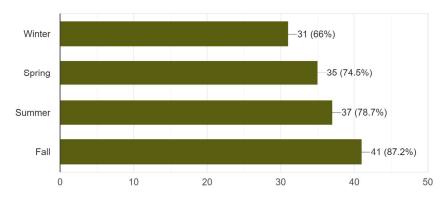


Fig. 11.2, Visitor Experience Survey, time of year participants visited displayed in a percentage/count.

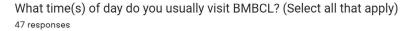
The dedicated groups who access the park can be seen almost every day of the week. From Monday to Sunday some groups, like dog walkers, will show up at the same time each day and access the park. Other groups will only show up once a week on a certain day, and some may just access the park when they get time, like a weekend for example. Below it can be seen that the park is used everyday, usually for the whole day as well. On average people would visit the park around 12-2 PM. With the earliest access being around 7:00 on a weekday and the latest at around 21:30 on a Saturday. (refer to table 11.3)

Table 11.3 Time (24/hr) averages for observed use based on day of the week for the BMBCL wilderness area.

Days of the Week

Days of the Week	Average	6 - 9 AM	9 - 12 AM	12-3 PM	3-6 PM	6-9 PM	9 - 12+ PM
		_					
Monday	14:35	08:30	10:43	12:51	16:30	19:41	20:00
Tuesday	14:04	09:00	11:10	13:25	17:03	18:00	N/A
Wednesday	13:44	07:16	10:34	14:03	16:45	19:07	18:15
Thursday	12:03	07:12	10:20	13:56	16:37	18:00	N/A
Friday	13:18	06:52	10:34	13:10	15:54	19:04	N/A
Saturday	14:37	08:35	10:15	13:22	16:43	18:44	21:30
Sunday	12:27	07:39	10:44	13:10	16:20	19:27	N/A
Total	13:32	07:52	10:37	13:25	16:33	18:51	19:55

This is further proven by the visitor survey. Showing that BMBCL wilderness area gets access all throughout the day from 6 am to 6 am. While the most active times of access were from 9 am to 6 pm. (refer to Fig 11.4)



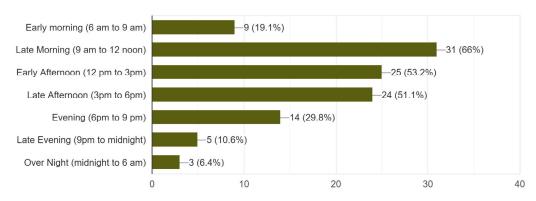


Fig. 11.4, Visitor Experience Survey, time of day individuals visited displayed in a percentage and count based on a 3 hr scale from 6 am to 6 am.

The last determining factor is location. What access point did these groups use at what time? This was one of the biggest questions in the study and below, it is shown that at at least 7 different locations, each one varied in time. With Collins Rd averaging use at 13:12 while an area like lakeshore had use around 6:45-7:00 and other access points were getting use late at night around 19:00. This range is huge, and shows how much use BMBCL gets. All access points were observed to be accessed at some point in the day, with the most common time being around 12:52. (refer to 11.4)

Table 11.5, Time (24/hr) averages for observed use based on Location for the BMBCL wilderness area.

Location

Location	Average	6 - 9 AM	9-12 AM	12 - 3 PM	3 - 6 PM	6 - 9 PM	9-12+ PM
Collins Rd	13:12	07:38	10:47	13:21	16:34	18:25	N/A
Maskwa	13:01	07:27	10:24	13:40	16:33	19:26	21:24
Anahid Dr	11:56	07:30	11:30	12:00	17:15	N/A	N/A
Lakeshore Dr	06:45	06:45	N/A	N/A	N/A	N/A	N/A
Kent	14:49	N/A	11:00	14:05	16:26	N/A	N/A
Other	19:00	N/A	N/A	N/A	N/A	19:00	N/A
Brookline	11:27	07:00	11:30	N/A	16:40	N/A	N/A
Total	12:52	07:16	11:02	13:16	16:41	18:57	21:24

When all these factors are combined, averaged and compared it can be observed that dedicated groups access the wilderness area around the same time no matter the condition. Between the times of 6-9 AM, 9-12 AM/PM, 12-3PM it can be seen that groups remained constant, all arriving within a 30 min margin of error when comparing factors. Furthermore, 3-6 PM, and 6-9 PM showed a bit bigger margin of error while 9-12 PM was still within the 30 min margin. When all the factors are averaged out and compared to the data, it shows that the most "popular" accessed time is from 1-2 PM. (refer to table 11.6)

Table 11.6, A time (24/hr) average comparison between all 3 factors and the general averages for all data.

Time (24Hr)

	Average	6 - 9 AM	9-12 AM	12 - 3 PM	3-6 PM	6 - 9 PM	9 - 12+ PM
All	13:23	07:25	11:13	13:23	16:31	19:09	21:24
Location	12:52	07:16	11:02	13:16	16:41	18:57	21:24
Weather	12:56	07:05	10:23	13:38	15:50	19:13	21:15
Day of the Week	13:32	07:52	10:37	13:25	16:33	17:43	19:55

Total	13:07	07:24	10:41	13:26	16:21	18:37	20:51

Discussion

General Summary

Students completed a summer placement between June 1st and August 3rd-6th in 2022. Projects completed during this period include the Daily Trail and Visitor Log, a two part Visitor Experience Survey, a Resident Survey and a Fish Survey. These documents can be seen in full individually, with links to each project provided in the Methods section of this document.

Several major themes emerged throughout the project. They can be summarised as follows:

BMBCL takes up a large geographic area, with many formal and informal Access Points in Timberlea, Hammonds Plains, Kingswood, Brookline, Kearney Lake, and Bayers Lake. The most popular access points are near Kearney Lake (Collins Road and Maskwa) and in Bayers Lake (behind Kent). Future investigation of access points in Hammonds Plains and Timberlea is warranted.

Trails are informally maintained and marked, which is a concern for visitors and a cause of environmental damage due to braiding. In some places, hazards such as dead trees, erosion, and flooding make the park difficult to navigate.

The Parks Canada National Urban Parks program is an area of interest for visitors, who largely support any efforts to preserve the park for future generations. Liaising with the public and with groups and businesses in the area is important for visitor satisfaction.

Dog walking is a common pastime for many visitors. Dog walking in the area is not currently regulated. Professional dog walkers and other visitors regularly access the area in on leash and off leash capacities. Dog poop bags contribute to littering in the park and out-of-control dogs may pose a threat to visitors, plants, and wildlife.

Current threats to the area include prohibited fires, overuse of fireworks, vandalism, destruction of plants and trees, littering, nudity, and squatting. These activities are a cause of concern to residents and trail visitors alike.

Public awareness is important for enabling Friends of Blue Mountain Birch Cove Lake (FBMBCL) to reach its goal of 1000 members. We encountered a mix of members and non-members throughout the season. We discussed FBMBCL with residents and trail users.