Research Report

Submitted to Accessibility Standards Canada

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Acknowledgements

We acknowledge the parks in British Columbia included as sites in this study are on the traditional, ancestral, and unceded territories of the scəw̓aθən (Tsawwassen), xʷməθkʷəy̓əm (Musqueam), Skwxwú7mesh (Squamish), and səlilwətaɬ/Selilwitulh (Tsleil-Waututh) Nations. In a spirit of friendship and solidarity, Université Laval pays tribute to the ancestral and unceded territory of Indigenous peoples, including the land of the parks included in this study. Being at the crossroads of the Nionwentsïo of the Huron-Wendat people, the Ndakina of the Wabanaki people, the Nitassinan of the Innu people, the Nitaskinan of the Atikamekw people and the Wolastokuk of the Wolastoqey people, we honor our relationship with each other.

Executive Summary

The purpose of the PARCOURS project was to inform national park standards in Canada. Research activities included a scoping review of international standards, accessibility assessment of existing conditions in parks, 72 interviews with 48 participants, and 149 responses to a survey from a panel of experts that live all across Canada. The results suggest that some existing standards may be adequate by offering the minimum level of accessibility that will meet the needs of most people with disabilities. However, there are gaps in many other standards, as well as needed standards that currently do not exist. These standards can be used to promote accessible design and management of safe, accessible, and enjoyable park experiences for individuals with disabilities.

This report integrates qualitative and quantitative data to inform recommendations for all elements of the park visitor's journey. Recommendations are provided for the planning phase, transportation and arrival, trails and wayfinding, and park activities. We also recommend that standards, on their own, are not enough to ensure accessible and inclusive experiences. Instead, a more strategic assessment of the visitor journey for each park should be undertaken in collaboration with people with disabilities. Through a process of prioritizing the accessible assets in a park, park managers can apply standards in a way that will maximize their return on investment in reaching the accessibility goals of the agency. Ultimately, this approach can be adopted by provincial, regional, and municipal organizations to harmonize the park experience for all visitors, including people with disabilities.

For citation

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INTRODUCTION

The acronym for our project (Providing Accessible ReCreation Outdoors: User-driven Research on Standards (PARCOURS) is a French word for trail, i.e., "un chemin pour aller d'un point à un autre," which emphasizes our project's bilingual focus on developing standards to improve accessibility in parks across Canada. There is mounting evidence about the physical, social, psychological and health benefits of access to green and blue spaces (Gascon et al., 2017; James et al., 2018; Labbé et al., 2019; Markevych et al., 2017; Merrick et al., 2021; Rugel, 2015; Rugel et al., 2019; Shanahan et al., 2016). However, many people with disabilities are excluded from these spaces because of accessibility issues (Burns et al., 2009). Canada's national parks are world-renowned. Unfortunately, despite some recent attempts to improve access, many are not universally accessible to people with disabilities (Marcastel, 2019).

Historically, standards have focused on promoting access for people with physical disabilities, however, existing accessibility standards are relatively dated, and have had less emphasis on meeting the needs of people who experience cognitive or sensory challenges (i.e., visual or auditory) (Parks Canada, 1994). For example, wayfinding is emerging as a critical topic for different types of disabilities, to not only identify accessible routes for planning purposes but also to enable real-time navigation. Given the presence of a variety of temporary obstructions on sidewalks, standards are also required regarding how people should be re-routed in these circumstances. Furthermore, some people with disabilities are excluded because the size of their mobility device exceeds the space provided under existing building codes (Jang, Mortenson, Hurd, & Kirby, 2019). A further complication is that environmental features intended for one group (e.g., tactile sidewalk sections for people with vision problems) may make it challenging for people from another group (e.g., those who use mobility devices like wheelchairs) (Ormerod et al., 2015), so it is important to avoid developing standards in a siloed manner (i.e., with only one disability group in mind).

Purpose

The overarching purpose of this participatory project is to make parks more accessible by improving accessibility standards, which was one of the priority areas for 2020 to 2021 in the Accessibility Standards Canada Grants and Contributions program. The main objectives of this project and a summary of accomplished are reported in the following sections.

Project Fulfillment Summary

Table 1 below outlines how each of the requirements in the grant contribution agreement were fulfilled. Details are described in sections that follow.

Table 1 Grant Contribution Requirements Executive Summary

Item	Requirements	Purpose	Summary
Scoping Review	Document the available standards for National Parks around the world and identify the gaps.	Identify, review, and synthesize current national and international accessibility standards for parks with consideration for the lived experience of people with disabilities (comparing/grouping along common features in different jurisdictions).	• 49 standards were reviewed and broken down into 7 main categories and 56 sub-features. • A wide variety in the standards and some important gaps were found
Park Accessibility Assessments	Map/audit 60km of trails in six provincial or regional parks (three in each province).	Assess representative parks with different typographies in terms of their characteristics in relationship to existing and potential standards about trails, features, amenities, and information/wayfinding.	73.5 km of trails were assessed in 8 parks in BC and Québec: • Grouse Mountain • Deas Island • Boundary Bay • Stanley Park (national park) • Plains of Abraham (national park) • Jacques Cartier • Forêt Montmorency • La Mauricie (national park)

Item	Requirements	Purpose	Summary
Website Assessments	Get feedback from People with disabilities about parks' online information.	Assess the quality of the park information available online to help People with disabilities plan trips.	• Participants reviewed 6 park websites • Information about key content was found
Mobile/Virtual Park Interviews	Conduct 24 summer and 12 winter interviews (either in person or virtually) in 6 parks (3 in BC and 3 in QC).	Document the perspectives of people with a variety of disabilities as they visit the parks, so they can reflect on their experiences in relation to the existing standards we identified.	• 72 interviews were conducted (48 summer and 24 winter) with participants in 6 parks in BC and Québec • Challenges related to transportation to parks, trails, washrooms, and other features were found
Prioritizing Standards	Prioritize and recommend park accessibility standards.	Identify and prioritize existing and novel standards that should be implemented as part of the Accessible Canada Act.	• Mobile and virtual interviews • Facilitated workshop • Delphi surveys • Partnerships • Team members
Engagement of People with Disabilities	Collaborate with people with disabilities.	Support people with disabilities and build their capacity by involving them in a participatory manner, providing them with adequate stipends to recognize their contributions to the study and preferentially hiring individuals with disabilities to participate in the project.	• Partners • Participants • Team members

Item	Requirements	Purpose	Summary
		Build awareness about the parks-related needs of people with disabilities in the broader community.	- Publications - Presentations - Community engagement

Research Activities

The following sections summarize the research activities conducted to address the main goal of the PARCOURS project (see Figure 1). Each research activity is meant to support the final recommendations. The Scoping Review (1) and scan of activities that take place in federal parks (2) helped to determine what to assess in the parks that were used for the study. Because of cost, transportation, and pandemic issues, regional parks had to be used as proxies for federal parks. Mobile and Virtual Interviews (3) were conducted with participants using a variety of methods (purple boxes). A Pre-Delphi Workshop was conducted with select People with disabilities to inform the Delphi surveys that were sent to People with disabilities across Canada. The details of these research activities are described in the sections that follow.
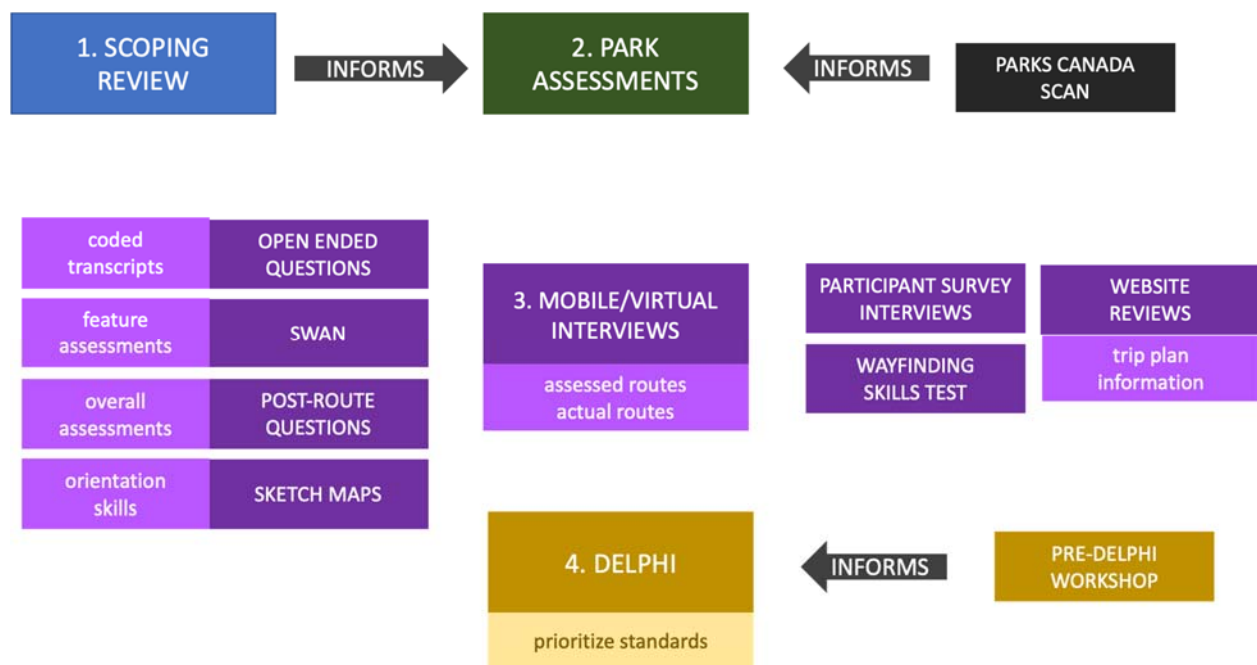
SWAN = Stakeholders Walkability/Wheelability Audit in Nature

Figure 1 PARCOURS Project Research Activities

SCOPING REVIEW

Summary

A total of 49 standards were reviewed to create a summary of all the accessibility requirements included in those standards, as well as to identify commonalities and gaps in the standards. The summary covered seven main categories (park management, arrival, paths and trails, summer activities, winter activities, amenities, and communication) and 56 sub-features. The reviewed standards identified a wide variety in the standards and some important gaps

Purpose

The goal of the review was to document the available standards for National Parks around the world in order to complement the Canadian standards, as well as to identify gaps in existing accessibility standards.

Methods

This scoping review used the methodology proposed by Tricco et al (2018). The five steps were: 1) identify the research question, 2) identify relevant standards and guidelines, 3) choose the standard, 4) chart and organize the data, 5) report the results. 1) The search questions were: "What are the accessibility features discussed in the current international accessibility standards for national parks for people with disabilities and what are the gaps in those standard?" 2) The search focused on Keywords in both French and in English that were used to find relevant standards and guidelines in Google search, governmental or official park websites from Canada as well as from other countries with similar climate or known to have accessibility policies. The search terms included mobility device and disability types, parks and nature terms, and accessibility terms. 3) We included all the government standards and guidelines for park accessibility at both the national and provincial/regional/state levels (when relevant). Canadian, United States, and international standards were reviewed. 4) The qualitative and quantitative information was extracted from each standard and organized around

the seven main categories: park management, arrival, Paths and trails, summer activities, winter activities, amenities, and communication. Each of those categories included several sub-features (between 2 to 15).

Results

The final search resulted in 49 standards and guidelines: 43 in English and 6 in French. Canadian documents accounted for 19 of them while 30 were of international provenance. The categories and features most frequently covered were the accessibility of websites, parking access, paths and trails, and amenities (primarily information centers and washrooms). The standards rarely included requirements on signage and wayfinding. Requirements for winter activities were included in only one standard. Moreover, the level of specificity of the requirements varied greatly between the standards and guidelines, which could impact their implementation.

Overall, there were few standards guiding park activities accessibility, particularly for winter activities. Moreover, the standards really focused mostly on physical and visual impairment and rarely provide accessibility requirements for individuals with intellectual and development disabilities.

Conclusions

This scoping review of standards sets the path for improving standards for accessibility in Canadian national parks by compiling and summarizing environmental guidelines used in other countries to improve access to people with disabilities to national parks. The review showed features that were thoroughly covered, but what was required varied widely between the standards. The scoping review also found important gaps to be addressed to ensure accessibility. We plan to publish the final results of this scoping review in a peer-reviewed journal.

PARK ASSESSMENTS

Summary

The accessibility of trails and features in eight parks in Canada were assessed using the High Efficiency Trails Assessment Process (HETAP) tool and Journey Experience Mapping Model for Accessibility (JEMMA) mobile application we developed for this project. A total of 73.5 km of trails and 291 individual features were assessed and digitized in a Geographical Information System (GIS). Based on existing standards, most trails and features would not be considered accessible. Some features that would be considered accessible on their own were inaccessible because the route to them was not accessible.

Purpose

The purpose of the park assessments was to document the accessibility of trails and features in parks. This information (and the method for creating this information) could be used to guide the design and management of parks, including how to provide potential visitors with trip planning information. Park assessments served as the base layer in the creation of our National Parks Accessibility Atlas, which includes a wide variety of qualitative and quantitative data.

National Parks Accessibility Atlas

The National Parks Accessibility Atlas (see Figure 2) is a series of maps depicting the accessibility of the assessed parks that combines objective and subjective data. The intent of the atlas is to model a tool that:

- **Shows the location of trails (links) and features (nodes) (bottom layer: Links and Nodes) in a park.**
- Includes measures of the attributes of trails and features (layer 2: Objective Measures) from the Park Assessment and denotes access scores and burden for each segment of a trail.

- Incorporates the subjective experiences (layer 3) of park visitors recorded from interviews (open-ended questions, SWAN, post-route questions) that represents the lived experiences of people with disabilities. This layer can be compared with objective layers to identify gaps in perceived accessibility and actual measures.
- **Offers guidelines for designing and managing accessible park experiences, with the goal of fostering to the development of policies (including standards) and practices that will allow park facilities to meet visitors' personal needs and preferences which allows them to design agendas for their visit to parks (top layer: Personalized Agendas).**
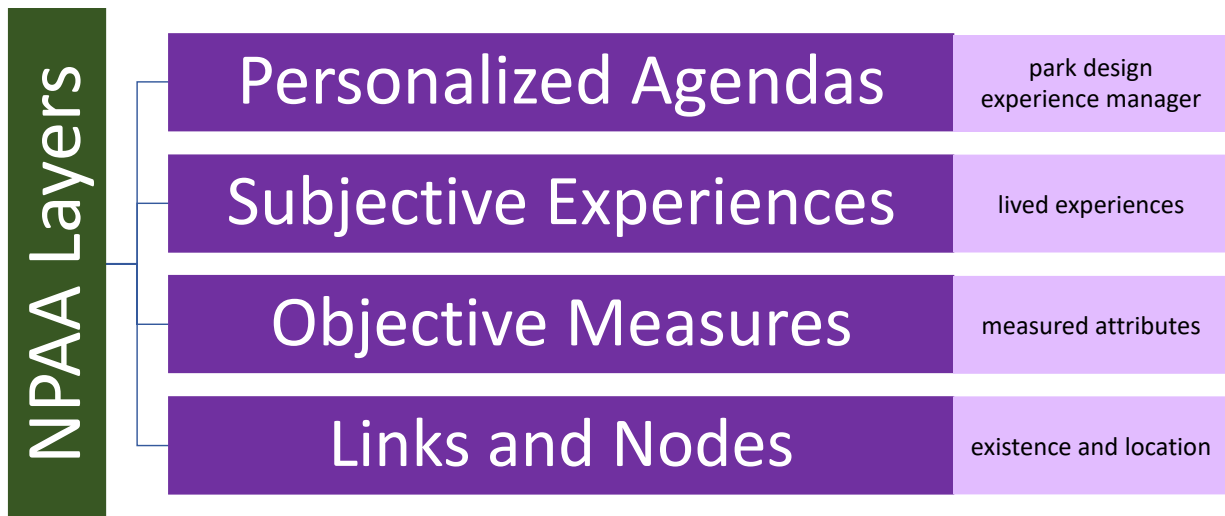
Figure 2: National Park Accessibility Atlas (NPAA) Layers

Methods

Eight parks were assessed for the following factors: Trail slope and cross slope were assessed using the HETAP unit; Tail width was measured with a tape measure, and features and other elements of trails (surface conditions) were assessed with JEMMA. Information about barriers, safety hazards, and estimated burden of routes is provided in maps and GIS file provided.

Parks Canada Scan

The research team conducted a scan of the Parks Canada website to create a list of activities available in each park. This list was used to guide the accessibility assessment and features included in the participant interviews. Features included: those found at arrival (parking, drop-off areas, transit), mobility (trails, boardwalks, gondolas, steps, ramps), wayfinding (signs, maps, landmarks), amenities (washrooms, change rooms, benches, refuse, kiosks), food and drink (café, vending, water fountain, picnic areas, firepits/grills), and leisure and recreation (summer and winter sport activities, docks and piers, playgrounds, amphitheatres and lookouts and viewpoints).

Description of Tools

The accessibility of trails and features in parks were assessed by the research team using the HETAP and JEMMA tools, and the findings were verified using Open Data sources. To assess trail accessibility, HETAP was used to capture slope and cross slopes of trail segments. The HETAP unit is equipped with a computer running custom data collection software and sensors. The unit uses a Geographical Positioning System (GPS) to establish unit location and accelerometers to capture slope and cross slope for segments. The unit operator manually added data documenting surface material (such as gravel) and trail width for each trail segment. Additional data about hazards was captured using the JEMMA (Journey Experience Mapping Model for Accessibility) mobile application specifically designed for this project. JEMMA was also used to capture the accessibility attributes of features (e.g., bench heights, toilet seat heights, clear space at lookouts).

Assessment results were uploaded into a Geographical Information System (QGIS) initially as points. These points were then extrapolated as lines to the next point and assigned values according to the first point for that segment. New stations were added at points where there were changes in the trail (slope, cross slope, width, surface conditions) or a feature (such as a bench) was present.

Findings from both tools were complemented by open data sources that helped improve the accuracy of the results. Digital elevation and terrain models were used to verify

slope values and satellite imagery and photographs were used to examine terrain and features. A QGIS project file with all supporting files is provided in the final submission.

Measures of trail/path accessibility

The overall accessibility of any path or trail can be determined by the accessibility of its worst characteristic (maximum slope, maximum cross slope, narrowest width, surface conditions, and level of risk due to hazards.) Ranges of key trail segment attributes were used to score their accessibility. Their accessibility was classified into categories based on the accessibility rating of its worst attribute:

Table 2: Trail Access Scoring

Attribute	Very Easy	Easy	Hard	Very Hard	Extremely Hard	Limited Access
Score	**1**	**2**	**3**	**4**	**5**	**99**
Slope	< 2%	2 - 5%	5 - 8.3%	8.3 - 10%	10 - 15%	> 15%
Cross Slope	< 2%	2 - 3%	3 - 5%	5 - 10%		> 10%
Width	> 2000mm	1500 - 1999mm	1250 - 1499mm	920 - 1249mm	810 - 919mm	< 810mm
Firm Surface	Firm	Moderately Firm	Soft			
Even Surface	Even	Moderately Uneven	Uneven			
Slippery Surface	No Slippery	Moderately Slippery	Slippery			
Bumpy Surface	Smooth	Moderately Bumpy	Bumpy			
Hazards	Limited Risk	Moderate Risk		High Risk		Very High Risk

Each of the individual surface scores were summed and assigned a final surface score within the following ranges:

- Very Good Conditions (1) 4
- Good Conditions (2) 5 - 6

- Poor Conditions (3) 7 - 8
- Very Poor Conditions (4) 9 - 10
- Limited Access (99) > 10

A final access score for the segment was based on the highest score for slope, cross slope, width, surface conditions, and hazard risk. Trail segments were colour coded to denote access score:

- Very Good Access (green)
- Good Access (blue)
- Poor Access (orange)
- Very Poor Access (red)
- Extremely Poor Access (dotted red)
- Limited Access (dotted black)

Burden

Burden is a measure noting the accumulated effort of a route and is calculated as the sum of burden for all segments along a route. To calculate the overall burden of a segment, the scores for each attribute were assigned a factor that was used to indicate the magnitude of impact that factor may have on mobility. This is a subjective value that is based on previous research, differs depending on individual abilities and the mobility device used. Future research and individual testing could be used to personalize these multipliers. The results can be interpreted as the effort required to reach a destination and may be compared to what planners consider the typical walking distance expected in the general population (400 to 800m). A result between 8 and 16 is similar to the 400 to 800m approximation of a typical walking distance for the general population. Burden for each segment is labeled on the map.

Burden of a Segment

This formula was applied to all segments in the assessment map to measure the burden:

(distance /100) * ((5 X slope score) + width score + (5 X surface score) + (3 X cross slope score) + hazard score))/15

Results

In total, 73.5 km of trails and 291 features were assessed in eight parks (three national parks and five regional parks). Summaries of the number of features and length of trails assessed is shown in Table 3. Detailed maps showing trail accessibility and tables showing feature accessibility are provided for each park in the appendix.

Table 3: Park Assessment Results

	Trails (km)	Features
BC		
Grouse Mountain Resort	4.2	34
Deas Island Regional Park	9.4	39
Boundary Bay Regional Park	8.5	25
* Stanley Park	8.0	54
BC Total	30.1	152
Québec		
Jacques Cartier	2.4	17
Fôret Montmorency	1.8	21
* Plains d'Abraham	22.0	72
* La Mauricie	17.2	11
Québec Total	43.4	121
Total	73.5	273

* National parks

Park Trails and Features Assessment Maps

Using what we learned from data collection in the parks, for each park we have created maps depicting trail access and burden, and a table showing accessibility of features (Appendix 1). These maps and tables form the base layer for feedback from participants in the activities that followed. The maps are divided into parks and further sub-divided by sections within the park. A map key is provided for each park to highlight the features found in the park. It also provides a visual guide to trail accessibility (using colour and line style) and the impact of trail conditions on the burden of each trail segment. The maps are followed by simple tables that show the accessibility of the features that can be found in each map section.

Overall Patterns

The important takeaways from the maps are that 1) most park environments are challenging for people with disabilities, 2) accessible park features are not always connected by a seamless network of accessible trails, and 3) key park amenities are not always accessible or close to where people with disabilities need them (especially washrooms). The maps can be used to detect key accessibility gaps at the park or park region level. For example, there are very steep slopes at Grouse Mountain that are due to the topography of the mountain. While switchbacks might reduce the maximum slope, it also would add to the distance for visitors to reach key points of interest further up the mountain. A possible solution might be to provide a shuttle service to bridge this gap. These maps provide the foundation for meaningful discussions between park managers and People with disabilities.

Conclusions

Based on the patterns found in the maps, park agencies should consider adopting a strategic approach to create seamless park journeys to high priority activities. This involves reaching out to people who visit parks as well as those that who feel that parks are not for them. This outreach is necessary to be responsive to the needs of visitors as well as ensuring the most return on investment for the agency. More work is also needed to refine data collection methods that are more efficient and accurate than current tools. This improvement is fundamental to being able to make better

organizational decisions about accessibility upgrades as well as providing visitors with the information they need to have safe, accessible, and enjoyable park experiences.

MOBILE AND VIRTUAL INTERVIEWS

Summary

In this study, 72 interviews were conducted (57 in parks and 15 virtually) with 48 participants in six parks. People with a wide range of disabilities (mobility, visual, hearing, cognitive), using a variety of mobility devices (manual wheelchair, power wheelchair, scooter, walker, canes, crutches, white canes, and carers) provided qualitative and quantitative evaluations of experiences in summer and winter in a variety of park settings (beach, mountain, forest, urban). Participants expressed a great desire to have access to all the experiences parks are designed to provide. Fundamental issues with the lack of accessible transportation to park sites make access to national parks a key consideration when looking at the experience from a customer experience model approach. While standards may help in some ways, policies and practices that consider the whole journey need to be considered to ensure inclusion in Canada's national parks.

Purpose

The goal of the walking/wheeling interviews were to capture the lived experience of people with disabilities as they navigated in natural parks.

Methods

The study was conducted in two steps – a pre-interview survey followed a few days later by a single interview session at a park (Prescott et al., 2022a). During the in-person park interviews, participants answered semi-structured questions designed to elicit open-ended discussion of their experience. As they walked or wheeled, participants also completed the Stakeholder Walkability/Wheelability Audit of Nature is a modified version of the Stakeholder Walkability/Wheelability Audit of Neighbourhoods (see figure 1), to evaluate the existence of features and the participants' impressions of those features and trail attributes. In addition, participants were invited to complete some tasks designed to assess their wayfinding skills, such as being asked to estimate

distances. At the end of each of 3 routes traveled during the interview, the participants were asked questions to evaluate their perceived experience of the route.

Due to challenges with Covid, weather, participant transportation, participant health, and concerns about being able to complete the interview, a revised virtual interview protocol was developed to capture the perspectives of participants who were unable to visit parks in winter personally (Prescott et al., 2022b).

Participant Descriptions

Overall, the 50 people who participated had a mean age of 50.6 years (range 22 to 79 years). Their socio-demographic and mobility characteristics are reported in Tables 4 and 5 below.

Table 4: Socio-Demographic Characteristics

Characteristic	N
Gender	
Female	26
Male	22
Gender/Non-Conformant	2
Ethnicity	
White or Caucasian	44
Asian	3
Hispanic or Latino	1
Indigenous	1
South Asian	1
Marital Status	
Married/Common Law	19
Separated/Divorced	7
Single/Never Married	23
Widowed	1

Lives with...

Family	4
Spouse	19
Friends	4
Alone	23

Education Level

Did Not Graduate High School	3
Graduated High School	16
Some College/Diploma	3
Graduated College/Diploma	56
Some University	25
Graduated University	84
Some Graduate Study	7
Completed Graduate Study	32

Employment Status

Full-time Employment	9
Part-time Employment	11
Unemployed	9
Student	1
Retired	13
Volunteer	7

Income Level

Less than $15000	19
$15000 - $29999	8
$30,000 - $44,999	4
$45,000 - $59,999	6
$60,000 - $75,000	2
More than $75000	2
No Answer	10

Table 5: Mobility Characteristics

Mobility Characteristic	N
Years With Disability	
1 to 5 Years	4
6 to 10 Years	2
More than 10 Years	44
No Answer	1
Stand	
Without Assistance	29
With Assistance	8
No	13
Walk	
Without Assistance	20
With Assistance	16
No	14
Climb Stairs	
Without Assistance	22
With Assistance	13
No	15

15 people needed assistance when going to parks

Please see Table 6 for the average ratings, using a scale from 1 to 5, by participants for preference, frequency of visits, and quality of experience in 9 different park settings. Costal setting were the most preferred by participants. Urban parks were the most frequently visited. Please se

Table 6: Park Preferences and Experience

Setting	Prefer	Visit	Experience
Coastal	4.6	3.3	4.0

Grassland	3.9	1.9	3.7
Forest	4.3	3.0	3.9
Mountain	4.0	2.3	3.7
Marine	4.0	2.0	4.0
Tundra	3.3	1.1	3.0
Historic	4.3	2.2	3.9
Foothills	3.8	1.8	3.5
Urban	4.3	4.1	4.4

Table 7 shows the mean rating, using a scale from 1 to 5, of the preferences and experiences participants reported for 21 activities in parks. Nature viewing, easy hiking and boating were the most preferred activities. Participants were generally very positive about their experiences doing all activities in the parks.

Table 7: Activity Preferences and Experiences

Activity	Prefer	Experience
Easy Hike	4.7	4.5
Hard Hike	3.3	3.4
Cycling	4.1	3.7
Climbing	2.8	2.5
Picnics	4.5	4.2
Fishing	3.4	3.4
Nature Viewing	4.7	4.4
Horseback Riding	3.4	3.3
Swimming	3.9	3.8
Sunbathing	3.3	3.8
Boating	4.3	4.0
Tent Camping	3.4	3.7
Cabin Camping	4.3	4.2

RV Camping	3.9	3.4
Skiing	3.4	3.4
Snowshoeing	3.5	3.5
Skating	3.3	3.1
Sport Activities	3.4	3.4
Snowmobiling	3.6	3.2
Scuba Diving	2.9	3.2
Interpretative	3.8	3.7

Table 8 shows the mean rating participants rated nine features in parks using a scale from 1 to 5. Wayfinding was the highest ranked and ==showers== were the least.

Table 8: Mean Rating of Impact of Features on Park Experience

Feature	Impact
Transit	4.0
Parking	3.9
Change Rooms	3.3
Showers	2.8
Charging Stations	3.2
Drinking Fountains	4.0
Beach Chairs	3.5
Wayfinding	4.5
Beach Mats	3.9

Park Interview Findings

We implemented a variety of approaches to analyse the rich set of data collected during these interviews and associated activities. We transcribed and coded all interviews, and we performed content and sentiment analysis. Overall, sentiment about trails and features in parks was balanced, though not for each park individually. In general,

participants indicated that they wanted to be able to access all experiences that parks have to offer. Lack of accessible transportation to park sites is a persistent barrier. Therefore, accessible transportation is a key consideration when looking at the park visit experience from a customer experience model approach. While accessibility standards that guide the design of features and trails inside national parks may help in some ways, policies and practices that consider the whole journey need to be considered to ensure inclusion for everyone in Canada's national parks. Full results of the walking/wheeling interview findings will be published in a peer-reviewed journal.

WEBSITE REVIEWS

Summary

We evaluated the accessibility information on park websites of three parks in Quebec (Forêt Montmorency, Parc national de la Jacques-Cartier, and Plaines d'Abraham) and three parks in British Columbia (Boundary Bay Regional Park, Deas Island Regional Park, and Grouse Mountain) by examining their content and quality. The results of the website reviews show high variability in the quantity and quality of accessibility information on parks websites across Canada. High-scoring websites had clear and easily navigable information for multiple disability types, photos/videos and disability-specific park maps and information. Interviews with park visitors also provided recommendations for improving website content. Park visitors cited information about accessible amenities, particularly washrooms, as the most helpful information on park websites. However, gaps in the quality and content of accessibility information on park websites included information for multiple types of disabilities, specific activity or trail details, and accessibility-specific park maps with limited information. These results suggest that improvements to online accessibility information could aid in facilitating some of the largest challenges people with disabilities face when visiting parks in Canada. This is consistent with previous research showing that online information is critical for visit-planning in this population (Chikuta et al., 2019). The findings of the website reviews and associated interviews were consistent with much of participants' feedback in the qualitative interviews about the importance easily available and disability-specific information to making parks accessible. The full results of the website reviews will be published in a peer-reviewed journal.

PRIORITIZING STANDARDS (DELPHI)

Summary

In previous research activities reported above, existing standards were identified (Scoping Review), features and activities in Canadian federal parks were catalogued (Park Website Scan), the ability of a park to facilitate equitable use was assessed (Park Assessments), and the experiences of people with disabilities in parks was solicited (Mobile and Virtual Interviews). In this final research activity, standards are prioritized based on their importance to the park experience for people with disabilities using the Delphi Method.

Purpose

A series of Delphi surveys were used to get feedback from those with lived experiences to rate the importance of standards for trails, features, information, wayfinding and policies on their park travel. A Pre-Delphi workshop was conducted with individuals with disabilities and other stakeholders to help create these final Delphi surveys.

Survey

Researchers grouped suggested standards from the Pre-Delphi workshop into four categories - Trails and Safety, Activities and Equipment, Information and Wayfinding, and Policies. These findings were used to develop the initial Delphi Survey. Participants chose one of three surveys to complete – trails, activities, or wayfinding. All surveys also included broader policy questions about park design and management. Participants were asked to rate the importance of feature standards. The results from Round 1 were used to refine the standards and develop the questions asked during Round 2. A socio-demographic section included information about age, gender, ethnicity, location, mobility device used, and type of disability, which are reported in Tables 9 and 10 showing the results for each round. Table 10 presents the age distribution for each type of mobility device used by survey participants.

Table 9: Delphi Survey Participant Characteristics

Participant Age by Gender by Survey

Survey/Gender	N	min	max	avg
Activities Round 1	**22**	**15**	**72**	**48.8**
Female	11	27	72	52.3
Male	11	15	66	45.3
Activities Round 2	**23**	**15**	**73**	**50.1**
Female	11	27	73	52.7
Male	11	15	66	46.0
Other	1	66	66	66.0
Trails Round 1	**32**	**29**	**80**	**50.0**
Female	19	29	80	48.2
Male	13	29	73	52.7
Trails Round 2	**29**	**29**	**72**	**48.8**
Female	16	30	63	46.0
Male	13	29	72	52.3
Wayfinding Round 1	**12**	**31**	**74**	**48.7**
Female	4	42	73	54.0
Male	7	31	74	48.0
Non-Binary	1	38	38	38.0
Wayfinding Round 2	**17**	**29**	**74**	**46.9**
Female	9	29	68	46.8
Male	7	31	74	48.4
Other	1	38	38	38.0
Total	**135**	**15**	**80**	**49.1**

Table 10: Participant Age by Survey by Mobility Device(s) Used

Survey	N	min	max	avg
Trails 1	**32**	**29**	**80**	**50.0**
cane	3	45	58	49.7
multi, mix	4	30	68	51.8
multi, wheeled	3	33	62	46.0
MWC	9	29	57	44.7
none	1	53	53	53.0
PWC	7	29	73	47.3
scooter	1	63	63	63.0
walker	2	51	80	65.5
white cane	2	60	67	63.5
Trails 2	**29**	**29**	**72**	**48.8**
cane	2	53	58	55.5
multi, mix	3	30	68	51.3
multi, wheeled	5	33	62	46.0
MWC	6	30	50	42.7
none	2	46	47	46.5
PWC	7	29	72	47.3
scooter	1	63	63	63.0
walker	1	51	51	51.0
white cane	2	60	67	63.5
Activities 1	**22**	**15**	**72**	**48.8**
cane	2	46	53	49.5
guide dog	1	72	72	72.0
multi, ambulatory	1	66	66	66.0
multi, mix	2	57	72	64.5
multi, wheeled	3	41	69	55.3
MWC	5	40	66	48.6

none	3	15	30	24.0
PWC	1	60	60	60.0
scooter	3	30	70	45.0
walker	1	31	31	31.0
Activities 2	**23**	**15**	**73**	**50.1**
cane	3	46	66	55.3
guide dog	1	72	72	72.0
multi, ambulatory	1	73	73	73.0
multi, mix	1	57	57	57.0
multi, wheeled	3	41	56	46.7
MWC	9	40	69	52.0
none	4	15	45	29.3
PWC	1	59	59	59.0
Wayfinding 1	**12**	**31**	**74**	**48.7**
cane	6	42	74	63.4
multi, mix	1	31	31	31.0
MWC	3	32	47	38.3
none	2	35	38	36.5
Wayfinding 2	**17**	**29**	**74**	**46.9**
cane	6	38	74	48.7
multi, ambulatory	1	50	50	50.0
multi, mix	1	31	31	31.0
multi, wheeled	1	65	65	65.0
MWC	4	29	47	37.3
none	2	35	68	51.5
PWC	1	40	40	40.0
white cane	1	68	68	68.0
Total	**135**	**15**	**80**	**49.1**

Delphi Results

Results from the Delphi have been integrated into the final recommendation section that follows. Full results from the Delphi survey will be published in a peer-reviewed journal.

ENGAGEMENT

Throughout this project we have consulted with our advisory board members (one in each province), our community partner organizations, and individual persons with disabilities in a variety of ways. Our research team has been involved with many of these individuals and organizations for several years preceding this project, and PARCOURS has allowed us to grow and nurture those relationships as well as build new ones. We have also reached out to and built relationships with new individuals and organizations during this project, and we will continue to build on and nurture those relationships in our future work.

KNOWLEDGE MOBILIZATION

We are preparing lay summaries of our research findings for our target audience of park users. This will be made available on the study website (https://parkaccessforall.ca) by the end of 2023. In addition, by the end of 2023 we will host two virtual public sessions to share our findings with the community, one in French and one in English for our study participants, community partners, and the general public to share our research findings and our recommendations for future work to make parks accessible for all.

Our scoping review and protocol were presented at international and local conferences (Labbé, et. al., 2021, Prescott et al., 2021a, Prescott et al., 2021b). The in-person and virtual interview protocols have been published (Prescott et al, 2022a, Prescott et al., 2022b). The manuscripts presenting the results of the scoping review and website analysis are currently being submitted for publication. We are beginning to write manuscripts presenting the findings of our main study activities, including the Interviews and Delphi Survey activities, for submission to a peer-reviewed journal and plan to submit this manuscript in the coming year.

FINAL RECOMENDATIONS

The final recommendations for trails and features are provided below as well as broader considerations for park design, development, and management. Recommendations for actual measures are based on the Scoping Review, participant interviews, and Delphi Panel. These recommendations are about how to combine what we learned about trails and features to inform accessible park planning more generally (e.g., activity zones of accessible trails and features, and focus on intersection of visitor priorities and core competencies/experiences the park offers).

Trip Preparation

The trip preparation phase is a considerable challenge for those with disabilities as many variables must be considered. In fact, people with disabilities may be reluctant to consider national parks as potential destinations if information isn't available that can help them plan a safe, accessible, and enjoyable trip. Park agencies can assist with this through their websites, call centres, visitor centres, and staff in parks. The following recommendations address best practices and the insights of participants and experts that were provided during the study.

- Park websites should meet web accessibility standards (WCAG 2.0), including alt tags for images.
- Contact information should be put at the top and bottom of the page.
- Accessibility information (length, width, slope and surface type of paths and the location of amenities) should be easy to find by fully integrating it into the website or by an easy to find link on the home page.
- Information about accessible transportation options to parks should be provided (including where to park or be dropped off, accessible shuttle options).
- Information about accessible washrooms and their locations is essential.
- Websites should provide simple information about the accessibility of activities and trails in the park (including downloadable maps with accessibility information).

- Maps should pinpoint places of interest and communicate animal policies such as those for service and guide dogs.
- Park accessibility should be provided through text, image, audio, and other visual representations.
- Park staff (on-site or at call centres) should have received disability awareness and accessibility orientation training (specific for each park).
- Information that park visitors rely on during the trip planning phase must match the conditions in the park.

Arrival

Transportation was a critical issue for people with disabilities to be able to reach a park. Participants had mixed opinions about how it was implemented in the parks they visited. Most parks in the study were short driving distances away from participants' homes. However, traveling to the park site still presented major challenges for those without their own vehicle or aid from friends and family. Considering most national parks are far from population centres, transportation becomes an even bigger issue. Depending on the transportation mode used, initial arrival to a national park may be by car, bus, transit, train, plane, boat, or by foot (urban parks). Park agencies need to consider both the standards for each element in the arrival experience and how arrival is integrated into the network of trails, amenities, and activities that the park has to offer. The following recommendations for standards are provided for parking, drop-off areas, and transit.

Parking
- Parking should be as close to entrances, trailheads, and major activity areas in parks as possible.
- Van parking that allows for wider and longer vehicles should be made available close to park entrances and trailheads and should have signs that are visible when snow piles up.
- Accessible parking spots should never be used to store snow, equipment, or park vehicles.

- Signs guiding people from accessible parking to park facilities should be clearly visible from the parking area.
- Pay stations, where they are provided, should be accessible to get to and use based on common measures.

Drop-off Areas
- Drop-off areas should be close (less than 60m) to park facilities and trailheads.
- Potential hazards should be mitigated in drop-off areas.

Transit Stops
- Transit stops must be well marked visually and tactilely.
- Transit stops must have a shelter that is easily accessible, free of obstacles and include a suitable bench.
- Other services like shuttles should be considered for accessing parks and they should be accessible to people with a wide variety of disabilities.

Overall, arrival should be safe and reduce the burden on access to the main features in parks. While being close to a washroom is also important, it should not be the only accessible element in the park. Signage is also very important at arrival to assist with orientation and heading. Signs and maps that indicate "You Are Here", where features are, and show an accessible path to those features (including accessible washrooms), as well as indicate any regulations that may be in force, will improve the park experience for all (see Wayfinding section for more details on signage).

Park Mobility

Park mobility includes the paths, trails, boardwalks, footbridges, etc. that allow people to reach amenities and activities in the park. Outdoor parks introduce challenges that are less likely to be found in urban spaces where challenges such as slope and surface conditions are often manageable. Universally in our study, participants believe the essence of the park and issues of sustainability should lead the way. Once these criteria are addressed, the accessibility of the park network should fit, as seamlessly as

possible, into the park environment. For example, the idea of paving trails to make them more accessible was rarely seen as the best solution as this would ruin the experience for everyone and undermine the accessibility effort. However, it was also noted that there were still many aspects of parks, especially the mobility network, that needed to be addressed.

Trails

Standards for trails were identified that have been divided into two areas: physical infrastructure and wayfinding which will be addressed in more detail in a section below. Some of the standards include:

- Limiting slope (less than 8%) and cross slope (less than 3.5%) where possible but making allowances for drainage.
- Solid, smooth, firm, and non-slippery trail surfaces with the smallest possible joints or no joints surfaces at all.
- Where hazards may exist, all efforts should be made to make trail surfaces smooth to allow travelers to remain aware of hazards.
- Maximizing widths for straight travel (at least 1500mm) and wider (at least 2000mm) to allow for larger mobility devices to turn.
- Maintenance and design practices that limit hazards (overhead, protruding, ground, drop-offs without edges).
- Less than 60m from parking to trailheads or popular activities (e.g., beach, viewpoint) where possible.
- Rest Areas on the trails and path be present at regular intervals to allow everyone to rest.
  - Rest areas should have benches and shelters that are firm, level, and stable.
  - Water and washroom facilities should be available nearby.

Boardwalks

- Surfaces should not have gaps > 6 mm that run perpendicular to the path of travel (planks should be perpendicular to the path of travel

- Surfaces should be non-slip and have edge protection and/or handrails where drop-offs are more than 680 mm

- Where scenic views are available, an unobstructed view should be provided between 800 mm and 1200 mm (but narrow enough to not permit a child to climb through

Gondolas

- Gap between platform and gondola should be level and less than 13 mm, otherwise, assistance should be provided.

- Marked designated seating should be provided.

- The interior of the gondola should allow for a 1750 mm X 1750 mm clear turning space if the entrance and exit are the same.

Stairs and Ramps

- Maximum ramp slopes of 7%, cross slope of 3%, and minimum 1000mm widths.

- Safety standards for warning texture and/or colour on ramp/staircase and colour contrast with the immediate environment.

- Flat landing spaces at the top and bottom of ramps that allow large mobility devices to turn directions.

- No more than 10 steps for any set of stairs.

- Safety standards for warning texture and/or colour on ramp/staircase and colour contrast with the immediate environment.

- Handrails should be made of materials that are non-slip and enhance gripping.

Wayfinding

Depending on the layout of a park, wayfinding can play a particularly important role in making parks safe, accessible, and enjoyable. Where parks have complex layouts and/or changing terrain, simple information about conditions is required.

Wayfinding

- Provide clear sightlines between 800 mm to 1500 mm high at clearings and vistas (include signs or maps at these locations, if possible).
- Utilize colours, shapes, and landmarks to help with orientation.
- Provide signage before and after decision points to help confirm heading.

Signs

- Signs should contrast with the environment.
- Signs should have a clear, level surface in front of them so they can be approached closely.
- Signs should be free of glare and their placement should take into consideration the impacts of sun on being noticed.
- Signs should be clear of any obstacles that may obscure them.
- Signs at entrances should contain information about the park, park hours, park regulations, and emergency contact information.
- Non-visual formats should be available for hazards.
- Non-visual guides for alerting a traveler that non-visual information is available.

Maps

- Maps should follow the design and placement standards for signs.
- Maps should have a "You Are Here" indicator that is easy to find.
- Maps should include pertinent trail information - maximum slope, obstacles and hazards, accessible washrooms, landmarks, activities.
- Alternate (non-visual) format should be available online, at park entrances, and at staging areas within the park.

Landmarks

- It is suggested to utilize landmarks, where they exist, to assist with orientation by featuring them on maps.
- Distance markers should be used for trails longer than 1 km.

Amenities

Amenities play a significant role at parks and support the enjoyment of activities. In particular, accessible washrooms are necessary considering most journeys to parks span several hours, days, or weeks. The placement of washrooms and other amenities such as benches, garbage cans, and kiosks are nearly as important as their accessibility. Common measures such as clear, level spaces (1750 mm radius), knee clearance (at least 690 mm), counter/eating surfaces (less than 720 mm high), door dimensions (at least 810 mm wide, thresholds less than 13mm, and easy to use handles), and reach heights (800 mm to 1200 mm high).

Washrooms

- Washroom dimensions should follow CSA standards with at least enough turning space inside to get in, transfer to the toilet, and get out for pit toilets.
- Washrooms should be within 60 m of entrances, accessible campsites, and popular activity sites.

Benches

- Benches should have a backrest and two armrests.
- Clear, flat, firm surfaces should be in front of and beside a bench.
- Benches should have a flat, clear space beside the bench.

Refuse

- Garbage, recycling, and animal waste bag dispensers should be available along an accessible path.
- Dispenser lids should be easy to open and between 800 mm and 1200 mm high.

Kiosks

- An accessible route to and into a kiosk should be available.
- Adequate turning space inside a kiosk should be available.
- Any accessories inside the kiosk should be within reach and easy to use.

Food and Drink

Cafés
- Paths to, in, and around should meet the standards of common measures.
- Mixed seating options (booths and chairs) should be available and meet common measure standards.

Water Fountains
- Approach, knee clearance, and controls should all meet the standards for common measures.
- Management of spaces around fountains that are situated on a natural surface should minimize puddles and mud.

Picnic Areas
- Accessible path to picnic table and through picnic area.
- Clear, level space that meets the standards of common measures.

Firepits/Grills
- Firepits/grills should be along an accessible path close to camping or picnic table.
- Firepits should have a protected ring around the edge.
- Grill surfaces should be at 800 mm to 1200 mm high.

Leisure and Recreation

The biggest attraction for most parks is the leisure and recreational activities that are available. This includes summer and winter activities that take place on land and on the water. They are reached by the trails and wayfinding already described as well as supported by amenities.

Recreation Areas

- Recreation areas should have surfaces to, in, and onto that are accessible

Beaches and Pools

- Paths to and onto beaches should be accessible.

- Paths to the water's edge should be provided where safe.

- Ramps with handrails into the water should be provided.

- Adapted equipment (such as beach chairs) should be available and signage directing someone to where they can be found should be provided.

Snowsports (Ski and Skate)

- Accessible paths should be available from parking to features.

Docks and Piers

- Dock ramps should meet ramp slope standards.

- Dock ramps should have graspable handrails.

- Docks should have no gaps > 13 mm wide.

- Docks should have colour contrasted edge protection.

- Swimming or docks used for boating should have transfer bar.

- Fishing piers should have secure places to sit.

Playgrounds

- Paths to, in, and around a play area should be accessible.

- Play areas should meet CSA standards with firm, level surfaces.

- Play structures should be accessible and offer a variety of accessible and sensorial experiences.

Amphitheatres

- Route to the amphitheatre should meet path standards.

- Clear sightlines should be provided for in designated accessible seating areas.

Lookouts and Viewpoints

- Viewpoints should have firm, clear, flat surfaces at viewpoints.
- View scopes, if provided, should be between 800 mm and 1200 mm high with at least 680 mm high knee clearance and be easy to use.

Other Consideration

Standards should be seen as just the minimum design specifications in ideal environmental conditions. Because natural environments are subject to weathering and erosion, building to minimum standards is building for failure. Each environment takes a different toll on the environment and the design and management of each park and even section of park may require more stringent standards and frequent maintenance. For example, concrete picnic table surfaces often erode from the surrounding natural surface, thus creating a dangerous drop-off.

Another consideration is the distribution and composition of features within a park. Amenities should be available throughout a park, with more offered around key activity areas. In other instances, allowances for more benches along longer trails may be necessary. In parks with many kilometres of trails and tens to hundreds of features, upgrading facilities may not be financially feasible. In those instances, strategic decisions about how to maximize the provision of safe, accessible, and enjoyable experiences will need to be made. Assessing the overall network of trails and features is necessary to identify what actions need to be taken to provide seamless experiences. Balancing the preferences of people with disabilities and the cost of upgrades should be made through collaboration between park agencies and those they serve.

LIMITATIONS

This project used multiple research methods in a variety of settings to capture a comprehensive understanding of the challenges people with disabilities face engaging in safe, accessible, and enjoyable park experiences. However, due to some challenges,

there are limitations that arose that future research should address. For example, some park "visits" needed to be completed virtually because of COVID pandemic and issues with participant health and inadequate transportation systems. The alternative protocol we developed to conduct these virtual interviews provided us with data about places some participants could not otherwise visit, but did not offer as rich experience for those participants. In particular, capturing the experiences of people with disabilities engaging in winter activities, which were rated as the least desirable potential activities in the survey, were very difficult to conduct. This may have limited our ability to identify the standards that could be provided for skiing, skating, and other winter activities. The impact of weather and travel can make these activities and the locations they occur in very inaccessible. An approach that involves overnight park visits might be required to make these activities and locations accessible to disabled participants, which would be a large expense. Improvements in immersive technologies (e.g., doing virtual visits to parks in climate-controlled facilities) could potentially address some of these concerns, but this approach would also be costly at this time. It should also be noted that the formulae we used to calculate burden has not been formally validated, which would also be an area for future research.

Overall, because we were able to have a wide variety of people with disabilities to go to parks and participate in surveys and workshops, we believe the data and results provide significant support for our recommendations for national park standards.

APPENDIX AND REFERENCES

Appendix 1   Park Assessment Maps and Feature Tables

Grouse Mountain Resort
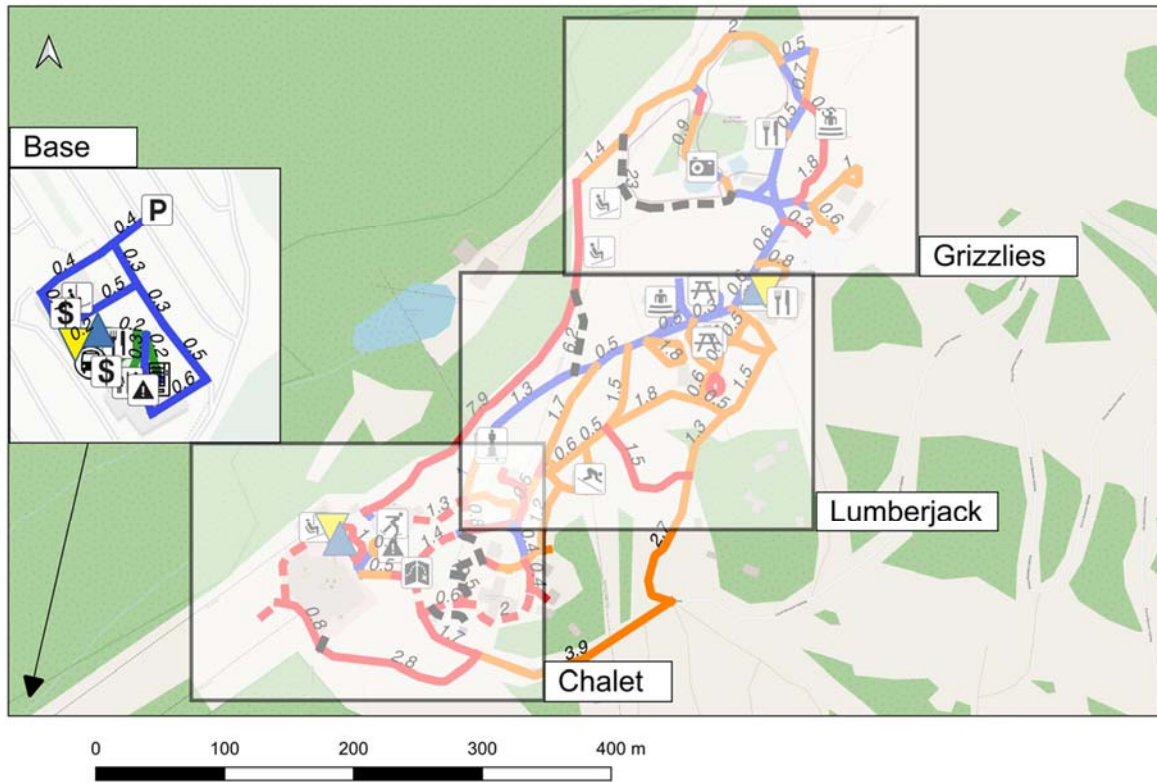
Grouse Mountain Resort Map Key

Trails
- —— easy (blue)
- —— hard (orange)
- —— very hard (red)
- - - - extremely hard (red dashed)
- ■ ■ not accessible (black dashed)

Features
- 🏛 amphitheatre
- ▲ bottom stair
- 🍴 eatery
- 🚡 gondola
- 🗺 map

- 🗿 monument
- ⚠ obstacle
- 🌲 picnic area
- ♿ seating
- ⛸ skating

- 🎿 downhill skiing
- ▽ top stair
- 📷 view
- 🚻 washroom

Grouse Mountain Resort - Base
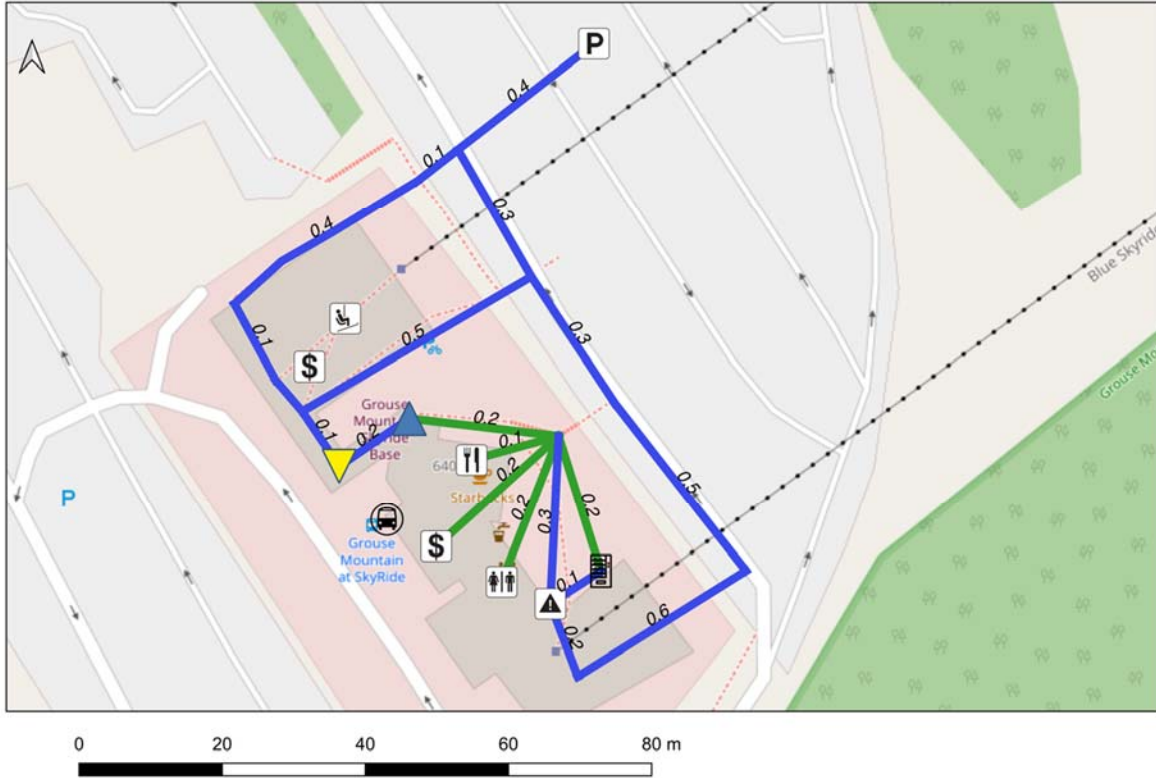
For details of all park trails and features, please see GIS folder.

Feature	Access
parking	Moderately Accessible
washroom	Accessible
gondola	Moderately Accessible
POS	Limited Access
POS	Accessible
eatery	Accessible
transit	Accessible
vending	Accessible

Grouse Mountain Resort - Chalet
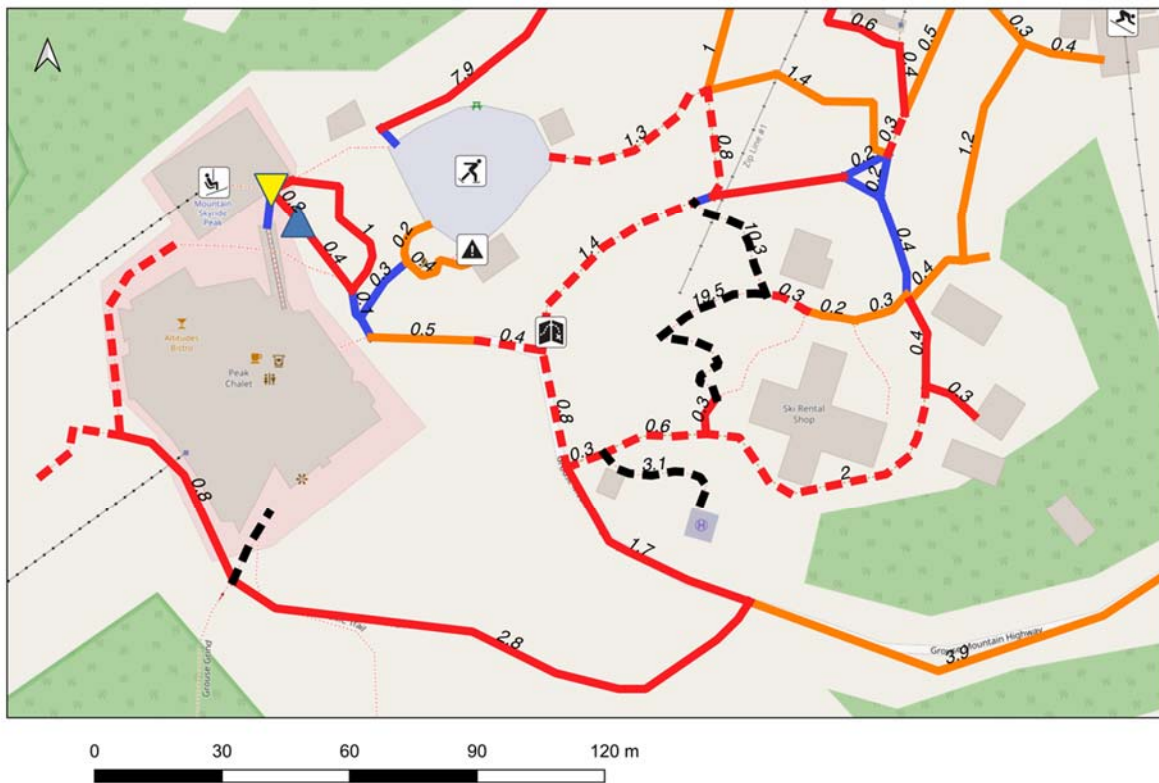
Feature	Access
ski	Accessible
skate	Limited Access
monument	Accessible
gondola	Moderately Accessible
seating	Accessible
map	Moderately Accessible

Grouse Mountain Resort - Lumberjack

Feature	Access
eatery	Limited Access
picnic	Accessible
washroom	Limited Access
picnic	Limited Access
amphitheatre	Moderately Accessible
eatery	Limited Access

Grouse Mountain Resort - Grizzlies
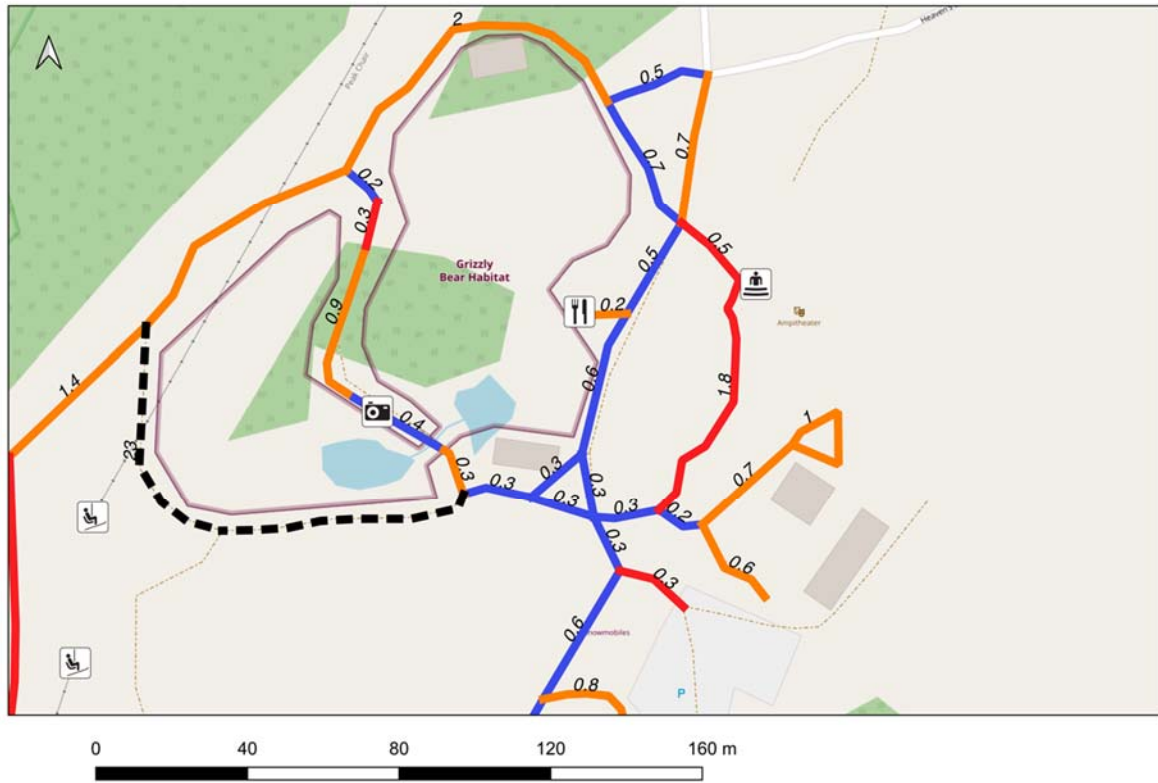
Feature	Access
view	Accessible
eatery	Limited Access
amphitheatre	Limited Access
gondola	Limited Access
gondola	Limited Access
ski	Accessible

Deas Island
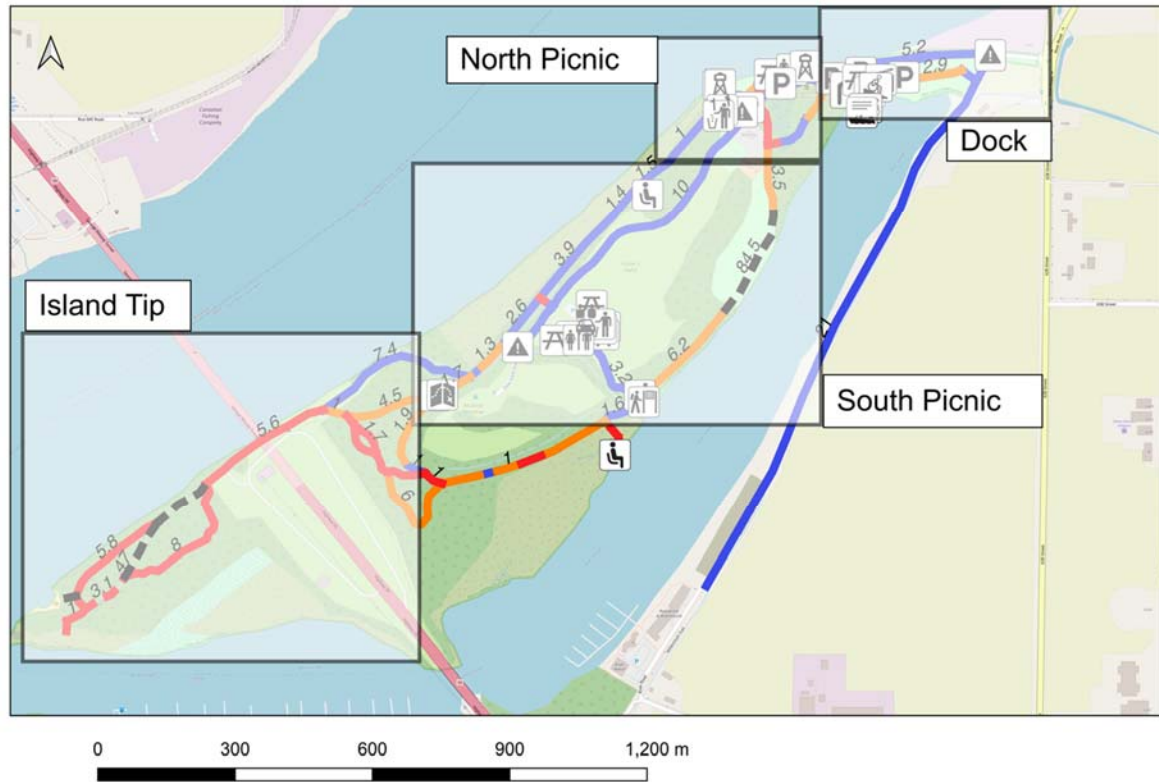
Deas Island Map Key

Trails
- ▬ very easy (green)
- ▬ easy (blue)
- ▬ hard (orange)
- ▬ very hard (red)
- ▬ ▬ extremely hard (red dashed)
- ▬ ▬ not accessible (black dashed)

Features
- bottom of ramp
- dock
- dropoff area
- grill
- hazard

- 𝒭 lookout
- map
- ⚠ obstacle
- P parking
- 🛆 picnic area

- refuse
- seating
- sign
- storage
- top of ramp

- view
- washroom
- water fountain

Deas Island - Dock
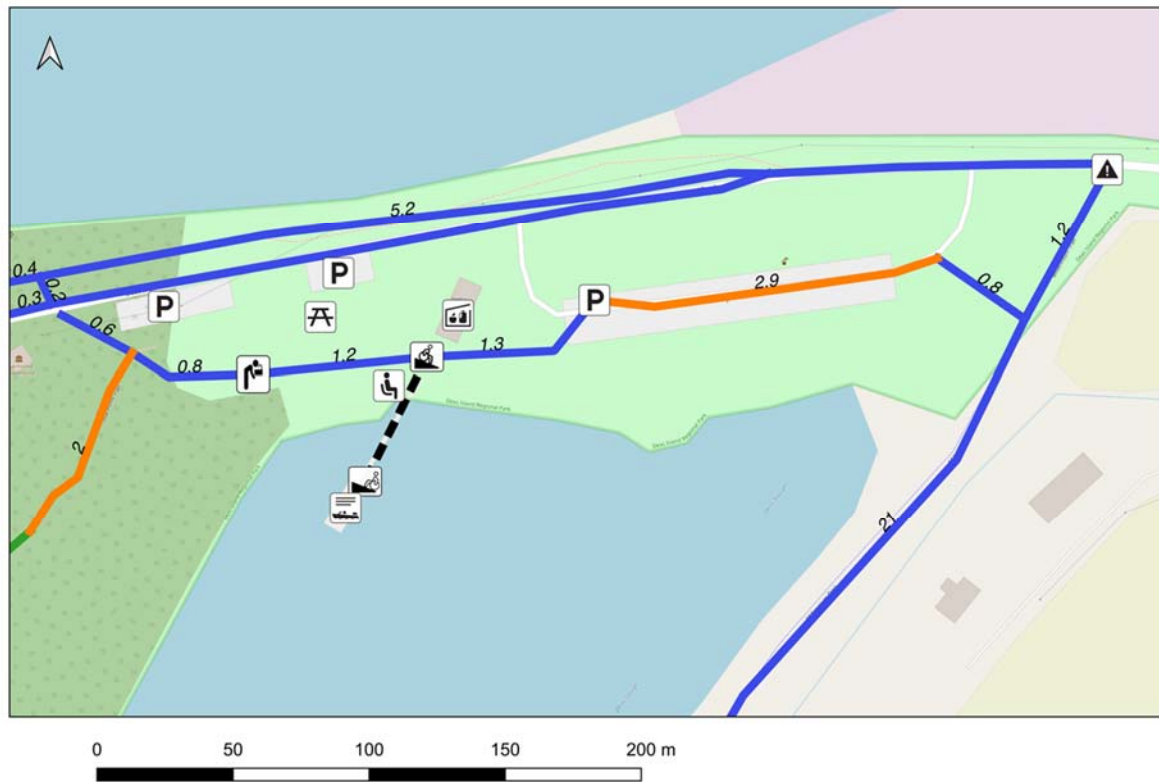
Feature	Access
parking	Moderately Accessible
parking	Accessible
parking	Accessible
water fountain	Moderately Accessible
picnic	Moderately Accessible
seating	Moderately Accessible
storage	Limited Access
ramp down	Moderately Accessible
ramp up	Limited Access
dock	Limited Access

Deas Island - North Picnic
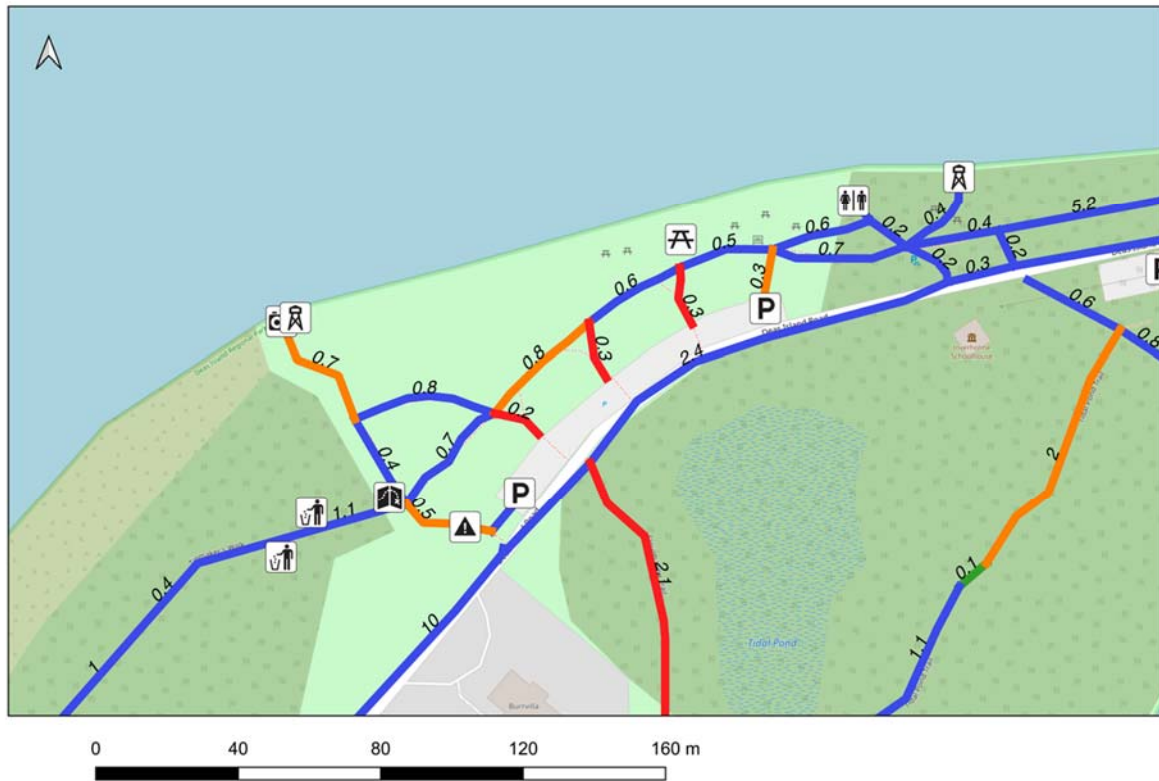
Feature	Access
picnic	Limited Access
washroom	Moderately Accessible
map	Accessible
parking	Accessible
lookout	Accessible
parking	Accessible
view	Accessible
hazard	Moderately Accessible
lookout	Limited Access
refuse	Accessible
refuse	Accessible

Deas Island - Tinmaker/South Picnic

Feature	Access
obstacle	Limited Access
washroom	Moderately Accessible
picnic	Moderately Accessible
seating	Limited Access
parking	Accessible
refuse	Accessible
picnic	Limited Access
grill	Limited Access
sign	Accessible
picnic	Limited Access
hazard	Moderately Accessible
refuse	Accessible
drop-off	Accessible

water fountain	Limited Access
obstacle	Limited Access

Deas Island - Island Tip

Feature	Access
seating	Moderately Accessible
refuse	Accessible
seating	Moderately Accessible
map	Accessible

Boundary Bay

Boundary Bay Map Key

Trails
- ▬ very easy
- ▬ easy
- ▬ hard
- ▬ very hard
- ▬ ▬ not accessible

Features

🏊 beach	🔥 fire pit	🗑 refuse
♿ bottom of ramp	⚠ hazard	🪑 seating
🚼 change area	🗼 lookout	🚻 sign
🎾 court	🗺 map	🤸 steps
🚗 dropoff area	P parking	♿ top of ramp
🍽 eatery	🧺 picnic area	🚻 washroom
	🛝 play area	⛲ water fountain

Boundary Bay - Concession

Feature	Access
eatery	Moderately Accessible
water fountain	Moderately Accessible
washroom	Moderately Accessible
change	Moderately Accessible
parking	Accessible
ramp down	Accessible
ramp up	Accessible
change	Moderately Accessible
drop-off	Accessible
hazard	Moderately Accessible
steps	Accessible

Boundary Bay - Recreation Area
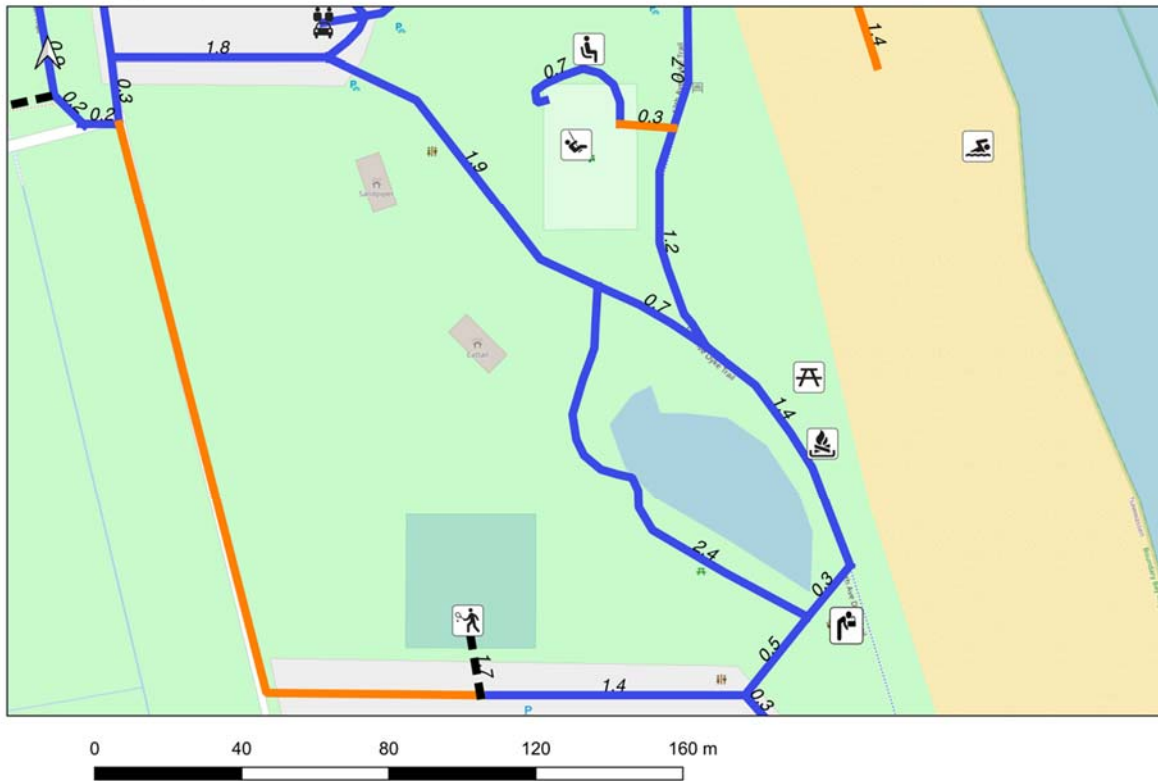
Feature	Access
court	Limited Access
play	Accessible
seating	Moderately Accessible
fire pit	Limited Access
water fountain	Accessible
picnic	Limited Access
beach	Limited Access

Boundary Bay - Raptor Trail

Feature	Access
seating	Limited Access
map	Accessible
sign	Moderately Accessible

Boundary Bay - North

| Feature	Access
refuse	Accessible
map	Accessible
lookout	Accessible
lookout	Limited Access

Stanley Park
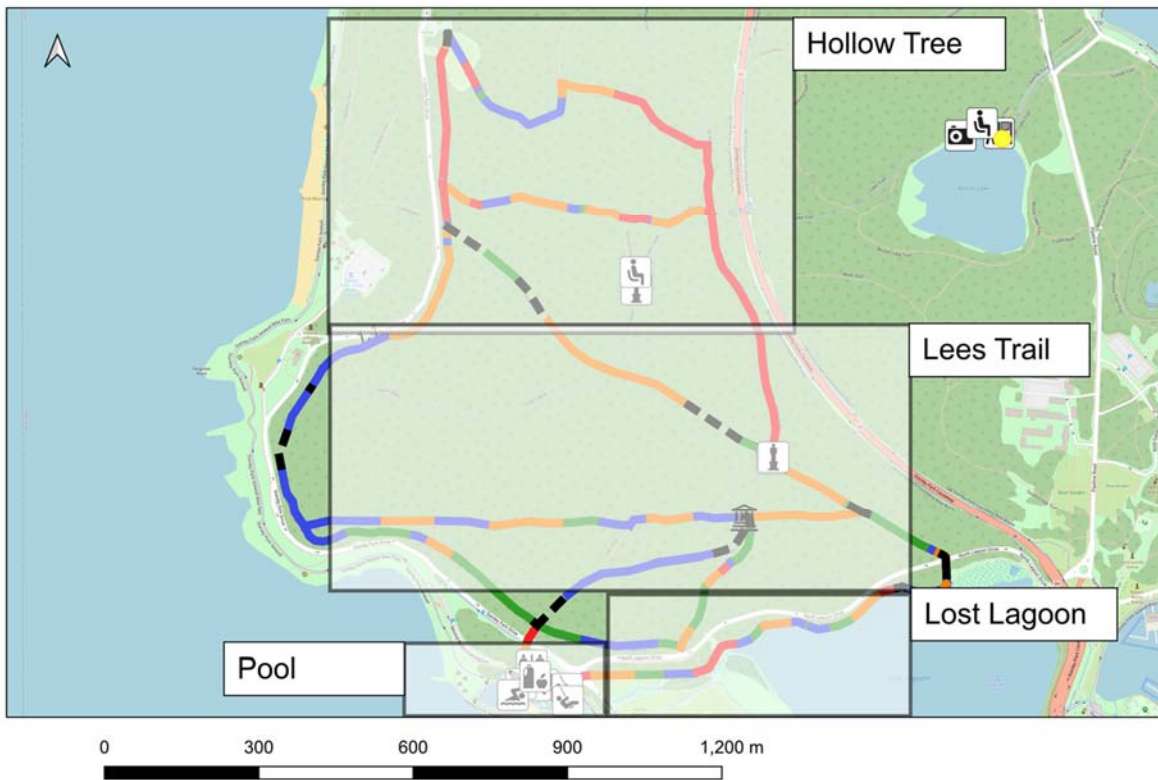
Stanley Park Map Key

Trails
- ▬ very easy
- ▬ easy
- ▬ hard
- ▬ very hard
- ▬ ▬ extremely hard
- ▬ ▬ not accessible

Features
- concession
- monument
- pavillion
- picnic area
- play area
- pool
- seating
- showers
- sign
- view
- washroom

Stanley Park - Pool

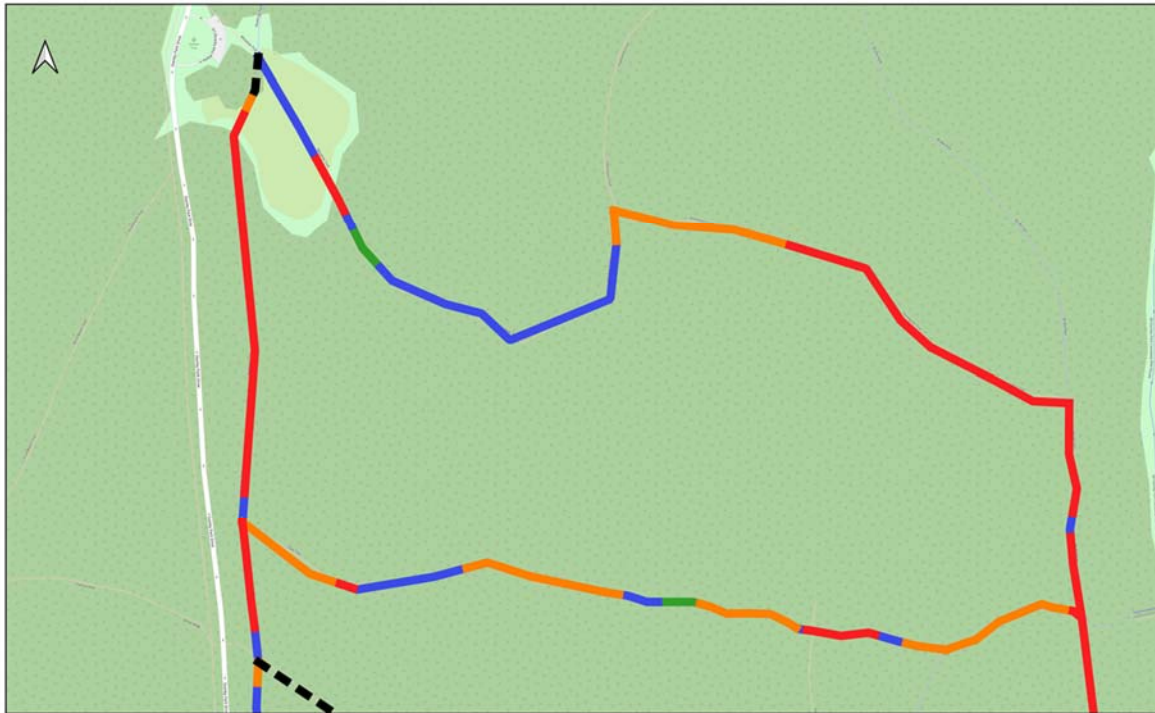| Feature	Access
Pool	Moderately accessible
Washrooms	Not available at time
Showers	Moderately accessible
Concession	Limited access
Playgrounds	Moderately accessible
Seating	Moderately accessible

Stanley Park - Lees Trail

Feature	Access
Seating	Limited access
Pavillions	Accessible

Stanley Park - Lost Lagoon

Feature	Access
Seating	Limited access
Docks	Accessible
Refuse	Moderately accessible
Signs	Moderately accessible

Stanley Park - Hollow Tree

Feature	Access
Hollow tree	Accessible
Signs	Moderately accessible
Seating	Limited access

Forêt Montmorency
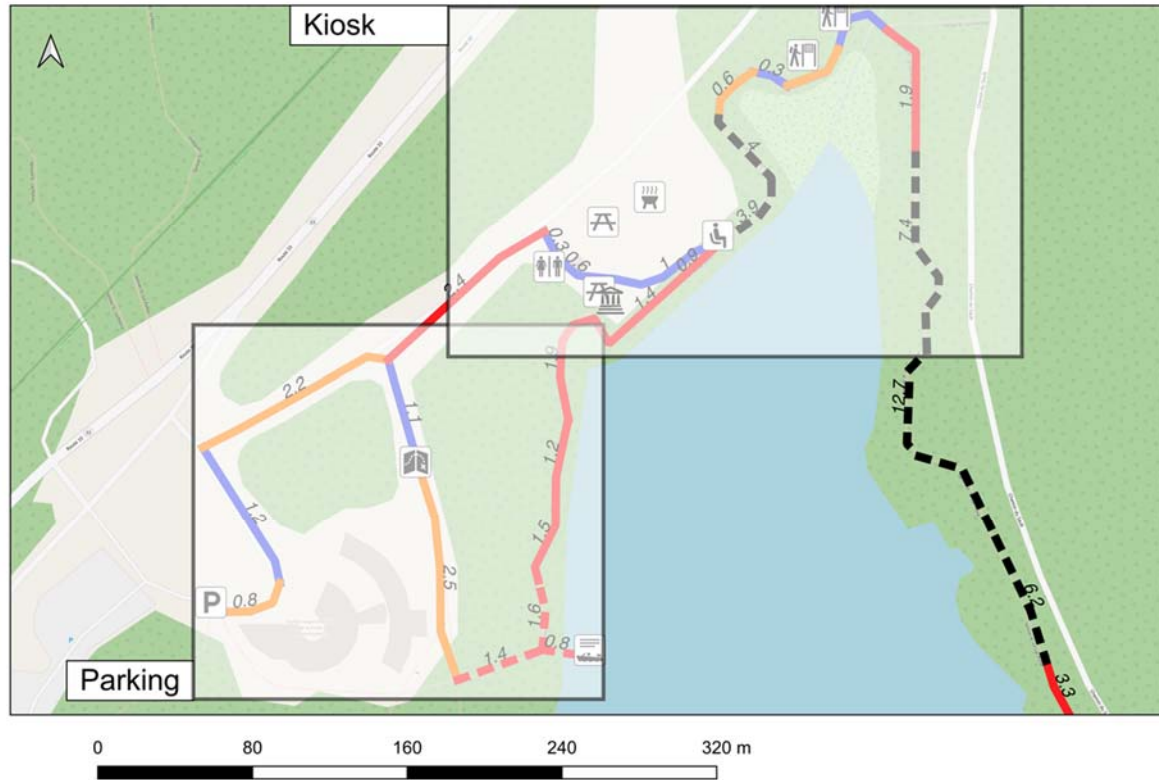
Forêt Montmorency Map Key
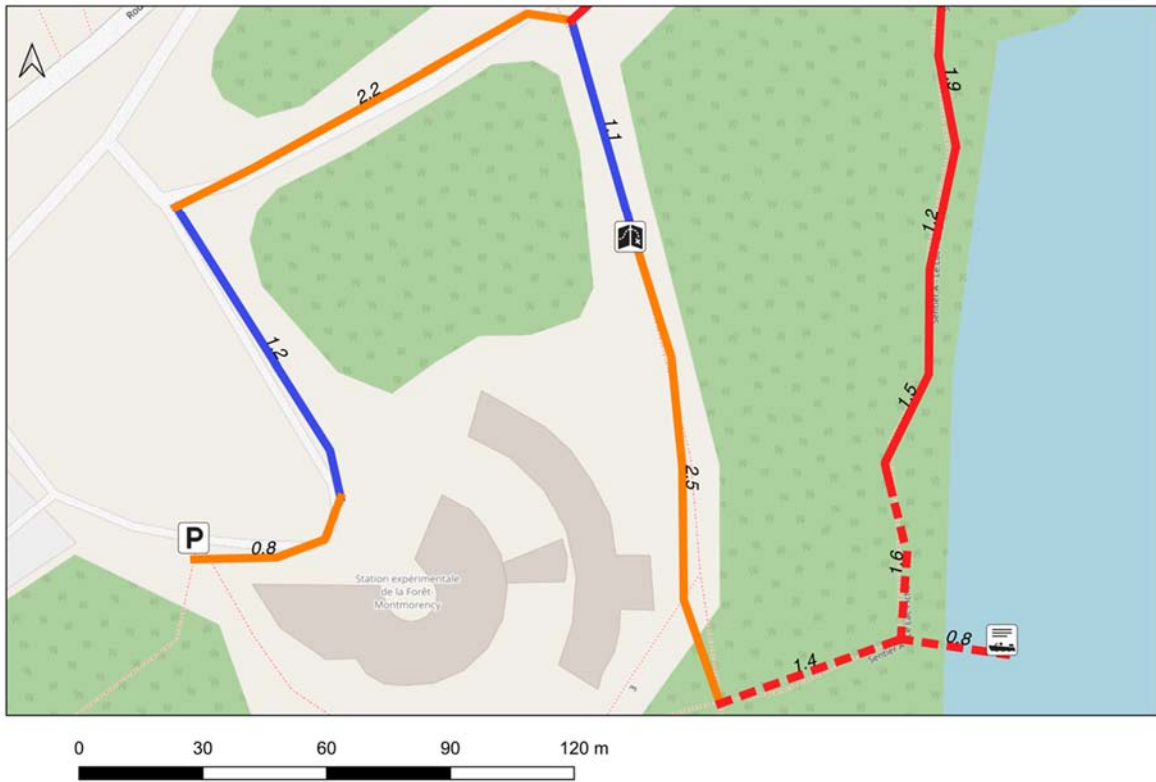
Trails
- ▬▬ easy
- ▬▬ hard
- ▬▬ very hard
- ▬ ▬ extremely hard
- ▬ ▬ not accessible

Features
- dock
- grill
- map

- P parking
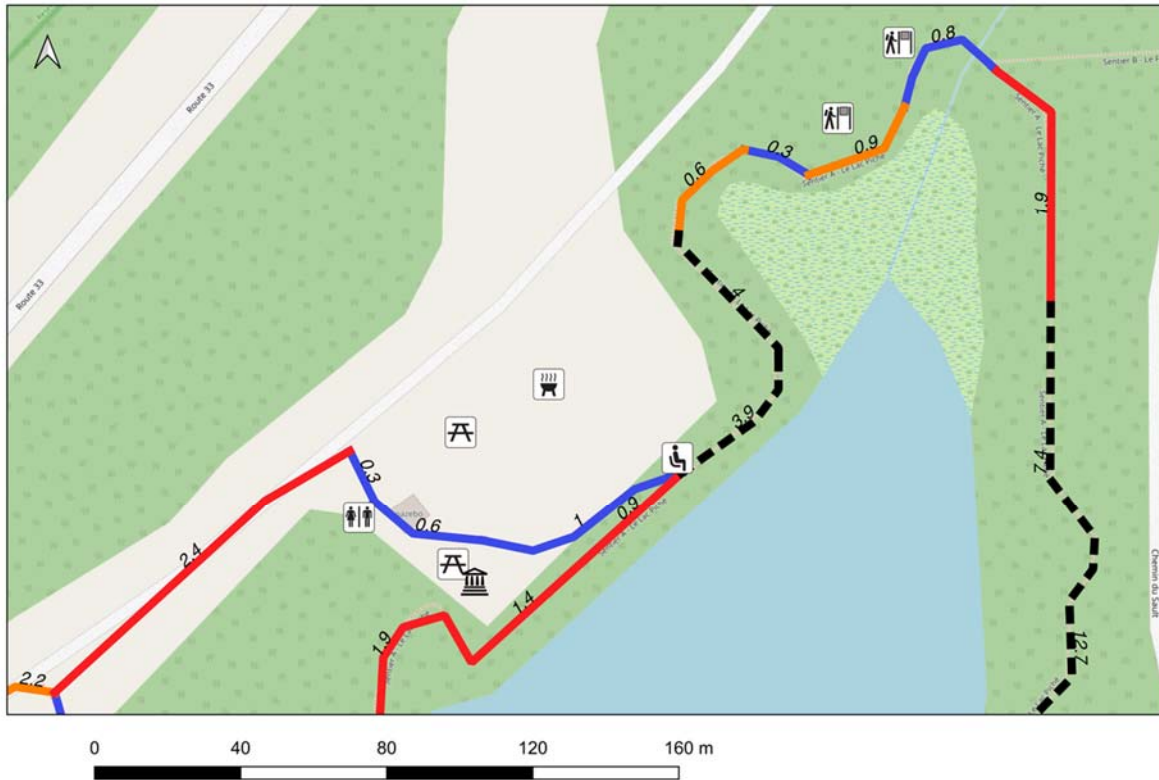- pavillion
- picnic area
- seating

- sign
- washroom

Forêt Montmorency - Parking

Feature	Access
Parking/Dropoff Area	Accessible
Sign	Moderately Accessible
Dock	Limited Access

Forêt Montmorency - Kiosk

Feature	Access
Washroom	Limited Access
Picnic	Limited Access
Pavillion	Limited Access
Seating	Moderately Accessible
Signs	Moderately Accessible

Jacques Cartier
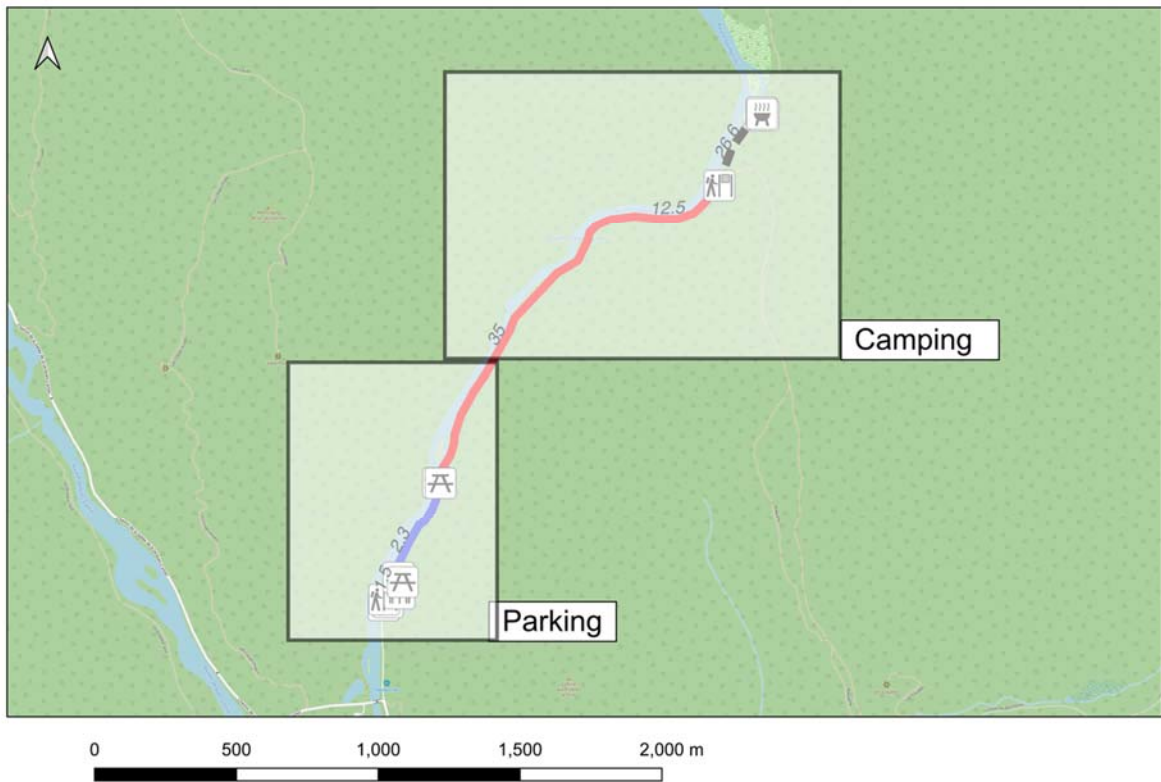
Jacques Cartier Map Key

Trails
- — very easy
- — easy
- — very hard
- ▪ ▪ not accessible

Features
- 🍖 grill
- P parking
- ⛱ picnic area

- 🗑 refuse
- 🪧 sign
- ⛺ tent site

- 🚻 washroom

Jacques Cartier - Parking
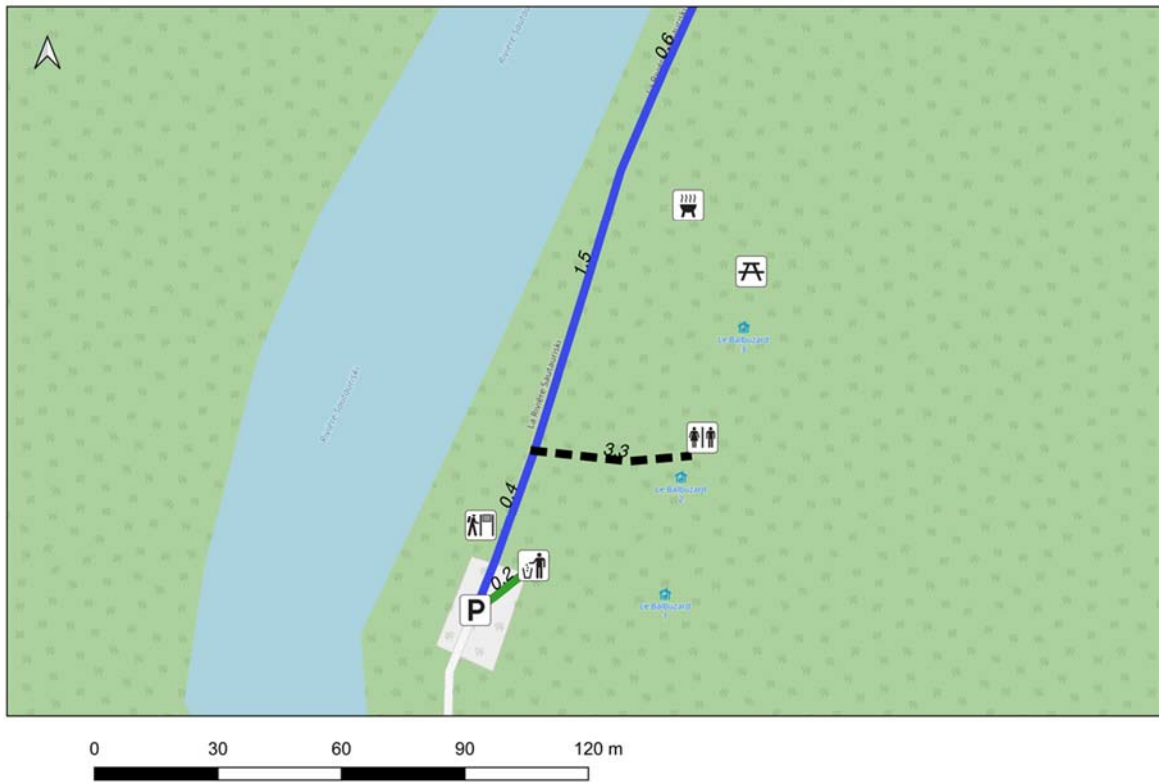
Feature	Access
Parking	Moderately Accessible
Refuse	Moderately Accessible
Sign	Limited Access
Washroom	Limited Access
Picnic Area	Limited Access
Grill	Limited Access

Jacques Cartier - Camping
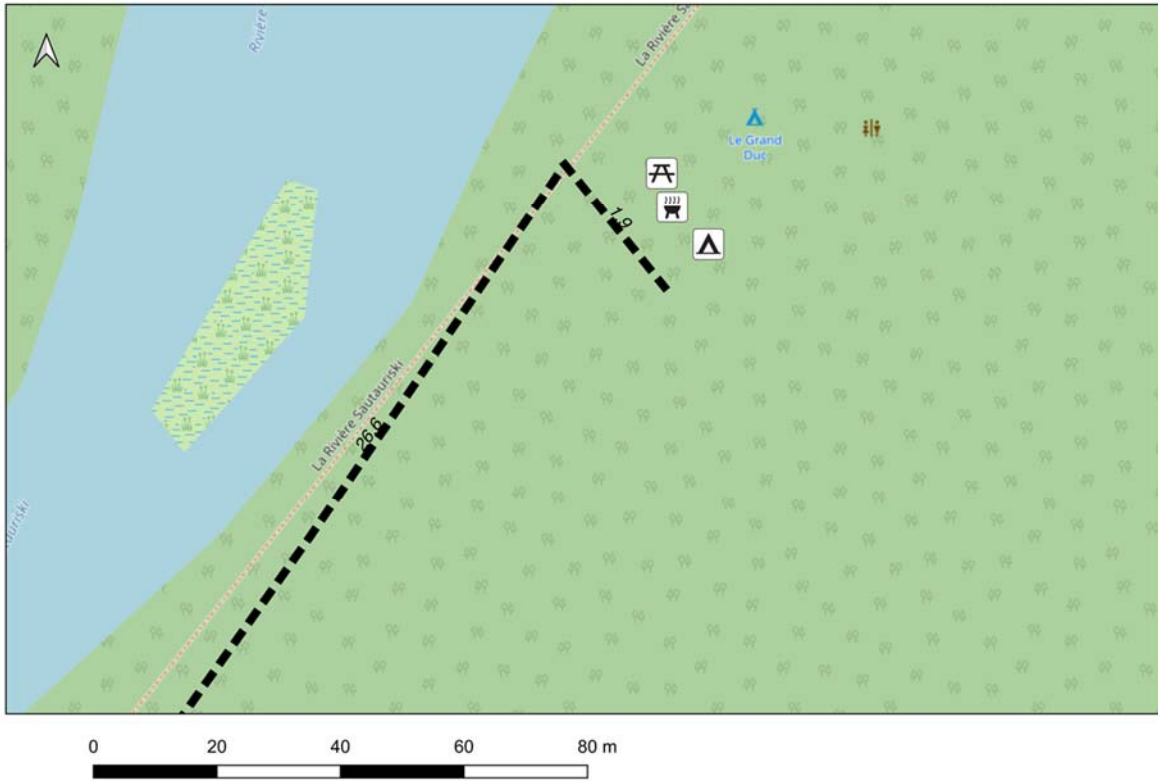
Feature	Access
Campsite	Moderately Accessible
Picnic Area	Limited Access
Grill	Limited Access
Viewpoint	Limited Access
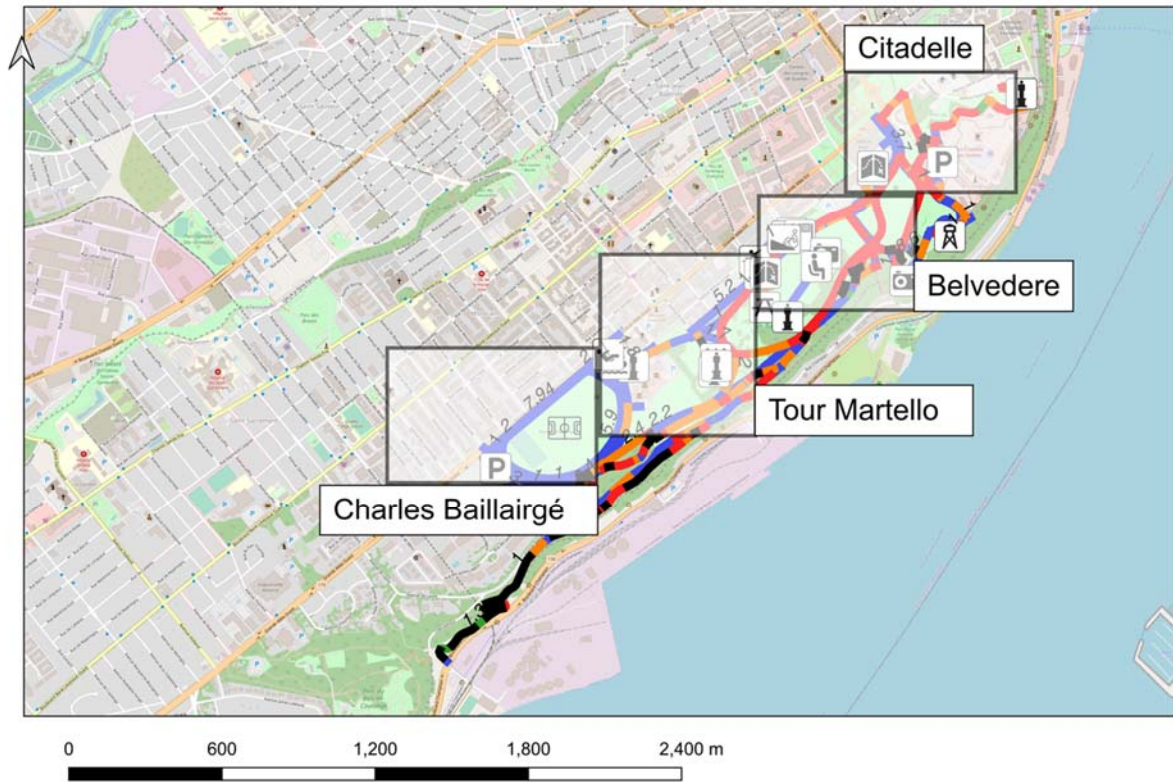
Plaines d'Abraham

Plaines d'Abraham Map Key

Trails
- ▬ very easy
- ▬ easy
- ▬ hard
- ▬ very hard
- ▬ ▬ extremely hard
- ▬ ▬ not accessible

Features
- bottom of ramp
- field
- lookout
- map

- monument
- parking
- picnic area
- play area
- pool

- refuse
- seating
- sign
- steps
- top of ramp

- view
- washroom

Plaines d'Abraham - Citadelle

Feature	Access
Parking	Accessible
Signs	Accessible
Viewpoints	Accessible

Plaines d'Abraham - Belvedere
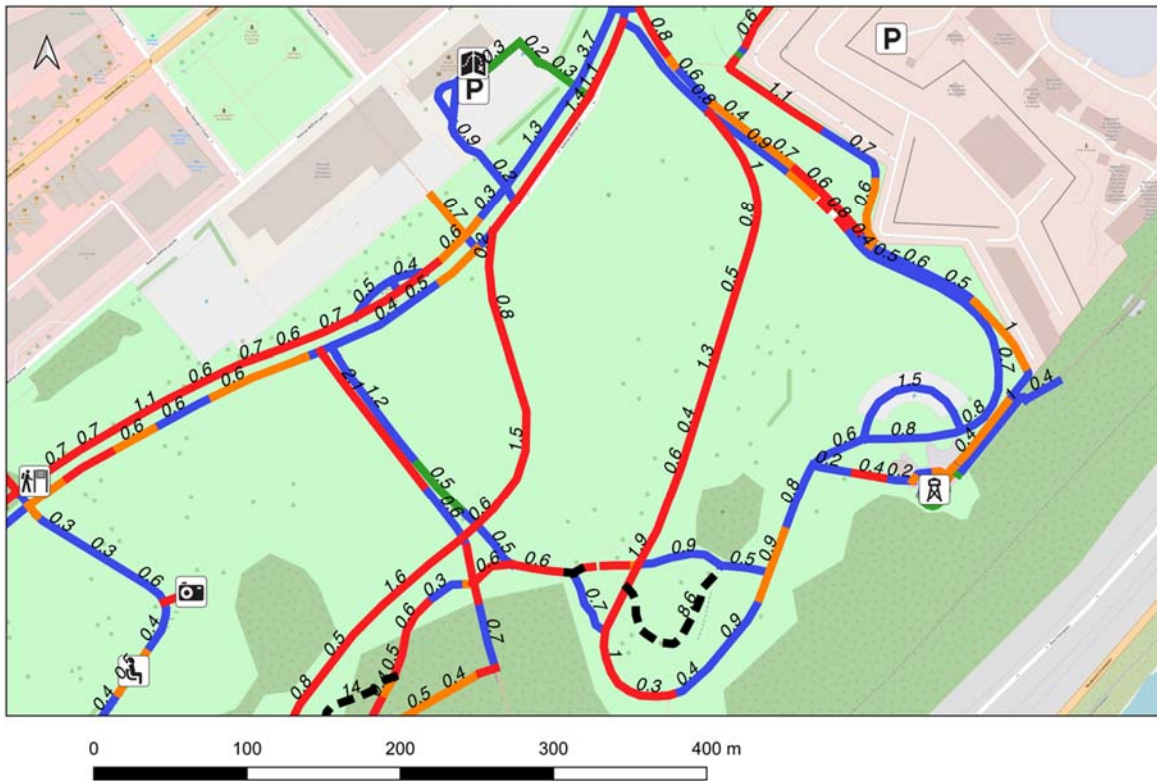
Feature	Access
Seating	Moderately Accessible
Viewpoint	Accessible
Monument	Limited Access

Plaines d'Abraham - Tour Martello

Feature	Access
Viewpoint	Accessible
Picnic Area	Not Accessible
Signs	Accessible
Map	Moderately Accessible

Plaines d'Abraham - Charles Baillairgé

Feature	Access
Washroom	Accessible
Water Fountain	Accessible
Parking	Moderately Accessible
Playground	Moderately Accessible
Viewpoint	Modeerately Accessible

La Mauricie
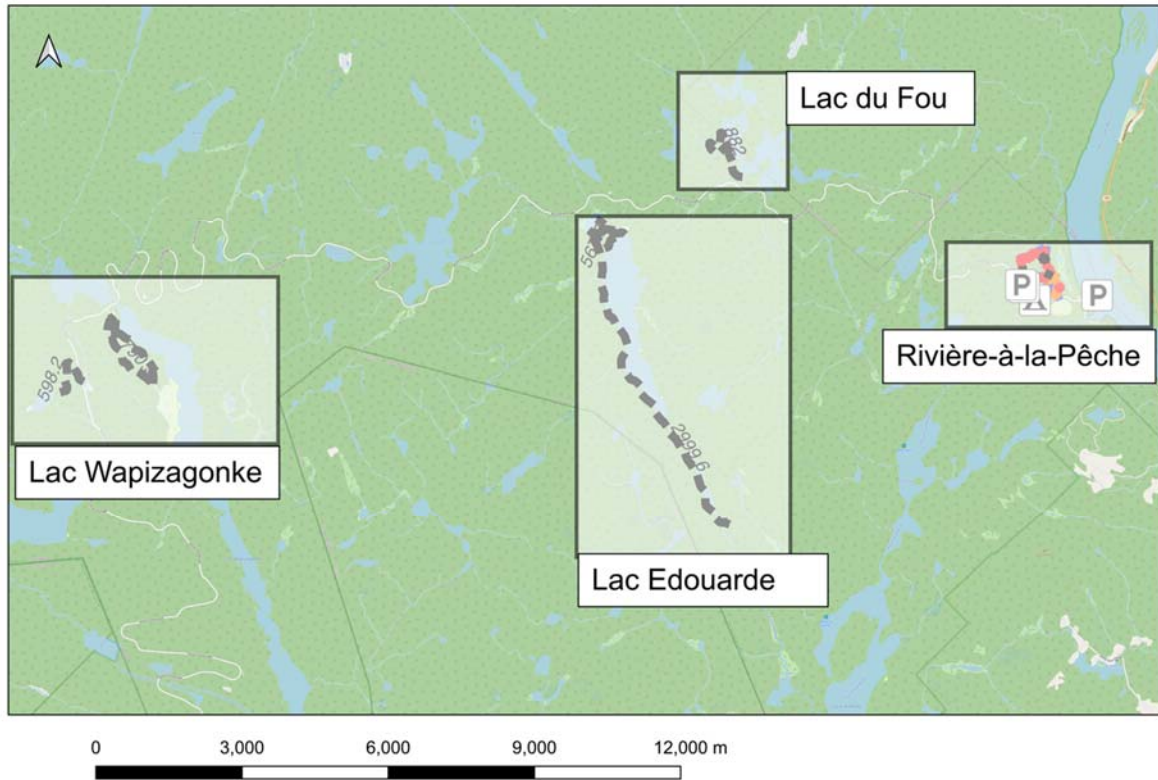
La Mauricie Map Key

Trails

—— very easy
—— easy
—— hard
—— very hard
- - extremely hard
- - not accessible

Features

P parking

⚠ tent site

Feature	Access
Parking	Moderately Accessible
Campsite	Moderately Accessible

Viewpoint	Limited Access
Kiosk	Accessible

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