

# Impacts of COVID-19 on interpretive programming in Alberta's provincial parks

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## Introduction

The novel Coronavirus (COVID-19), a Severe Acute Respiratory Syndrome Virus-2, is a global threat to human health and has resulted in economic, social, and ecological disruptions worldwide.<sup>1</sup> Emerging from Wuhan, China in December, 2019, this highly infectious virus has spread rapidly across the world.<sup>1</sup> On March 11, 2020, the World Health Organization declared COVID-19 a global pandemic, and by mid-March, 146 countries reported cases of COVID-19.<sup>2,3</sup> Zoonotic diseases (such as COVID-19) are transmitted to humans by animals and can easily become epidemics or pandemics due to our hyper-connected global societies.<sup>4</sup> All economic and industrial sectors have been affected by COVID-19, but the hospitality and tourism industries are likely to face the worst and longest-lasting consequences of the pandemic.<sup>5</sup> Global travel restrictions and stay-at-home orders enacted to mitigate the spread of COVID-19 have resulted in the most severe disruption of the global economy since World War II.<sup>3</sup> International tourism essentially stopped in March, 2020 when countries implemented international travel bans which immediately impacted national economies.<sup>3</sup> Nevertheless, parks were used during the pandemic to increase physical, mental, and social well-being of primarily domestic tourists.<sup>6</sup> Understanding staff perceptions of COVID-19 can help parks foster the benefits of park interpretation for visitors such as increased enjoyment, learning, and improved park-friendly attitudes and behaviours.<sup>7,8,9</sup>

## *Interpretation*

Park interpretation is an educational activity that “aims to reveal meanings and relationships through the use of original objects, by firsthand experiences, and by illustrative media, rather than to simply communicate factual information”.<sup>10</sup> Potential outcomes of interpretation include enriched visitors’ experiences, enhanced visitor satisfaction, strengthened public relations, and improved knowledge, attitudes, and behaviors of visitors during their visit and after they return home, all of which can benefit the ecological integrity of the natural environment.<sup>8,11</sup> Personal interpretation includes one or more interpreters providing interpretation to a visitor or group of visitors. Examples include amphitheatre programs, guided hikes, point duties, and roving. Non-personal interpretation does not require a person to deliver a message; examples include exhibits, signs, brochures, and books.

Interpretation in Alberta’s parks provides visitors with engaging and enriching experiences.<sup>12</sup> People who attend interpretive programs rate enjoyment and learning due to their park experiences higher than people who did not attend programs in Alberta Parks.<sup>13</sup> Visitors readily identify benefits related to enjoyment, learning, attitude change, and behavioural change due to attendance at interpretation programs.<sup>9,14</sup> Without interpretive programming in protected areas to serve visitors, parks face many challenges. For example, cancelled interpretive programming in Europe increased challenges with the locals and visitors, littering, illegal camping, and vandalized signs.<sup>15</sup>

## *Parks in COVID Times*

The COVID-19 pandemic has highlighted the value of parks. People benefit from being outside, breathing fresh air, and engaging in learning opportunities.<sup>16</sup> For people involved with outdoor and environmental education, the pandemic has been particularly difficult because the lockdown meant that programs had to be cancelled or modified.<sup>17</sup> The COVID-19 pandemic brought on unprecedented educational challenges for students, parents, and educators but little research has examined how the pandemic has impacted environmental education and interpretation.<sup>18,19</sup> With social distancing expected to continue well into the future, policy-makers, educators, and parents should better understand how learning outdoors can meet educational and societal goals in safe and effective ways.<sup>16</sup> Environmental education programs offered during the COVID-19 pandemic can result in community reliant and community-driven programs while still adapting to social distancing measures.<sup>18</sup>

Recent studies have shown how COVID has impacted leisure activities, with respect to attendance, perceptions of safety, workload, and target goals.<sup>17,20,21</sup> For example, during the initial period of uncertainty with COVID-19, attendance at soccer matches in Belarus declined significantly, but then slowly recovered, despite the inherent risks of infections for attendees.<sup>17</sup> Regarding safety measures to permit in-person education, Melnick and others investigated how educators re-opened their classrooms in several countries (e.g., Norway, China, Denmark, Singapore, and Taiwan) with new health and safety guidelines, including daily temperature checks upon arrival to school, daily COVID-19 screening questions, mandatory masks, frequent hand-washing, and physical distancing inside the classroom and on school buses.<sup>21</sup>

### *Alberta Parks and COVID-19*

To reduce infections of COVID-19, Alberta Parks announced on March 16 that all provincial parks would remain accessible but that all facilities, including washrooms, playgrounds, picnic shelters, and campgrounds, would close.<sup>22</sup> Alberta Parks cancelled all park interpretation programs and environmental education and reminded park visitors to visit only if they were travelling with people with whom they were living.<sup>22</sup> Alberta Parks discouraged backcountry travel such as skiing and hiking to reduce the potential need for search and rescue work, and thus to reduce the risk of exposure to viruses.<sup>22</sup>

With the impacts of physical and social distancing proving to be effective, Alberta allowed camping to begin again on June 1, but were limited to 50% occupancy and sites were only open to Albertans only.<sup>23</sup> Other campground restrictions included closures of group and luxury campsites, maximum of six people per site, only one trailer or RV for the group, only camping with your immediate household, closures of showers and other facilities, and cashless operations.<sup>23</sup> Other measures included not visiting if you are sick or were recently exposed to someone with COVID-19, visiting early in the day to avoid large afternoon crowds, wearing a cloth mask when around other people, and being prepared by bringing one's own food, water, toilet paper, and hand sanitizer.<sup>23</sup> By July 1, 2020, some parks were able to offer interpretive programs through to early September.

### *Study Purpose and Hypotheses*

This project aims to determine the impacts of COVID-19 on interpretive programming in Alberta's provincial parks, especially programs offered, attendance, staff workload, safety precautions, and interpretive goals. We hypothesized that, as a result of COVID-19 in Alberta's provincial parks in 2020, the number of interpretive programs offered would decrease, the number of people attending interpretive programs would decrease, safety precautions and

measures would increase, the workload of interpretive staff and supervisors would increase, and that the goals for interpretive programs would change.

## Methods

We initially contacted 12 visitor services supervisors and environmental education managers from all regions of the province. Following snowball sampling, we completed interviews with 13 respondents (6 from the Central Region, 2 from the Northwest, 2 from the South, 1 from the Northeast, 1 from Kananaskis, and 1 from provincial headquarters). The response rate was 100%. We conducted interviews through Google Meets (and recorded with permission), phone calls, and email. We transcribed data during the interviews directly into a Word Document, with support from watching the recordings later. We loaded email interviews directly into Word and later transferred the data to Excel. Interviews took 18-36 minutes and were completed in November, 2020.

We developed survey questions based on informal discussions with park staff, our collective knowledge of critical issues facing interpretive supervisors and frontline interpreters, and recent research on interpretation in the province.<sup>9</sup> Dr. E. Halpenny (Parks professor, University of Alberta) and C.J. Blye (PhD candidate, University of Alberta) provided advice. The interview included a variety of open-ended and close-ended questions. Demographic questions addressed age, gender, years worked in their current position, and designated park or region in the summer of 2020. We developed questions about safety measures and guidelines based on Alberta Health Services COVID-19 recommendations.<sup>24</sup> We asked additional close-ended questions to examine the hypotheses listed above:

- Which programs were offered in 2019 and not offered in 2020 (including guided hikes, amphitheatre programs, point duties, bus tours, family events, and another category)?
- How did attendance change for programs overall during the summer of 2020 due to COVID-19? (1=significant decrease, 4=no change, 7=significant increase)
- Which safety measures did you enforce for staff and visitors? (yes/no response; Table 1)
- To what extent did your workload as a supervisor increase or decrease due to COVID-19? (1=significant decrease, 4=no change, 7=significant increase);
- To what extent did your frontline interpreter's workload increase or decrease due to COVID-19? (1=significant decrease, 4=no change, 7=significant increase);
- How did your interpretive goals change in 2020 due to the COVID pandemic? We listed the goals identified by Cook and others, including enjoyment/satisfaction, knowledge gain, attitude change, behaviour change, connections to place, and positive memories.<sup>9</sup>

We used the thematic analysis approach to examine open-ended questions.<sup>25,26</sup> For each question, we highlighted different themes and identified potential categories. After a few iterations to finalize themes and categories, we counted the number of times each theme was mentioned and chose quotes to represent those themes. For closed-ended and quantitative questions, we calculated basic descriptive statistics.

## Results

Of the 13 respondents, 7 were male and 6 were female. The average age of the respondents was 44.5 years (range=32-64, SD=9.4). The mean number of years of experience in their current job was 8.7 (range=4-15, SD=3.5).

### *Programs offered*

From 12 responses, 83% offered point duties, 83% offered family events, 75% offered guided hikes, and 67% offered amphitheatre programs. Instead of bus tours, one respondent used convoy tours in which visitors would use their own vehicles. In the ‘other’ category, 58% mentioned interpretive roving and 42% mentioned non-personal interpretation,

For the same 12 respondents, cancelled programs in 2020 included several programs unique to specific parks (e.g., Avalanche Days in Kananaskis and an Excavation Hike in Dinosaur Provincial Park), environmental education programs, and special events. Specific reasons for cancelling programs included broader restrictions external to parks (5 mentions), inability to meet social distancing requirements (4 mentions), provincial budget cuts (4), broader health guidelines (3), staff anxieties (2), potential touching of props (2).

### *Program Attendance*

The mean change in program attendance was 2.4 (range=1-4, SD=1.0, n=11), indicating a moderate decrease in attendance. Among related comments provided, one respondent said that “there was good attendance where we offered programs. There was no attendance for formal education programs in May or June due to closure of schools. Overall, numbers of interpreters were also down and so were the size of gatherings. Amphitheatre shows, once started, had limited number of people allowed to attend. Overall, numbers were down, but the people who did come were very appreciative.”

### *Safety measures*

We asked about specific safety measures enforced for both staff and visitors (Table 1). For staff, the key safety measures reflected those outlined by Alberta Health Services,<sup>24</sup> especially, in declining order, cleaning and disinfecting, 2 m physical distancing, COVID screening questions, mandatory masks, and fewer staff assigned. For visitors, the key safety measures were, in declining order, 2 m physical distancing, fewer visitors allowed, booking ahead, COVID screening questions, families/cohorts only, and mandatory masks. Other safety measures indicated from an open-ended question were limited contact between other cohorts, vehicle protocols, crowd control, artifact mitigation, and sanitizing.

Table 1: Safety measures for staff and visitors for interpretive programs in Alberta’s parks.

Category	Enforced for staff	Enforced for visitors
Cleaning or disinfecting	100%	0%
Must remain 2 m apart at all times	92%	100%
COVID-19 screening questions before allowing people to work or allowing people to attend	50%	42%
Mandatory to wear a mask	25%	8%
Decrease in number of staff allowed to perform (or visitors to attend)	17%	92%
Only provides programs for families/cohorts	0%	25%
Required visitors to book a predetermined time to attend a program	0%	58%
Took temperatures before allowing staff to work or people to attend	0%	0%
Other open-ended responses:		

Limit contact between other people/groups	3 mentions	0 mentions
Vehicle protocols	3 mentions	0 mentions
Crowd control	2 mentions	4 mentions
Artifact mitigation	0 mentions	5 mentions

Regarding perceptions about the safety of interpretive programs during COVID-19, respondents (n=11) felt most safe with outdoor programs, such as outdoor theatre (could maintain space by keeping staff on stage and visitors in designated seating), roving (small groups, distancing, no props), and point duties (small groups, physical distancing, no touching props) (Table 2). In contrast, respondents felt least safe with guided hikes (unpredictability of children, some crowding, little mask wearing), indoor programs (difficult to maintain COVID protocols), and interpretive roves (interacting with every camper, no longer the leader in the interaction).

Table 2: Perceptions of respondents about programs that are least and most safe for staff.

Category	Most Safe (times mentioned)	Least Safe (times mentioned)
Amphitheatre Program	3	1
No particular program	3	2
Interpretive Roves	2	2
Point Duties	2	1
Non-personal programming	1	0
Guided Hikes	1	2
Indoor Programming	0	2

*Staff workloads*

Out of 12 supervisor responses to the workload question, the mean was 6.0 (range=2-7, SD=1.4), indicating a major increase in workload. Respondents indicated that their workload increased in 22 unique ways that we divided into 6 categories. Seven responses related to program modification (e.g., re-writing programs, redrafting program procedures), 4 to taking on new roles, 4 to increased communication (either between staff and/or visitors), 3 to establishing safety protocols, 2 to increased visitation to Alberta’s provincial parks, and 2 to safety training.

After asking the supervisors how their workload changed, we then asked them about workload changes for front-line interpreters. The mean response was 5.4 (range=3-7, SD=1.2). Regarding the ways that workload changed, we received 19 responses which we placed in 4 categories. Ten responses related to program modification to abide by COVID-19 safety regulations (e.g., developing non-personal programs, alternative and safe in-person programming, and do-it-yourself family programs), 3 to cleaning or disinfecting, 3 to crowd control, and 3 to training for different roles within their job.

*Interpretive Goals*

We asked interpretive supervisors how interpretive goals changed due to the COVID-19 pandemic (Table 3). First, the desire for behavioural change increased the most. One respondent said that there was “more of a focus on behavioural change in the park to abide by COVID guidelines instead of nature-focused behavioural changes. Positive memories are important to us, but behavioural change was more dominant this year.” Another respondent said that “behavioural change is the only goal that might have been different compared to other previous years because of behaviours necessary to keep staff and visitors safe during the pandemic.”

Second, the desire for enjoyment increased modestly. One respondent said that “enjoyment went higher up on the scale because the programs allowed people to get outside”. However, one respondent indicated that the enjoyment/satisfaction goal had decreased because “interpreters could not do as much as they used to (environmental education school programs) and some people were turned away from programs due to COVID-19 crowd control.” Last, the goal for connections to place increased modestly. A respondent indicated that connections to place increased because “people used parks to get away from COVID and first-time visitors were able to build a connection to a natural space.”

Table 3. Changes in interpretive goals during the COVID-19 pandemic.

Goal	Increased	Decreased	Stayed the Same
Enjoyment/Satisfaction	2	1	3
Knowledge Gain	1		
Attitude Change	1		
Behavioural Change	5		
Connections to place	2	1	
Positive Memories	1	1	

### *Interpretation into the Future*

Respondents also reflected on the future of interpretive programs and safety precautions with COVID-19. When asked what new safety measures would you put in place for 2021 and beyond, 13 respondents provided 20 unique responses. The most common theme (7 mentions) for this question was making masks mandatory. One respondent said “we will make masks mandatory because we were outside and physical distancing was possible, but next year we will make masks mandatory regardless.” Looking into indoor programming was mentioned 4 times and one respondent said “We had broad guidelines that did not permit indoor programming or bus tours. We are looking at safe procedures to include programs for indoor audiences, these have been modified just recently. It will be up to the school to decide if they will come to our site for programs.” Other themes included waiting for more information (3 mentions), offering different programs (2), being stricter with symptoms and Alberta Government guidelines (2), and keeping the same restrictions and guidelines in place (2).

## **Discussion**

### *Programs Offered*

Our hypothesis that there would be a change in programs offered during COVID-19 is supported. There was a shift from personal interpretation towards non-personal interpretation. However, other external factors affected program offerings, especially cuts to the budgets of the provincial parks agency prior to COVID-19. In Europe, COVID-19 forced the cancellation of educational activities (e.g., guided tours and festivals) and limits to the number of people allowed to attend such activities organized in the parks.<sup>15</sup> Moreover, some Alberta parks offered online programming as a substitute.<sup>7</sup>

### *Program Attendance*

The hypothesis that attendance would decrease as a result of COVID-19 was supported. As Quay and others noted, many environmental education programs have been cancelled because of COVID-19, which would decrease attendance. In other research on recreational

activities during COVID, stadium attendance demand for the Belarus football team originally declined but demand slowly increased even though individuals were at risk while attending a match.<sup>17,20</sup> In order to accommodate the limit of people allowed to attend programs, McGinlay and others recommend that protected areas increase online learning or be stricter on the number of people who are allowed to attend guided tours.<sup>15</sup>

### *Safety Measures*

Our hypothesis that the number of safety measures implemented (for both staff and visitors) would increase was supported. The most common safety measure enforced for staff was cleaning and disinfecting, whereas the most common safety measure enforced for visitors was 2 m physical distancing. Respondents indicated that mandatory masks for future interpretive programs would be desirable. Similarly, in European protected areas, social distancing was a challenge; changes were needed to accommodate how to enforce social distancing with activities such as guided tours.<sup>15</sup>

### *Staff Workloads*

The respondents indicated that the workloads of front-line interpreters as well as visitor services supervisors and environmental education coordinators increased, thus supporting our hypothesis. The key reason for this increase was the work associated with modifying programs. One respondent from the survey said “the interpreters were spending more time indoors creating new programs that would not involve having a staff present” and another survey respondent indicated that their added workload was a result of program modification because “I had to wrap my head around what we could do instead of what we could not do. Once that happened, we had to come up with a game plan to make sure none of my staff were put in an unsafe situation.”

### *Interpretive Goals*

Our hypothesis that there was a shift in the interpretive goals in Alberta Parks is supported. Park managers use interpretation to achieve a variety of outcomes for park visitors.<sup>9</sup> The biggest change was an increase in the emphasis on behavioural changes of park visitors. The challenge is that enjoyment and perceived learning are more easily achieved as outcomes of park interpretation than attitude change or behaviour change in Alberta’s Parks.<sup>9</sup> The focus on behavioural change in our study was driven primarily by the need to ensure visitor safety through specific safety measures. One respondent indicated that enjoyment, connections to place, and positive memories decreased because “the interpreters could not interact with the visitors as much during programs and sometimes people had to be turned away from programs in order to accommodate social distancing measures”.

### *Limitations and Future Research*

This study had a few limitations. First, respondents had variable job titles and duties, so they experienced pandemic issues in different ways. Second, the small sample size, while representative of the interpretive supervisors in the province, limited our ability to conduct statistical tests of association with other variables. Third, the limited literature on the impacts of COVID-19 impacts on interpretive programs made it difficult to compare our results with other studies. Last, external factors affected interpretive operations in 2020. In particular, a significant budget cut to Alberta Parks and proposed closures or new partnerships for some provincial protected areas caused a reduction in interpretation as well.<sup>27</sup>

For future research, we recommend interviewing front-line interpreters for new insights on changes to interpretation. Moreover, interviewing attendees of interpretive programs would provide another important perspective, including an assessment of demand, safety perceptions, and outcomes related to interpretive programs. A more definitive comparison of attendance between 2020 and previous years would be helpful. For example, researchers should examine if the decline in interpretation attendance is partly responsible for the increase in problematic behaviours in protected areas.<sup>15</sup> As well, are the COVID safety concerns able to explain the decline in interpretation attendance, despite an overall increase in park visitation.<sup>15</sup>

## **Conclusion**

This study is important for park managers, front-line interpreters, interpreter supervisors, and other park staff alike because it examined how park staff made interpretive programming work during the COVID-19 pandemic. The study provides ideas for how other parks can operate within the constraints of safety, workload, and interpretive goals while still allowing park tourism work for conservation.<sup>28</sup> The current pandemic has brought new difficulties for park operations, but there are new opportunities to manage visitor behaviour, protect landscapes, and evaluate visitor interactions.<sup>29</sup> This study is valuable because it describes how park staff perceived safety measures for staff and visitors. Although the pandemic was unexpected, an understanding of impacts on interpretive programs helps keep staff and visitors safe while still providing important educational programs.

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