

COVID-19 and its impact on visitation and management at US national parks

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Abstract

Purpose – National Park Service (NPS) units generate a significant economic impact for states and local gateway communities across the USA. Utah is home to 13 NPS units with visitation accounting for 18% of the state's US\$9.75bn tourism economy in 2018. Twelve NPS units, including five national parks, are located in Southern Utah, driving an economy that is heavily dependent on tourism. This paper examines the challenges and opportunities for visits to national parks post-COVID-19, generally and in the specific context of Southern Utah. Although the assumption is that visits to national parks will recover quickly, this paper will critically examine how visitation may change and what adaptive measures and alternative forms of unit management may be necessary.

Design/methodology/approach – By adopting a holistic-inductive paradigm, this paper utilizes a descriptive case study approach. Data were collected across a variety of mediums focusing on interviews with key stakeholders in and around Southern Utah.

Findings – The results from this study highlight the various challenges faced in parks and gateway communities vis-à-vis changing patterns of visitation, adaptive measures and alternative forms of unit management necessary due to COVID-19 and their impact on the future management and marketing of national parks for touristic purposes.

Originality/value – This paper examines the impacts of COVID-19 on an often-neglected yet significant area within tourism, yielding implications for industry, visitors and destination communities.

Keywords Nature tourism, National parks, Crises and disasters, Visitor management, COVID-19

Paper type Research paper

1. Background

1.1 *The National Park Service and its economic impact*

The National Park Service (NPS) was created in 1916 with the directive to “promote and regulate the use of Federal areas known as national parks, monuments and reservations . . . which purpose is to conserve the scenery and the natural and historic objects and the wildlife therein and to provide for the enjoyment of the same in such manner and by such means as will leave them unimpaired for the enjoyment of future generations” (Dilsaver, 1994, n.p.).

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While preservation was the original driver for the NPS, NPS units across the USA generate significant economic impact for states and local gateway communities.

In 2018, the NPS recorded 318 million visits across the park system in the USA. It was estimated that US\$20.2bn in visitor spending for 2018 supported approximately 329,000 jobs – 268,000 within gateway communities – US\$13.6bn in labor income, US\$23.4bn in value added and US\$40.1bn in economic output to the national economy (Hubbart, 2020; Thomas *et al.*, 2019). As such, it can be surmised that any disruption to park visitation results in an economic loss for the gateway communities as well as for the parks themselves. This loss can be illustrated with the government shutdowns of 2013 and 2018–2019. The 16-day government shutdown in October 2013, for example, resulted in losses of 7.88 million visits and US\$414m in NPS visitor spending in gateway communities. Gateway communities within the proximity of 45 parks experienced an estimated loss of more than US\$2m in NPS-related spending for October 2013 alone, and five states experienced a US\$20m decline in NPS spending for the same time frame (Koontz and Meldrum, 2014). The partial government shutdown of 2018–2019 led to an estimated loss of US\$10m–US\$11m in fees across NPS units (Nguyen, 2019). It is, thus, evident that natural attractions are not immune from the general vulnerabilities of the wider tourism system, with the negative impacts from natural and manmade crises necessitating in-depth understanding and appropriate management responses (Douce and Garder, 2019).

1.2 COVID-19 and tourism impacts

Although the full, longer-term impacts of the COVID-19 pandemic have yet to be determined, the impacts recorded to date are unprecedented across all sectors of the tourism industry. Since its emergence at the end of 2019, COVID-19 has caused the largest-ever decrease in tourist numbers globally with the impact felt across all sectors of the global tourism industry (Gössling *et al.*, 2020; UNWTO, 2020). Economic impacts were initially expected to be in the range US\$910bn and US\$1.2tn with job losses of between 100 and 120 million globally (UNWTO, 2020). However, in light of the continuing damage caused to the global economy, the impact on tourism is likely to continue for some time yet.

1.3 Southern Utah and National Park Service visitation

Utah is home to 13 NPS units, including five national parks. Visitation to NPS units accounted for 18% of the state's US\$9.75bn tourism economy in 2018. Twelve of the NPS units, including all five national parks, marketed by the Utah Office of Tourism as “the Mighty Five” (VisitUtah, n.d.), are located in Southern Utah, driving an economy that is heavily dependent on tourism stemming from national park recreation (Figure 1).

Launched in the spring of 2013, the Mighty Five advertising campaign was designed to promote Utah's national parks and inspire potential visitors to have a “bucket list life experience” (Utah Governor's Office of Economic Development, 2020). The effort has been successful, attracting on average an additional half-million visitors per year to Utah's national parks (Maffly, 2019). While a variety of factors have contributed to increasing visitation to national parks, in Utah and nationally, Utah State University researchers found that the Mighty Five advertising expanded visitation growth exponentially for Arches, Canyonlands and Capitol Reef National Parks (Drugova *et al.*, 2020). From 2010 to 2019, visitation to Utah's “Mighty Five” national parks increased nearly 70% overall (59.47% at Arches, 100.22% at Bryce Canyon, 54.93% at Canyonlands, 83.38% at Capitol Reef and 58.85% at Zion) (Department of the Interior, 2020). Each park experienced the greatest relative yearly increases in visitation between 2014 and 2016.

The COVID-19 pandemic is the most recent wide-scale event to disrupt park visitation and tourism. However, rather than recording an immediate drop in visitation, as was experienced

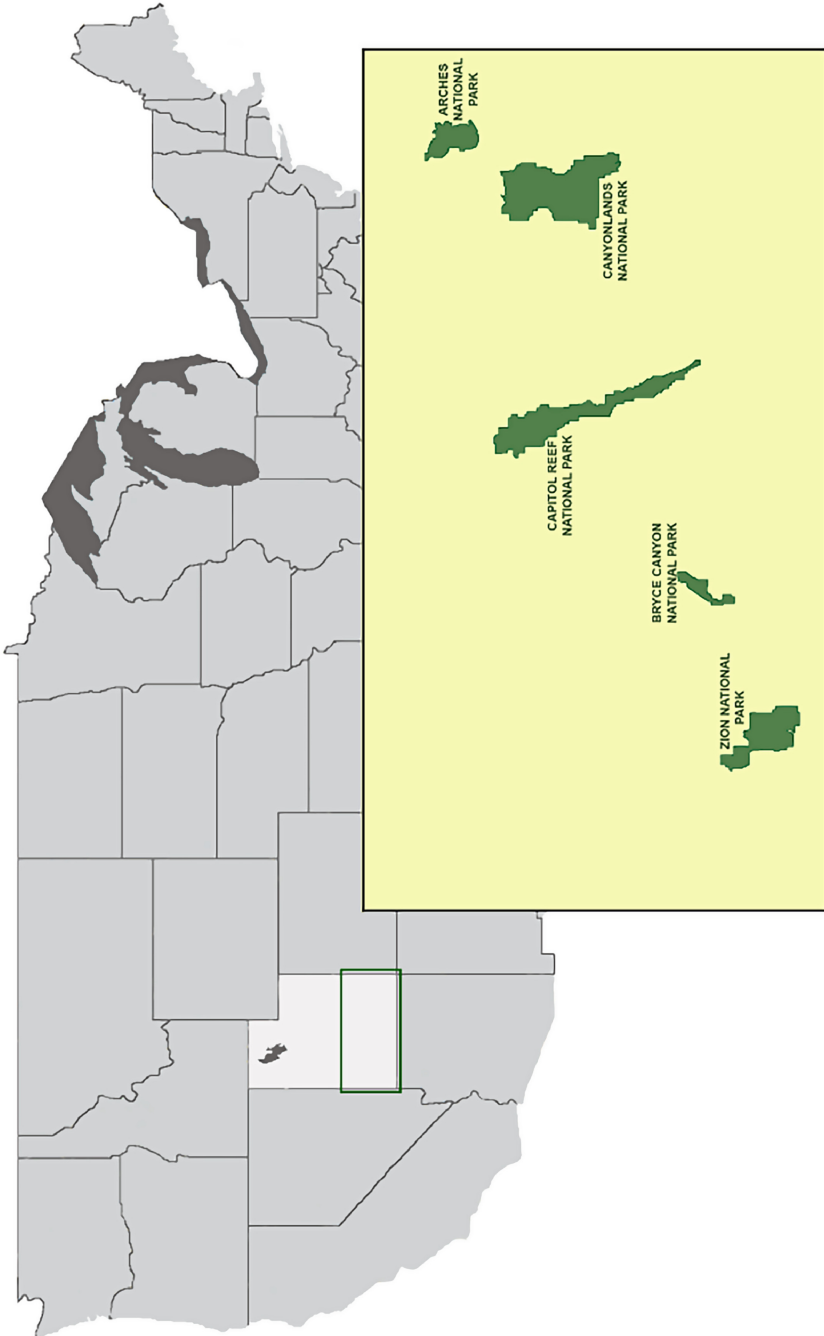


Figure 1.
The Mighty Five

elsewhere across the USA, visitors flocked to the national parks as a means to “safely” “social distance” in the outdoors (Peery, 2020; Kutz, 2020). The resulting crowds caused concern among locals regarding tourists spreading the virus and rural gateway communities’ limited service and health-care capacities. As a result, by March 28, 2020, the first of Utah’s “Mighty Five” national parks closed with the remaining parks following suit thereafter. These closures came at the time of the season when local hotel occupancy is generally around 80–90%.

The purpose of this paper is thus threefold, to: (1) examine the challenges and opportunities for visits to national parks post-COVID-19, generally and in the specific context of Southern Utah and its gateway communities; (2) identify those adaptive measures and alternative forms of unit management necessary to accommodate visitation during the pandemic; and (3) outline how the future management and marketing of NPS units for purposes of tourism are to change post-pandemic.

2. Literature review

National parks and the national park system represent iconic attractions in the USA and contribute greatly to the success of tourism in many parts of the country. Visitor numbers exceeded 318.2 million in 2018, with their appeal spanning many markets, most notably drive tourism markets (Louter, 2006; White *et al.*, 2011; Youngs *et al.*, 2008). The founding directors of the NPS felt strongly that roads within the parks added to the visitors’ experience through the creation of “an event, a picturesque story told through the automobile windshield” (White *et al.*, 2011, p. 39) and could help to preserve the overall naturalness of the local areas.

One of the challenges for tourism generally, and most notably in the context of the natural environment, is the sustainable management of resources. For example, Monz *et al.* (2014) highlight that human activities can disturb the biological and physical ecosystem, resulting in ecological changes within the parks and other protected areas that affect soil, vegetation, wildlife, air and soundscape quality. An emerging impact within the parks is that of anthropogenic noise, i.e. noises caused by humans and their activities (Barber *et al.*, 2010). These disturbances, often combined with additional stressors, can ultimately lead to changes in the ecosystem, which compromises the priority of parks and protected areas: preserving nature.

Godfrey (1996) identifies sustainable tourism as an asset management that safeguards the maintenance of the resources, from broad cultural, physical and environmental perspectives, yet provides economic viability at the same time. While closely connected with socio-economic development, sustainability should not be considered a standalone activity, rather a guiding principle to which all tourism should aspire (Godfrey, 1996; Lozano-Oyola *et al.*, 2012).

Protection of the tourism environment more broadly gained research attention in recent years due to the phenomenon of “overtourism” whereby the carrying capacity of destinations has been far exceeded to the detriment of the tourist environment and visitor experience (Dodds and Butler, 2019). It is somewhat ironic that while the academic and professional communities have been coming to terms with the sustainable management of tourism, overtourism very quickly became the primary challenge for destinations: that is until the recent arrival of COVID-19. Since its emergence at the end of 2019, COVID-19 has caused the largest-ever decrease in tourist numbers globally with the impact felt across all sectors of the global tourism industry (Gössling *et al.*, 2020; UNWTO, 2020). Economic impacts were initially expected to be in the region between US\$910bn and US\$1.2tn with job losses of approximately 100–120 million globally (UNWTO, 2020). In reality, with the continuation of the pandemic long into the peak summer months and following year, the economic devastation is likely to be far higher. Interestingly, there have been some documented benefits of the pandemic for tourism (Spalding *et al.*, 2020). These include the cleaning of the

canals in Venice and the replenishment of fish stocks in the Mediterranean (Euronews, 2020; Korten, 2020). The unprecedented nature of COVID-19, thus, serves as a suitable and timely catalyst for exploring its impacts, both positive and negative, on the visitation and management of national parks in the USA.

3. Methodology

As an exploratory research endeavor this study adopted a holistic-inductive paradigm. This lends itself to a qualitative methodological approach primarily utilizing a semi-structured interview method (Creswell, 2003; Kuckartz, 2013).

3.1 The case study

This study lends itself to a case study approach, specifically a local knowledge case wherein key stakeholders within the Southern Utah region were interviewed along with an analysis of publicly available information from local news sources and NPS data (Creswell, 2003). The study took a phenomenological and descriptive approach. The paper's objective is atheoretical and focuses on providing insight into the COVID-19 phenomenon. Given the study is a product of the events leading up to and transpiring from COVID-19, the case is retrospective moving into a single-snapshot category (Mondino and Berry, 2019; Thomas, 2011). Following Thomas (2011), Figure 2 illustrates the typology of this case study, displaying the thought process of the research design that went into developing this study.

3.2 Data collection

Purposive sampling led to a list of local tourism directors, NPS employees and key hospitality/tourism operators and organizations that were contacted for availability and willingness to participate in the study (Flick, 2007). Determining the impact value of a park and its components is crucial. Given that any activity, human usage or impact to the park can be considered either negative, positive or neutral, value assessment is not limited to a given set of factors; rather, it is dependent on a variety of components such as the time of year or observer viewpoint (Eagles and McCool, 2002). This means that value assessment is more of a political, rather than scientific process and is often left to multiple groups of persons involved with the parks to determine the value of the park(s). These groups most often consist of park staff (most often involved in decision-making), independent experts (sometimes involved in decision-making), politicians (sometimes involved in decision-making), the local community (occasionally involved in decision-making), park visitors and potential park visitors (the latter two groups rarely involved in decision making) (Eagles and McCool, 2002). In the

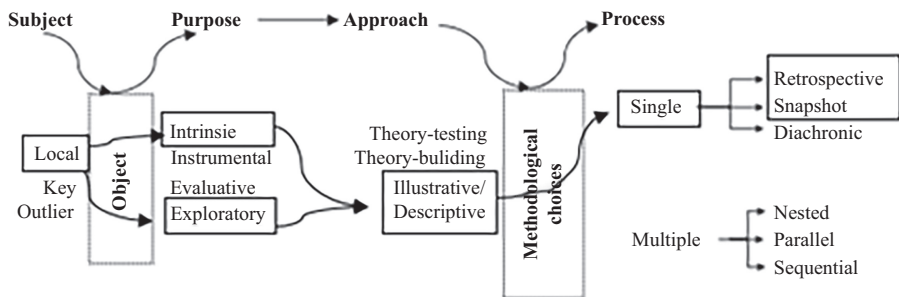


Figure 2.
Case study typology

Source(s): Authors, Adapted from Thomas, 2011

context of this study, those persons with knowledge of visitation within both Southern Utah and the parks within Southern Utah were identified as potential interview participants.

A semi-structured interview approach was taken, as determined to be appropriate given the study’s exploratory nature, and the interviews were driven by the following primary questions:

- (1) What are the main challenges that were faced as the COVID-19 pandemic developed, and how will this impact management and marketing for the parks and gateway communities in the future?
- (2) What are the main opportunities that presented themselves over the timeline of the pandemic, and how will that impact management and marketing for the parks and gateways communities in the future?

Based on these questions, two interview protocols were constructed to guide the interview process: one protocol for those interviewees working within the national parks and another for those working outside of the parks or in a gateway community as a key stakeholder working closely with the park, classified as “independent experts” for the purposes of this study.

The interview protocol consisted of five sections, in the following order: introduction to the study, COVID-19 impacts, adaptive measures taken in response to COVID-19, visitation and visitor experience, nature-based tourism experiences and sustainability. All interviewees were asked to discuss how COVID-19 has impacted management and marketing of the park, or destination, for the present and in the medium-longer term. Pending the responses received, follow-up questions were pre-constructed but also allowed to develop organically as is appropriate in exploratory studies within this field (Mondino and Berry, 2019).

Of the 18 interviewees contacted, ten agreed to be interviewed (referred to as respondents for the remainder of the paper), three declined and the remainder did not respond. A breakdown of the respondents is provided in Table 1. Consent for recording was obtained from all participants, with 8 h of total interview time recorded and 128 pages of transcription.

3.3 Data analysis

A qualitative phenomenological software was utilized to analyze the interview data: *Otter.ai*. This software converts the recordings to a transcription, and the researcher then verifies the

Respondent	Relationship to NPS and gateway community	Position level	Respondent	Relationship to NPS and gateway community	Position level
R1	Independent expert/gateway community stakeholder	Executive director	R6	Destination management organization	Executive manager
R2	Independent expert/gateway community stakeholder	General manager	R7	Destination management organization	Executive manager
R3	Destination management organization	Executive director	R8	Independent expert/consultant	Executive director
R4	Concessionaire/gateway community stakeholder	Manager	R9	Independent expert/consultant	Program director/research Fellow
R5	Destination management organization	Executive director	R10	NPS staff	Superintendent

Table 1.
Respondent profiles

transcription for accuracy, providing the opportunity to become familiar with interview data as a whole (Braun and Clarke, 2006; Hycner, 1985; Mondino and Berry, 2019). There is no single way to conduct a thematic analysis (Braun and Clarke, 2006). As such, a hybrid seven-phase data-driven analysis was utilized to analyze the data, reflecting Miles and Huberman's (1994) parallel activity flow and Alhojailan's (2012) phase reduction model. NVivo was utilized to assist with data analysis. First-level coding reduced the information into smaller units, which were then reviewed and revised and mapped (Figure 3) before being analyzed for themes (Alhojailan, 2012; Boyatzis, 1998; Spyriadis, 2014).

Second-level coding reviewed data with potential themes and assigned coded text passages to new sub-categories before verifying that the themes worked in relation to not only the coded extracts but the dataset as a whole (Miles and Huberman, 1994). The final step consisted of data drawing and conclusions wherein selections of pertinent and meaningful portions of the data, relating back to research questions, produced a case study of the analysis (Alhojailan, 2012; Braun and Clark, 2006; DeCuir-Gunby et al., 2011).

4. Findings

Nine primary themes, and associated sub-themes, emerged from the analysis (Figure 4). These excerpts represent a portion of carefully selected pieces of data utilized to provide

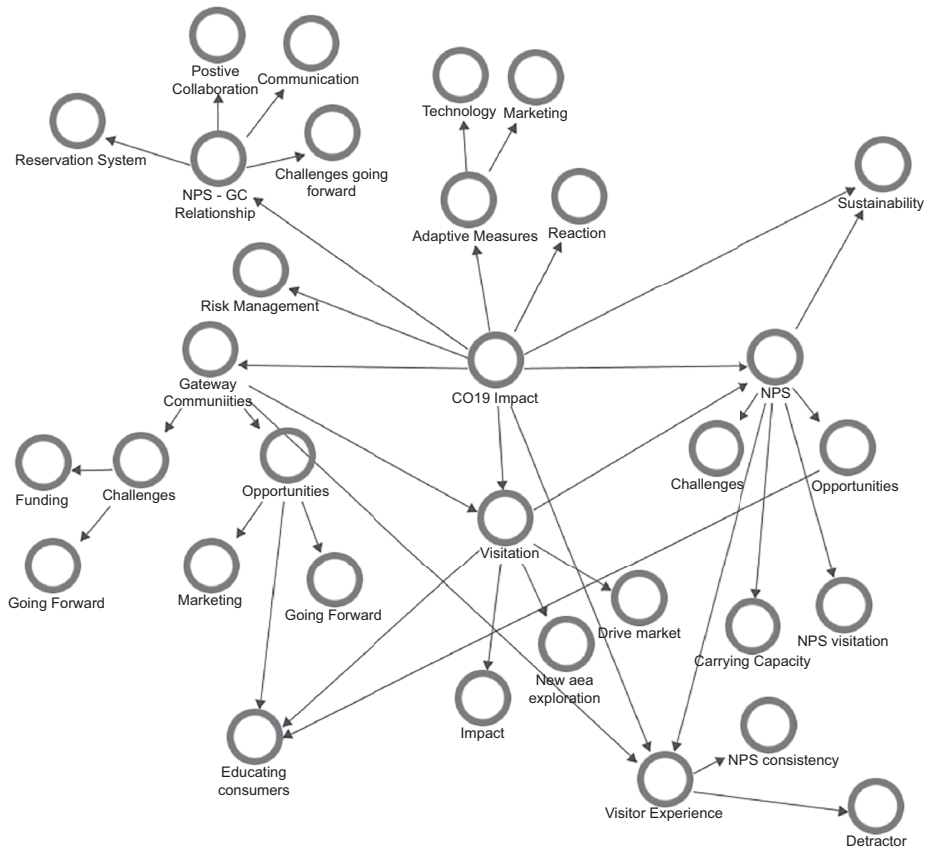


Figure 3.
Code map as derived
from the first-level
coding

Source(s): Authors

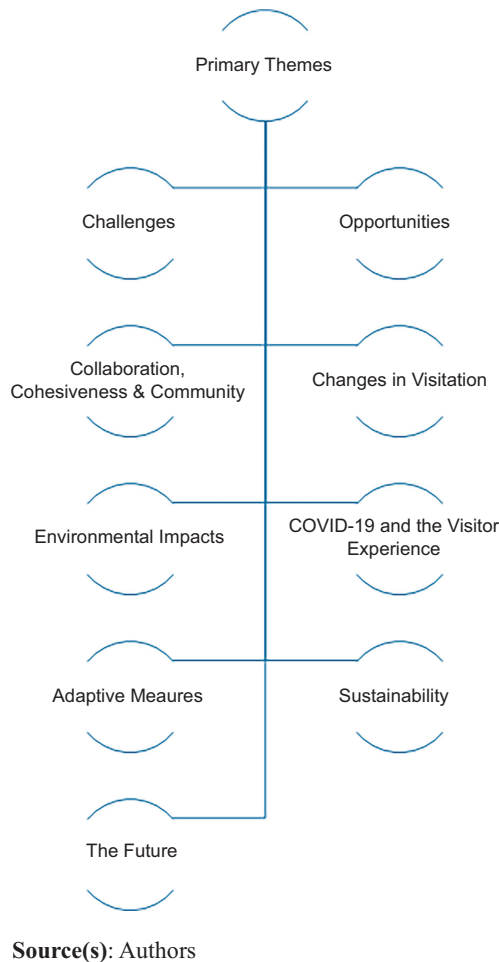


Figure 4.
Primary themes resulting from analysis

sufficient evidence of the themes that emerged from the analysis. The data are presented in conjunction with the interviewee’s digit representing the number of the interview (i.e. R1, R2) to allow for transparency in data origination points.

4.1 Challenges

Challenges faced as a result of COVID-19 broke into four sub-themes: communication, economic impact, marketing and management decision-making in a dynamic environment and a lack of concrete guidelines and/or training.

Challenges in communication between the NPS, gateway communities and the visitors occurred in every level of that communication chain. Several respondents (R1, R2, R4, R7) mentioned the difficulty in communicating and working with the NPS due to bureaucracy. R1 stated “I think that the park is challenging because they’re so very bureaucratic, right. And so it’s really hard to work with them.” Even within parks, decision-making can face lag time as

superintendents and regional directors wait for directives from the national office in Washington, DC, before moving forward with a change or communicating with local stakeholders (R8, R6, R10, R5).

The economic impact as a result of lost visitation and cancellations was discussed as a challenge and as a concern for the future by all respondents. A sub-theme emerged regarding the interconnectedness of the parks and the gateway communities in how park decision-making directly impacts communities. R10 stated “challenges are definitely issues related to our relationship with our communities. So for example, when we shut down [in month], it basically killed the economy for the outlying area. They [the county] are very, very much dependent on the park.” R9, R2, R1 and others all discussed the multiplier effect that is based on park-based visitation.

Decision-making for marketing and management in a rapidly changing environment was a commonly faced challenge. R5 said “Whiplash. We’ve had to be so adaptive and responsive.” R2, R3, R7, R5 and R1 all discussed the challenge in recognizing that a decision made one week could be obsolete the next week. R2 “Usually we make decisions based on the next month or next quarter, etc. and COVID has changed all that.” Managing the marketing message was another challenge discussed by many of the respondents where decisions included (1) should marketing be occurring? and (2) how do [we] responsibly promote the destination knowing that tourism is essential but also needing to be cognizant to protecting the health and safety of visitors and the local community? (R1, R2, R3, R5, R6, R7). Both destination management organizations (DMOs) and park staff noted that it was difficult trying to balance the mix of views within the destinations on COVID-19 from the local stakeholders as it related to destination management decisions as well as the impact on the visitor experience.

A lack of risk management planning for scenarios such as COVID-19 has proved to be challenging for many of the respondents. Most respondents noted that there has been no training or management guidelines for a scenario such as this (R1, R2, R3, R4, R5, R7, R10). R10 discussed this situation from a park perspective: “It’s been a very interesting thing when we started talking about this as a management team, and then with all of the employees in the park, and all of the staff kept on saying, ‘gosh, this is so weird.’”

4.1.1 Park-specific challenges. The parks faced some specific challenges, especially when dealing with social distancing and the health and safety of park volunteers, employees and visitors. R10 “We have instructed everybody in the park - you know, when you wear this uniform, it seems to be a magnet for people. And so people want to get up close to you. And we’ve instructed everybody that you are welcome to do whatever it is that you need to do to get people to stay away. And if they will not keep that social distance then you’re welcome to get back in your car and drive away. It’s a little different. . .we’re so oriented towards providing a service to the public and being welcoming that this has really been a tough sell for our own staff. It’s been a challenge.”

A challenge specific to Southern Utah is that of the Zion National Park shuttle, and corresponding reservation system, that has been implemented to regulate the carrying capacity in the park (primarily for health and safety issues related to COVID-19). For those gateway communities for which Zion is a major tourist attraction, the current system is viewed as a challenge, as it impacts not only the visitor experience but also the economic impact to the area (R1, R5, R6, R7, R8, R9). R1 “. . .there is a reservation system at the park [Zion], which could be good if executed correctly, but the parks are not great at doing that. But I think there’s more opportunity for technology to play an important role in our ability to disperse traffic and to keep people updated, but they are not doing great at executing it now, but at least when there is an attempt.”

4.2 Opportunities

A new demographic of travelers has emerged providing a new business segment (discussed in Section 4.4). There has also been an increase in bookings for single-unit properties, properties in remote locations and RV parks (R1, R2, R3, R5, R6). Marketing new, under-trafficked areas to disperse visitation throughout the region was also mentioned by many (R2, R5, R6, R7, R8, R10). R10 “I will say that there have been some opportunities to sort of, again emphasize those outlying areas of the park, not focusing so much on the area that generally gets the most visitor congestion.” It should be noted that this also comes with challenges, R6 “I think there’s discovering of places you’ve never seen before. . .Google underrated locations are going to be more and more important, which in itself creates problems. It’s an opportunity, but it’s also an issue in terms of infrastructure and making sure that those places can sustain those people. . .”

Creative thinking in both management and marketing is another opportunity from COVID-19. Many respondents discussed that they are having to tap into communication channels they had not previously utilized and think creatively to market the destination in such a way that reminds consumers the destination is welcoming when the consumer is ready to travel (R3, R5, R6, R7, R8). In other cases, it is offering services that may not have been available before and receiving a positive response (R1, R2, R9). Respondents also believed there was future potential to capitalize on the emerging drive market, including tapping into scenic-drive routes that can be marketed as a destination (R2, R5, R6, R7, R8). The use of technology as a means of communication and as a means to adapting over the course of COVID-19 was a commonly discussed theme.

4.3 Collaboration, cohesiveness and community

While communication was discussed as a challenge, the data analysis showcased that over the course of COVID-19 many respondents discussed how the pandemic served as a catalyst for more effective collaboration. R6 “. . . we’ve been more partners now than we’ve ever been [other DMOs and community stakeholders]. I talked to my counterparts, probably at least once a month, if not more. And we have shared, we are sharing and stealing from each other - like you would not believe. There’s always a need for partnership and there’s always a need to think regionally and statewide, but I think COVID has forced us to be, you know, we’re always friends, but now we really are partners.”

Collaboration was present across the Mighty Five parks, as those in management roles came together to figure out the direction to go as the pandemic evolved. Despite challenges, gateway community stakeholders noted an emerging degree of empathy and respect given to how the parks handled COVID-19 (R2, R3, R4, R5, R6, R7, R8). R5 “I’ll be honest our National Parks stepped it up big time. . .helping us make sure that people understand what’s open, closed, what trails are available and how to best social distance.” R6 “the public lands have been very good about providing us with easy infographics, which we can easily put into our social media and communication.”

Many respondents spoke to the strength of community that was prevalent over the course of the pandemic (R1, R2, R3, R5, R6, R8, R9, R10). R1 “I think the state did a good job with the Utah Leads Together Plan and I think all of our cities and towns just followed suit. I think you’ve seen some communities be extra creative and what they’re doing to create some positivity out there.” R5 spoke to a “renewed appreciation for tourism by locals” within the gateway communities; however, several respondents spoke to their ability to support the local communities and how that translates into a positive visitor experience (R5, R6, R7).

4.4 Changes in visitation

The most prevalent theme to present itself in all interviews was that regarding the change in visitation, discussed at length by all respondents. The loss of international tourism and tour

busses has been noticeably felt across Southern Utah. In its place, however, respondents reported experiencing an increase in regional/local visitation via the drive market. R8 gave an eloquent summary “You know, the Mighty Five region has depended heavily on international and domestic inbound travelers that they’re just not seeing now. Bus tours are virtually non-existent; you can count the number of buses on one hand per week. They’re just not coming. And then domestic inbound, we’re not seeing the numbers that we typically do from East of the Rockies. We’re getting an enhanced number of Western Regional travelers, which is expected because people are going to be staying closer to home and traveling more in the regions.”

What the parks are seeing is visitation numbers that initially dropped but have steadily increased over the course of the COVID-19 timeline. R9 noted “For whatever reason, there’s been a tremendous flow of visitation into these parks, which is amazing itself given the various restrictions (i.e. many parks not being fully operational and/or COVID restrictions). . . and so it stood to reason that a lot of those changes would reduce the amount of visitation in the parks. And that has not been the case, and so it seems that the visitor is set on having these outdoor National Park experiences regardless of the hardship due to the changes in operation from COVID. . .”

Destinations in Southern Utah are also seeing a new demographic of visitors consisting of weekend stays over weekday (R1, R3, R4, R5, R7). A large influx of visitors new to camping/outdoor recreation was also mentioned by the majority of respondents. R9 “Right now we are getting a different demographic visitor, as more people try and look at what their options are for vacationing and get outside because they’ve been locked up. And then just do not realize the challenges involved with being outdoors.” R3 noted that “It is so crazy because we are used to having seasoned campers with us but now, we are getting people who just said randomly ‘I think it’s a great idea for our family to buy a camp trailer.’ They go buy it and take it out first time. One of my campground guys said ‘I’ve never seen so many awnings ripped off.’ . . .they’re [new users] are just not familiar with camping but they think it’s a great idea because they all do not want to stay in hotels.”

Visitors are also increasingly becoming more “recreation-driven” rather than “site-driven.” R8 “They’re more looking for places where there’s recreation and outdoor activities available. So, they’re coming here because of our abundance of outdoor recreation in and near the national parks.” Longer stays are also becoming more evident in those areas that provide the ability to quarantine in place and/or are remote settings.

Trip planning that is solely based on word of mouth and/or social media postings is also far more notable. R2 noted “This demographic that’s traveling right now is doing a lot of their planning on Facebook and Instagram and YouTube. So a lot of it people are seeing all the pictures of their neighbor that came and saying ‘Man, those places look cool. I’m gonna go to those places.’”

This new market offers opportunities for future business. R6 stated “I think the best thing about this whole thing is that we’ve created more long-term travelers because generally regional road trip travelers will return to a spot over and over again.” The new market is also presenting challenges. Respondents noted that while visitor numbers are consistent, visitor spending is down in some areas but up in others. R2 “It’s just a weird crowd and the demographics are very strange compared to what we are used to historically. It’s weird because a lot of them are not staying in hotels but our gas station had the best June, we have ever had but our hotel is down 60% and that is of course where most of the money comes from.”

4.5 Environmental impact as a result of changes in visitation

All respondents noted that while the number of visitors was low at the beginning of the pandemic, numbers steadily increased as restrictions began to ease. R10 noted that “I think

one of the things we've seen universally, both in [the park] as well as the state of Utah, and what I've heard throughout the National Park Service is when units of the Park Service started to reopen, we were just seeing people that were sort of, I would say, desperate to get out."

When asked about the pressures on public lands, R6 said "They're experiencing their own form of overcrowding and overuse." R8 noted that many parks were limited prior to COVID-19 in manpower and now "they're pulling manpower into the more congested areas, which leaves more of the open space unmanned." Many respondents expressed concerns to the environmental impact of the visitors, mainly because of the lack of responsibility/awareness being shown by the new visitor demographic.

R10 further discussed the impacts and attributed some of the behaviors seen to lack of knowledge by the visitors: "So we experienced a huge number of violations related to protection of our resources related to activities. We were seeing a lot of things like people driving off road, people doing dispersed camping within the national parks, dogs off leash, dogs period in areas that they should not have been in. That was difficult. For example, by the end of June, in a normal year, we would have issued somewhere between 20 and 25 citations. This year, by the end of June, we had issued 75 citations."

A sub-theme that emerged from the visitation discussion was that of a need to educate consumers. R3 mentioned the ongoing conversation among destination managers on this point "When everyone's camping for free, it's tricky to offset the cost of cleaning up after them. I've been in conversations with several other DMOs about the same thing and trying to come up with a collaborative effort [to] educate people like 'Hey, we love that you're coming to spend time in our public lands and see what we have but consider at least leaving some sort of tax revenue."

4.6 COVID-19 and the visitor experience

Interestingly, there was no consensus in views as to the quality of the visitor experience as a result of visitation in the time of COVID. R2 stated that "Our [visitor review] scores are going up significantly over this time last year. I think it goes with many of these are first time guests. They are traveling during COVID . . . probably expecting the worst. They are coming in and are pleasantly surprised and they are like 'holy cow, we are having a great experience here.'" R7 addressed the visitor from a broader perspective that linked back to communication challenges in the gateway community/park communication/collaboration: "this talk about visitor experience. I've always said, you know, the visitor experience starts way before they ever get to the park. It's when they first get an inclination that this might be a cool place to go. And I do not think the way our infrastructure is set up [accounts for that] . . . We've got to put together systems that work unitedly where the visitor can have the information they need up early, they get inspired by it, they're able to get their questions answered and put the pieces together. And, and if it requires ticketing, you know of some sort, that's got to be seamless from the get go. And they've got to be able to somehow work their way through that process. And then when they get to the park, have it all. . .click. That's, that's really the you know, that's when you put the frosting on the cake is when you get there and you go, wow."

There was consensus, however, that each park experience is different, thus leading to different visitor experiences, which could be more or less impacted due to COVID-19. R7 noted "the experience in each park can be very different, again it depends on who the traveler is. The National Park tourist coming from a greater distance is going to view the park differently than the regional traveler." R9 pointed out that "there's been a huge number of challenges from COVID to the visitor. One is the complete change of the operation. So there is a huge amount of uncertainty when the visitor gets here on how things are done and what to do. . ."

4.7 Adaptive measures

Many of the adaptive measures in dealing with COVID-19 included increase in cleaning of touch points, installing plexiglass, cutting back on food service offerings, implementing generous cancellation policies and altering the format of events from indoors to outdoors where possible (R1, R2, R4, R7, R5). Technology was utilized to allow for continued communication and workflow for those employees who could work from home as well as pre-employment paperwork to cut down on in-person interactions (R1, R2, R3, R4, R5, R6, R7, R8). Social media was heavily utilized to both communicate with visitors as well as with locals; and data analytics became more important than ever in “keeping a finger on the pulse of how people were reacting or responding to things” (R5).

Within the parks, one of the ongoing challenges is manpower (R2, R7, R8, R9). COVID-19 further stressed this (R7, R8, R9). R9 highlights that “even though entrance stations were initially closed, they still were open [due to State Road 9 that runs through the park]. So people were still coming through the park but without Rangers being in stations there was no way to report that traffic. So the automation of that process, and others, became more important [as there were no Rangers to do the manual process].”

4.8 Sustainability

Respondents were asked for their views on sustainability within the parks in general, and most respondents were positive in the outlook but noted that it would take collaboration from all stakeholders involved. In addition to being asked about sustainability, in general, the following question was posed: Do you think it is possible for social distancing, sustainable tourism and the popularity of nature tourism, specifically within the national parks, to co-exist? Responses varied from being hopeful in the belief that these things could co-exist (R3, R7, R6) to being very certain that it can happen: R10 “Yes. I’m not going to expand on that. I can just say yes. Have we figured out how to do it yet? No. But is it possible? Yes. And I do not think I’d be in this job if I did not think that that was the case, huh?” Other responses were not as certain. R8 said “If we continue to define social distancing as six feet apart, no, not at all. How do you get in a raft on a white water trip? How do you put people do you. . . you reduce the number?”

4.9 The future

Most respondents were tentative when considering the future. The “unknown” leaves a big question mark for many, along with the need to regain consumer confidence in travel and regain international travel to be able to see impacts in the local economy bounce back (R1, R2, R4, R8, R7).

The reservation system for the shuttle in Zion was a talking point with several respondents stating that they believed the reservation system would stay in place and that was a cause for some concern (R1, R6, R7, R8, R9). The gaining of a new visitor market also left causes for concern for the future both in accommodating the new demographic of travelers, especially as traveler segments start overlapping (R6, R8), and the need for forward thinking and planning in a more proactive approach toward sustainability, park relations and the continued increase of visitors into park and natural settings. R9 offered a viewpoint, mirrored by other respondents, in relation to the parks being able to protect their mission to preserve and protect for this and future generations and meet the needs of that public for which they are serving but with an offer for the future: “Sustainability, I think, is that electronics and planning and use of technology is really the only way forward to still stick to the mission versus closing National Parks as a sustainability option, that being that dramatic. I think if you look at other things that have had a limit, that cannot expand their boundaries and cannot generate new attractions, and trails etc. I think that technology is going to be your only

solution to being able to manage that in a meaningful way and give people the type of experience that they expected.”

5. Discussion and conclusion

5.1 Park (destination) management

While the NPS has embraced and practiced adaptive management for some time, established processes often take several months to several years to enact final management actions. COVID-19 exposed that traditional management structures, processes and procedures were insufficient to cope with a very sudden and dramatic disruption to typical visitation patterns and conditions. The pandemic also exposed a vacuum of risk and emergency management procedures. While some parks closed to the public during the early stages of the pandemic, many were left open and were directed not to collect entrance fees (National Park Service Office of Communications, 2020). In Utah, limited closures and reductions in visitor facilities began in Capitol Reef and Zion National Parks in mid-March (National Park Service 2020a, b, c). Responding to guidance from local public health organizations and hospitals, Arches and Canyonlands National Parks were the first to close effective March 28, 2020 (National Park Service 2020d). The other parks followed shortly after, with closures going into effect between April 3 and April 7, 2020.

Phased reopening began in May, with each park following different timelines based on their unique circumstances. Parks adjusted operations to adhere to national and local public health guidelines, resulting in reduced visitor facilities and services and fewer on-site staff at many locations. Upon reopening, many parks were underprepared to manage the influx of visitors seeking outdoor opportunities. These challenges required parks to be creative in their problem-solving. For example, Zion National Park initially suspended shuttle operations and allowed visitors to access Zion Canyon in their personal vehicles as long as parking was available. After it became clear that this arrangement was not sustainable (Stark, 2020), the park reinstated the shuttle at half capacity and required advance reservations for visitors to enter the park and board the shuttle. Visitors without a shuttle reservation may access the park using local private shuttles or bicycle rentals. The timed-entry system had been proposed previously to manage crowding and protect park resources and was met with vocal opposition. Now it has been adopted as an acceptable means to promote social distancing in the park. One challenge, however, is the reselling of shuttle tickets due to high demand (Will, 2020). In addition, remote technology has been deployed throughout the park to record the number of vehicles and pedestrians entering the park, available parking and trail conditions. Rangers can access real-time condition information, enabling them to adapt quickly to changing conditions and freeing up valuable manpower to perform other necessary tasks.

It is also important to note that parks, by and large, are finite resources with finite boundaries. While the parks in southern Utah had experienced dramatic increases in visitation since 2010, parks face new challenges as large numbers of visitors seek an “escape” from the surreal world of COVID-19 and seek refuge in the outdoors. All five parks experienced new record high visitation numbers during at least one month in fall 2020 (September, October, November) (Department of the Interior, 2020). One challenge is managing the flow of visitors in the park to maintain appropriate social distance. Some parks have begun directing visitors to less popular areas in an effort to spread folks out. This, however, presents additional challenges if visitors are not aware of or do not follow appropriate minimum impact practices. Research has shown that educational efforts can be effective at increasing visitor knowledge and changing behavior (Marion and Reid, 2007), although the link between educational efforts and changes in resource condition has not been widely studied.

5.2 New market opportunities

COVID-19 has introduced new markets to the national parks, offering a more diverse revenue stream for both the parks and gateway communities. Regional travelers are filling in the gaps opened from the demise of international travel: providing an opportunity to cultivate a market from which there is potential for return visitation, especially among those who are seeking recreational activities. Additionally, with more travelers fleeing an urban environment stifled by COVID-19 restrictions, there is an influx of outdoor first-timers with limited experience of the etiquette of visiting public lands. Consumer education is critical for these new markets, especially those who lack awareness of outdoor etiquette. While the lack of knowledge will not only put more pressure on the environmental infrastructure but also the human infrastructure, it also provides the opportunity to foster new “park champions,” turning these new visitors into advocates for protecting and supporting public lands.

Collaboration will be more important than ever to educate the new markets as many of these new travelers have a different expectation in the services that should be available for their usage. This means conducting customer surveys to determine what messages need to be relayed to visitors and what the visitors’ needs are. Sustainable tourism development has often been examined from the view of networks, collaborative governance and partnerships (Hall, 2011; Selin, 2017). Various benefits can be derived from partnerships between the parks and other private entities, such as DMOs, concessioners and organizations within the local and regional community. Partnerships with these entities can not only assist with funding but also in navigating regulatory and compliance inhibitors, putting forth a unified marketing message, and finding opportunities to assist in dispersing visitation.

These new markets will inevitably change the economic impact of visitation within the destinations. It will be up to all partners to capitalize on the offerings within the destination as a whole: this means tapping into the marketability of scenic drive routes, including developing and marketing to electric vehicle drive markets, exploring slow tourism opportunities and continuing to thoughtfully develop and market trails and recreational activities within various public lands to spread visitation and the corresponding economic impact.

5.3 Managing capacity

With more regional travelers seeking to escape the confines of the urban environment, it can be surmised that national parks could see visitation patterns similar to that of resort properties, where weekend stays are busier than weekdays, causing for a bottleneck of congestion. Determining visitor capacities in parks has received extensive attention over the past two decades (Interagency Visitor Use Management Council, 2020). As parks engage in visitor use management planning in the age of COVID-19, significant adjustments may be needed to comply with social distancing guidelines for public health. Additionally, parks and communities must be forward thinking to contemplate a future in which international and national visitation returns and is now intermingled with the new, more regionally based, visitor segments. Manning and Dougherty (1999) note that a central objective of management is sustainability with the wider tourism industry able to benefit from management approaches that foresee and prevent the types of problems that occur when the carrying capacity is exceeded.

NPS managers and destination community leaders could benefit from studying strategies taken from national parks in places such as Australia, where the parks were created to provide a break for urban populations, and over the years, have found a way to balance both consumerism and conservation through various management and marketing strategies, a challenge not new to park managers (Wearing *et al.*, 2016).

5.4 Technology

Within the NPS, three major purposes are to stimulate patriotism, advance knowledge and health and attract tourists. However, this presents a conflict wherein visitors must be physically present, which can induce direct and indirect environmental degradation (Gunn, 2004; Weaver and Lawton, 2017). With the surge in visitor numbers, parks are concerned with the carrying capacity and managing visitors while protecting the environment. Evident throughout the results of this study, however, was the need for enhanced levels of technology as a means to contribute to more effective visitor flow and to enhance overall quality of the visitor experience. The new markets introduced to the “great outdoors” may not be fully aware of the etiquette of vacationing in national parks, but they appear confident with the use of new technologies, including social media. During the closures, many parks utilized social media to educate and engage members of the public who wanted to interact with parks but were unable to visit. Updates to park operations were also posted on platforms such as Facebook and Twitter, often providing more up-to-date information than the official park website. Zion, in particular, heavily utilized their Facebook page over press releases to provide updates regarding the status of specific facilities such as campsites, trails, etc. In response to high visitation levels since restrictions have been lifted, the NPS has launched the #RecreateResponsibly campaign to educate the public about safely visiting parks during COVID-19 (National Park Service 2020e).

It is, thus, apparent that looking to the future, the integration of more SMART technological solutions to existing problems, is necessary, while at the same time, seeking to maintain the parks’ authentic outdoor ambiance. The role of social media in driving trip stimulation is to be noted with the more “immediate” impact on the spontaneous decision-making of more localized markets so different to traditional long-distance and international markets whereby the combination of cost and distance makes for a more measured and longer-term decision-making process. The fact that there are more local and regional markets ready to fill the void of traditional longer-distance and international markets is a positive, and is one that not all tourist sites are as lucky to benefit from. However, the changing dynamics of the different markets is significant with their use of and willingness to engage with technologies and social media integral to future management and marketing strategies initiated by the national parks.

6. Concluding thoughts and limitations

The only known is the unknown. COVID-19 has amplified many of the challenges faced within the national parks and gateway communities and has presented new challenges. It has also provided opportunities from which growth and adaptability moving toward a sustainable future is possible. Regardless of how the pandemic pans out, the NPS and their gateway communities will have to work together, give consideration to all segments of visitors to the national parks present and future and think outside the box to “preserve unimpaired the natural and cultural resources and values of the NPS for the enjoyment, education, and inspiration of this and future generations” (NPS.gov, n.d.).

One of the most notable limitations for this study is the lack of respondents from within the NPS, leaving a viewpoint from inside only two of the Mighty Five parks. This lack of response does not allow for extensive discussion to lessons learned within individual parks, other than what the researchers could glean from press releases and social media, of which the similarities in what parks did was high. Of those respondents that declined to participate, they were from within the park service as the regional director felt that this was not “an appropriate time to participate.” The study could benefit from the viewpoints at a later more appropriate date. This study is limited to Southern Utah, and so, some of the findings may not be generalizable across all national parks and corresponding gateway communities.

Additionally, it must be noted that COVID-19 is ongoing, and the data collected for this study are from a snapshot within an ongoing pandemic.

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Visitation and
management at
national parks

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259

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