

FROM THE EYES OF YELLOWSTONE NATIONAL PARK VISITORS:
CURRENT AND FUTURE DESIRED CONDITIONS

By

GLENNA JANE HARTMAN

B.S. Parks, Recreation, and Tourism, University of Vermont, Burlington, VT
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W.A. Franke College of Forestry and Conservation
The University of Montana
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Approved by:

Scott Whittenburg, Dean of The Graduate School
Graduate School

Dr. Norma Nickerson, Co-Chair
W.A. Franke College of Forestry and Conservation

Dr. Jeremy Sage, Co-Chair
W.A. Franke College of Forestry and Conservation

Dr. Daisy Rooks
College of Arts and Sciences

Abstract: From the Eyes of Yellowstone National Park Visitors: Current and Future Desired Conditions

Co-Chairperson: Norma P. Nickerson

Co-Chairperson: Jeremy Sage

Visitor crowding in Yellowstone National Park has been a longstanding issue. Popular sites like Old Faithful, Canyon Rims, and Midway Geyser Basin attract the most visitors. In these concentrated areas, issues of traffic and parking have become especially problematic. Often, the visitors' background knowledge and perceptions have prepared them to expect crowded conditions. Using qualitative methods, I delved deeper into visitor's future desired conditions related to the park. If as researchers, we consistently receive surveys that tell us Yellowstone's crowding is acceptable, we are not digging deeply enough to find what visitors' really want out of their experience in the park.

My research method was grounded theory which allowed me to create a theory from the data I collected instead of assuming a theory and fitting the data to it. I conducted a total of 45 interviews, both in person in the park and over video conferencing calls. From these interviews, themes that emerged were rules and regulations, technology, closures, COVID-19, crowding, thermal features, wildlife, visitor displacement, keeping the park the same, infrastructure, and a park shuttle.

Through my data analysis, I found a distinct division between first-time and repeat visitors. These two sample populations shared themes that they discussed but differed in the conditions they desired from the park. First-time visitors tended to think that the current park conditions were acceptable and wanted it to stay the same, whereas repeat visitors had more recommendations for improvements related to future desired conditions of the park. This suggests that park managers might want to consider differences when gathering their information from first-time or repeat visitors. Overall, my data suggests that visitor dissatisfaction related to crowding is somewhat site-specific. In general, visitors felt that infrastructure at Old Faithful and Canyon Rims were sufficient, but parking and crowding at Midway was perceived to be an issue. Visitors seemed to have positive feelings about a park shuttle, and most supported its implementation. Yellowstone National Park is clearly such a special place to so many people, and this is apparent through the many ideas related to future desired conditions within the park.

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Introduction

History of Wilderness and Yellowstone

America's 61 national parks are proud symbols of our country's beauty, splendor, and heritage. They have become deeply rooted and are intrinsic parts of American culture and values, embodying American ideals of wilderness and freedom. To briefly trace the history of our national parks, and Yellowstone in particular, it is essential to trace the idea of wilderness itself. Old-world values rooted in Greek, Roman, and Judeo-Christian cultures viewed wilderness as, "anything but positive, and the emotion one was most likely to feel in its presence was bewilderment or terror" (Cronon, 1996). This attitude followed the American pioneers who saw the wilderness as a threat to their survival and saw taming the wilderness as manifesting their conquest. "They shared the long Western tradition of imagining wild country as a moral vacuum a cursed and chaotic wasteland" (Nash, 2014).

The romanticizing of wilderness began in the eighteenth and early nineteenth century, when those who were primarily city-dwellers began to yearn for the solitude and freedom that wilderness provided. Americans sensed that their country had something special that Europe did not: wild land. Nash (2014) observes, "Nationalists argued that far from being a liability, wilderness was actually an American asset." In the mid-1800's paintings of Yellowstone, Yosemite, and the Grand Canyon of the Colorado by famous artists like Albert Bierstadt saturated the American public and filled their minds with visions of dazzling scenery in addition to being a, "force in directing American attention to wilderness as a source of nationalism" (Nash, 2014).



Figure 1: Bierstadt's Yellowstone Falls (1881) and Old Faithful (1881–6). Images public domain: https://commons.wikimedia.org/wiki/Albert_Bierstadt

The world's first large wilderness preservation act was the designation of Yellowstone National Park (YNP) on March 1st, 1872 by President Ulysses S. Grant. The works of Thoreau, Marsh, and Hammond greatly influenced the attitudes towards wilderness at the time and created an opportune climate to designate a national park. News coverage of a “New Wonderland” and its unusual phenomena such as geysers sparked public interest and encouraged the Northern Pacific Railroad to build a railway that would make Yellowstone an accessible attraction in 1883 (NPS, 2019a). The United States Army managed the park until the National Park Service (NPS) was founded in 1916, and the park's first superintendent Horace Albright established a management framework that guided Yellowstone's administration for decades (NPS, 2019a).

To be clear, the land that was designated as Yellowstone National Park was in no way the empty wilderness that many Americans imagined. “The early U.S. public land advocates understood people as the antithesis of untouched or natural beauty. Since sublime lands were unpeopled lands, those in power reasoned that the Ute, Shoshone, and other tribes who traditionally hunted and wintered in the new park needed to be removed” (Ritner, 2020). This concept that wilderness was unpopulated gave ideological ammunition for the removal of indigenous peoples from their traditional homelands. New laws emerged that declared indigenous tribes were squatters on the land and called for forceable removal. “The myth of wilderness as ‘virgin,’ uninhabited land had always been especially cruel when seen from perspective of the Indians who had once called that land home. Now they were forced to move elsewhere, with the result that tourists could safely enjoy the illusion that they were seeing their national park in its pristine original state” (Cronon, 1996).

This is an important aspect to remember of Yellowstone’s history, especially because so many visitors consider Yellowstone as one of America’s great treasures. There are 26 current tribes that have historical connections to the land that is now Yellowstone National Park (NPS, 2020a). The map below displays these tribes and their tribal reservations today, not their historic territory. The very concept of “unpopulated” wilderness that forcibly removed tribes from the park has now brought more people to the area than were ever there before. In his piece *The Trouble with Wilderness*, Cronon notes the irony of many of our wilderness areas, “... wilderness came to reflect the very civilization its devotees sought to escape” (Cronon, 1996).

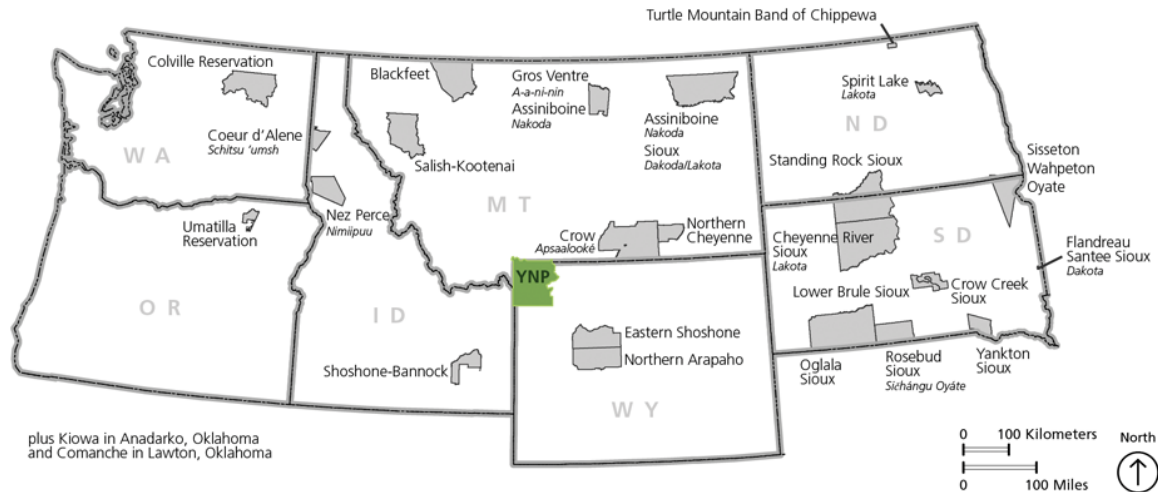


Figure 2: Map of Yellowstone National Park's 26 Associated Tribes (NPS, 2020a).

Yellowstone Today

The national parks have been rapidly changing with increasing visitation and issues of crowding. The core mission of the NPS is to: “Conserve the scenery and the natural and historic objects and 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” (NPS, 2019b). Our National Parks had over 327 million visitors in 2019, and 1.5 billion visitors in the last five years. Conrad Wirth, NPS director from 1951-1964 said, “Our National Parks are being loved to death” (NPS, 2018a). Deferred maintenance on infrastructure, aging facilities, traffic congestion, and extreme crowding have been stressful to the National Parks. The question is if the current trend of increased visitors continues, can the parks continue to provide enjoyment for the public and still stay pristine for future generations?

Yellowstone is extremely affected by increasing visitation because it is an iconic symbol of America itself and is one of the most sought-after national park destinations to visit (Canizales & Goulu, 2016). Yellowstone was the second most visited national park in 2020 (NPS, 2021a).

Due to its increasing visitation levels, YNP has struggled in some aspects of management, articulated well in this excerpt from Yellowstone's website entitled Visitor Use Management:

Since 2008, annual visitation to Yellowstone has increased by more than 40%, causing overflowing parking lots, a rise in traffic jams, roadside soil erosion and vegetation trampling, and unsanitary conditions around busy bathrooms. Half of this increase in visitation occurred in just two years (2014 to 2016), coupled by an even greater rise in motor vehicle accidents (+90%), ambulance use (+60%), and search and rescue efforts (+130%). Meanwhile, staffing levels and funding have remained flat over the last ten years (NPS, 2020b).

The YNP administration states, "changing visitor use patterns are comprehensive, complex, and affect not only Yellowstone visitors and employees, but gateway communities, surrounding public lands, and other national and regional stakeholders" (NPS, 2020b).

Understanding visitor use and, in turn, management is something that will become increasingly important for YNP as visitation continues to increase. "Difficult decisions lie ahead and we'll need your help to find compromises that balance the protection of resources with a shared desired to experience the world's first national park. As we move forward in our efforts, we'll be reaching out to the public, our partners, and nearby communities to get involved. We want to listen to all ideas about managing Yellowstone's visitation" (NPS, 2020b).

Outline of Research

If national parks, and Yellowstone in particular, embody the concepts of freedom and wilderness, overcrowding represents a particularly thorny problem because it undermines the symbolic value of the park itself. Therefore, crowd management is not just a secondary issue, but

integral to keeping the concept of the park intact. The purpose of this project is to better understand Yellowstone visitors' desired conditions in the park using qualitative interviews. Through these interviews, I hoped to gather more information about visitors' desired conditions on a site-specific basis at Old Faithful, Canyon Rims, and the Midway Geyser Basin. The methodology I used was grounded theory, which is "grounded" in data meaning my development of theory happens after data is collected. Although this is data driven research, a goal of this study is to provide information to assist with future management objectives within these three attractions by identifying desired future desired conditions as seen by park visitors.

Desired conditions in national parks has been stated as, "aspirational statements that articulate what areas of the park would look, feel, sound, and function like in the future" (NPS, 2019c, Going-to-the-Sun Road Corridor Management Plan Environmental Assessment). The document describes these desired conditions to provide criteria to effectively evaluate management. "Fundamental resources and values are those features, systems, processes, experiences, stories, scenes, sounds, smells, or other attributes determined to merit primary consideration during planning and management processes because they are essential to achieving the purpose of the park and maintaining its significance" (NPS, 2019c).

On Yellowstone's website, a page entitled Visitor Use Management, notes that the National Park Service Mission requires them to, "provide people the opportunity to enjoy Yellowstone without allowing that enjoyment to damage or diminish the very things they came to see. Many visitors want a park with fewer people and less traffic, but they don't necessarily want limits on visitation or the use of private cars in the park" (NPS, 2020b). Clearly, complicated and difficult decisions will need to be made in future management plans and the NPS says they need help finding compromises that balance the protection of resources with a

shared desire to experience Yellowstone. Through in-depth interviews with park visitors, my goal was to gather ideas and information about desired conditions of Yellowstone National Park and how they can be achieved. I want this research to be relevant and useful to park managers, so I reached out to Yellowstone staff to better understand how this research on desired conditions could be useful in Yellowstone. They expressed a need for studying site-specific desired conditions, specifically at popular locations in the park to better understand these areas, so instead of looking at overall desired conditions of visitors in Yellowstone, the focus was on Old Faithful, Canyon Rim, and Midway Geyser Basin which are highlighted in the map of Yellowstone (Fig. 3).

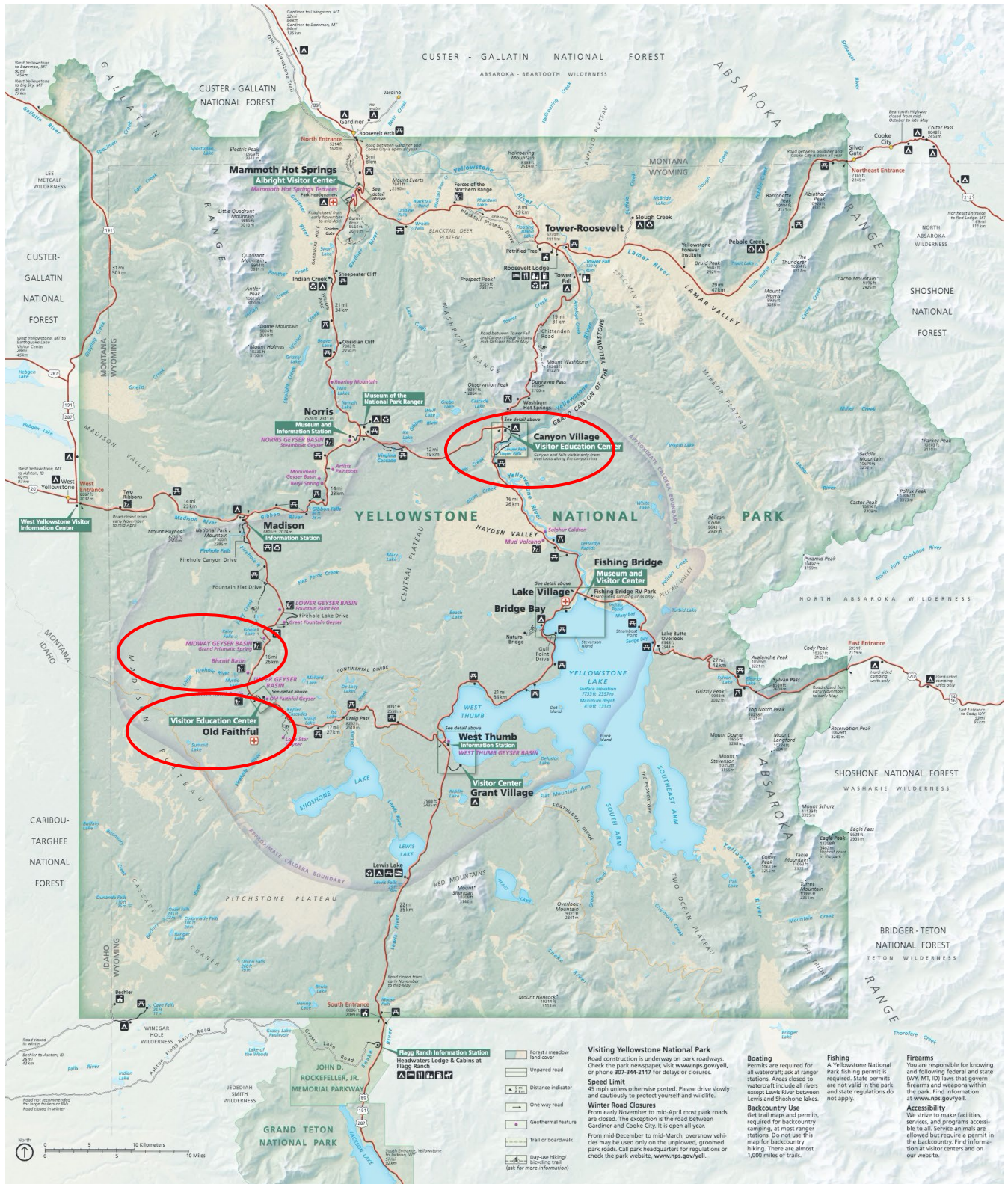


Figure 3: Map of Yellowstone (marked with three areas of interest) (NPS, 2018).

Literature Review

This literature review provides some foundational concepts in park management and looks more specifically at literature and studies surrounding crowding in park settings. Management frameworks for protected areas are presented first to provide a better understanding of visitor use and experiences. Second, visitor experiences as it relates to crowding and what constitutes crowding is explored. Next, there is a discussion surrounding coping strategies related to crowding and crowding in Yellowstone in particular. Finally, desired conditions in parks is presented followed by more specific conditions related to future ideas on alternative transportation.

Overview of Management Frameworks for Protected Areas

To begin to understand visitor experiences in protected areas, I start by examining visitor motivation and why visitors choose to visit protected areas in the first place. When visiting a protected area or national park, visitors often seek natural, educational, social, and physical experiences (Anderek & Knopf, 2007). Measuring these motivations is important because it provides managers with information as to why visitors engage in certain activities and how to better manage for these activities (Manfredo, Driver, & Tarrant, 1996).

The Recreation Experience Preference (REP) scale is a metric used to measure goals of visitors when recreating. This approach suggests that, “recreation should not be viewed merely as an activity such as hiking, fishing, camping, etc. Instead recreation should be conceptualized as a psychological experience that is self-rewarding, occurs during nonobligated free time, and is the result of free choice” (Manfredo, Driver, & Tarrant, 1996). The scale acts to bundle desired outcomes from an experience and does so by finding indicators accompanying motivations of a recreation experience (Tinsley & Cass, 1981). The REP scale has been criticized by some as not

being complex enough—it does not take into account past experiences of recreationists and how that may influence their experiences (Tarrant, Bright, Smith, & Cordell, 1996). Nevertheless, understanding the psychological aspect behind visitor motivations and how that influences their experience is an important concept for my research.

Frameworks for better understanding visitor use and experiences have been used in our parks and protected areas for many years. These include the Recreation Opportunity Spectrum (ROS), Limits of Acceptable Change (LAC), Visitor Impact Management (VIM), and more recently Visitor Experience and Resource Protection (VERP). “These planning and management approaches seek to define the level of resource protection and the type of visitor experience to be provided” (Manning, 2011). These approaches can be grouped by questions they are answering. The ROS framework’s principal question is “What settings exist and what should be provided?” whereas the LAC, VIM, and VERP identify, “How much change from natural conditions is acceptable?” (McCool, Clark, & Stankey, 2008).

Limits of Acceptable Change (LAC), which was created by the US Forest Service, focuses on involving stakeholders in decision making processes and moving from planning to implementation. It integrates concepts from the ROS framework including the different classes and categorization of recreation sites (Nilson & Tayler, 1997). The LAC acknowledges that change related to visitor impacts is inevitable and has two major implications. “First, it directs attention from use level as the key management concern to the environmental and social conditions desired in the wilderness...the second implication of LAC management framework is that it clearly places the issue of capacity in a prescriptive as opposed to technical context” (Stankey, McCool, and Stokes, 1984). The LAC framework is designated in nine steps (Fig. 4; USDA, 2006).



Figure 4. LAC Planning System (USDA, 2006).

Visitor Impact Management (VIM), developed by the NPS, addresses three issues: problem conditions, potential cause factors, and management strategies (Marion & Farrell, 2002). Visitor impact management can be broken down into four steps: identifying visitor activities, researching visitor impacts, monitoring visitor impacts, and assessment of visitor impacts monitoring. This model includes feedback loops to ensure the complex system is responding to management appropriately (Hadwen, Pickering & Hale, 2008).

The Visitor Experience Resource Protection (VERP) framework is a more recent creation of the NPS. It pertains to carrying capacity of a park related to the visitor experience and quality of resources. “Defining desired future conditions, identifying indicators of quality, setting standards, monitoring and taking appropriate management actions fit well with the National Park Service planning and management frameworks” (Hof & Lime, 1997). It also uses the concept of desired conditions both for visitor and resource conditions and is part of the NPS general management planning process (GMP) (Nilsen & Tayler, 1997). This framework integrates some

concepts from LAC and VIM and uses similar processes to ROS (Nilson & Tayler, 1997). Nine steps are used in the VERP framework. These are nonlinear with feedback loops (USDA, 1997).

These frameworks are extremely important to my research because it is important for me to better understand the evolution of management practices for protected areas, how they are implemented and where my research fits into the planning process. Figure 5 illustrates the evolution of these management frameworks.

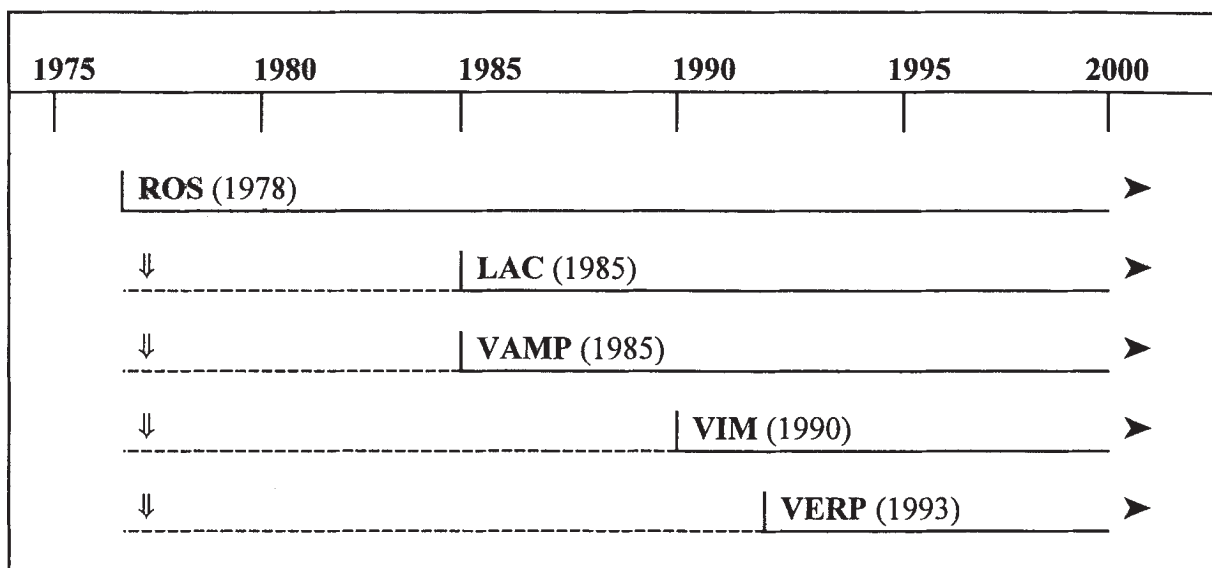


Figure 5. Evolution of Frameworks (Nilsen & Tayler, 1997).

Visitor Experience Related to Crowding

Many of the management frameworks presented take into account issues of crowding and overuse. It is important to specifically examine the crowding literature as my research is based around areas that are known to have crowding issues in Yellowstone (Nickerson, 2017). Crowding and perceptions of crowding have been studied in our national parks for nearly a century (Meinecke, 1929). Specific research on the perceptions of crowding and management

solutions to deal with crowding began in the early 1960's (Wagar, 1964). It was argued that personal factors make perceptions of crowding vary, and crowding is not limited to spatial and environmental factors (Stokols, 1972; Nickerson, 2016). Multiple works, primarily by Heberlein and various co-authors (Heberlein & Kuentzel, 1992; Heberlein, Vaske, & Shebly, 1989; Heberlein, Vaske, & Donnelly, 1980), employ a normative approach to crowding, which focuses on the cognitive elements that constitute crowding. These normative evaluations are:

“...derived from the perceived use of a given resource, where specific conventions of activity and behavior are socially generated. Each evaluation relates to the socially prescribed expectation of appropriate use for the resource. Crowding, then, is not purely a question of density, but is contingent on evaluations about appropriate use levels in conjunction with specific activities or settings” (Kuentzel & Heberlein, 1992).

The visitor perceives that an area or an experience was crowded when the number of actual encounters exceeds the number of encounters that they were expecting or the number of interactions that were preferred (Shelby, 1983).

Many of the studies conducted based on these frameworks use “visitor satisfaction” as a measurement of crowding with the assumption that more crowding would be correlated with less satisfaction. In specific crowding studies, this has proven to not actually be true, with respondents indicating that crowding occurred, but their satisfaction was still high or sufficient (NPS, 2018b). Low correlations between perceived crowding and overall satisfaction with their experience (Shelby & Heberlein, 1986; Graefe, Vaske, & Kuss 1984; Manning, 2011) can be attributed to a few common strategies that are used by visitors to adapt to the negative impacts of crowding.

Coping Strategies Related to Crowding

Park visitors undergo various strategies to adjust to crowding. These include site succession, dissonance reduction, and displacement. Site succession refers to a visitor's value shift over time while visiting a site. The use levels that someone encounters during their first visit changes their normative expectation for the rest of their visit and future visits (Shelby & Heberlien, 1986). Participants are effectively changing their mind about the product or experience they are getting and make the best of their crowded experience (Shelby & Heberlein, 1986). The dissonance reduction coping strategy refers to humans' attempt to maintain a state of cognitive consistency or balance (Heider, 1958). When dissonant cognitions create a state of tension, people try to alleviate them by 1) seeking new information; 2) discounting the importance of the cognition; 3) changing their attitude, or; 4) changing their situation (Kuentzel & Heberlein, 1992). When people have cognitive dissonance in recreation from crowding, they often try to minimize the dissonance by focusing on the positive aspects of their experience (Kuentzel & Heberlien, 1992). Another coping strategy that visitors use is the displacement hypothesis, which states that people will alter their participation patterns and shift their activity to another location when faced with overcrowding either intra-site (within the area) or inter-site (visiting another area) (Anderson & Brown, 1984).

Studies involving these hypotheses have shown mixed results. Manning and Ciali (1980) and Chambers and Price (1986) found no support for the dissonance reduction hypothesis. The relationship was tested on river recreationists in Vermont and no relationship was found between density and satisfaction of experience (Manning & Ciali, 1980). Tests of the inter-site displacement hypothesis have shown mixed results (Nielsen and Endo, 1971; Kuentzel & Heberlien, 1992). A study involving boaters in the Apostle Islands did not show significant

results that boaters would choose other sites to recreate due to crowding, although in some cases it did (Kuentzel & Heberlien, 1992). The intra-site displacement hypothesis showed more promising results again with boaters in the Apostle Islands (as reviewed by Vaske, 1980). Isolating two dissonant cognitions in a study or field setting is extremely hard to do, which could attribute to the mixed results in the studies.

Crowding in Yellowstone National Park

Visitor crowding in Yellowstone National Park has been a longstanding issue, with 4,020,288 visitors in 2019 and 3,806,306 in 2020 (IRMA, 2021). Popular sites like Old Faithful, Midway Geyser Basin and the Canyon area attract the most visitors. In these concentrated areas, issues with traffic and parking have become especially problematic (NPS, 2018b). To detect and monitor visitor crowding, surveys are typically implemented with various elicitation methods including open-ended questions, or dichotomous choice questions (Manning, Lawson, Newman, Laven & Valliere, 2012). More recent studies ask visitors trade-off questions which include pairs of alternative settings, in which the visitors pick one over the other (Nickerson, 2016). An example of this is having two scenarios with different elements in each of them, and having the visitor choose one.

Studies show that the crowding in Yellowstone National Park is deemed by most visitors to be completely acceptable (NPS, 2018b; Nickerson, 2016). In 2018, the National Park Service and several partners surveyed more than 4,000 visitors in Yellowstone—the largest survey in the history of the National Park Service. It found that 85% of the visitors felt that their experience was great or excellent. The 2018 report noted that respondents are generally not frustrated, have high experience ratings, and do not perceive major problems on roadways (NPS, 2018b).

Yellowstone’s website warns visitors of high traffic and long lines, preparing them for the worst conditions and adjusting expectations of visitors. Figure 6 below is from the 2018 study in Yellowstone and displays responses of visitors according to location and measures their overall experience paired with the number of people encountered.

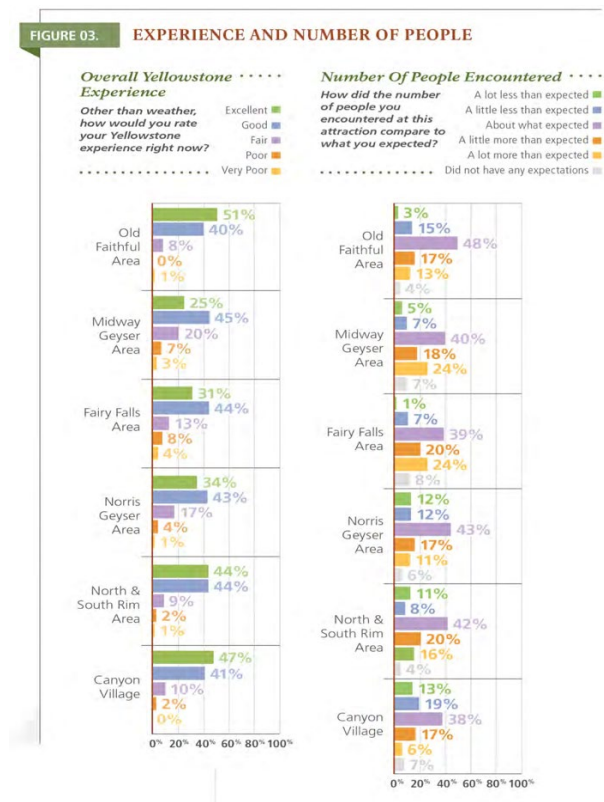


Figure 6. Experience and Number of People (NPS, 2018b)

Desired Conditions

Some scholars suggest moving away from using the concept of carrying capacity in our parks, and instead suggest the use of acceptable or desired conditions. For example, McCool, 2001 stated, “We suggest transforming the character of the question to focus not on *how many* people can an area sustain, but rather on the social and biophysical *conditions* desired or appropriate at a destination.” (McCool, 2001). The concept of desired conditions is prevalent in

natural resource conservation and land management. “Land management and restoration is best guided by clear and specific ecological goals or desired future conditions” (Sutter et al., 2001). The USDA Forest Service pioneered the concept of desired conditions and its role in planning processes in the 1970’s and 1980’s (Bennetts & Bingham, 2007). The U.S. Forest Service describes desired conditions as, “descriptions of goals to be achieved sometime in the future. They are normally expressed in broad general terms and are timeless in that they have no specific date by which they are to be completed. Goals and desired conditions are the focus of the plan and are the basis for developing objectives and other plan components” (U.S. Forest Service, 2010).

Comparing current conditions to desired conditions has been a widely used concept in management-oriented science. “The notion of comparing current and desired conditions has a long and solid scientific history...this notion is deeply rooted in sciences such as physics, thermodynamics, and statistics...” (Bennetts & Bingham, 2007). The idea of desired conditions can certainly have different meanings within various agencies and contexts. A document prepared by The Nature Conservancy for the Department of Defense lays out a three-part framework for future desired conditions. The first is the condition that is desired from the landscape, system, population, or community. The second is the spatial setting. More specifically, “the spatial relationship among populations and the spatial extent and configuration of communities and ecological systems” (Sutter, et al 2001). The third element is setting a realistic time frame for the management objectives.

Identifying desired conditions is an essential step for visitor management. A Visitor Use Management Framework was prepared by the Interagency Use Management Council, which is a collaboration between the Department of the Interior, the Department of Agriculture, the

Department of Commerce, and the Department of Defense to address sustainable outdoor recreation. The Interagency Use Management Council was chartered in 2011 to develop best practices for visitor use management of federally managed lands and waters. In this publication, they state that “Defining desired conditions for a project area is fundamental to answering the question: What are we trying to achieve?” This is a question that influenced many of my interview questions (see Appendix), where I try to better understand what guests desire from their experience, and how this can be achieved.

Alternative Transportation Systems in our National Parks

With crowding and transportation issues in the park, it was important to understand visitors’ opinions on alternative transportation in YNP so I ended my interviews with a few questions about their feelings towards a shuttle bus in the park. The concept of alternative transportation systems (ATS) in our National Parks is becoming increasingly important as park visitation continues to grow. ATS could reduce crowding and traffic congestion, but whether they represent the desired conditions of visitors was something I investigated in my interviews. The National Park Service defines ATS as, “all modes of travel within the park including transit, bicycle and pedestrian linkages, and the automobile; and includes a whole range of technologies, facilities, and transportation management strategies.” Alternative transportation in the national park system does not necessarily exclude vehicle travel but provides other options. The benefits listed are, “enhancing the visitor experience, minimizing resource impact, providing car-free access, improving air quality and soundscapes, and reducing wildlife/auto collisions” (NPS, 2020c). Five parks were identified by the National Park Service as having, “complex transportation challenges (NPS, 2020c) and in 1997 a Memorandum of Understanding (MOU) between the Department of the Interior (DOI) and Department of Transportation (DOT) was

created to set, “goals and strategies for establishing a mutually beneficial relationship to improve transportation in and approaching National Park facilities” (NPS, 2020c).

Although every park is different in terms of size, visitation, and accessibility, the implementation of shuttle bus services has improved issues in several parks including Zion National Park where, “The shuttle system has expanded visitor access, improved the visitor experience, and reduced negative impacts of park resources (NPS, 2020c).” Other improvements were also noticed such as improved air quality and a quieter soundscape (Thomsen, Powell, & Allen, 2013). That being said, for many national parks the drive itself is part of the park experience. Many parks are built around scenic roads and specifically designed for highlights to be experienced by car. In Acadia, a study showed that “driving for pleasure” was one of the most popular recreation activities (Hallo & Manning, 2009).

There are also some negative aspects of shuttle services in parks. A study in Rocky Mountain National Park focused on the downstream effect of shuttle buses, such as increased use to specific areas and related environmental degradation. The study assessed ecological conditions, visitor standards of ecological conditions, and assessed use of visitor location and density by GPS (D’Antonio, Monz, Newman, Lawson, & Taff, 2014). This sort of study is important for understanding potential unintended effects a shuttle system could have on different areas of the park. Other studies such as one in Yosemite National Park (Youngs, White, & Wodrich, 2014) and another in Rocky Mountain National Park (Taff, Newman, Pettebone, White, Lawson, Monz & Vagias, 2014) study the visitor experience and use to better understand attitudes about shuttle bus systems in our national parks. Understanding visitor attitudes and the impacts a shuttle may have on the visitor experience is important to a functioning and positive transportation system.

Transportation in Yellowstone

Visitation in Yellowstone was extremely high during the summer and fall of 2020, despite the COVID-19 pandemic. From July 2020 onward, every month in 2020 had higher visitation than in 2019. As visitation continues to grow, issues with road congestion and parking will continue to get worse. The National Park Service states, “Since most travel into and within national parks is based on personal automobiles, congestion has become an unfortunate part of the park experience” (NPS, 2020c). Currently, Yellowstone does not have a public transit system, but private companies offer tours through the park on buses. Several recent transportation studies have been conducted in Yellowstone, including a 2016 study that monitored entrances, parking lots, traffic flow and congestion (NPS, 2017). This study found that a majority of visitors thought that parking and roadway congestion was an issue, and most visitors wanted to see this addressed through voluntary public transit and expanding parking areas. In 2018, a study was conducted to specifically examine visitor movement throughout the park and better understand visitors’ experiences. The study used both surveys and a geofence based method with distributed tablets to track visitor travel. Key findings included issues with congestion around Midway Geyser Basin and high satisfaction ratings around Canyon Village and Old Faithful, both of which have more infrastructure to support large crowds (NPS, 2018b). This information is essential to gain a baseline understanding of problem areas in terms of traffic. It also provides a beginning to create solutions.

In fall 2020, Yellowstone National Park announced that it would be partnering with the U.S. Department of Transportation Volpe National Transportation Systems Center to create two visitor shuttle initiatives in response to congestion in the park. These shuttles will be fully automated, meaning they will be self-driving and initially service the Canyon Village area, with

stops at the visitor center, campground, and lodge. This shuttle will not bring visitors to the Canyon Rim areas. The shuttles are expected to run May-August in 2021 (NPS, 2020d). “The park has used and will continue to use a variety of data, including outcomes from these exploratory shuttle efforts, to deliver a world class visitor experience, respond to increased visitor use, improve visitor services and amenities and use innovative technology to connect people to Yellowstone,” (NPS, 2020d). This project is a great start for Yellowstone to begin to explore the viability of a shuttle system in the park. My study is intended to help park managers better understand how shuttles would be utilized in the park and what shuttle amenities visitors want.

Overall, this literature review provided an overview of current management frameworks and identified frameworks and studies specifically related to crowding. Along with these frameworks, I outlined the importance of future desired conditions as an essential step for visitor management. Although it is typically used in forestry sciences, the concept of desired conditions is something that can be utilized in social science to gain a greater understanding of visitor experiences in park settings.

Methods

There have been many studies about crowding in recreation areas and national parks. In fact, “crowding has become one of the most frequently studied issue in outdoor recreation” (Manning, 2000). Many of these studies rely on quantitative methods like surveys to gather information from park visitors, which is a logical way to go about getting the most information possible from the greatest amount of people. For example, a 2018 Yellowstone study contacted and surveyed more than 4,000 visitors (NPS, 2018b). These data are extremely useful to understand the larger

picture of a trend or widespread opinions. However, the nuanced information that a visitor may hold but is not be able to express on a multiple-choice survey may be missed. Qualitative research seeks to go, “behind the statistics to *understand* the issue” (Hesse-Biber & Leavy, 2017). This is the information which may be lost between the cracks in a survey and may be more accessible through an interpretative, grounded theory, semi-structured interview.

An interpretative approach to research “focuses on subjective experience, small-scale interactions, and understanding (seeking meaning)” (Hesse-Biber & Leavy, 2017). This interpretative approach pursues understanding through the interaction between humans and objects, and places value on perspectives and opinions. “Interpretive methodologies position the meaning-making practices of human actors at the center of scientific explanation” (University of Utah, 2009). This approach is useful for my research because it seeks to gain knowledge through people’s experiences and opinions.

Grounded theory is a methodology used in social sciences that constructs theories through gathering and analyzing data. By definition, it is “developing a theory that is grounded in data systematically gathered and analyzed” (Cohen & Crabtree, 2006). The research begins with an overarching question and uses data collection to find important concepts that emerge. “Grounded theory begins with inductive data, invokes iterative strategies of going back and forth between data and analysis, uses comparative methods, and keeps you interacting and involved with your data and emerging analysis” (Charmaz, 2014).

The grounded theory analytical process begins with interviews which are transcribed and coded into themes. As these themes emerge, the data within these themes is compared, and ultimately the researcher examines how the themes are linked together to create a complete

picture of the topic being studied, and create a theory (Bernard, 2000). Some challenges of grounded theory are that there is often a large volume of data to work with which can be difficult to manage. There are also no standard rules to follow to identify categories, leaving much subjectivity to the researcher. Some pros of grounded theory are that it often produces a, “thick description that acknowledges areas of conflict and contradiction,” and it is adaptable to a range of subjects (Milliken, 2010). A key element of grounded theory is letting the data speak, and not entering with too rigid of an idea about what will emerge. For my research, I didn’t have a preconceived theory about what my responses would be. Instead, I was interested in what people’s experiences were in Yellowstone and their future desired conditions for the park. A common question in grounded theory methodology is “What is going on?” which is exactly what I hoped to find out about locations in Yellowstone.

I used an in-depth interview to gain a greater understanding of visitors’ desired experiences at different locations in Yellowstone. An interview is an important tool to do this because “... [the interview] uses individuals as the point of departure for the research process and assumes that individuals have unique and important knowledge about the social world that is ascertainable and that can be shared through verbal communication” (Hesse-Biber & Leavy, 2017). Interviews are useful for research that is issue oriented and exploratory. I specifically used a semi-structured interview because it gives some freedom to explore topics the interviewee is interested in. “Semi-structured interviews rely on a certain set of questions and try to guide the conversation to remain, more loosely, on those questions. However, semi-structured interviews also allow individual respondents some latitude and freedom to talk about what is of interest or importance to them” (Hesse-Biber & Leavy, 2017). This was important in my research, because

although I did want to frame the interview around the topic of desired conditions, I wanted the interview to feel conversational.

Study Description

Before beginning my in-person interviews in Yellowstone National Park, I conducted six pilot interviews to test out my interview guide and practice conducting an interview. Five of the interviewees were from a Yellowstone Facebook group, and one was a fellow masters' student at the University of Montana. All six individuals had been to Yellowstone in the past. The interviews were conducted either over Zoom, a platform used for video conferencing, or by phone and were recorded with permission. These pilot interviews also gave me good practice in asking the questions and helped me feel more confident in my interviewing skills. In addition, the pilot interviews gave me the chance to ask interviewees if they felt additional questions were needed or if some questions needed to be excluded. None of the participants had any feedback about changing the interview guide. I also felt confident that the interviews went smoothly enough that nothing major needed to be changed. These interviews lasted thirty to forty-five minutes, which was important for me to compare to my park interviews later.

Many visitors come to Yellowstone because they are attracted to the thermal basins, features like Old Faithful, wildlife viewing, and hiking opportunities. The three sites I asked questions about for my research were Old Faithful, Canyon Rims, and Midway Geyser Basin. In the park, I conducted interviews in the Old Faithful area, Canyon area, and West Thumb geyser basin. I chose not to interview at Midway because of the lack of tables or areas where people were standing or sitting for extended periods of time. It is a cramped area geographically and conducting interviews there would have been uncomfortable and loud. At Old Faithful, I conducted interviews on the boardwalk and picnic tables. In the Canyon area, I intercepted

people in Canyon Village and along hiking trails around the rim. At West Thumb, I walked around the boardwalk and found benches to conduct my interviews. I used convenience sampling for my interviews, meaning I intercepted people that were close by and seemed receptive to letting me interview them. I chose to approach people who seemed like they were in location they could talk and made eye contact with me while wearing my bright yellow safety vest. I noticed at the beginning, I tended to interview people the same gender and age group as myself, so made sure to intercept others as well, to avoid a biased sample.

When writing my initial research proposal, my plan was to interview primarily at food vending areas (restaurants) where interviewees are relaxed and feel they have time to talk. Due to COVID-19, interviewing at concession areas was no longer an option, so I had to adapt my sampling locations to the ones just mentioned. Likely as a result of this change in interview sites, most of my in-person interviews were considerably shorter than I had anticipated. I was unable to gather as much information as I had hoped. Most of my in-park interviews lasted around ten minutes. I had anticipated my interviews would take around thirty minutes. I hypothesize this was because the interviewees were often not sitting down. They were ready to move on to their next location in addition to wanting to avoid extended contact with another person during a pandemic. I conducted a total of thirty in-person interviews in the park.

These short interviews lacked depth. In my pilot study where I asked the same questions, depth and quality of answers were obtained. Therefore, after consulting my thesis committee it was decided to conduct more interviews via Zoom, hoping that the interviewees would feel more comfortable talking for a longer time and provide more valuable information in their interviews. These contacts were reached through the Yellowstone Up Close and Personal Facebook page. People on this page have an interest in Yellowstone and may have just recently visited the park

or have been going for several years. I conducted eleven interviews from that group which took from thirty minutes to an hour, or longer per interview. This second method of data collection provided the depth not fully achieved with the on-site interviews.

Study Population and Sample

An important factor that determines if a study is accurate or not, is its sample and if that sample is representative of the larger population being studied. “A sample size should be large enough to sufficiently describe the phenomena of interest and address the research question at hand... the goal of qualitative research should be the attainment of saturation. Saturation occurs when adding more participants to the study does not result in obtaining additional perspectives or information,” (Shetty, 2019). Although a qualitative study like this is not generalizable to the whole population, the idea of saturation still applies.

Most experts believe that interviewing until saturation is ideal but give some numerical guidelines as well. Some experts suggest 20 interviews for a master’s thesis, and others suggest 30-50 interviews for grounded theory, while some suggest that 20-30 is sufficient (Statistics Solutions, 2019). Sample size clearly depends on the nature of the interview and research. Although I completed thirty on-site interviews in the park and reached a saturation point of hearing the same themes, the respondents answered in short, polite, and less insightful ways than I felt was needed for this study. This warranted the additional data collection via Zoom or phone.

There are some differences that need to be noted between the groups of interviewees used in my study. My in-person interviews conducted in the park were park visitors who were willing to talk. This made the sample size diverse and varied in terms of age, gender, etc. Most of the

visitors I intercepted were at Old Faithful, which is often one of the first stops in the park for first-time visitors. Most of the visitors were first-time visitors. This often led to a lack of informed opinions about park infrastructure and management. In a 2018 study by the NPS (NPS, 2018b), it was shown that repeat visitors or even those who have been in the park more than three days show lower satisfaction rates of their visit than first time visitors as they likely had a better understanding of the park and its challenges.

The group that I interviewed via Zoom were all repeat visitors except for one visitor, with a passion and love for Yellowstone. Some had been to the park for over a span of many years. They had strong opinions on park infrastructure and management which they had seen change over the years. Although these populations have some differences, I am considering them one population in my analysis because they were all hypothetically visitors who I could have intercepted at the park in Summer 2020. I would also like to note that my sampling frame is completely missing international visitors, who made up 17% of tourists in the park in summer 2016 (NPS, 2016). This is due to the pandemic, because most international travel came to a halt in 2020.

Data Analysis

There are many different approaches to qualitative data analysis, but Mason (1996) outlined three general approaches for analyzing qualitative data: literal, reflexive, and interpretive. A literal approach focuses on the exact use of particular language. A reflexive approach focuses on the researcher and their contribution to the data. An interpretative approach to analysis is focused on making sense of the participants' accounts to interpret their meaning (Welsh, 2002). My research analysis focuses on an interpretative approach with the categorization of themes based on the interviews.

For my data coding and analysis, I used the qualitative data software analysis NVivo. I found a helpful article from a Methodology Expert working at the National Center for Academic & Dissertation Excellence (NCADE) that outlines a general approach for analyzing qualitative data. They suggest that the first step should be a pre-coding stage in which you familiarize yourself with your data. A 'Query' command in NVivo displays the words participants are frequently using and how often those words are used. Another useful tool is creating a word cloud or word tree that depicts word frequency (Adu, 2016).

The next step, the coding process itself, included organizing the interview transcripts into distinct nodes or 'containers' that were grouped into parent nodes or larger themes. Organizing the data in a hierarchal system helps identify larger themes in which to focus. These parent nodes or larger themes were then used to answer the research questions (Adu, 2016). The following chart envisions the process of my data analysis and represents how to accurately answer my research questions and represent the data effectively (Fig. 7). The chart visually shows the process of analyzing data and the multi-faceted aspect of physically coding the data in addition to displaying how credibility plays into interpreting data.

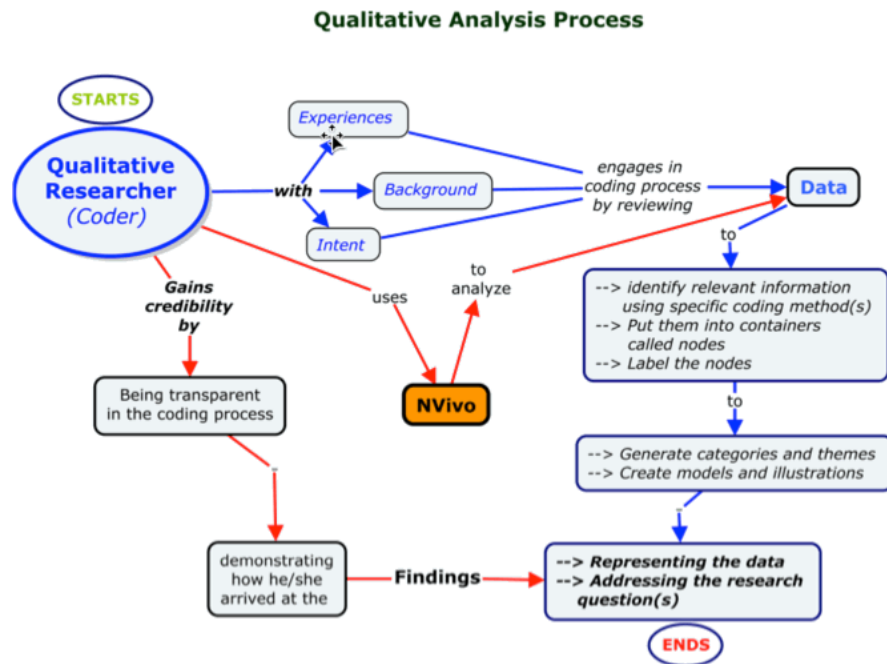


Figure 7. Qualitative Analysis Process (Adu, 2016).

Although NVivo is an extremely helpful tool in qualitative research, it is also important to engage in critical thinking outside the software. It is imperative to understand themes through a human perspective, and not to completely depend on the software analysis. Welsh (2002) draws an interesting analogy of the research process to the work of a weaver: “At this point it is useful to think of the qualitative research project as a rich tapestry. The software is the loom that facilitates the knitting together of the tapestry, but the loom cannot determine the final picture on the tapestry. It can though, through its advanced technology, speed up the process of producing the tapestry and it may also limit the weaver’s errors, but for the weaver to succeed in making the tapestry she or he needs to have an overview of what she or he is trying to produce.” Through my interviews and data analysis, I hope to weave a colorful tapestry representing the diverse ideas and opinions of visitors on desired conditions in Yellowstone National Park.

Limitations

There are several limitations to my study that I will discuss including gathering data from different sources and the COVID-19 pandemic. My sampling frame was in no way an accurate representation of who was visiting the park at the time. I used convenience sampling, which means people who were willing to talk to me and I mainly sampled at popular locations which led to interviews with more first-time visitors than repeat visitors. My Zoom interviewees were mostly repeat visitors who were willing to go out of their way to get interviewed, which also indicates a special interest in the park and may not be representative of the typical visitor. My goal with this qualitative study was not to make large sweeping statements about the state of the park but instead understand what each individual interviewed personally felt about their park experience.

The COVID-19 pandemic also played a role in limiting my study. I was unable to interview at the locations I had originally planned, which I believe changed the quality of my interviews. I also was unable to interview international visitors because of travel restrictions. In turn, the absence of international visitors and large travel buses may have also changed how visitors felt in terms of crowding issues and conflicts with other visitors. It also seemed that visitors wanted to make the conversation brief, perhaps because of wanting to limit interactions during the pandemic. Despite these limitations, my data provided rich information to answer my research questions.

Results

To analyze my data, I used NVivo, a software designed for qualitative analysis of data. Following the common steps used when utilizing grounded theory methodology, I began my

analysis by open coding my data. The idea behind open coding is to segment the data under overarching themes. I identified eleven open-coding themes from my data. Since my initial goal in this research was to get an idea of site-specific desired conditions, I noted the location the quote referenced. I address site-specificity in the final paragraph of the sub-section if it is applicable to the theme. Additionally, I removed respondent ‘fillers’ in the quotes such as, ‘you know,’ ‘um’, ‘like’ and so forth for ease of reading.

Respondent Demographics

There were 47 participants in my study, with two unusable interviews, so for this analysis I used a total of 45 interviews. The unusable interviews were due to heavy wind while recording, so I was not able to transcribe them. I began with 6 pilot interviews that I chose to use in my data analysis because of their depth of information. These interviews have some differences, however, such as the participants were not in the park in summer 2020 and their visit was not affected by the COVID-19 pandemic. Thirty participants were intercepted in Yellowstone National Park. Twenty-eight of those interviews were usable, with two being inaudible. There were 11 Zoom interviews that took place after the onsite interviews to provide more in-depth data from people who had visited the park during 2020.

The following charts display demographic information gathered during the interviews. I chose pseudonyms for each participant to protect their identity, as stated at the beginning of each interview. There was a total of 17 Zoom interviews and 28 useable in-person interviews. The respondents included:

- Four males
- Twelve females
- Eighteen couples
- Nine families

- Two friend groups, one of three males another of four males

The number of times visiting the park ranged from first-time visitors to those that had been to the park 100+ times. I recorded the location of each interview either within the park or noted that the interview was via Zoom. I also recorded where each interviewee was from when possible, either their city and state or just their state.

Pilot Interviews

Pseudonym	In person/Zoom	Male/Female/Couple/Family/Friends	# Times to park	Location	Home
Margaret & William	Zoom	Couple	20	Zoom	Raleigh, NC
Keith	Zoom	Male	2	Zoom	Missoula, MT
Amy	Zoom	Female	3	Zoom	Orion, IL
Margie	Zoom	Female	2	Zoom	Pittsburgh, PA
Jay	Zoom	Male	1	Zoom	CA
Alec & Bruce	Zoom	Father and adult son	1, 2	Zoom	GA

Study Interviews

Pseudonym	In person/Zoom	Male/Female/Couple/Family/Friends	# Times to park	Location	Home
Sherry & Mark	In person	Couple	1	Old Faithful	Denver, CO
Johnson Family	In person	Family, couple and young grandkids	2	Old Faithful	Lyndon, UT
Smith Family	In person	Family, couple and young kids	1	Old Faithful	Bend, OR
Andy & Connor	In person	Friends, both male	1	Old Faithful	MA, CT
Mike & Nick	In person	Family, father and teenage son	1, 2	Old Faithful	Sioux Falls, SD
Nancy & Chris	In person	Couple	1	Old Faithful	KY
Jenn & Milo	In person	Couple	1	Old Faithful	Las Vegas, NV
Brown Family	In person	Family, couple with two teenage boys	1	Old Faithful	CA
Katie & Lauren	In person	Couple	1	Old Faithful	Des Moines, IA

Conrad & Melanie	In person	Couple	1, 2	Old Faithful	AZ
James & Ashley	In person	Couple	1	Old Faithful	CA
Marie & Kelsey	In person	Family, mother and adult daughter	2	Old Faithful	IA, WY
Wilson & Debbie	In person	Couple	20	Old Faithful	Idaho Falls, ID
John & Kaleigh	In person	Couple	1	Old Faithful	Colorado Springs, CO
Sean & Maggie	In person	Family, father with teenage daughter	1	Old Faithful	Los Angeles, CA
David & Shirley	In person	Couple	2, 3	Old Faithful	Chico, CA
Jackson & Mary	In person	Couple	1	West Thumb	Denver, CO
Jerry & Tina	In person	Couple	1	West Thumb	China
Derek & Nina	In person	Couple	1	West Thumb	Nashville, TN
Kyle & Jane	In person	Couple	~60	West Thumb	MT
Jordan & Stephanie	In person	Couple	20	Canyon Campground	VA
Hanson Family	In person	Couple with young kids	1	Old Faithful	UT
Susan & Darren	In person	Couple	1	Old Faithful	MI
Micah & Karen	In person	Couple	1	Old Faithful	Minneapolis, MN
Sheila & Jack	In person	Couple	2	Old Faithful	CT
Megan	In person	Female	1	Canyon Rims	Chicago, IL
Chase, Milo, & Ernie	In person	Friends, 3 males	1	Canyon Rims	Eugene, OR
Spencer Family	In person	Family, dad with two teenage kids	1	Canyon Rims	Reno, NV
Joan	Zoom	Female	4	Zoom	MS
Patty	Zoom	Female	3	Zoom	MO
Sally	Zoom	Female	2	Zoom	Pittsburgh, PA
Paul	Zoom	Male	12	Zoom	WI
Jean	Zoom	Female	1	Zoom	WI
Elizabeth	Zoom	Female	75	Zoom	UT
Carrie	Zoom	Female	1	Zoom	
Rebecca	Zoom	Female	100+ (worked there)	Zoom	Miles City, MT

Kayla	Zoom	Female	2	Zoom	San Francisco, CA
Lila	Zoom	Female	50	Zoom	
Grant	Zoom	Male	30	Zoom	UT

“There’s a geyser that’s blue that has changed color because people have thrown things in it. That bothers me. The fact that it’s changing because we’re trashing it... that’s kind of an awful thing.”

Another guest, Jean who was a first-time visitor to the park expressed frustration about potential vandalism specifically at Midway Geyser Basin.

“One worry with the way it is around Grand Prismatic is I feel like it’s too accessible to visitor tampering. I feel like it’s so amazing. And you see these pictures of visitors trying to touch things around there and it’s a rainbow. It’s very tempting. So again, they have to continue to be really vigilant of visitor tampering with that area.”

Derek and Nina, who were visiting the park for the first time saw some trash at Midway that bothered them. *“I did see a little bit of trash in the upper geyser basin and I thought it was a shame.”* Amy had been to the park three times before, and on her most recent visit, saw some trash at Midway as well and said, *“I think the thing that took me back was around Grand Prismatic... people’s trash was getting into it.”* Kayla, who was a second-time visitor to the park noticed that generally trash issues this year seemed worse than when she had visited before.

“... it just seems like this year, in particular, I’ve noticed so many people just leaving their trash behind. To me, it’s just destroying the beautiful part of the parks.”

Most of the comments relating to frustration with other visitors in the park pertained to them breaking rules. The Brown family noticed some footprints around Midway. *“There’s signs everywhere, stay on the boardwalk and then we could see footprints.”* Rebecca, who had worked in the park for the summer and has been there 100 plus times, noted that park guests often don’t even know the rules and regulations.

“Just people being disrespectful. People that litter and people that get up too close to the animals. We’ve tried to educate people at different times and all they do is get mad. There was a tour bus that lined up a bunch of kids really close to some bison to take their pictures. Just the stupidity amazes me so if they could do some kind of required education before people come in, somehow.”

In addition to requiring education to park visitors before they enter the park, interviewees had other ideas on how to improve the situation of visitors breaking park rules. Jordan and Stephanie, who have visited the park annually for over 20 years, suggested having volunteers that help enforce regulations within the park.

"That's one of the problems they have is there's not enough enforcement. And I think a lot of people do try to monitor the crowd, just out of respect for the park, try to say, 'Hey, don't do that!' But if you had that docent or friend of the park or something...they have them in museums, they have them in the other places. It'd be a great way for the park to have more enforcement and not have to pay people."

Although some of the issues with rules and regulations were general comments about the park, some were site-specific. There seem to be concerns about the geysers at Midway and Old Faithful being trashed and vandalized. There were no specific comments about issues of rules and regulations at Canyon Rims, except for Margaret and William, who noted that a child passed away a few years ago by going off the path in the Canyon area.

Overall, repeat visitors seemed more sensitive to other park visitors breaking rules and the need for more park regulations. Some had really great ideas for improvements that could be made and be helpful to park management.

Technology

Six interviewees referenced technology in their interview, either concerning cell phone coverage or about improving technology within the parks' exhibits and signage. This is only 13% coverage of my interviewees but is an

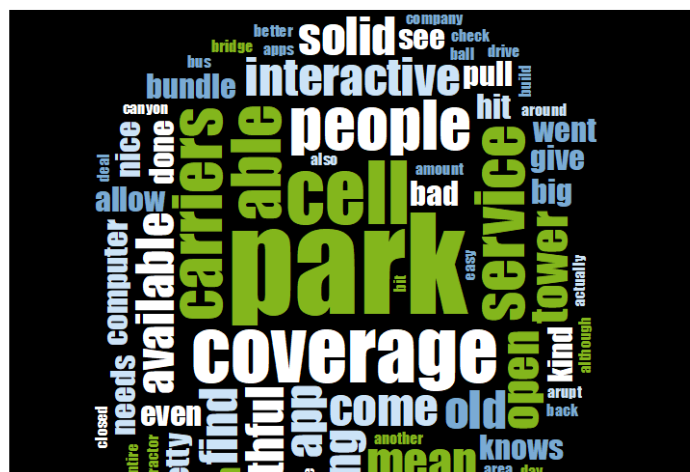


Figure 9: Word Cloud Technology

important theme because of the ideas for specific areas of improvement in the park. Figure 9 gives an idea to words that were frequently used when people were talking about technology, notably “cell”, “coverage” and “service” The cloud shows that more cell phone coverage is desired in the park, with more carriers making service available.

Grant, who has been to the park 30 times feels that cell phone coverage in the park is important for both safety and planning reasons:

“I think they've got to have solid cellphone and Internet coverage for people. I think that's a must. And I think that's one area that the park service needs to team up with carriers. I don't think you need it throughout the entire park, but you've got to have all of those places you visit: Mammoth, Canyon, Old Faithful, and over by the lake. You've got to have all the carriers available there, and it's got to be solid. Nowadays, people got to keep track of loved ones. Maybe they're caring for somebody who's older. They've got to check in or their kids are being watched. You know what I mean?”

Other interviewees commented how they felt the park could be utilizing technology for educational purposes. Paul, who has visited the park twelve times, thought it would be a good idea to have more interactive signage:

“...maybe even some more computer based or interactive platforms. The signage is... I won't say stale but it's pretty stagnant. Maybe having more interactive computer stands where you can actually explore a little bit more. There's not a lot of bandwidth in Yellowstone but finding ways that you could interact with platforms on cell phones.”

Grant had some more input about how information should be accessible within the park and was disappointed at the lack of available information this year.

“There ought to be an app or a website that knows where you are by location services and it pulls up stuff that's relevant to where you're at. Instead of having to hit the Yellowstone site, and try to go find Old Faithful - You shouldn't have to go into the Inn to know when it's going to erupt, and it is available on the website, but you've got to find it. And when you're on a smartphone device and the data's really bad, you should be able to just pull that up, an app or something, and it knows where you are...Because nobody should have to go inside and go search to find that information. What's available to eat here? When are the stores open? I think that was sadly missing this year. You really had no idea what was open and what the hours were and what the restrictions were. It

Yellowstone, they said, *“That Tower Road was open.”*

The other closure that was mentioned in interviews was the Uncle Tom’s Cabin Trail in the Canyon area. Five of the seven people that commented on closures were upset that the trail was closed. Joan, who has been to the park four times before said:

“My husband I were going to hike down to the Uncle Tom's Trail, and it was closed and we didn't realize, we got all the way down. And that was annoying because it's kind of a tough climb going down and going back up so it would have been nice to know that before... but that could have been our fault.”

Elizabeth, who has been to the park 75 times also was hoping that the trail would be open:

“You know, I'd like to see them keep the stairs down to Uncle Tom's trail open because it's pretty incredible.”

These closures are intrinsically site-specific, and a predominant amount were about closures in the Canyon area which indicates this is something that park may want to address. It was an almost even mix of first-time and repeat visitors who were concerned about closures.

COVID-19

There were 17 interviewees that mentioned COVID-19, which is about 38% of those interviewed. I didn’t ask any questions specifically related to COVID-19, but it was surprising to me that more people didn’t mention the global pandemic. This may be partly because people came to Yellowstone to escape thinking about the pandemic and wanted to focus on positive aspects of their vacation, or

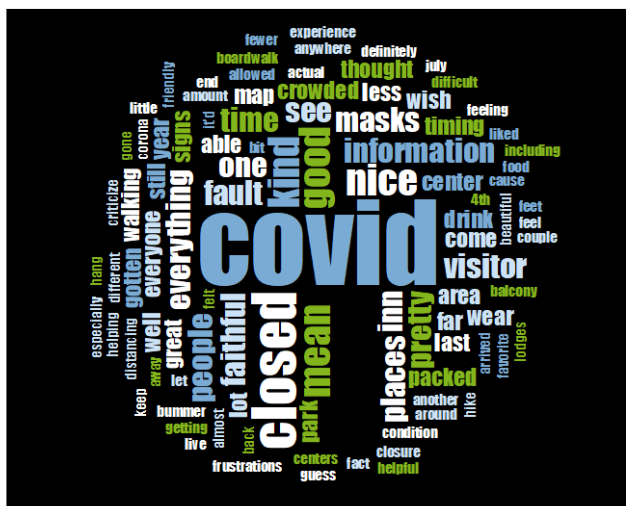


Figure 11: Word Cloud COVID-19

perhaps because we were outside people felt safe in the open-air environment. My in-person interviews occurred in mid-July, before COVID-19 had hit Montana and Wyoming full-force. Interviewees seemed to be feeling safe; many chose not to wear masks during the interviews and did not seem overly concerned about the spread of COVID-19.

Figure 11 displays words people used when talking about COVID-19. Notably, the words “closed”, “information” and “kind” showed up, which I will discuss.

I noticed a trend of repeat visitors talking about COVID-19 - it seemed like those who had visited the park many times felt that the park was more crowded than they expected with the pandemic. Jordan and Stephanie, who have been to the park twenty times said: *“So here we are in COVID-19 and it's packed even with the closure.”* Wilson and Debbie have been to the park about twenty times as well, and said in reference to COVID-19, *“We thought it'd be less crowded than it is. We're a little surprised.”* Kyle and Jane, who have been to the park around sixty times said they expected it to be much less crowded. Rebecca, who has been to the park 100 times said: *“I guess I'm surprised, even with COVID-19, the amount of traffic and people.”*

Those who had visited fewer times were more concerned with closures in the park due to COVID-19. It was Carrie's first time to the park and she noted:

“I mean, obviously there were some frustrations because of the COVID-19 restrictions but that's no one's fault. I mean it is what it is. I think the park was doing everything that they could do.”

Jean, who was a first-time visitor to the park felt that she was unable to get the information she needed due to closures because of COVID-19.

“One problem that we had in that area, and I think it was related to COVID-19 because if it hadn't been COVID-19 I think we would have been able to go into a visitor center and get a good map to let us know how long our hike would be. But maybe it's unfair

for me to criticize it because that might be a condition of COVID-19, I'm sure we could have gone into a visitor center and gotten a map with that information on it."

Nancy and Chris, who were visiting the park for the first time, felt like everyone in the park was being kind despite COVID-19 and felt other park visitors were being kind to one another.

“Nothing that’s the fault of Yellowstone. Just the fact that places are closed. That’s just what it is. Especially with everything that’s going on in the world with the pandemic. Everyone’s just been so nice.”

My experience in the park during my data collection was similar; I felt that everyone was being kind and considerate of others and I didn't see any conflicts related to COVID-19. Most of the comments on COVID-19 were not site-specific, although several people mentioned being disappointed that the Old Faithful Inn was closed, and said they often enjoyed being able to visit the inn. Kyle and Jane said, "*Our favorite thing to do is go sit in the inn and watch the people hang out - now it's closed up.*" Sally said, "*Yeah, I mean stuff being closed was kind of a bummer, it kind of sucked for them because they didn't get to see some stuff like going into Old Faithful Inn and that stuff.*"

Crowding

Crowding was the most common theme that arose in my interviews both in the park and over Zoom. Twenty-one participants referenced crowding in the park without being prompted, making it referenced in 47% of the interviews. Figure 12 is a word cloud showing common words used when discussing crowding. These words

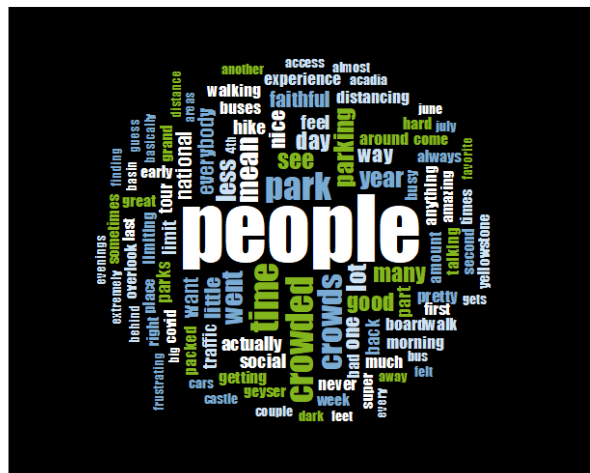


Figure 12: Word Cloud Crowding

about the number of people making the park feel crowded. Other noteworthy words in the cloud include “time” which indicates visitors are considering different times to visit to avoid crowds.

Within the topic of crowding, visitors had a variety of things to say. Some major topics were issues with parking, feeling that the number of visitors should be limited, and feeling unsafe on the boardwalks. When asked specifically about their future desired conditions for Old Faithful in particular, the Smith family noted:

“I would just hope that it wouldn't be any more populated and crowded, because they can't really space it out anymore.”

Issues with parking was one of the top complaints of visitors related to crowding. Carrie, who was on her first visit to the park, was unable to stop at Grand Prismatic because of crowding.

“I did not hit Grand Prismatic although I wanted to. It was on my list, but it was always so packed. We went by it one, two... five times and each time I said to my husband, “Okay, you know, maybe we're going to get a parking spot.” And each time it was just so packed, we couldn't get a parking spot.”

Sally, who has been to the park twice before felt parking was an issue in the Midway area as well. *“The main thing was the parking... it was just a nightmare.”*

Some interviewees thought the crowding has gotten so out of control that the park should start to limit visitors, or find ways to control the crowds better. Rebecca, who worked in the park for a summer in the 1970's said:

“I'm thinking if they're getting to the point where maybe they're going to somehow need to limit the amount of people that come in at any given time.”

Paul, who has been to the park twelve times was hesitant to say they should limit people but recognized a need for crowd control.

"I know in Glacier, they're limiting the amount of cars and Acadia, I was in Acadia last year. I would not say limiting cars because it is, America's first national park and it needs to be open to people. But I have seen a lot of people do stupid things in the park... So I don't want to see us limiting people to access but maybe controlling the access a little bit more."

Kayla, who has been to the park twice had given some deep thought to the park limiting visitors and felt like it would be a great idea.

"Limit how many people can go in at a time. I just think that would make the experience more enjoyable if there's only so many people coming in a day. You would never have problems finding parking. You would never be overcrowded... Because when you go to places, say like Disney World and it's so crowded how do you feel when you come out of there? You just feel exhausted. You feel frustrated because you know you're getting run into, people are rude. You have that experience and it's not a pleasant one. Whereas if you go in somewhere like Yellowstone or Grand Teton and you're not around a lot of people you have that pleasure, you enjoy the outdoors and it almost makes you feel like you're the only one there."

Another issue related to crowding was feeling uncomfortable on the boardwalks. Jean, who was visiting the park for the first time felt so uncomfortable on the boardwalks near Grand Prismatic that she and her partner had to come back at another time.

"I actually did have something I did not like at the boardwalk at Grand Prismatic. It was so crammed. We had masks, but it was extremely uncomfortable. Everybody was really tight in there that that was the only thing that I was like, 'This is terrible. Get me out of here!' So we did go the next morning."

Joan, who has been to the park four times mentioned that she and her partner changed their behavior and decided to visit Midway Geyser Basin at a different time than when they went last time.

"We went so early, but the time before that we went when it was completely full, they were not going one way around the boardwalk. There were people were just pushing and shoving and it was kind of scary because you know you're on the edge of that boardwalk."

Rebecca, who previously worked in the park decided not to bring her grandchild to the Grand Prismatic area at all because of too many people.

“Midway Basin was way too busy. We're trying to social distance and all that. So we didn't stop there.”

Sherry and Mark, a couple visiting for the first time, thought the boardwalks at Midway were an issue as well.

“I think especially right now, it was kind of narrow walking, people walking both ways. Definitely hard to be 6 feet apart.”

Jay, who went to the park with his family for the first time in Summer 2019, had specific complaints about Midway Geyser Basin, which is a common location that comes up when discussing crowding.

“I think that [Midway] was where we had some of the more difficult times with other tourists. And I don't know if it's just because of the narrowness of the boardwalks but we had a couple interactions where I actually had to kind of get loud and say, ‘That's my child, you're not pushing her into the side’... I would say if anything that was one thing that I look back on as a negative experience from Grand Prismatic was the crowd interactions.”

Overall, when discussing issues with crowding, people overwhelmingly mentioned Midway Geyser Basin with parking and boardwalk problems. Some were even unable to visit the area because of crowding. This may be an indication that parking is more sufficient and crowding less of an issue at Old Faithful and Canyon because people did not bring those locations up nearly as much as Midway. Both repeat and first-time visitors noted the crowding, but repeat visitors wanted it to change more than first-time visitors.

Thermal Features

Yellowstone is famous for its unique thermal features. Ten interviewees commented that the thermal features were one of their favorite parts about the park. The Figure 13 word cloud shows the most common words used when people talked about thermal features in the park. As shown, the common words used were simply about the geothermal features and the word ‘come’ indicating that many of these respondents came to the park for the geothermal activity.

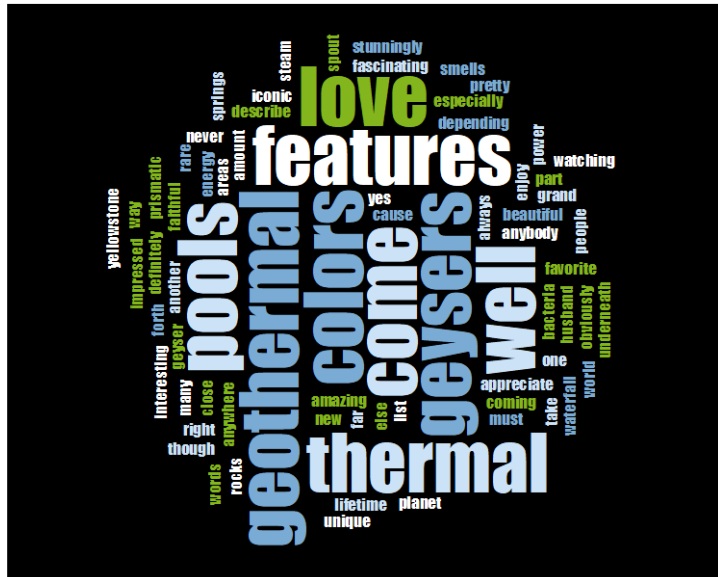


Figure 13: Word Cloud Thermal Features

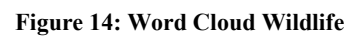
The descriptive words such as “stunning”, “fascinating”, and “amazing” indicate how much guests enjoy Yellowstone’s thermal features. These comments aren’t particularly useful for visitor management although keeping these thermal features natural is an important part of visitor satisfaction. Some general comments about the thermal features in Yellowstone were:

“Oh, I love the colors! Depending on what's underneath there, it's the colors that come out on those rocks. And the amount of steam and so forth. I just think that's fascinating to see all of that.”

“Stunningly beautiful. I think there's too many words to describe it. But I would say definitely it's like being on another planet.”

“Obviously all the geothermal—you just don’t see this anywhere else... so unique.”

Eighteen interviewees noted that seeing wildlife was one of their favorite parts of being in the park. Figure 14 displays words most frequently used when park guests described their feelings about wildlife. While they all mentioned animals (biggest word in the cloud), the wide variety of words in their descriptions was surprising to the respondent.



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wildlife like bison while some repeat visitors mentioned being more interested in watching wolves.

Visitor Displacement

Something interesting I noticed when talking to the park rangers, who have been to the park consistently for years, is that they talked about choosing to visit the park at different times in the season (either early or late) or visiting sites in the park at off-times in the day to avoid the crowds. Figure 15 displays words used by visitors when they were describing this displacement. Some locations like Old Faithful are noted, and also different times of day and season.

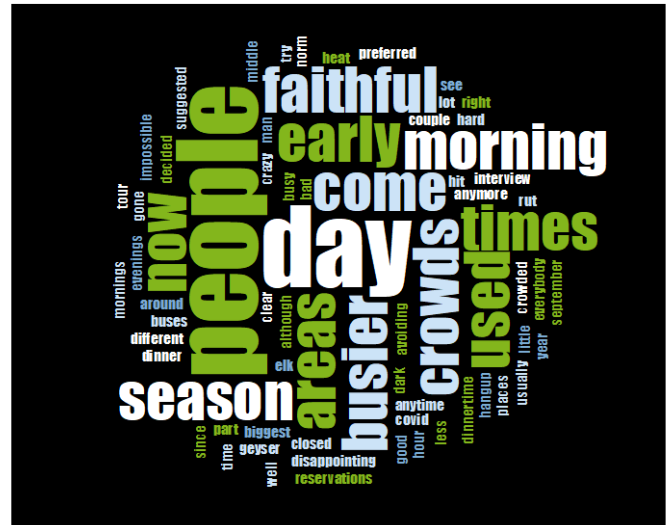


Figure 15: Word Cloud Visitor Displacement

Some visitors don't even bother to go to popular destinations anymore, like Grant who has been to the park thirty times.

"I may be disappointing to interview about those areas that were suggested like Old Faithful and the geyser stuff because we don't go to those anymore, but we have been before."

When asked about visiting the Old Faithful areas, Lila who has been to the park fifty times said:

"Oh, man it's just so busy it's crazy. I mean, we'll hit it in the early morning. We try to get there before 10 before the tour buses get in or around dinnertime because then things clear out. In the middle of the day, it's just impossible."

Jordan and Stephanie, who have visited the park every year for the past twenty years had a similar sentiment about the Old Faithful area:

“We don't like crowds, and they're super crowded. So, the time we go is super early in the morning before the heat of the day... We like the mornings and the evenings just before dark, but dinner hour is not bad...anytime that we can get in there where it's less people than the norm. And that's probably the biggest hang-up to it is it's just, everybody has to see Old Faithful and we're avoiding it this year because of the crowds.”

Rebecca, who has been to the park 100 times explained that she preferred to come to the park off-season to avoid crowds.

“My preferred times to go are more the off-season. May, although May is way busier than it used to be and then we like to go now since the elk are in rut but now September is way busier than it used to be.”

I thought it was interesting that there was such a distinction not only between first time and repeat visitors, but those who have visited the park many times versus a few times. It seemed like those repeat visitors avoiding crowds specifically mentioned feeling displaced in terms of Old Faithful but did not mention Midway or Canyon.

Keep the Same

Another interesting phenomenon is that many park visitors said they wanted parts of the park to stay exactly the same, but then would go on to comment how they felt it could be changed or improved. A fairly significant percent of my sample, 22 interviewees or 49% said something along the lines of wishing that the park or an area of the park would stay the same. Figure 16 displays words most frequently used when people talked about keeping the park the same.



Visitors wanted to see areas maintained or stay the same so they could continue to have positive experiences there.

I noticed that most of these visitors were first or second-time visitors who felt there was little they would change in the park. When asked about the Old Faithful area, Conrad and Melanie, a couple who were first- and second-time visitors said, *“I wouldn’t change a single thing.”* The Johnson family, who was on their second trip to the park said, *“I’d like it to just not change”* when they were referencing the Old Faithful area. In reference to the Canyon area Kayla, who was also on her second visit to the park had similar sentiments. *“I wouldn’t change anything it was absolutely gorgeous.”* Chase, Ernie, and Milo were friends visiting the park for the first time, and when asked if they had a magic wand and could change anything, they said they wouldn’t change anything about the park in general. Sally, who was on her second trip to the park said something similar about the Old Faithful area. *“I would hope it would not too much drastically change. Because I mean they’ve built newer stuff there recently but honestly, I don’t think they need too much more. Yeah, I would hope it wouldn’t be too commercialized. And I don’t know. Relatively the same.”* Susan and Darren, on their first trip to the park, and in the Old Faithful area noted *“I wouldn’t change a thing. This is the way God created it.”*

Along with people hoping that the park stays the same, many commented specifically on keeping the infrastructure in the area well-maintained. Jerry and Tina, on their first trip to the park were to the point at Old Faithful and said, *“Keep it maintained!”* Jean, also on her first trip to the park spoke specifically about Old Faithful and said, *“You know, I think it’s really important that the area be maintained and continue a first good impression. Because we went straight there when we came in.”* Jackson and Mary, who were also experiencing the park for the first time talked about Midway Geyser Basin: *“I think the trail is really nice because we just*

parked up the street and then were able to take the trail by the river, which is really pretty. So just keeping that maintained.” I thought it was significant that so many first-time visitors formed an attachment to the park the way it was and didn’t want to see it change, whereas repeat visitors had plenty of suggestions as to how they thought the park could be improved such as limiting visitors, improvements to infrastructure, and increased rule enforcement.

Most of the comments about keeping the park the same were site-specific, and predominantly about the Old Faithful area. This is important because Old Faithful is a more built-up area of the park. In addition, most of the interviewees referenced were in-person interviews. This will be discussed in further detail in the next chapter, but while at the location and in the moment, I hypothesize it’s easier to accept the conditions. It may be harder to accept them reflecting back in Zoom interviews and thinking of ways the areas could be improved.

Infrastructure

Park infrastructure was another main theme that emerged in many interviews. These comments ranged from saying the infrastructure was sufficient to suggestions for improvement. Figure 17 is a word frequency cloud based on comments about park infrastructure. Interestingly, the word “people” was most commonly used, indicating that infrastructure and people

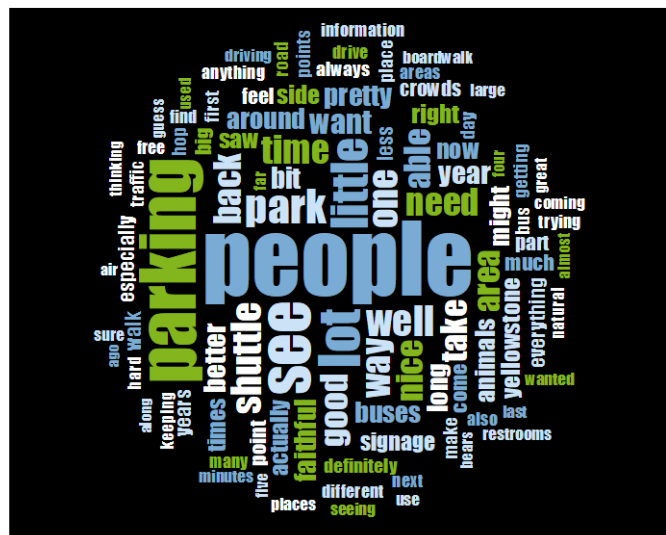


Figure 17: Word Cloud Infrastructure

management are linked. Parking was the other most common word mentioned and it was always about the lack of parking especially at Midway Geyser Basin.

I categorized these infrastructure comments into five subcategories: boardwalks/walkways, food and lodging, signage, parking, and roads.

Some park visitors were concerned about keeping the boardwalks maintained, while others felt they should be expanded. Jordan and Stephanie said, *“Well, obviously all the viewing area, the boardwalks need to be maintained, and those take a beating. The fact that they have to do maintenance on them and stuff like that I'm sure is a downside for the park...”* Kyle and Jane, who have been to the park 60 times were concerned about a walkway not being maintained near Fountain Paint Pots, *“...the walk is getting kind of crumbling and it's difficult to get up there.”* Other concerns were making sure areas were wheelchair accessible and making some boardwalks wider to accommodate the amount of people. John and Kaleigh, on their first visit to the park were asked about their future desired conditions in the Midway areas and said, *“Wider boardwalks.”*

Food and lodging in the park were another subtheme. There weren't as many comments in this category as I expected, which likely had something to do with COVID-19 closures. Some of the park hotels were closed or at limited capacity and most of the food vendors were only offering to-go food. Kyle and Jane said they often stayed in the cabins by Old Faithful and thought the cabins could have some more amenities. *“They're \$300 a night and not that nice. They're really rundown and need a remodel. I get it, but it doesn't make it right.”* Jay, one of my pilot interviewees had visited the park in summer 2019 and had comments about the food. *“I felt like there's a lacking in food quality in Yellowstone. I get it during the winter, to be able to get stuff up there, but in the summertime. I mean, there's no reason why there can't be good food and*

fruits and vegetables... I just felt like the Park Service could have done a better job. And I imagine there's a ton of revenue in the food service if they were able to." Keith, who has visited the park several times agreed with this. *"...it's just low grade, you know, it's was like you're paying what feels like too much for low-quality food."*

Signage was something that many interviewees mentioned; primarily the lack of it or being confused by it at both Canyon and Old Faithful. Carrie was on her first trip to the park and was specifically unhappy with the signage in the Canyon Rims area. When asked what could be improved in the Canyon area she said:

"I think it would just be better signage. I thought the paths were really well laid out as far as the access to being able to get to vantage points to take photographs and so forth. Those were really nice. It would just be the signage to understand that there were multiple points. Once you understood that there were multiple points to go to, the signage to get to those points were fine. It was just understanding that there were four or five different points that you could go to."

Katie and Lauren were also frustrated with signage in the Canyon area and had suggestions for improvement. *"Maybe just be like... here's the way and how long it will take you. And I know they have their little trail markers, so like a bigger, more context of where you are... Like do we have bear spray? Do we need it? How long will this take? Do we have to get here before dark?"*

Melissa, who was also on her first trip to the park said she wished the signage in the Old Faithful area was more informative. She went on to say,

"The more information, it makes people feel more confident, especially first-time visitors who really don't know. I don't feel confident knowing where I can go and it's not like I can whip out my cell phone because it doesn't work in the park. Out there in the park where it doesn't work at all I'm kind of at the mercy of signage. We skipped some things that we probably would have enjoyed doing because we didn't have enough information."

Sally, on her second visit to the park reflected that the year before, she and her family had gotten turned around in the Old Faithful area due to lack of sufficient signage. *"I don't know where we*

even ended up. I mean we walked like 14 miles that day. But then we couldn't figure out a good way back... we got kind of lost through there.”

Parking was another theme discussed when visitors talked about infrastructure. People generally thought that parking was sufficient at Old Faithful and Canyon Rims but had difficulties parking at Midway Geyser Basin. Micah and Karen said, *“There was only like 20 or 30 parking spots and there were 30 cars waiting to go in.”* Jordan and Stephanie felt like more parking may not be helpful. *“I would say more parking, but I don't see where you would put more parking and more parking would just mean way more people.”*

Somewhat related to parking, people commented on traffic and road issues, although there seemed to be an understanding that some congestion was inevitable. Joan said:

“Well, I could say less traffic congestion, but that's probably wishful thinking. There's only one way to fix that and that's to build more roads and build more parking, but that's the opposite of what I would like. So, I really don't think there's anything that I could change without sacrificing the beauty of the area.”

Jordan and Stephanie had some specific comments about the pullouts in the park.

“And what's hard with those pullouts too... What I find is if I'm going a little too fast, it's like, oh crap. That was the pullout. And then well, now I missed it. So maybe you have just a little sign that says, pull out [ahead] and I'm like, okay, I'll slow it down a little bit, so I know it's coming up.”

In terms of site-specific issues with infrastructure, there were many comments about signage both at Old Faithful and the Canyon area. The boardwalks in the Midway area seemed to concern some visitors. People seemed to think parking was sufficient at Canyon and Old Faithful, but not at Midway which was reflected in the “Crowding” theme as well.

Park Shuttle

The final questions I asked in my interviews pertained to the idea of implementing a park shuttle in Yellowstone. Figure 18 shows words most used when interviewees were asked about a shuttle in the park. Some suggestions are in the word cloud, such as “free”,

“accessibility”, and “air conditioning.” The

park is proposing having a shuttle, which is why I was curious to find out what visitors would think. I explained that the shuttle would be voluntary, and the proposed shuttle would go back and forth between Canyon Village to the North and South Rims and another one going from Old Faithful to Fountain Paint Pots, Grand Prismatic, and back. I showed the interviewees maps to help them better understand the proposed shuttle routes (Figures 19 and 20).

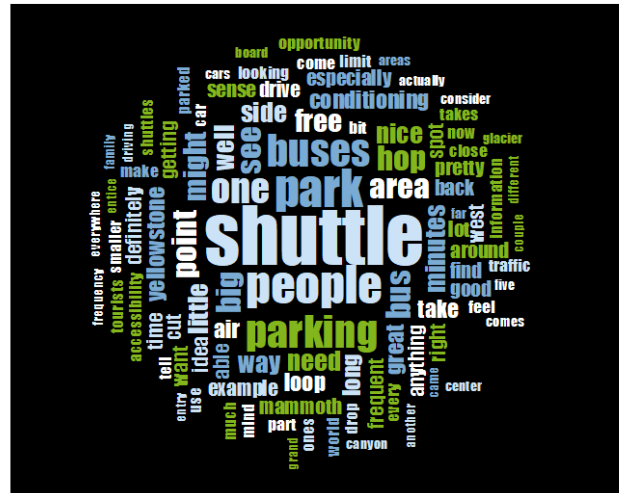


Figure 18: Word Cloud Park Shuttle



Figure 19: Hypothetical Shuttle Route Canyon Area

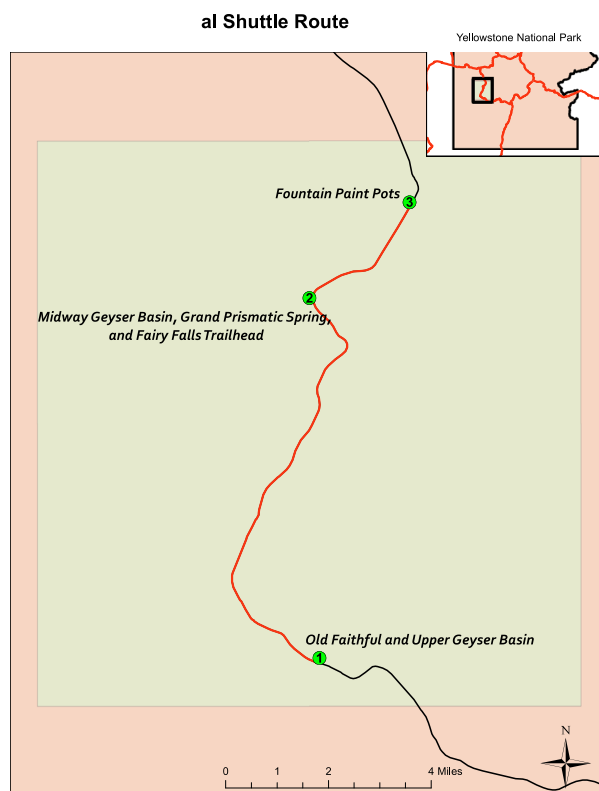


Figure 20: Hypothetical Shuttle Route Old Faithful Area

Most people thought that a shuttle bus in Yellowstone would be a good idea, even if they personally wouldn't use it. Out of the 45 interviews, nine said they would not use it (20%), while thirty-six (80%) said they would. Comments overwhelmingly centered around having the shuttle come frequently and the ability to get on and off easily. Micah and Karen, who were in the park for the first time said, *"That's a great idea, especially if you can hop off wherever you want. Kind of like a city bus schedule."* Lila agreed saying, *"I think there would have to be frequent departures and arrivals."* Kyle and Jane also felt the frequency of the shuttle matters, saying, *"If you're waiting for 45 minutes in the sun, nobody wants to do that."* Jerry and Tina felt timing was important as well. *"It would depend on how often it operated. Maybe every 15 minutes, then I would. If it takes long, I wouldn't use it."*

Another theme that arose was having a narrator on the bus. While many wanted it to be hop-on, hop-off like a public transit bus, others thought it would be better as taking the shuttle as part of an educational experience, and having a narrator. David and Shirley, who had both been to the park a few times said *"We'd like to hear about the area. So if they had a narrator, you understand what you're looking at."* Sean and Maggie felt a similar way saying, *"Maybe a guided history tour or recorded highlights. I like the facts."* Grant had similar sentiments:

"And there's a guy on board with a microphone that could tell you about things as you're going... And then you've got opportunity for some of your rangers. Instead of just, 'Oh, let's go on a ranger walk around, whatever,' they can do it in the vehicle and answer questions. Have fun with the tourists. And that gives the tourists an opportunity to meet each other as well."

Brian specifically mentioned that he thought it would be helpful to have translation services on the shuttle to make it more appealing for international visitors.

"I know in particular our national parks get people from around the world so maybe translation services or videos and pamphlets and stuff. I believe they do have in many different languages so if that was on the bus, you would probably have, you know,

whether it be a headpiece, or that where you could have Italian, French, Spanish etc. So, I think that would allow folks around the world to be able to enjoy it or see it more.”

Another theme in the interviews was that the shuttle should be free. Sherry and Mark who were visiting the park for the first time mentioned the two previous themes and in addition felt a free shuttle would work the best. *“If it was free and came often enough and you could go to a spot and it wasn’t too difficult, maybe even just like someone on there that was supplying some information about the park.”* Jordan and Stephanie also agreed it would need to be free for visitors to use it. *“Well, being free would entice people for sure. Yeah, it would have to be free... Can't be a ticket system or something like that, because I think that would just be a nightmare.”*

Visitors also felt that a shuttle would help with traffic issues in the park. Katie and Lauren said, *“I think that's a great idea. Yeah. Not as much congestion and just park and not worry about it, you know, have shuttle parking.”* Kayla, who was on her second trip to the park agreed and noted, *“Yeah, definitely. I think that would limit how many cars are in the park as well and that would cut down on the carbon footprint and everything with the cars.”* Rebecca felt that the shuttle may help traffic, but not necessarily the crowds. *“It would help cut down on the traffic and the parking. I don’t know if it’d cut down on the people. You can tell from living in Montana, I don’t like big crowds.”*

Accessibility was another theme when discussing a park shuttle with guests. James and Ashley, who were visiting the park for the first time thought a shuttle would be great for elderly visitors. *“I don't know this firsthand, but maybe if people were disabled, or elderly people, they could do that separate from their family, if the family wants to do a hike.”* Joan also mentioned the shuttle needing to be usable for elderly visitors. *“I think accessibility to pick up and drop off locations probably multiple times, you know plenty of times to be picked up. Again, especially for older people accessibility of getting on and off the bus.”* Patty thought that she may use the

shuttle in the future. *“At some point in our life, we might not right now as we’re able to get in and out and find our way, but there might come a time when, especially if it had accessibility for walkers or something like that.”*

Visitors seemed comfortable with the idea of shuttles; several mentioned using shuttles in other national parks that seemed to make them used to the idea. Andy and Connor, who were first time visitors and in the park for the first day said, *“When we went to Yosemite, they had shuttles. I mean it's pretty standard. I don't think I'm looking for a fancy luxury shuttle ride, getting champagne and caviar. Maybe just a point A to point B and not impacting the noise in general. Keeping it nice and natural.”* Carrie had taken a shuttle in Zion and talked through how she thought a shuttle would work in Yellowstone.

“You know, thinking about Zion that it’s pretty much your only way in and only way out [so it] would be hard with the magnitude and the size of Yellowstone. But the idea of the smaller scale it’s almost like your sectionalizing Yellowstone. You’re taking that area and making like you said that smaller loop. I think that would be really doable there.”

Jordan and Stephanie referenced Glacier’s shuttles and thought it would work. *“If they had it like Glacier and you can get on and off. I think that would be so much better than driving.”* Rebecca had used a park shuttle in Rocky Mountain National Park before and thought Yellowstone should keep the shuttles smaller like the ones there. *“Probably just the smaller buses, rather than the great big ones. The Yellowstone park buses are the big ones. So maybe have more frequent ones. I know we’ve used the buses in Rocky Mountain National Park.”* Mike and Nick had used shuttle at the Grand Canyon, and thought it sounded nice to have a driver so they could sightsee.

“If someone else was doing the drive and you'd get to look like we did at the Grand Canyon. They have a shuttle and they tell you a little bit about park and it takes you various places. And it takes you back to where you parked your car. I think I wouldn't mind that.”

Most negative comments about the park shuttle were about losing the freedom that they have with their vehicle in the park or felt like a shuttle wouldn't work for their trip. The Spencer family was visiting the park for the first time but were mostly just passing through the park. *"On our kind of trip, it doesn't really make sense to have a shuttle at all."* The Hanson family thought it wouldn't work for them either. When asked if they would use it, they said, *"With kids, no."* Sheila and Jake said, *"Probably not, we have the RV..."* Sherry and Mark thought they wouldn't personally use the shuttle, but their family would. *"We don't usually do that stuff, but I know like my parents, that would be something they would be super interested in if it was just a free park shuttle."* Alec and Bruce noted, *"I don't see me going in there and taking a shuttle bus unless I had to, because I like to be spontaneous."* Paul, who enjoys visiting Yellowstone to take photos said:

"I would consider it. Being an amateur photographer and stuff being timed in the bus like, 'Hey take your picture and get out!' That would be very limiting, but I think it would offer the opportunity to control traffic and have a little bit more... So, I would definitely consider using it and I think it would be a good idea."

Joan had similar sentiments and felt they wouldn't have the freedom to explore parts of the park that they wanted to.

"We've used the shuttle system in the Rockies before so I'm aware of it. But the reason I wouldn't do it in Yellowstone just because my husband and I go very early, we are hikers. That type of stuff, you know, and we've kind of seen the big areas. Yeah, so we like to get off the beaten path and stuff and I just don't know... I wouldn't use the shuttle. But I totally see the need for it."

Overall, if there is a non-mandatory shuttle in Yellowstone, it would be generally accepted and visitors would use it. Important components of the shuttle appear to be frequency, a narrator, free use, and accessibility, although some visitors noted that they didn't need many amenities. Margie, who has been to the park twice, said, *"It wouldn't take much for me to want to take a shuttle!"* Visitors that had used shuttles in other national parks seemed especially open to

the idea of a shuttle in Yellowstone. There were no interviewees that said they would take a shuttle at one location, but not the other making me think the shuttle's site-specificity isn't as important to people as the concept itself.

Discussion and Implications

The main focus of my thesis was to identify park visitors' future desired conditions in popular destinations within Yellowstone National Park. To do this, I used grounded theory which allowed me to theorize from the data I collected instead of assuming a theory and fitting the data to it. I found that desired conditions are significantly different for repeat and first-time visitors. Common themes can be extracted from both populations, but those themes have different meanings to them. My theory is that desired conditions change based on the relationship someone has with the park. From the data, it appears that first-time visitors are much more likely to be accepting of the current park conditions while repeat visitors use their knowledge, history within the park, and their love for the park to think deeper about desired conditions.

In this discussion/implication section, I will discuss this idea more, and examine themes such as crowding/displacement, future desired conditions, rules/regulations through the lens of this theory. Following that, I identify limitations that arose in my study including changes related to COVID-19 and my unique sampling frame. To conclude, I will make recommendations to park managers from the information found in the data.

First-time/Repeat visitors

Consistent with earlier surveys of Yellowstone visitors (NPS, 2018b), a strong distinction between first-time and repeat visitors is apparent in my 45 interviews. Further, this distinction is

enhanced when considering those who have visited the park many times, as compared to first-time visitors. Repeat visitors who have only been to the park once or twice have characteristics similar to first-time visitors.

I intercepted many first-time visitors at Old Faithful. For some, this was the first stop of their trip. Tammy, who was on her first visit to the park said,

“Old Faithful is probably... when I think of national parks, I think of Yellowstone obviously. And when I think of Yellowstone, I think of Old Faithful. And so that is a piece of Americana history and that's what I wanted to go see. That's not the only reason I wanted to go to Yellowstone, but that's the first thing I wanted to see. That's what was important for me.”

Sentiments like Tammy's are well-known, and the National Park Service has built the Old Faithful area accordingly as it seems to have sufficient infrastructure for the amount of people visiting (NPS, 2017). The Smith family were on their first trip to Yellowstone and I intercepted them in the Old Faithful area. When I asked if there were things that they would change about the area they said, *“None come to mind, with the number of people that are here we still have plenty of parking. Traffic's been fine... I was really worried there was going to be no parking.”* I think intercepting many first-time visitors at Old Faithful may have had something to do with them not wanting anything to change because it is so iconic and has sufficient infrastructure. Perhaps if I had talked to them after visiting Midway where they were unable to find parking, they would have felt differently.

The phenomenon of first-time visitors wanting areas of the park to “stay the same” has some interesting implications. Generally, first-time and repeat visitors behave differently at their destination. “First-time visitors... are destination-naïve tourists who may not be aware of what is available and who, even when aware, will be consuming experiences for the first time” (Lau & McKercher, 2004). Because they are visiting an area for the first time, the intentions of first-time

visitors are predicted by the image they have of the destination, in contrast with repeat visitors who are influenced with the bond they have with the destination (Morais & Lin, 2010). The staff and administration of Yellowstone commits significant effort on their website and in literature towards preparing visitors of what to expect when visiting the park relative to crowding conditions. As such, first-time visitors have that as part of the destination image of Yellowstone and are able to set expectations accordingly. Subsequently, when families like the Smith's arrive and experience less congestion and crowding than expected, they are apt to say "stay the same" and believe everything is as it should. They remain relatively destination naïve.

Repeat visitors, especially those frequent visitors on the other hand, may reflect more on past experiences when visiting an area and be able to form constructive criticism of what could be improved. For managers, it creates a situation where two different groups want the park to be managed in different ways from their two different views of Yellowstone. Although "staying the same" may seem like an easier route for park managers, with increasing visitation and use impacts, to "keep the park the same" will involve more management as the park becomes more crowded. Repeat visitors had some specific and unique ideas that could be useful if considered in future management plans for the park.

Crowding/Displacement

In the results section, crowding and displacement were presented as two separate themes; however, they are interdependent and can be discussed together. General crowding was the most common theme that arose in interviews. Specifically, issues with parking and crowded boardwalks were brought up when talking about the Midway area. When encountering a crowded environment like Midway, a visitor has several potential likely responses. On one hand

visitors may rationalize the situation to maintain a positive affective state and choose to feel that it is acceptable as opposed to becoming dissatisfied (Hall & Cole, 2007). I found this the most often in first-time visitors, who would address that areas were crowded, but chose to still have a positive experience, possibly because they had been informed through park information that it would be crowded and had no past experience in the park.

Yet, for others, crowding causes displacement (Hall & Cole, 2007). Many repeat visitors avoid areas altogether (spatial displacement), or at certain times of the day or season (temporal displacement). Displacement in recreation is defined as, “the outcome of a decision to change behavior and is caused by adverse changes in the recreation environment. The antecedents for behavior changes are likely to be increased numbers of users that bring about increased social pressures or competition for space...” (Anderson & Brown, 1984).

I touched on the concept of displacement in my literature review (Chapter 2) but want to go into more detail about how my data displayed displacement happening within Yellowstone. A component in displacement is that the more “specialized” or experienced a visitor is, the more displacement will affect them. These visitors are displaced by other recreationists that are less sensitive to crowding, and more tolerant of higher use levels (Manning, 2001). In Yellowstone, those that mentioned displacement as a factor in their trip were all repeat visitors, but specifically ones that had come to the park consistently for years. Figure 21 displays the relationship between first time and repeat visitors, perceived crowding, satisfaction, and their use of coping behavior. Demographics and first time or repeat affects both the perceived crowding and coping behavior of a visitor. In turn, this perceived crowding interacts with coping behaviors and creates an overall customer satisfaction. The study shows that perceived crowding on a European ski slope

is affected primarily by age, gender, and first time or repeat visitation. The study also found that perceived crowding had a strong negative impact on visitor satisfaction.

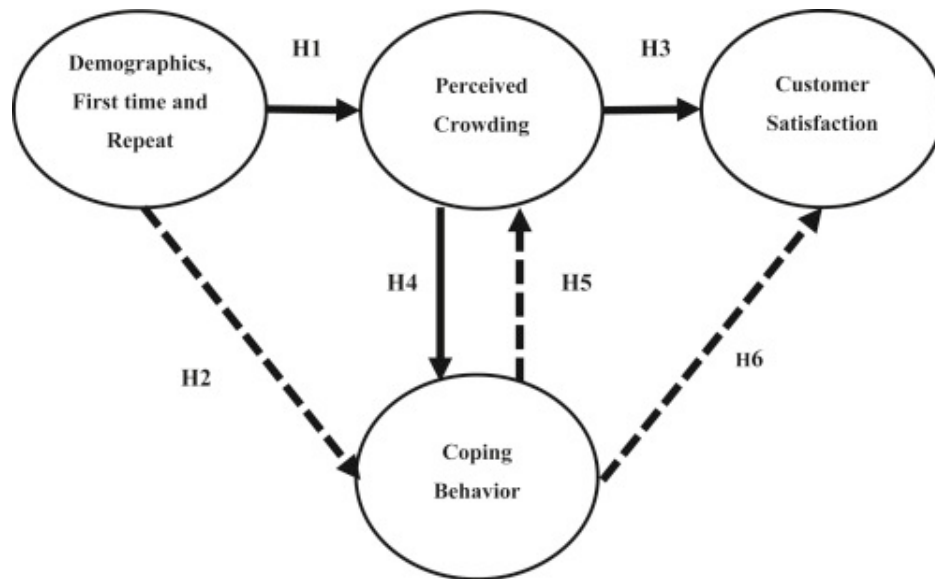


Figure 21: Model on Crowding Effects (Zehrer & Raich, 2016).

Future Desired Conditions- An Average Visitor

First-time and repeat visitors clearly have different experiences when visiting Yellowstone National Park, and subsequently have different ideas about future desired conditions of areas of the park. While these qualitative interviews with 45 visitors should not be constructed as representative, I will give an overview of what average first-time and repeat visitors that I interviewed said. As previously discussed at length (Chapter 2), future desired conditions are descriptions of goals to be achieved in the future.

The average first-time visitor I interviewed seemed really excited and happy to be visiting Yellowstone and blown away by the wildlife and thermal features. For many, this is a bucket list experience being checked off. Having been prepared for crowds by the park and other

available information, they seemed generally satisfied with the available infrastructure to manage the large volumes of visitors at Old Faithful and Canyon Village but felt the parking and boardwalks at Midway needed to be improved. When there were infrastructure complaints by first-time visitors at Old Faithful and Canyon, it was in relation to informative signage quality; some had issues with getting turned around during their visit there. These visitors felt positive about having a shuttle bus in Yellowstone specifically in Canyon and the Old Faithful/Midway area, and generally said that they would use it.

The average repeat visitor I interviewed seemed to avoid popular areas like Midway and Old Faithful during the most crowded parts of the day or during peak season. Jordan and Stephanie who have visited the park 20 times said, *“It’s funny, [Old Faithful] is one of our least favorite areas.”* In the beginning of our interview, Grant who has been to the park 30 times remarked, *“I may be a disappointing interview about those areas because those areas that were suggested like Old Faithful and the geyser stuff? We don’t go to those anymore, but we have been... the main reason we go is because of the wildlife.”* Repeat visitors still seemed fascinated by wildlife and thermal features. In general, repeat visitors also felt that a shuttle was a good idea, but there was some hesitation of losing independence to go places off the beaten path. Joan, who has been to the park four times articulated this by saying, *“Yeah, so we like to get off the beaten path and stuff and I just don’t know... I wouldn’t use the shuttle. But I totally see the need for it.”* It seems like most visitors were in agreement that a shuttle was needed, most were likely to take it although repeat visitors were slightly more hesitant to lose their freedom. In addition, if the shuttle was in the proposed areas of Old Faithful and Canyon, from my interviews it seems like more first-time visitors frequented those areas than repeat visitors who tended to avoid those areas of the park.

Rules/Regulations

Carrying capacity in parks are seen to have three dimensions: resource, experiential, and managerial (Manning, 2007). The managerial aspect of carrying capacity is directly related to rules and regulations and plays heavily into park visitors' experiences. If different management practices are used, an area can be impacted very differently by visitors.

Interviewees seemed disturbed by trash, primarily around the Midway area. A repeat visitor thought that the park's trash issues were worse this year during the pandemic than ever before. Chow (2020) identified similar sentiment in Rocky Mountain National Park, where a local compared the smell of the air to Disneyland and complained of discarded masks strewn around the park and a perceived lack of trail etiquette or awareness of environmental guidelines. This idea of a new "type" of visitor coming to the park in the pandemic is interesting. I talked to several people that said they came to Yellowstone because their Disneyland trip was cancelled. According to Chow (2020), many National Parks and wilderness areas are being over-run by first-time visitors who are unable to take their normal vacations due to COVID-19, and have created a crisis for both nearby communities and park rangers.

Repeat visitors more frequently had grievances with other visitors not being aware of rules and regulations within the park and had some suggestions on ways the park could improve in this area. Rebecca, who used to work at the park felt very frustrated at the amount of people breaking rules because of what she perceived as a lack of education. She suggested having some sort of required education before people enter the park. Jordan and Stephanie suggested that volunteers help enforce park rules and regulations after stating, "... *there's not enough enforcement... I think they're very short staffed and pulled in many directions.*" During my visit to the park to conduct my interviews, I saw very few rangers in the park and am inclined to agree

that some additional on-the-ground enforcement could be helpful. I found the repeat visitors with a deeper connection to the park were often more concerned about trash and people breaking rules in the park. Yellowstone was a huge part of Susan's family and said her father told them to always leave it cleaner than they found it. Now, 75 visits later, Susan says, *"I have to say my sisters and I are proud of ourselves because if we're hiking and other people have left stuff we always pick up and haul it out. We want it to be pristine."*

A theory that I propose is that there are two distinct groups of visitors to the park with two different ideas of future desired conditions for the park. The following is a diagram displaying the differences I found through my interviews with visitors.

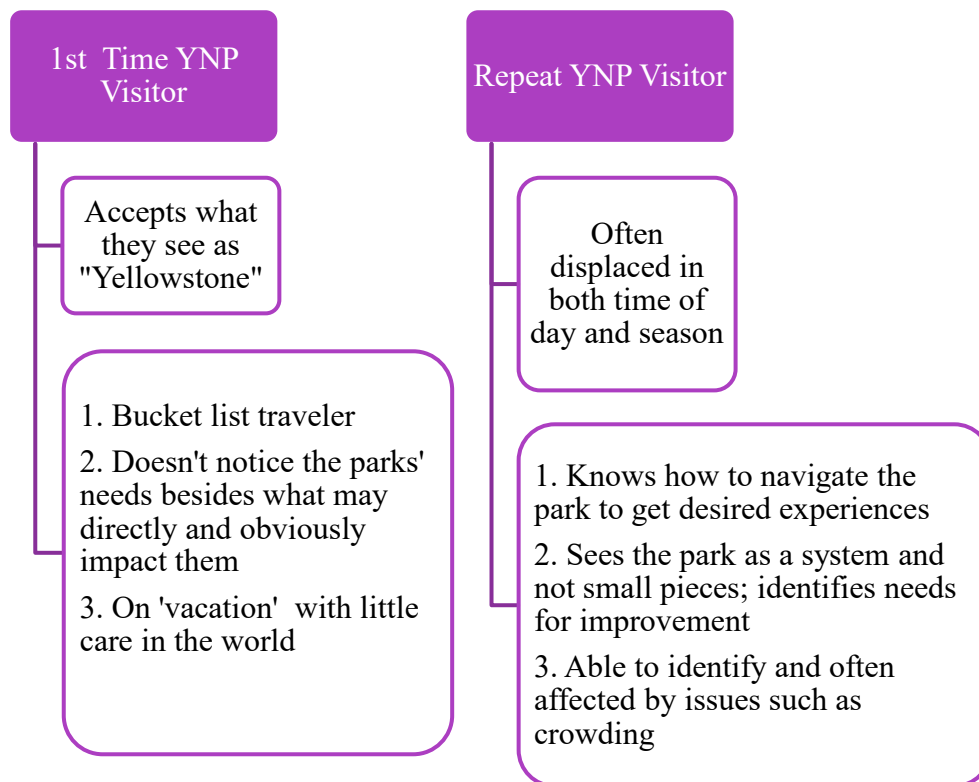


Figure 22: Theoretical differences between first-time and repeat visitors at Yellowstone

Limitations related to Methodology

Two limitations to this study are discussed here including the impact of COVID-19 on visitors and the differences in in-person vs zoom interviews

COVID-19

Preparation and planning for this project largely occurred prior to March 2020; prior to COVID-19. As such, it was not a planned component of the study; however, it was a theme that arose throughout many interviews without prompting and likely influenced many perceptions.

This influence extends beyond just my interviewees mentioning it. It affected travel patterns, including who was traveling, where they were traveling, and their interest in talking to me.

According to research from the US Travel Association, travel spending dropped 42% from 2019 to 2020 which accounts for an estimated loss of almost \$500 billion dollars (US Travel, 2020).

Interestingly, Yellowstone National Park saw little change to their visitation (5% less than 2019), even after closing for more than a month in spring 2020. Visitation to YNP in September and October were recorded as the busiest ever. July visitation was slightly above the summer before, and August was the second busiest on record, with a 7.5% increase from 2019 (NPS, 2021a).

Despite not planning initially for COVID-19 as an aspect of this study, I expected it to be a large topic of discussion in my interviews. That expectation was not fully borne out. Two potential factors may aide in explaining why it was not. First, interviews took place in July, and I was under the impression at that time that Wyoming and Montana were still seen as “safer” states to visit with few restrictions on entering the state. Second, visitors were so excited to travel after lockdowns that they were trying not to think too much about COVID-19. As evidenced by their comments, people seemed more concerned about areas being closed than their personal safety related to the virus. Some visitors specifically mentioned being disappointed that they

could not visit the Old Faithful Inn, and another was unhappy because they felt they were unable to get the information they wanted because the visitor centers were closed. Overall, though, the sentiment was positive towards the park and nobody had specific grievances with how Yellowstone National Park administration was handling the pandemic.

Elaborating on the first factor, many of the in-person interviewees just seemed to be happy to be out of COVID-19 quarantine that they were determined to have a good time. This can be explained by a phenomenon called the “halo effect” where people will ascribe positive values to a place because of initial favorability and stick with that idea despite different (possibly negative) experiences happening (Harmon, 2017). People coming to Yellowstone in July 2020 were most likely excited that the park was open, and they were allowed to travel after the lockdowns that occurred in spring 2020. This may have made people feel like they didn’t want to complain while on vacation, and why many of my in-person interviewees didn’t have many suggestions on improvements to the park.

It is important to note that most interviewees were not wearing masks because there was no park-wide mask policy at the time. This has since changed. Starting February 2, 2021 face masks are now required at all times in National Park buildings and also when physical distancing cannot be maintained outside such as on busy trails or walkways (Peglar, 2021). It is reasonable to assume that if interviews were conducted while this mandate was in place, COVID-19 may have been brought up more by visitors who were unhappy with the mask mandate. In a news release in late February 2021, Sara Newman who is the NPS Office of Public Health Director said, “Getting outside and enjoying our public lands is essential to improving mental and physical health, but we all need to work together to recreate responsibly” (NPS, 2021b).

COVID-19 is a limitation in my study because even if interviewees were not refusing to be interviewed, they may have been avoiding a long conversation. In addition, I was unable to interview at locations that I originally planned to that would have been better spots for longer conversations. I planned to interview at food service locations and lunch spots, most of which were closed or only providing pick-up service because of COVID-19. These are places where visitors would naturally be slowing down and have more time for a longer interview. I think this magnified the difference that already existed between my in-person interviews and Zoom interviews which I will discuss next.

In-person versus Zoom Interviews

An experience can refer to, “two different states: the moment-by-moment lived experience and the evaluated experience, which is subject to reflection and prescribed meaning” (Morgan, Lugosi, & Ritchie, 2010). A limitation in my study is that some of my interviewees were interviewed during their experience, and some after. Ideally, they would have been all one way or the other so that methodology alone doesn’t explain differences. However, the difference between the two types of data collection (on-site and virtual) has provided interesting insights within itself. Interviews that were in-person tended to be shorter and have less constructive criticism about the park. The interviewees from Zoom, who were removed in time from their Yellowstone experience, tended to suggest more things they would change about the park.

Significant to this difference is which phase of the recreation experience they were in when we talked. Recreation is considered a multi-phase experience consisting of five phases: anticipation, travel-to, onsite, travel-back, and recollection (Clawson and Knetsch, 1966). When experiencing something, visitors make judgements about satisfaction and quality. This

satisfaction is a measure of whether or not the expectations were met. When intercepted in the park, many interviewees were first time visitors who had perhaps not finished making their judgement about their experience. In contrast, the Zoom interviewees typically had at least a few months to reflect on their experience in the park and make a judgement about it. In addition, “the remembering self and the experiencing self often involve differing accounts of what is transpiring in the moment versus what is remembered as having transpired upon reflection” (Harmon, 2017). Considering this, I may have had very different interviews with the same people if I had asked them to reflect versus intercepted them while in the park.

These limitations were unavoidable in my study and did not get in the way of my understanding of visitors’ future desired conditions. I was also able to create a profile for first-time and repeat visitors to better understand their difference with what each desire for the future of Yellowstone National Park. This understanding enables me to make some recommendations for Yellowstone park managers.

Recommendations

Limiting Visitors

Overall, people did not seem to think that visitors should be limited in Yellowstone National Park. The few who felt access should be limited were repeat visitors who had been to the park many times. Kayla, a repeat visitor to Yellowstone thought that in light of COVID-19, it would be a good time to experiment with limiting the amount of people. She said:

“Well, I think I'm a firm believer, with the whole COVID-19 starting this year and being from California with Yosemite and I think Rocky Mountain National Park, does the same thing. They limit how many people come into the park in a day. Yeah, so you basically get online, and you pick the day you want to go in...”

An overwhelming number of interviewees commented on crowding in the park, and although limiting visitors may not be the solution for Yellowstone, it is a subject worth exploring. During the 2020 pandemic Rocky Mountain National Park implemented a timed-entry permit system in June. Those visiting in the busiest hours had to get a permit online, even though the park was only running at 60% of its usual capacity. Yosemite implemented a similar system, at 50% capacity. These changes were both regarded as temporary, but the parks are looking at them as an experiment which may lead to limiting access at congested areas (Kwak-Hefferan, 2020). Park officials have said that the ticketing system in Rocky Mountain will continue in summer 2021 as well as in Yosemite. Very recently Glacier National Park announced that they will have a ticketing system for summer 2021. Park officials said the ticketing system would last from Memorial Day weekend through Labor Day (Franz, 2021). With several high-visitation parks considering experimenting with a ticketing system it seems like a discussion point for Yellowstone park managers.

At this time, I would not recommend creating a ticketing or reservation system in Yellowstone National Park. I believe that visitors would be upset, and there are other measures that could be taken before a reservation system needs to take place. I would recommend a shuttle system, which I will discuss further in the following section. Summer 2020 may have been a good time for YNP to experiment with a ticketing system due to the COVID-19 pandemic, but with summer 2021 looking like travel will revert back to more normal levels, I think there would be backlash from both park visitors and the surrounding communities.

Shuttle Bus

There was an overwhelming amount of support for implementing a shuttle bus system in Yellowstone National Park. Only a fifth of those interviewed said they would not use it, and

those respondents weren't necessarily opposed; they just didn't think they would utilize it on this trip, or they preferred to have the freedom of their car. The majority said they would be inclined to use the shuttle if it was free and made frequent stops. People were split between thinking there should be a narrator and have the shuttle be an educational experience and those that felt it should function more like a city bus and just be used to take you from point A to B.

Some other suggestions included making sure the shuttles were accessible to all and having a translation service with information for international visitors. People seemed familiar with shuttles in other parks and seemed to think it was a logical next step for Yellowstone. There are currently two shuttle projects in Yellowstone set for summer 2021; one is an automated shuttle at Canyon Village and a Transit Feasibility Study that will examine locations, routes, stops, and costs related to a shuttle. This study will have a qualitative aspect and assess visitor experience, safety, resources, and stakeholders. This study is expected to end in 2022 and determine whether a shuttle is feasible in Yellowstone (Reichard, 2020). Through my data analysis, it appears that Yellowstone National Park is on the right track to further study transit in the park. Many visitors appeared to be positive about the possibilities regarding shuttles.

My recommendation to the park is that a voluntary shuttle be implemented in the Canyon area from Canyon Village to the south and north rims. A mandatory shuttle to access the Midway area (Fountain Paint Pots and Grand Prismatic) would be accessed from the Old Faithful parking area. The Midway area doesn't have enough parking for the volume of visitors, and also doesn't have an appropriate place to expand parking. With a shuttle system, there needs to be increased infrastructure in terms of bathrooms and shaded areas to sit while waiting for the shuttle. The shuttle should come frequently and have air conditioning, so visitors do not have issues with heat or sun exposure.

Technology

Technology is an increasingly valuable component of visitor experiences across destinations. A few interviewees had several very specific suggestions for improving technology in the park. People that I interviewed seemed primarily concerned with having cell phone service in more areas of the park for safety and planning purposes. Putting more towers up on Mt Washburn in 2018 caused a debate with those who felt the park should be left more natural (Reichard, 2018). I did not ask specifically about cell phone service in the park, but people who commented about it were very passionate and had a lot to say.

Other suggestions regarding technology were updating the App for the park for both informational and educational purposes. During this pandemic summer, some visitors felt they were not able to access the information they needed because of visitor centers being closed. Several people also mentioned using the GyPSy App which gives GPS narrated tours with tips, directions, and stories. Technology will continue to become a topic of discussion for the park and park visitors will continue to demand increased cell phone service. It would be useful for the park to either hire a consultant to examine and make recommendations of the future of technology in the park, or at a minimum, conducted a survey about visitor's desired technology in Yellowstone.

Recommendations by Location

Old Faithful

Overall, visitors at Old Faithful seemed happy with their experience. There were not many complaints about parking or crowds in that location and people generally had less ideas for specific future desired conditions for the area. A fairly common comment was that people would

appreciate more seating. Patty, who was on her third visit to the park said, *“Maybe more seating for people. I mean, I'm at an age now where if I'm going to stand and watch something like that I need to sit down and just as our whole population ages, there just needs to be more seating.”*

Others echoed the same sentiment, saying as they got older, they felt more seating to watch Old Faithful would be important.

There were a few comments about signage in the area, and wishing it was clearer. Sally, who was on her second visit to the park spoke about her trip last year, *“...when you walk the boardwalks and try to figure out which is the best way to go, there's that one part when you get back past everything kind of just feels like you're going in circles, so maybe better maps back through there?”* Margaret and William, who worked in the park for several summers agreed saying, *“It's a little confusing to get around.”*

Another comment from visitors is that they enjoyed the Old Faithful areas exactly how it was and didn't want to see it changed or developed any more. David and Shirley, who were on their second and third visit to the park said, *“I don't think I would [change anything] cause more changes are just going to make it less natural. They have everything here, so what do they need?”* Sally agreed saying, *“I would hope it would still be not too much drastically changing. Because I mean they've built newer stuff there recently but honestly, I don't think they need too much more. Yeah, I would hope it wouldn't be too commercialized.”* In general, guests thought the Old Faithful area had sufficient infrastructure and didn't want to see too many changes besides suggestions for more seating and improved signage. Most people just wanted to see it maintained. Jean, on her first trip to Yellowstone said, *“I think it's really important that that area be maintained and continue to be a good first impression.”*

Midway Geyser Basin

Midway is the area that received the most negative comments from interviewees. Some people were upset because they weren't able to visit due to the crowded conditions. A first-time visitor drove past five times and was never able to stop because of the congested parking lot. Others avoided the area completely, like Rhonda who has been to the park 100 times and wishes she could try out the new trail to the Grand Prismatic overlook. *"Grand Prismatic has always been so crowded that I haven't really gone. And what I'd like to do is now that they have the new overlook try to get up there when it's less crowded."*

If visitors were able to get a parking spot, some had issues on the boardwalk with crowding. Jean, who was on her first trip to Yellowstone with her husband said she had to "get out of there," because she was uncomfortable with the crowds. Others felt that more of the boardwalks should have been one-way due to COVID-19. Generally, visitors saw Midway as the most problematic area and had the most suggestions for future desired conditions in that area including a larger parking lot, wider boardwalks, and less congestion on the boardwalks. As I mentioned earlier, this area would be best managed if it was closed to vehicle parking and accessible by shuttle only.

Canyon Rims

Only a few people commented on having parking issues in the Canyon area, while others said they felt the parking lots were sufficient. Paul noted, *"There's adequate parking. It's only a short walk."* The main complaint about the Canyon area was confusing signage. Sally said, *"I feel like the signage and stuff back there was also confusing... You could miss a lot of stuff."* Jean was a first-time visitor and felt confused about the signage in the Canyon area as well. *"The more*

information, it makes people feel more confident, especially first-time visitors who really don't know where I can go and it's not like I can whip out my cell phone because it doesn't work in the park... I'm kind of at the mercy of signage.” This seems like a pretty basic and fixable issue.

Having sufficient and clear signage seems like a must-have for any recreation area, and especially in a park like Yellowstone where visitors are expecting it and needs it.

Besides signage, another issue that people discussed about the Canyon area is people breaking rules. This is especially notable when people are violating park rules at Canyon because of the steep and dangerous drop. Rebecca commented “*People that seem to have no common sense. When you see them doing things that can [damage] the features and also people just do stupid things and die.*” She noted some instances of people standing on rocks they shouldn’t, getting in the water above the falls, and a child falling a few years back. This ties in with cell coverage in the park—if other visitors were able to call and report misbehavior, it may deter people from engaging in unsafe and illegal behaviors in the park.

Conclusion

Yellowstone is a special place for many people. Although there are management steps that could be taken to improve visitor experiences, I want to conclude by highlighting the love and appreciation so many people have for the park. Tammy, who was visiting the park for the first time said, “*I felt like every time we turned a corner there was a new and more beautiful thing to see.*” Yellowstone’s thermal features and wildlife are two very important factors for both first-time and repeat visitors and are a big component of people wanting to visit the park. People also form deep relationships with the park, and often describe a sense of wonder and connection when in the park. Tammy said, “*...you’re just thinking about the millions of people who have*

seen this. And the millions of people who haven't seen it, and how lucky we are to have access to these parks and then the people who had such foresight many years ago to preserve these lands for us.”

Some visitors also had connections to the park associated with their families. Susan has been to the park 75 times and went there first with her family when she was 10 years old. *“For my sisters and I, that’s our happy place. It just wouldn’t feel like a summer unless we went there... people ask, ‘well, why do you go so many times?’ Because every time you go it’s a different experience.”* Visitors enjoy that there is always something new to see in that park, but in many ways, it gives a sense of comfort knowing in a lot of ways it remains the same. Patty and her husband visited the park three times and as she flipped through pictures on her computer while talking to me said, *“Just seeing the magnificence of what’s out there and it’s been there, and people have enjoyed it for so many years. And like this spring, when everything’s going crazy around us, there’s still that beautiful picture that will probably still be there next year and the year after. Seeing all that gorgeous landscape and being able to say ahhh... this is almost like heaven.”*

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Appendix – Interview Guide

Introduction for Interview:

Hello, my name is Glenna Hartman. I am a graduate student at the University of Montana in the Parks, Tourism, and Recreation Management program in the Department of Society and Conservation. I am conducting research on visitors' experiences in Yellowstone National Park specifically at Old Faithful, Canyon Rims, and Midway Geyser Basin. On this trip or in your adult life, have you been to any of these places?

If NO: For the purpose of this study, we are looking to interview people that have been to one of these three places. Thank you for your time and have a great day in Yellowstone!

If YES: Would you be willing to be interviewed for about fifteen to twenty minutes? Your participation in this study would assist me greatly in not only furthering my academic studies, but also contribute to the existing knowledge of visitor experiences in national parks. This information helps Yellowstone National Park understand what you, as a visitor think about Yellowstone now and into the future.

If NO: No problem! Hope you enjoy your time in Yellowstone and have a great rest of your day/evening.

If YES: Before we begin, are you 18 years or older?

If NO: Thanks so much for your time, but to participate in this study, you must be over 18.

If YES:

Great! I would like to ask your permission to record this conversation. I would also like to let you know that your participation is voluntary, and you are free to choose to finish the interview at any point. Your name will never be connected with your interview in my research and if any questions arise, I will give you my contact information if you would like to have it. Are you ready to begin?

Interview Questions:

The first topic I'm interested in concerns your experiences with Yellowstone in general, and general questions about your trip.

1) Where are you visiting from?

2) Including today, how many days have you already spent visiting Yellowstone National Park on this trip?

3) How many more days do you plan to spend in the park?

4) *Are you a first-time visitor to Yellowstone National Park? If repeat visitor, how many times have you been to Yellowstone National Park?*

5) *What best describes the group you are traveling with?*

6) *Why did you come to Yellowstone?*

7) *What has been your favorite part of visiting Yellowstone so far? Your least favorite?*

*So, we are sitting here at [insert where the interview is taking place]. **Have you been to Old Faithful on this trip? How many total times have you been to Old Faithful (ever)?** (if the respondent has never been there, ask the next question about Canyon Rims).*

8) *How would you describe your experiences in the Old Faithful area?*

8a) *Could you walk me through your experiences at the Old Faithful area (from when you arrived to when you left the area)? Prompts if needed...*

-Where did you sit/stand?

-What was your view like? Sounds? Describe it for me.

9) *Now imagine returning to Old Faithful in the future (10-20 years), how you describe the desired conditions?*

Desired experiences?

10) *What seems to **diminish** your experiences at Old Faithful?*

11) *What is meaningful about this area to you?*

12) *If you could change anything at the Old Faithful area what would it be?*

13) *What is important about existing conditions that need to be maintained or managed for the future?*

Have you been to Canyon Rims on this trip? How many times have you been to Canyon Rims (ever)? (if the respondent has never been there, ask the next question about Midway Geyser Basin).

8) *How would you describe your experiences in the Canyon Rims area?*

8b) *Could you walk me through your experiences at the Canyon Rims area (from when you arrived to when you left the area)? Prompts if needed...*

-What sites did you see?

-What were your views like? Sounds? Describe them for me.

9) *Now imagine returning to Old Faithful in the future (10-20 years), how you describe the desired conditions?*

Desired experiences?

10) What seems to **diminish** your experiences at Old Faithful?

11) What is meaningful about this area to you?

12) If you could change anything at the Old Faithful area what would it be?

13) What is important about existing conditions that need to be maintained or managed for the future?

Have you been to Midway Geyser Basin on this trip? How many times have you been to Midway Geyser Basin (ever)? (if the respondent has never been there, skip to question 14).

8) How would you describe your experiences in the Midway Geyser Basin area?

8b) Could you walk me through your experiences at the Midway Geyser Basin area (from when you arrived to when you left the area)? Prompts if needed...

-Where sites did you see?

-What were your views like? Sounds? Describe them for me.

9) Now imagine returning to Old Faithful in the future (10-20 years), how you describe the desired conditions?

Desired experiences?

10) What seems to **diminish** your experiences at Old Faithful?

11) What is meaningful about this area to you?

12) If you could change anything at the Old Faithful area what would it be?

13) What is important about existing conditions that need to be maintained or managed for the future?

I just have a few more wrap-up questions for you related to desired conditions of Yellowstone National Park.

14) If you had a magic wand and could change one thing about Yellowstone, what would it be?

15) As you probably know, some parks are using shuttle systems to help people move in and around the park.

-Would you take a shuttle if there was one from Old Faithful to Fountain Paint Pots and back to Old Faithful? [show map] Why or why not?

-Would you take a shuttle if there was one from Canyon Village to both the South and North Rims? [show map] Why or why not?

-What sorts of attributes/ amenities would entice you to take a shuttle?

Conclusion:

That wraps up my interview questions! Is there anything else about Yellowstone that you would like to share with me or are there any questions that you think I should've asked that I didn't?

Do you have any questions for me?

Thank you so much for your time, it was wonderful meeting you! Enjoy the rest of your trip!