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EXAMINING PLACE MEANINGS IN THE SOCIAL MEDIA OF
THE U.S. NATIONAL PARK SERVICE

A Thesis Presented

by

Camille Marcotte

to

The Faculty of the Graduate College

of

The University of Vermont

In Partial Fulfillment of the Requirements
for the Degree of Master of Science
Specializing in Natural Resources

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ABSTRACT

National parks are important ecological and cultural resources worldwide, and in the United States, many have begun to use social media to guide visitors' experiences and to communicate about special qualities of place. But, how exactly are social media messages crafted, and how do they attempt to structure viewers' ideas about national parks? To answer these questions, this study used rhetorical discourse analysis to examine a one-year sample of texts and images from Facebook posts drawn from three large U.S. national parks. Results of this study showed that parks use different stylistic devices and methods of persuasion to make claims about place and about visitor experiences. Park messages often referenced significant life moments, and they used specific cultural symbols to craft discourses about each park as a special cultural and personal place. Facebook postings also described and encouraged certain kinds of appropriate visitor behaviors, while sometimes also using social media as an information source for park news, rules, and events. This study offers a better understanding of the messages national parks are posting to social media, how they work to create and sustain ideas about national parks as meaningful places, and how they view their online audiences. As a newer form of communication used by agencies, social media present opportunities for park managers to enlarge and expand meaningful messages about national parks – though this rhetorical analysis suggests that social media may not be reaching their full potential in elaborating important social messages about people and place in national parks.

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Babymetal out.

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CHAPTER 1: LITERATURE REVIEW

1.1. Introduction

The specific research question addressed in this thesis is: how do U.S. National Park Service (NPS) sites use language and images posted on the social media platform Facebook to guide viewers' experiences of national parks while also communicating meanings about place? The theoretical and methodological background for this question weaves together the topics of social media and national parks, social media as rhetorical discourse, and place meanings related to the public communication practices of the National Park Service. Prior research about the history of national parks, and the activities of tourists visiting national parks, also informs the thesis.

Existing social media studies in outdoor recreation and tourism can be divided into three general categories: (1) the types of social media used by tourists and recreationists; (2) the role social media plays in visitor information search and decision-making, and tourism promotion and marketing; and (3) quantitative analysis of the types of posts and messages on social media. This thesis extends current research to examine the use of social media (both texts and images) as rhetorical discourse, and the ways that social media are used by parks management agencies to influence place meanings and visitor experiences.

1.2. Social Media

The term "social media" refers to "a group of Internet-based applications that build on the ideological and technical foundations of Web 2.0, and that allow the creation and exchange of User Generated Content" (Kaplan & Haenlein, 2010, p.61). User

generated content is “publicly available and created by end-users” (Kaplan & Haenlein, 2010, p.61). That is, individuals and groups generate and share creative content, like photos and videos, on publicly accessible platforms, including social networking sites like Facebook, Instagram, Tumblr and Twitter. Content is introduced by both providers and users such that social media may become an on-going conversation among agencies, visitors, businesses, governments, and others using social media. In this thesis, I focus on Facebook posts made by NPS agency managers at three specific national parks. Facebook is one of the most commonly used social media platforms by most U.S. national parks.

Social media are important communications platforms because they are visible, and typically include written text as well as visual images. These media can be accessed very easily and widely across populations, known as “followers.” A follower is a social media user (e.g., a person, company, organization) that subscribes to another social media user’s account (or receives permission to follow that account, if private) to receive updates and posts from that social media user. However, the effects of social media are not always apparent. This presents challenges for leisure, recreation and tourism managers who aim to be current and timely in producing media messages – as well as for visitors, who presumably receive (positive) effects from their social media use. Deepening our understanding of social media messages can provide insight into environmental, social and cultural issues (Hu, Manikonda & Kambhampati, 2014).

1.3. Social Media in Tourism and Outdoor Recreation

The tourism industry is information intensive and research has shown that social media are a key way that tourists gather trip planning information and make informed

decisions about what to do and see, and where to eat and sleep (Hays, Page & Buhalis, 2013; Xiang & Gretzel, 2010). In this way, social media may influence the types of experiences people expect to have at a destination or attraction. This presents an opportunity for tourism entities, like the National Park Service, who are looking to influence visitors' experiences through the use of social media messages.

There are few studies on how government agencies and nonprofit organizations use social media messages to interact and communicate with the public (Lovejoy & Saxton, 2012; Cockerill, 2013), or how they craft their messaging. A case study of the Ohio Division of Wildlife's (DOW) use of social media showed that social media offered opportunities to connect with constituents in a way that allowed that agency to more effectively plan educational programming, handle misinformation among constituents, and manage their reputation (Cockerill, 2013). Thus, social media seems to offer benefits to public agencies hoping to reach various publics. Since public agencies provide services to people, connecting with the public one-on-one, either flexibly (at whatever time people are available to view social media) or in-the-moment (for emergency/time-sensitive updates), is a useful way to understand changes in opinion, perception and needs, and can be viewed as a way to improve governmental functions and relations (Cockerill, 2013).

While tourism managers and businesses can potentially benefit from strategically using social media to influence place-based tourism experiences, research also shows that tourism organizations and businesses increasingly lack control of their destination marketing messages to user-generated content on social media (Hays et al., 2013). Though studies of the marketing strategies used by tourism organizations can

show how organizations are using language and images to communicate about tourism destinations, few studies have “been conducted to study how tourism entities are evolving with the Internet and using social media to market destinations and engage with potential consumers” (Hays et al., 2013, p.213).

These studies all highlight the important, growing role of social media in tourism – but they also reveal big gaps in contemporary research.

1.4. Social Media and the NPS

Social media’s rising popularity and ubiquity has encouraged many state and federal agencies, including the National Park Service, to adopt various social media platforms. The NPS uses social media to maintain its presence in public conversations about parks, and reinforce its public image. A recent policy memorandum (Jarvis, 2011) details how social media will help the agency achieve their goals by communicating the NPS mission to a broad base of society. National Parks are co-owned by all Americans, and sharing the lessons of national parks on social media potentially expands the number of people who might follow or “like” a park to well beyond those who visit a park (US NPS, 2018).

Though social media might present significant opportunities for national park outreach efforts, there is currently little evidence about whether they succeed in this effort. However, a study by Miller and Freimund (2017) of virtual visitors to Yellowstone National Park’s Facebook page, found that most of the virtual visitors (over 90%) had previously visited that park, and those who had a positive experience and felt a connection to the park then actively “liked” the park on Facebook. Only a

small percentage of the virtual visitors had not visited the park, yet they still followed Yellowstone's Facebook page (Miller & Freimund, 2017). This suggests that social media posts made by this National Park are not actually increasing public attention and involvement; rather, social media is reaching mostly past visitors and may not be effective for reaching out to those who have not yet visited the park.

Social media communication methods have also been used in other ways to address national park issues. Researchers have used plant and animal images to collect and measure changes in flora and fauna over time (Silva, Barbieri & Thomer, 2018). Other research about national parks has used social media data to determine visitor behavior and preferences in parks outside the U.S. (Heikinheimo, Di Minin, Tenkanen, Hausmann, Erkkonen & Toivonen, 2017; Hausmann, Toivonen, Slotow, Tenkanen, Moilanen, Heikinheimo & Di Minin, 2017), and public values and perceptions of management actions, like cattle grazing, on park lands (Barry, 2014). In these examples, social media research has been used quantitatively to grasp visitor perceptions and behaviors, and to conduct geo-tracking of visitor use patterns.

1.5. Social Media as Rhetorical Discourse

Social media are not simply tools of communication. Rather, the aggregated sets of messages that are posted on a social media platform can be viewed as continuing public discourses that present both an agency's perspectives and the responses (via comments on social media posts) of followers. In the social sciences, the concept of *discourse* refers to social practices of meaning-making within language use and other forms of symbolic communication (Lehtonen, 2000). Discourses are social

constructions of meaning produced when people and groups interact to form sets of interlinked ideas that broadly construct knowledge around a topic. Within studies of discourse, the focus is on interactional, contextualized communication – not merely on what happens in the mind of an individual (a psychological, cognitive approach) – but on the discursive practices that lead to meaning-making between people. Though the word discourse has been used in various ways by humanities and social science researchers (van Dijk, 1997a; Wodak & Krzyzanowski, 2008), discourse analysis focuses on the “strategic accomplishments of language users in action...speakers and writers are constantly engaged in making their discourses coherent” (van Dijk, 1997b, p. 3).

Discourses develop in particular settings (political settings, for example), involve specific methods (story-telling, for instance), and express ideologies and relationships (cultural discourses of organizations, for example). The study described in this paper adopts Wodak and Krzyzanowski’s (2008, p. 5) definition of discourse as “linguistic action...undertaken by social actors in a specific setting determined by social rules, norms and conventions.” This definition also should be extended to include non-linguistic symbols and images (such as photographs) that accompany written texts. Verbal and non-verbal symbolic discourses produced by agencies are intentional; that is, they are constructed, organized, and stylized to achieve specific effects in readers. As such, they can be seen as rhetorical (persuasive) in nature.

In the study described in this paper, initial review of the national parks’ social media data suggested that the Facebook postings under study were implicitly and explicitly assertive in making claims about places and audience – and so study of these

as rhetorical discourse seemed appropriate. The concept of “rhetoric” refers to persuasive communication asserted by individuals or social collectives; that is, rhetoric is a type of discursive communication. Thus, research about rhetoric is “the study of language as it is used to influence others” (Stokowski, 2013, p.20). By studying rhetoric, researchers seek to uncover how persuasion is used to purposively carry out communicators’ intentions. “Rhetorical analysis specifically focuses on the structural forms and organization of discourses, the nature of persuasive claims, and the styles of presentation used by speakers or writers” (Stokowski, 2013, p.21). Rhetorical analysis has been used in tourism and recreation studies in a variety of ways (e.g., Hill, Cable & Scott, 2010; Ribeiro & Marques, 2002; Santana, 2004). However, few studies exist examining the rhetoric of social media messages communicated by recreation, parks or tourism agencies.

1.5.1. Narrative Analysis

One form of rhetorical discourse sometimes seen in social media messages is that of narrative. Narratives may exist in written and spoken language, photos, gestures, and are present in local news stories, history, conversation and more (Barthes & Duisit, 1975). People often make sense of their everyday lives through narratives, and create and present narratives that align with their values. Thus, narratives can offer a view into what is valued and important to individuals, as well as social groups, such as agencies and organizations (Pentland, 1999).

Recent studies on narrative and social media center on whether narrative analysis for online content is similar or not to printed texts, and how narrative analysis

can be applied to different social media platforms (Page, 2013; Sadler, 2018). Social media offers a new context for narrative analysis, as stories can be shared online in real time, and are constantly and easily populated and shared via social media platforms (Page, 2013). Individuals and organizations have control over what they post online and the language and photos that they choose in developing their narratives.

The rhetorical approach to narrative asserts that narrative is a communication act with purpose: a storyteller is trying to make a point in what they tell and the way that they tell their story to an audience. As Phelan (2007, p. 209) explains, “Texts are designed by authors in order to affect readers in particular ways; those designs are conveyed through the words, techniques, structures, forms, and intertextual relations of texts....” All of these elements can be analyzed for meanings they convey rhetorically.

1.6. Research about Pictorial Images

Beyond written texts, images, including those posted on social media, can also be analyzed for their rhetorical meanings. Images convey both literal and symbolic messages and meanings (Barthes, 1977). The written texts and photographic images produced by tourism entities and public agencies, like the NPS, can be examined within semiotics, the study of “meanings and messages in all their forms and in all their contexts” (Innis, 1985, p. vii). In semiotics research, scholars study the linguistic and non-linguistic human-created sign systems intended to produce meanings that can be understood socially and culturally (Eagleton, 1996).

A sign is anything that carries meaning(s), and signs can be “read” for their denotative meanings (those that are realistic, obvious) as well as their connotative

meanings (those inferred by audiences). Whether presented in linguistic or symbolic form, signs rely on a signifier and what is signified (Barthes, 1977). The signifier is “the vehicle which expresses the sign” (for example, smoke), while the signified (for example, fire) is, “the concept which the signifier calls forth when we perceive it” (Bignell, 2002, p.12). The meanings of a sign or symbol are not universal, though; they are produced in social interaction and by invoking cultural conventions of understanding. Language is the mechanism used to formalize the general rules and conventions that establish meanings.

Photographs, as well as mass media texts, constitute a rich, but underutilized, archival source of data for tourism researchers (Stokowski, 2011). As a copy of a scene, a photograph is often assumed to be a literal replica of reality. Yet, photographic images may be composed, staged or embellished. Ultimately, an image is “not only perceived, received, it is *read*...by the public that consumes it [and compared] to a traditional stock of signs” (Barthes, 1977, p. 19). Further, as Langer (1985, p. 99) explained, “Visual forms ... do not present their constituents successively, but simultaneously, so the relations determining a visual structure are grasped in one act of vision.” As a result, viewers will derive both denotative and connotative meanings from experiencing a photograph all at once – not in sequential process, as with written texts.

Agency-produced textual and visual signs are used in tourism to stimulate visitation, reveal place qualities and add meaning to visitor experiences (Echtner, 1999; Tresidder, 2011). Photographs are often used in crafting a destination’s organic, induced and complex image, which may influence both visitors’ and non-visitors’ perceptions of a place. Facebook accounts of NPS sites contain numerous photographic images of parks – images that are not just literal depictions of place or place-based experiences, but also

may connote other symbolic messages about place and people.

Visitor-produced photos can also influence place meanings. Social media allows users to upload photos of their travels, and even geo-tag the images with a location. This had led to a rise in studies within the tourism and outdoor recreation fields focused on images posted online (Keeler, Wood, Polasky, Kling, Filstrup & Downing, 2015; Lo, McKercher, Cheung & Law, 2011; Sessions, Wood, Rabotyagov & Fisher, 2016; among others). Tourism and recreation researchers have also used visitor photo-based approaches to better understand visitors' landscape perceptions and place attachments (Stedman, Beckley, Wallace & Ambard, 2004), including within national parks.

Social media often show idealized or heavily edited images, including majestic landscapes that promote this idea of sublime wilderness as an escape from reality. Gunster (2007) examined the use of utopian themes and images in television advertising for automobiles, considering how such themes merge to form discourses of utopian desires and escape. One aspect of his study was to evaluate depictions of nature and landscapes in car advertising as symbols of the magical nature of cars to provide access to utopian places. For example, television commercials often place cars in spectacular landscapes different from what people actually experience in daily life. Imagery of iconic landscapes and pristine nature shown in the commercials are signifiers of beauty, open space, and otherness that only cars create; essentially the car is the vessel through which people can experience the aesthetics of nature (Gunster, 2007). By understanding photographs as visual signs that rhetorically stimulate specific social and cultural meanings, researchers can better understand the processes of creating place meanings.

1.7. Place Meanings and Outdoor Recreation

Williams and Stewart (1998) define sense of place as, “the collection of meanings, beliefs, symbols, values and feelings that individuals or groups associate with a particular locality” (p.19). Sense of place – the general concept – and place attachment – a concept addressing personal connections with specific places – have been explored by researchers in a variety of contexts and from a variety of theoretical foundations (Campelo, Aitken, Thyne & Gnoth, 2014; Kianicka, Buchecker, Hunziker & Muller-Buker, 2006; Stokowski, 2002; among others). As Farnum, Hall, and Kruger (2005) explained, researchers and resource managers view sense of place and place attachment as important ideas in determining how to provide desirable recreation experiences and in understanding public reactions to management decisions.

The socio-psychological approach to place focuses on peoples’ individual experiences with a place and their attitudes, beliefs and behaviors in connection with their experiences. Much of this work has centered on studying place attachment – that is, how attached people are to specific places – primarily through two main concepts, place dependence and place identity. Strong levels of place attachment have been shown to affect visitation to outdoor recreation places and can lead to recurrent visits (Farnum et al., 2005). People become attached to places, and both interpersonal and mediated communications can influence their visitation choices (Farnum et al., 2005). Social media may play a role in communicating place meanings, specifically through its use of visual images, potentially affecting place attachment and visitation.

The sociological-geographical approach to place moves beyond analyzing the physical attributes of a space and their connection to individuals’ identity development

in relation to places. As Kyle and Chick (2007) note, “places are symbolic contexts imbued with meaning” (p.212). This approach focuses more on the ways in which people individually and socially construct meanings of places. It considers the social, cultural, and historical contexts, relationships and experiences that contribute to sense of place and the formation of place meanings. One example is shown in Greider and Garkovich’s (1994) analysis of landscapes as social constructions, which are invested with symbolic meanings by people based on their own experiences of places, and influenced socially and culturally. This research reinforces the idea that sense of place is not concrete and fixed, but is fluid in its constructions and elaborated through social, political and economic contestation (Williams & Stewart, 1998).

There have been a variety of studies examining place and national parks, including analyzing how sense of place is influenced by people’s visual experiences, specifically through studying how viewsheds affect sense of place at Garden Route National Park in South Africa and managerial decisions (Barendse, Roux, Erfmann, Baard, Kraaij & Nieuwoudt, 2016). Often studies involving national parks and place issues have focused on examining place attachment through surveying visitors on a variety of topics, including depreciative visitor behavior, crowding, and recreation impacts (Eder & Arnberger, 2012) and on-site provision of information and interpretation (Hwang, Lee & Chen, 2005). Most of these studies follow the socio-psychological model of examining place attachment in relation to national parks.

Though not specifically oriented to national parks, there are also many studies about social media and visitors’ general orientations to places like parks and greenspaces. For example, Schwartz, Dodds, O-Neil-Dunne, Danforth and Ricketts

(2019) used Twitter to investigate the happiness of people before, during and after visits to an urban park, finding that people were happier during and for many hours following a park visit.

Further, while considerable research has focused on visitor perceptions of environmental interpretive messages and the efficacy of such messages, less focus has been given to the qualities of messages crafted by agencies to guide visitor experiences (Derrien & Stokowski, 2017). Examining the messages generated by agencies looking to guide visitor experiences, however, can offer insight into the types of place values agencies wish to prioritize, as well as an agency's views about the importance of their site. Visitor perspectives on resource places, and managerial goals and alternatives, can thus be compared, forming the basis for long-term planning.

Place meanings may also influence what NPS managers post to their social media pages in other ways. Textual and visual messages shared by the NPS on social media, for example, use symbolic language and images to direct followers' attention to notable and specific features of recreation places. By highlighting these features, social media posts can help to shape visitors' place perceptions and place meanings. But, a critical analysis of place meanings can also reveal nuances in how an agency addresses, ignores or avoids controversial issues, or how it may fail to address broader social or cultural issues, like diversity and multiple perspectives.

1.7.1. Studying Place Meanings using Rhetorical Discourse Analysis

NPS managers communicate about the place meanings and the parks they manage in specific ways, using language and images to shape messages that contribute

to how people perceive the park as a place. Some of their communication portrays experiences visitors can enjoy at the park, thus fostering interest and perceptions of the park by those who have and have not yet visited. The language and imagery shared by NPS sites on social media can be examined as rhetorical discourse to grasp meanings about place, and to infer reasons for place management and its protection.

Different disciplines have used discourse analysis in a variety of ways. For example, previous research in environmental psychology has looked at language and its relation to place attachment as a way of communicating already existing internalized thoughts and emotions or as a way to represent external realities (Di Masso, Dixon & Durheim, 2013; Manzo & Devine-Wright, 2014; Van Patten & Williams, 2008). This approach assumes that textual data are representations of social and psychological realities; language is not just descriptive, but performative and functional; and representations are variable: they justify some realities while challenging others (Di Masso et al., 2013).

Within social constructionist approaches in sociology and geography, discourse researchers have considered language within social interaction as the foundational basis for the creation of meanings. Languages do not simply reflect reality; they actively create it (Stokowski, 2002) within various kinds of social relationships and interactions. This approach to studying place is based on the idea that people use language to communicate, create and represent social realities. This approach includes the narrative-descriptive approach to studying place proposed by Tuan (1991), who said that there is a need for studies that examine the role language plays in shaping place. As he explained, speech orients people to specific features of a place thereby emphasizing

those features over others. Tuan also notes, “Words have the general power to...call places into being” (1991, p.686), that is, to shape ideas about place. He continued, “All narratives and descriptions contain at least interpretive and explanatory stratagems, for these are built into language itself” (p.686). Examination of the ways in which language helps to create place can also illuminate the power and political systems, and social and cultural norms that help structure places and are reinforced through communication (Greider & Garkovich, 1994).

1.8. Analysis of Literature and Applications

The literature review shows that in general research about social media in outdoor recreation, tourism and national parks contexts is relatively limited. There are few studies that qualitatively examine the texts and images posted by social media users (agencies and followers), and so how such postings generate ideas and meanings about place is an understudied issue in current scholarship.

To address deficiencies in current literature, this study analyzes the Facebook posts of three U.S. national parks to qualitatively examine the discursive presentations of place in texts and photographic images. We propose that social media posts (texts and photographic images) are public discourses that deploy rhetorical qualities of form and style to both reflect agency positions about the meanings of place and to help in constructing meanings of place among social media users.

The overall goal of this study is to provide parks managers (especially social media managers) with a better understanding of how the messages they create contribute to shaping discourses of place at national parks. Additionally, this study

seeks to advance theory surrounding rhetorical and discursive aspects of place meaning making, specifically within the newer communication platform of social media.

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**CHAPTER 2: EXAMINING PLACE MEANINGS IN THE SOCIAL MEDIA OF
THE U.S. NATIONAL PARK SERVICE**

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Abstract

National parks are important ecological and cultural resources worldwide, and in the United States, many have begun to use social media to guide visitors' experiences and to communicate about special qualities of place. But, what kinds of social media messages are presented on-line, and how do they attempt to structure viewers' ideas about national parks? To answer these questions, this study used rhetorical discourse analysis to examine a one-year sample of texts and images from Facebook posts drawn from three large U.S. national parks. Results of this study showed that parks use different methods of persuasion and stylistic devices to make claims about place and about visitor experiences. Facebook messages often referenced visitors' significant life moments, and used specific social and cultural symbols to present discourses about each park as a special place. Facebook postings also encouraged certain kinds of appropriate visitor behaviors, and used social media as an information source for park news, rules, and events. This study informs our understanding of the messages national parks are posting to social media, how agencies work to create and sustain ideas about national parks as meaningful places, and how they view their online audiences. As a newer form of communication used by agencies, social media present opportunities for park managers to enlarge and expand meaningful messages about national parks. Yet, this rhetorical analysis also suggests that social media may not be reaching their full potential in elaborating important messages about people and place in national parks.

Keywords: Discourse, Facebook, National parks, Rhetoric, Place meanings, Social media

2.1. Introduction

Researchers have long been interested in understanding the effects of informational materials and interpretive communications produced by resource management agencies to shape public views of agencies and guide visitors' leisure, recreation and tourism experiences at the resource places (Egger, 2013; Guthrie & Anderson, 2010; Jaworski & Pritchard, 2005; Ortega & Rodriguez, 2007; Thurlow & Jaworski, 2010; among others). To this end, there has been considerable research about environmental interpretation and its effects (Derrien & Stokowski, 2017), the discursive qualities of tourist destination websites (Hallett & Kaplan-Weinger, 2010), and how ski areas and neighboring towns use texts and images on their websites to convey ideas about nature and place (Reckard & Stokowski, 2017). Yet, one contemporary topic that remains underdeveloped is the role of social media in outdoor recreation and tourism (Zeng & Garritsen, 2014).

The term "social media" refers to "a group of Internet-based applications that build on the ideological and technical foundations of Web 2.0, and that allow the creation and exchange of User Generated Content" (Kaplan & Haenlein, 2010, p.61). The term *user generated content* refers to material that is "publicly available and created by end-users" (Kaplan & Haenlein, 2010, p.61). That is, individuals and groups produce and share creative content (texts, photos and videos) on publicly accessible platforms, including social networking sites like Facebook, Instagram, Tumblr and Twitter.

Social media are important as communications platforms because they typically include written text as well as visual images, and because they are both visible and

unobtrusive. These media can be accessed very easily and widely across populations (“followers”). A follower is a social media user (e.g., a person, company, organization) that subscribes to another social media user’s account (or receives permission to follow that account, if private) to receive updates and posts from that social media user.

Though there is widespread public use of social media, the intentions and effects of social media use are not always apparent. This presents challenges for leisure, recreation and tourism managers who aim to be current and timely in producing media messages – as well as for visitors, who presumably receive (positive) effects from their social media use. Deepening our understanding of social media messages and technology can provide insight into environmental, social and cultural issues (Hu, Manikonda & Kambhampati, 2014).

Given the special nature of social media as a combined textual and visual experience, one tourism and recreation topic that lends itself to study is that of the role of social media in shaping ideas about *place*. Places are more than background objects in recreation and tourism. People develop attachments to places; they invest in places emotionally; their personal identities are intrinsically linked to how they see, feel and experience place. In this sense, place encounters – even on social media – can contribute to overall leisure and tourism experiences and meanings. The capacity of social media to convey agencies’ ideas about and images of place, while also fostering conversations about place across social media users, has implications for the management of recreation, leisure, and tourism places, the meanings of place, and visitor expectations about place-based experiences. Thus, the written and visual texts presented in social media are formats within which agencies can present and represent

symbolic meanings of place. As Lehtonen (2000) explains, "...the medium of the text, its appearance or its belonging to a certain genre already communicates meanings contained in the text" (p.120).

One context for examining the intersections of social media and place meaning is national parks. Managed by the United States National Park Service (NPS), federal parks are important and sometimes iconic places that reflect the nation's cultural and natural heritage. In 2017 alone, 331 million people visited NPS sites (US NPS, 2018a). Originally created around important natural features, the NPS currently manages a variety of resource places across the country, including recreation areas, national seashores, historic monuments, cultural sites and more. Moreover, the NPS use of social media has increased rapidly over recent years. Beyond making personal visits, people can now "visit" (follow) many national parks electronically through social media sites such as Facebook. In this way, the agency brings parks to people in their home communities and in their everyday life, introduces the NPS to people living far from national park borders, and potentially conveys the richness of on-site experiences and notable places.

Social media use by the NPS can be envisioned as a form of managerial discourse that aims to construct and represent ideas about place and convey place meanings associated with national parks. Given their potential to influence publics, the social media texts and images shared by the NPS can be studied discursively to examine the structure, content and style of messages that guide visitors' experiences of parks, including patterns in the messages posted and responses of users over time. Social media posts created by national park managers, posts created by other users and

shared by NPS sites, and comments and interactions on original and shared NPS social media pages, are all sources of data. By examining these data, social media research can help to inform park managers' future communication strategies, and can contribute to advancing theoretical and practical knowledge in outdoor recreation and tourism.

To this end, the study proposed here considers a particular aspect of social media use of national parks: the ways managers construct and represent 'place' within national park posts on social media. Specifically, this study examines the social media messages published by three large U.S. national parks to ask: *How do NPS sites rhetorically use language and images posted on the social media platform Facebook to report on and guide viewers' experiences of national parks, while also communicating meaningful ideas about place?*

In the qualitative, interpretive research presented here, we are interested in the content, form and styles of messages (texts and images) presented on NPS social media sites. Though social media users can also "comment back" on social media to the agency and others about what is posted, the number of comments provided on NPS social media sites is too extensive to address without "big data" quantitative approaches, and is not addressed in this study. Nevertheless, examining the ways managers engage in social media presentations will provide insight about the current practices of agencies in public communications campaigns. These insights can aid national parks and other agencies in understanding how social media messages can discursively shape ideas about place and about visitor experiences of place.

2.2. Literature

Social media research within the outdoor recreation and tourism field is still a relatively new area of study, though it has grown in recent years. The study presented here uses qualitative methods to extend prior research, specifically focusing on the rhetorical analysis of written texts and place-based photographic images posted to social media (Facebook) by the NPS.

2.2.1. Social Media and the NPS

The tourism industry is information-intensive and social media are a key source by which tourists gather trip planning information and make informed decisions about what to do and see, and where to eat and sleep (Hays, Page & Buhalis, 2013; Xiang & Gretzel, 2010). In this way, social media can influence the types of experiences people expect to have at tourism destinations (including national parks), and can also help to shape the images and meanings of place developed by potential and actual visitors.

Social media's rising popularity and ubiquity has encouraged many state and federal agencies, including the National Park Service, to adopt various social media platforms. The NPS's official social media policy was adopted in 2011. The policy encouraged the NPS to use social media as appropriate. It required that each NPS site develop a social media strategy with purpose, goals, audience, implementation and evaluation as part of the strategy. Other guidelines included: ensuring relevant content is also posted on NPS.gov, recognition that social media content is in the public domain, and as such, is open to discovery and discussion, and knowledge of existing U.S. Department of Interior (DOI) guidance (e.g., do not endorse political parties or

candidates, do not lobby in support of or in opposition to pending legislation).

An agency policy memorandum (Jarvis, 2011) describes how social media will help the NPS achieve their goals by communicating their mission to a large segment of the public. The NPS uses social media to maintain its presence in public conversations about parks, and to reinforce its public image. Because national parks are owned by all Americans, social media provides an easy way for agencies to share ideas and information about national parks with many people, not only those who visit (US NPS, 2018b).

Though national parks can communicate with past, present and future visitors on social media, the scope of these outreach efforts is not yet well understood. A study by Miller and Freimund (2017) of virtual visitors to Yellowstone National Park's Facebook page found that most of the virtual visitors (over 90%) had previously visited that park, and those who had a positive experience and felt a connection to the park then actively "liked" the park on Facebook. Only a small percentage of the virtual visitors had not visited the park, yet they still followed Yellowstone's Facebook page (Miller & Freimund, 2017). This suggests that the NPS's social media posts mainly reach people who have already visited and who already have some understanding of the park, the agency, and the agency's mission.

2.2.2. Social Media as Rhetorical Discourse

As with most spoken or written messages, social media posts should be considered to be meaningful communications, not simply neutral pronouncements lacking intent or effect. As such, social media posts can be studied from the perspective

of rhetorical discourse analysis to examine their content, form, style and to evaluate their collective discursive effects.

In the social sciences, the concept of *discourse* refers to social practices of meaning-making within language use and other forms of symbolic communication (Lehtonen, 2000). Within studies of discourse, the focus is on interactional, contextualized communication – not merely on what happens in the mind of individuals (a psychological, cognitive approach), but on the discursive practices that lead to meaning-making at individual, social and cultural levels of society. Though the word “discourse” has been used in various ways by humanities and social science researchers (van Dijk, 1997a; Wodak & Krzyzanowski, 2008), analysis of discourse focuses on the “strategic accomplishments of language users in action...speakers and writers are constantly engaged in making their discourses coherent” (van Dijk, 1997b, p. 3). Discourses develop in particular settings (political settings, for example), involve specific methods (story-telling, for instance), and express ideologies and relationships (cultural discourses of organizations, for example). The study described in this paper adopts Wodak and Krzyzanowski’s (2008, p. 5) definition of discourse as “linguistic action...undertaken by social actors in a specific setting determined by social rules, norms and conventions.” This definition should also be extended to include non-linguistic symbolic communication (such as photographs) that accompany written texts.

Verbal and non-verbal symbolic discourses produced by agencies are intentional; that is, they are constructed, organized, and stylized to achieve specific effects in readers. As such, they are rhetorical (persuasive) in nature. In the study described in this paper, our initial review of the NPS’s social media Facebook postings suggested

that these were implicitly and explicitly assertive in making claims about places and audience. Thus, the study of these postings as rhetorical discourse seemed most appropriate. Rhetoric is persuasive communication asserted by individuals or social collectives – thus, research about rhetoric is “the study of language as it is used to influence others” (Stokowski, 2013, p.20).

In applying rhetorical analysis, researchers seek to uncover how arguments have been used to purposively carry out communicators’ intentions. “Rhetorical analysis specifically focuses on the structural forms and organization of discourses, the nature of persuasive claims, and the styles of presentation used by speakers or writers” (Stokowski, 2013, p.21). Arnold (1974) defined a claim as “any assertion to which a communicator appears to have committed himself (sic) by seriously offering it as ‘true’” (p.51). National Park social media texts make claims, both explicit and implicit; for example, they assert the value of national parks and their resources, take a stand on issues (like climate change), and encourage people to behave or experience the park in certain ways. Moreover, they present rhetorical texts using various types of argument forms and stylistic devices, which can be examined within Aristotle’s three modes of rhetorical argumentation: ethos, pathos, and logos (Rodden, 2008). Ethos refers to a communicator’s own qualities of credibility; pathos centers on appealing to the audience’s emotions; and logos focuses on appealing to logic and reason. These three approaches to argumentation imply that communicators have specific goals in crafting and delivering persuasive arguments, and that those intentions will be revealed in their discourses.

Rhetorical analysis has been used in tourism and recreation studies in a variety

of ways (Hill, Cable & Scott, 2010; Ribeiro & Marques, 2002; Santana, 2004; among others). However, few studies exist examining the rhetoric of social media messages communicated by recreation, parks or tourism agencies. Yet, social media texts should be examined rhetorically for their modes of argumentation, to consider how they contribute to the creation of place meanings.

2.2.3. Research about Pictorial Images

Pictorial images, including those posted on social media, can also be analyzed for their rhetorical meanings. Images function as signs and symbols, signifying meaning both literally and implicitly (Barthes, 1977). Images produced by tourism entities and public agencies can be examined through semiotics to uncover taken-for-granted social and cultural meanings.

Semiotics can be “defined as the study of signs and images...” (Tresidder, 2011, p. 59). Signs consist of a signifier and what is signified (Barthes, 1977). The signifier is “the vehicle which expresses the sign”; in terms of pictorial images, this includes the object portrayed as well as the colors and shapes that form an object (Bignell, 2002, p. 11). What is signified then is, “the concept which the signifier calls forth when we perceive it” (Bignell, 2002, p.12) – the meaning of the object and its presentation to viewers (for example, a picture of smoke “means” fire).

Written and spoken language systems are linguistic signs (words, sentences) that convey meanings, but there are also visual and other kinds of signs (pictures, graphics, art, architecture) that can be examined for their meanings. Semiotics examines these direct, indirect, intentional and unintentional meanings through analysis

of communication (Echtner, 1999); meanings may be personal, or invoke broader social and cultural understandings. Signs and symbols in photographs are used in tourism by destination marketers and managers to intentionally embellish or explain destinations and destination experiences (Tresidder, 2011). Social media is also a site where signs and symbols are used for public influence. For example, the Facebook accounts of NPS sites contain numerous photographic images of parks. These images are not just literal depictions of existing realities, but can convey ideas and suggest or reveal meanings about the park as a special place. Photographic images, then, might be interpreted for their denotations (explicit meanings) and connotations (implicit meanings).

Not all pictorial images should be seen as depictions of actual “reality.” Advertising images and social media sometimes show idealized or heavily edited images. For example, a study by Gunster (2007) examined the use of utopian themes and images in television advertising for automobiles for how these intentionally aim to form a discourse around utopian desires and escape. He examined depictions of natural landscapes in car advertising as symbolic of the ways that cars provide access to magical natural places (Gunster, 2007). Television commercials often place cars in spectacular landscapes, settings that are vastly different from what people actually experience with cars in their daily lives. The landscapes and nature imagery shown in the commercials are signifiers of beauty, open space, and otherness – and as implied by these commercials, only cars are the mechanisms through which people can experience these aesthetics of nature (Gunster, 2007). Such meanings are also implicit in pictures of other natural settings (in national parks, for example) that show majestic landscapes without people, roads or other built structures, promoting ideas of sublime wilderness

as an idealized escape from reality.

2.2.4. Place Meanings and Outdoor Recreation

Williams and Stewart (1998) define sense of place as, “the collection of meanings, beliefs, symbols, values and feelings that individuals or groups associate with a particular locality” (p.19). Sense of place and place attachment have been explored by researchers in a variety of contexts, and from a variety of theoretical foundations (Campelo, Aitken, Thyne & Gnoth, 2014; Kianicka, Buchecker, Hunziker & Muller-Buker, 2006; Stokowski, 2002; among others). Researchers studying place attachment have focused on the cognitive and affective attachments between people and their physical environments. However, this approach and its emphasis on the physical attributes of a space and their connection to individuals’ identity development in relation to place tends to emphasize personal meanings more so than social and cultural meanings of place. The socio-geographical approach to place considers the social construction of place by emphasizing the social, cultural, and historical contexts, relationships and experiences that contribute to sense of place, as well as the social and cultural processes involved in forming place meanings.

Yet, places are multidimensional, and as Kyle and Chick (2007) wrote, “places are symbolic contexts imbued with meaning” (p.212). That is, places do not “have” meanings; rather, through language and social interaction practices, people construct meanings about the places that matter to them. For example, Greider and Garkovich (1994) wrote about how landscapes are socially constructed and given symbolic meaning through people’s personal, social and cultural experiences. This suggests that

sense of place is not concrete and fixed, but is always changing as it is constructed, contested (politically, socially, economically) and then reconstructed (Williams & Stewart, 1998). The research presented in this thesis applies a sociological-geographical approach to place and place meanings in studying the language and images posted to national park Facebook sites.

The study of place attachment and sense of place has flourished over the past several decades, and some researchers have applied these concepts in studies examining place and national parks (Barendse, Roux, Erfmann, Baard, Kraaij & Nieuwoudt, 2016; Eder & Arnberger, 2012; Hwang, Lee & Chen, 2005; Kaltenborn & Williams, 2002; Williams & Vaske, 2003). Other researchers have studied social media and personal place-based experiences of parks and greenspaces (Di Minin, Tenkanen, Hausmann, Heikinheimo, Jarv & Toivonen, 2016; Schwartz, Dodds, O-Neil-Dunne, Danforth & Ricketts, 2019). However, there is a lack of published studies about social media as these relate to conceptual aspects of place meaning and national parks. These topics are relevant to NPS managers because social media is one way they communicate about the parks to both former visitors and those who have not yet visited. In the process, they use language and images that attempt to influence how people perceive the park and its opportunities as meaningful.

Place meanings likely also drive decision-making about what material is posted to park social media pages to communicate the agency's mission. We assume that textual and visual messages shared via social media will use symbolic language and images to direct social media followers' attention to notable and specific features of recreation places. By highlighting these features, social media posts contribute to ideas

about place, and shape place perceptions and place meanings. Thus, the language and imagery shared by NPS sites on social media can be examined rhetorically to grasp meanings about place, and to infer reasons for its protection.

2.2.5. Rhetorical Discourse and Studies of Place

Academic disciplines have used discourse analysis in a variety of ways. For example, previous research in environmental psychology has looked at language and its relation to place attachment as a way of communicating already existing internalized thoughts and emotions or as a way to represent externalized realities (Di Masso, Dixon & Durheim, 2013; Manzo & Devine-Wright, 2014; Van Patten & Williams, 2008). This research supports the ideas that textual data itself are representations of social and psychological realities; language is not just descriptive, but performative and functional; and representations are variable: that is, they justify some realities while challenging others (Di Masso et al., 2013).

Within the social constructionist approaches in sociology and geography, discourse researchers have considered language within social interaction as the foundational basis for the creation of meanings. Language does not simply reflect reality; it actively creates it (Stokowski, 2002) within various kinds of social relationships and interactions. The discursive approach to studying place is based on the idea that people use language to communicate, create and represent social realities. This approach includes the narrative-descriptive approach to studying place proposed by Tuan (1991), who advocates development of studies that examine the role language plays in shaping place. He said (p. 686), “Words have the general power to...call places

into being.” As Tuan explained, speech “can direct attention” to specific features of a place thereby emphasizing some features over others (p.685). Examination of the ways in which language helps to create place can also illuminate the power and political systems, and social and cultural norms that help to structure place meanings (Greider and Garkovich, 1994).

This thesis expands these ideas to suggest that social media can also offer mass mediated discursive opportunities for creating place meanings. Social media posts can be examined for their structure, forms and styles. For example, patterns can be studied according to how much time is dedicated to specific topics, how ideas are placed in sequence, or the causal relationships between ideas – all of which have effects on audiences who try “to find structures that help them comprehend” (Arnold, 1974, p.105). Stylistic and literary devices used in social media posts also function rhetorically (through repetition or contrast) to argue for or against ideas (Arnold, 1974). Thus, analyzing discourse for what is present or absent, typical or unusual, can reveal rhetorical practices and meanings in the data.

The study described here will provide park managers (especially social media managers) with an understanding of how the social media messages they produce can rhetorically contribute to the formation of place meanings about their national park. Additionally, this study seeks to advance theory surrounding rhetorical and discursive aspects of place meaning making, specifically within the newer communication platform of social media.

2.3. Methods

This study examined the Facebook posts of three large U.S. national parks to analyze discursive presentations of place and people in texts and photographic images. We specifically focused on the rhetorical strategies used within national park place communication.

2.3.1. Study Sites

Three large national parks in the United States – Acadia (Maine), Rocky Mountain (Colorado), and Great Smoky Mountains (along the North Carolina-Tennessee border) – were selected for study. All three are natural resource-based parks with cultural and historical elements, but they differ in specific resources and features. Though they represent distinct regions of the country, all three enjoy large numbers of visitors and all have active Facebook pages.

Acadia National Park in Maine (3.5 million visitors in 2017; US NPS, 2018c) was established in 1916 originally as the Sieur de Monts National Monument (changed to Acadia in 1929). It is significant for its forests, mountains, lakes and ocean viewpoints that have been featured by painters and artists, including those from the Hudson River School (US NPS, 2017). Great Smoky Mountains National Park (GSMNP), on the border of Tennessee and North Carolina (11.3 million visitors in 2017; US NPS, 2018c) was established in 1934 and it preserves the historic structures, artifacts, and landscapes of Southern Appalachia (US NPS, 2015a). In Colorado, Rocky Mountain National Park (RMNP) (4.4 million visitors in 2017; US NPS, 2018c) was established in 1915 and focuses on the natural, cultural and scenic wonders of the

Rocky Mountains (US NPS, 2015b).

2.3.2. Data Collection

Facebook is one of the most commonly used social media platforms by NPS sites, and so it was chosen for study. Initial review of the Facebook pages for the three study sites showed that, at least in summer, there is a large volume of postings on Facebook by NPS staff, and that most of the posts included public comments. Given the large number of public comments and the choice made to conduct qualitative, interpretive analysis in this study, a decision was made to analyze all agency Facebook posts during the course of a year, but to ignore public comments, because the volume of public comments would necessitate using “big data” quantitative procedures. This provided consistency in data collection; however, it is also a limitation.

Data were collected through systematic random sampling of every other week across one year (2018) to encompass seasonality and peak tourism periods at national parks. Weeks followed the U.S. calendar (Sunday to Saturday) because national parks are federal agencies. Thus, data collection began with December 31, 2017 and ended on December 29, 2018.

Publicly available Facebook posts remain accessible forever as long as the organization does not delete the posts. There may be times when NPS sites might edit or delete posts, but this would not be known by the researchers; it is a possible source of error.

2.3.3. Data Analysis

From each park's Facebook page, we identified and analyzed the written text and photographic images produced by the NPS site itself, as well as those shared (but not created) by the agency. Facebook images were saved as jpegs with their date of posting, and imported into UVM's licensed NVivo software. NVivo is a data management and analysis package for use in managing textual and image data and conducting interpretive, qualitative research. Each photographic image published with each Facebook textual post was numbered in the order it appeared. Each Facebook text was copied into a Word document, saved with its posting date and number of comments, then imported into NVivo. If a park shared multiple posts on a single date, the text and images of each post were numbered in the order they appeared on the park's Facebook page. All posts by NPS sites were considered as individual entries in the analysis.

Collected social media posts (texts and images) were coded and analyzed using content, textual and semiotic analyses using NVivo software. Trends and themes in the data both within each park, and across all three parks, were identified. Results were then compared to identify similarities and differences with respect to qualities of Facebook messages within identified categories. The authors collaborated regularly throughout the data analysis process; collaborations consisted of regular meetings, shared writing and revisions. The first author collected data, while both authors collaborated on the content, rhetorical discourse and semiotic analyses, and data interpretation to establish trustworthiness of the findings (Lincoln & Guba, 1985). The thick description of results and shared analysis and writing procedures all helped to

establish dependability through consistent application and replication of analytic practices; these research practices also produced confirmability in the study's findings.

2.3.4. Texts and Images in Facebook Posts: Content Analysis

A qualitative approach to content analysis was initially used to determine text and image categories/codes. This process drew from previous research on categorizing videos and photos users posted to social media by themes within and across categories (Hu et al., 2014). Two researchers reviewed and collaboratively discussed the textual data, which were then sorted into categories based on the dominant content of the post: News, Information, Programs and events, Quotes, Questions for Facebook users, and Stories. By grouping similar posts and images, we were then able to assess whether there were "rhetorical" and also "non-rhetorical" types of texts in the social media posts.

All photographic images were divided into categories (long-distance landscape or a close-up image). Since a large percentage of images from each park are landscapes, landscape photos were further evaluated to minimize overlap. Close-ups and landscapes were categorized based on three main features: People, Infrastructure/human-made objects, and Natural features. Images with more than one feature were categorized based on the dominant feature/focus of the photo. A final image category focused on Graphics and other promotional images.

2.3.5. Textual Data: Rhetorical Discourse Analysis

From the content analysis, we chose social media posts that could be considered rhetorical (persuasive) in nature for further analysis. Initial categorization sorted textual data (social media posts) into categories indicating the presence or absence of explicit rhetorical claims. Texts with persuasive claims were entered into a spreadsheet to record explicit and implicit claims, supporting data for claims, and stylistic features of each claim. Persuasive claims were those that had the following qualities: they made personal or agency claims about the objects of the park, the activities undertaken during visits, or other people. Claims could be identified in the texts as statements that writers presented as self-evident and ‘true’ (Stokowski, 2013). They stood out from other, more neutral commentary in the Facebook texts.

Rhetorical texts were then analyzed based on structure, form and style. Following Stokowski (2011), texts and images were examined for literal meanings (denotations) to understand the explicit messages presented by NPS staff, and to determine patterns that emerged across their social media messages. Texts were also analyzed for their implicit symbolic (connotative) meanings and how they connect to ideas, themes and meanings about place and place experiences. Discursive patterns evident across the data were identified and interpreted for their place meanings.

2.3.6. Photographic Images: Semiotic Analysis

All images for each park were used in the initial content analysis of images. Given the large number of images (n=751) identified in the total data set, however, a smaller sample was chosen for a semiotic analysis case study. One week of Facebook

texts/images was selected intentionally during peak season to ensure sufficient numbers of images for analysis within the one week timespan, and all images were analyzed from each park within that week (July 1 - 7, 2018); in total, 26 images from Acadia, 11 images from GSMNP, and 6 images from RMNP were analyzed (n=43 total). Images were analyzed for the presence/absence of people and wildlife, proportion of people to natural resources, what activities people were doing when photographed, and the types of landscape/natural resources present in the image.

2.3.7. Short Interviews

Following data analysis, and to clarify and expand researchers' interpretations, social media staff at each study site (one per park, 3 total) were contacted by telephone to gain insight about what they posted on Facebook and the decision-making processes for posting. Interviews were primarily conversational, though researchers developed key questions covering specific topics to guide the conversations. Interviews were conducted on June 25, 2019 (Rocky Mountain); July 8, 2019 (Great Smoky Mountains); and August 21, 2019 (Acadia); and lasted between 20 minutes and 2 hours. Notes were typed during interviews to capture responses.

2.4. Results

The texts that NPS staff post to their Facebook accounts provide their social media audiences with specific interpretations of the park as a place – and with specific information about how visitors are supposed to behave in national parks places.

Summary tables of results and analyses are shown below. (More detailed data tables are provided in Appendix A.)

2.4.1. Frequency of National Park Posts

Results show that national parks post frequently to Facebook – typically more than once per day. As Table 1 shows, Acadia National Park posted text and images (1.55 posts per day, on average) more frequently than the other two parks during the study period. Great Smoky Mountains National Park posted less frequently, but still more than once per day on average (1.34 per day, on average), while Rocky Mountain National Park posted the fewest entries, even though they averaged about one posting per day during the study period (1.02 posts per day, on average).

Table 1: Frequency of Posting by Park

Park	Number of Text Posts	Number of Image Posts	Post Frequency (per day)
RMNP	186	185	1.02
GSMNP	223	267	1.34
Acadia	267	299	1.55

2.4.2. Modes of Argumentation in Texts

Aristotle references three main methods of argumentation – ethos, pathos, and logos. Analysis of the texts (the words of the social media postings) showed that ethos, pathos and logos were all present in the Facebook posts for each park, though these did differ in emphasis.

Agencies appeared to use all of these techniques to craft their arguments, and

use of each sometimes depends on the type of text post (Information, Story, etc.). These modes of argumentation are most visible in the content categories of each park, as described below in the Content section and in Table 2. This Table shows the differential use of different forms of argumentation across the social media posts of all three study parks. Most of the appeals focus on emotion, for example, through heartfelt stories about peoples' connection to the park. In this way, the agency implicitly impresses visitors with the important qualities of place and place experience at the park. The logos posts appeal to visitors' common sense, often using factual statements to encourage or direct visitors to behave in certain (agency-preferred) ways. The use of factual information also sometimes stands in for ethos, as the agency displays authority and implied power in their Facebook presentations.

Frequencies for each mode of argumentation suggest that agencies have preconceived ideas about how Facebook viewers will be influenced by different methods of argumentation. The predominant use of pathos suggests that agencies intend to influence social media viewers' emotional connections to parks based on claims of the "specialness" of park places. Thus, agencies appeal to emotion more so than to logic or authority, situating national parks as public centers of emotion (rather than education, insight, or worldly knowledge). Such choices may also explain why some topics (e.g., climate change effects) are poorly addressed in these social media posts: complex issues require explanations involving logic and reason, not just emotion.

Table 2. Frequencies of Each Mode of Argumentation (e.g., Pathos, Logos, Ethos)

Mode of Argumentation	Acadia (%)	GSMNP (%)	RMNP (%)
Pathos	49%	30%	55%
Logos	21%	26%	27%
Ethos	10%	5%	4%
Pathos and Logos	10%	21%	8.5%
Pathos and Ethos	4%	5%	4%
Logos and Ethos	2%	7%	1%
Pathos, Ethos, Logos	4%	5%	1%

2.4.3. Contents of Facebook Posts

Detailed results of the content analysis of social media texts from each park are shown in the Appendix (Tables 2a, 2b, and 2c) – but a summary table of the top five content categories and their frequencies across all three study parks is provided below in Table 3. The text categories across all parks are generally similar, with the exception being Acadia National Park’s Stories category, which accounts for almost half of their text posts (45%). Acadia’s Stories often rely on pathos for argumentation, focusing on positive sentiment and emotional appeals: *“The trails are filled with bird songs and magic. And my heart couldn’t be happier”* (Acadia National Park, June 23, 2018 – Post 1). It is notable that these Story posts are primarily visitor-created: Acadia’s communications staff search for captivating stories and images from visitors on social media and share those; occasionally visitors submit texts for consideration as social media posts (Telephone interview, Acadia National Park, August 21, 2019).

Rocky Mountain National Park has a relatively even distribution of posts across text categories, while about a third of Great Smoky Mountains National Park’s posts are informational, with the remaining text categories relatively evenly distributed.

Rocky Mountain has high numbers of posts that emphasize News (22%) and Commands (15%) posts. Commands posts typically include directives instructing visitors on how to experience the park. These rely on logic and reason to appeal to visitors, particularly with respect to safety messages or those directing visitors to “do something” in the park: *“The off season is the perfect time to visit a new hiking destination”* (RMNP, March 13, 2018). Some News and Command posts also use a combination of pathos, logos, and occasionally ethos arguments: *“The wild is calling! Join a park ranger on a guided hike along the Onahu trail...to immerse yourself in the wild wilderness of Rocky”* (RMNP, September 12, 2018 – Post 1). Rocky Mountain also has high numbers of posts that are Questions (22%) and Quotes (15%), which mainly feature emotional (pathos) styles of argumentation (sometimes combined with logos): *“Ever dreamed of being a national park ranger? This is the time of year to look for summer jobs in Rocky!...Dreams can come true!”* (RMNP, January 4, 2018).

Great Smoky Mountains posts are primarily informational, which means they tend to rely more heavily on logic and reason (logos) when making claims. Pathos is also sometimes employed, often in conjunction with logos: *“The Rockies are higher, the Grand Canyon is deeper, and some parks are bigger. Yet few places rival the magical diversity of Great Smoky Mountains National Park”* (GSMNP, June 9, 2018).

Overall, in comparing the three parks, it appears that Acadia and Rocky Mountain both feature pathos – emotional argumentation – as their main rhetorical method of making text claims. On the other hand, Great Smoky Mountains has a more even distribution between pathos and logos modes of argumentation; this is likely due to their greater emphasis on informational posts, in addition to categories like

Questions and Descriptions (which lean towards pathos argumentation).

Further, all text posts shared by the three parks can be seen as implicitly rhetorical because they have been posted by an administering agency (the NPS) that has the authority and power to manage each park. This means that ethos modes of argumentation (focused on agency credibility) are also implicit in the text posts, as the National Park Service asserts their credibility through social media messaging. As an overt method of argumentation, however, ethos was the least frequently identified as being explicitly used by the three study parks.

Table 3. Summary Results for Text Content Analysis

	Acadia	<i>% Frequency</i>	Great Smoky Mountains	<i>% Frequency</i>	Rocky Mountain	<i>% Frequency</i>
1	Stories	45%	Information	33%	News	22%
2	News	18%	News	15%	Questions	22%
3	Programs and Events	13%	Questions	12%	Commands	15%
4	Commands	8%	Programs and Events	9%	Quotes	15%
5	Information	7%	Descriptions	9%	Programs and Events	10%

2.4.4. Rhetorical Analysis: The Use of Claims in Text Posts

This study separates text posts into those with claims (rhetorical) and those without claims (non-rhetorical posts) to examine rhetorical claims specifically. Though all text posts shared by the agency can be seen as examples of rhetorical discourse (as noted above), some posts are more overtly rhetorical than others because they contain explicit and implicit claims, not just information or facts. Thus, the primary analytic focus below will be on rhetorical aspects of the Facebook posts, specifically the

posts with claims (35% of the total text data). Before discussing these, though, I provide a short explanation of claims that are “less overtly rhetorical” in nature.

2.4.5. Posts without Claims

For all three study parks, Facebook posts judged to be lacking overt claims were in general more informational and descriptive. They shared news items and updates that were factual in nature, rather than asserting claims. They reported on issues and topics, but did not make clear connections between resources/symbols and the significance of place meanings. Posts without claims were also often shorter in length than posts with claims.

Many posts without claims in Great Smoky Mountains National Park consisted of a similar sentence and paragraph format/structure: a question, followed by facts (typically about a park resource), then commands (with exclamations – “come...!”) and/or another question and/or the phrasing “you can...”. This structure is rare in posts with claims. This format acts as a set up for the informational aspect of the post, as well as a way to guide visitors’ behaviors.

In Acadia, Stories without claims were less well-developed than Stories with claims. They were often shorter, did not draw clear connections between ideas, and tended to be reports of what happened during a visit (for example, restatements of step-by-step activities, such as what happened during a park visit).

2.4.6. Posts with Claims

Claims are assertions of truth made by an author. Overall, these agency-sponsored posts made explicit and implicit claims, many of which referenced the nature of place or how to experience national parks. For example, “*A night hike is a great way to escape the light pollution from surrounding towns and cities, giving you a chance to experience real darkness and the sounds and sights of nocturnal wildlife*” (GSMNP, July 20, 2018 – Post 1). Rocky Mountain had the highest percentage of claims (44% of text posts, n=82), followed by Acadia (37%, n=99), and then Great Smoky Mountains (25%, n=57) with the least number of claims (GSMNP focused more on sharing factual information).

As identified earlier, one of the major text post content categories for Acadia is Stories written by park visitors (then Stories are chosen by the Interpretive Media Specialist for posting by the Park Service to their Facebook page). Overall themes emerging from Stories with rhetorical claims at Acadia are that the park is a notable, worthwhile place to visit where people can escape and recharge from normal life, while connecting with nature.

Themes present in Great Smoky Mountains’ posts with rhetorical claims center on the park’s resources, including its overall diversity of resources and their importance – no resource is too small or insignificant. The theme of discovery in relation to the park’s natural resources is also present in claims, specifically that the park is a place to discover diverse resources.

Most (43%) of Rocky Mountain’s posts with rhetorical claims feature the theme of change, primarily in talking about seasons and the variety of natural resources

a visitor could enjoy based on the time of year – each season has something for visitors to see and experience in the park. Their posts encourage people to take advantage of and enjoy the seasons while they last, and to do so through specific activities and resources available during each season.

There were a variety of types of rhetorical claims presented in the Facebook posts of the three study parks, including: (a) claims about natural and cultural symbols of place; (b) claims about significant life moments; and (c) claims about parks as special places. The following sections of this paper discuss these different types of claims using examples from the posts with claims.

2.4.7. Natural and Cultural Symbols of Place

Facebook posts from all three national parks referenced specific cultural symbols – including agency icons (e.g., Park Rangers, the arrowhead symbol), symbols of park resources (e.g., the elk in RMNP, hemlock trees in GSMNP), and wilderness landscapes (e.g., snow-covered mountains in RMNP, beachside cliffs in Acadia) – that were related to the specialness of place. For example, “*Check out these rangers welcoming visitors back in 1940*” (RMNP, September 13, 2018). These posts mention specific park resources and highlight specific areas of the park over others. For example, a post from GSMNP reads: “*The pattern on this small spider’s back is especially fun to see in the park since it resembles the arrowhead symbol used by the National Park Service since the 1950’s*” (GSMNP, September 14, 2018).

Many persuasive claims posted by agencies provide commands and directives that instruct readers about how to behave to protect the park. Other claims posts specify

the types of activities that are seen by the agency as appropriate for the park, implying that visitors lack the judgement to self-determine their behaviors and experiences.

Essentially, humans are subordinate to the parks' important cultural resources:

Acadia provides a wonderful opportunity to view animals in their natural setting. Along with this opportunity comes a special obligation for park visitors. Always enjoy wildlife from a safe distance...Do not touch, handle, feed, or transport birds or animals in the park, ever. If you see a situation that needs to be addressed...contact the park directly (Acadia, September 15, 2018).

Natural and cultural symbols of place are rhetorically linked in the posts of all three national parks to time and the passage of time. The symbols used to represent the passage of time in these posts primarily orient to examples of park seasonal changes: leaves changing color, snow fall, budding and blooming plants, baby animals, and so on. These symbols illustrate the ephemeral but meaningful nature of certain park experiences over the seasons and the year. For example: *“Why do leaves change in the fall anyways?...This allows the beautiful fall colors we all love to shine through...Fall color in the park is so spectacular because of the rich diversity of deciduous trees that live here”* (GSMNP, November 6, 2018 – Post 2).

Linking natural and cultural symbols of place to time in these Facebook posts reinforces ideas about the timelessness of national parks, and also presents abstract ideas about a park's permanence – something the NPS strives to achieve as part of their mission to protect parks now and into the future: *“Same place same feeling only time change”* (Acadia, November 7, 2018). The idea of the permanence of national parks is

also an underlying reason for the initial creation of the American park ideal – to keep resources protected and in existence in perpetuity. In this way, posts claim that parks are important not only for the special qualities of nature and place, but also for their cultural importance to American history and identity.

Connecting timelessness to natural and cultural symbols of place, the NPS also implies that people can re-visit to see the same valued sights and sounds, and have the same experiences. Yet, this idea is also frequently contrasted with posts referencing how the parks have changed over time – whether through human disturbance or natural change (affected by climate change, peoples’ impacts on the park, new roads, seasonality, etc.):

I am working to create a better understanding of how the old growth forests are rapidly changing. The old growth forests within the park represent the largest stand of old growth forest in the Eastern United States and give us a glimpse of what the forest of the southern Appalachians would be like without disturbances such as logging (GSMNP, April 9, 2018).

Referencing specific natural and cultural sites and time, agencies also encourage people to experience the park during less busy times or away from busy areas, asserting that their visits will be more enjoyable: “*Away from the hustle and bustle, the Homestead offers visitors a place to relax, play games, learn...and make lasting family memories of their own*” (Acadia, August 3, 2018 – Post 1). Posts during busy times (e.g., summer) ask people to remain calm, kind and patient, again showing that agencies believe people need behavioral reminders: “*The park can get crowded on*

holidays, but a little patience, kindness, and courtesy can go a long way towards making it a great day for you and everyone you encounter!” (GSMNP, July 4, 2018).

Even visitors make claims about the importance of the off-season, not only as a benefit to visitor experiences, but also to the park itself: *“The winter offers a special opportunity to experience the park in a quieter time, a time for the park to recover and ready itself for the coming seasons”* (Acadia, February 13, 2018 – Post 1).

2.4.8. Significant Life Moments

All park Facebook posts – but especially Acadia’s Story posts – referenced significant life moments (e.g., marriages, reunions, birthdays) in making rhetorical claims about their park. An example is shown in an Acadia posting: *“I’ve always been very connected to Acadia National Park....My parents always took me there a lot as a child, and as an adult I frequent the park as often as I can...It’s always held great memories for me”* (Acadia, May 10, 2018). Taken together, posts about significant life moments created a broad discourse that each park is a special personal place: *“I couldn’t think of a better way to celebrate my birthday than to see one of the nation’s greatest wonders, its national parks”* (Acadia, January 15, 2018 – Post 2). The implied message is that parks should be seen as not only natural places of significance, but also as places that could be emotionally, personally “owned” for enacting and remembering your or your family’s significant life events.

The idea of “ownership” appears especially in Acadia’s Stories. These often featured local people expressing their ownership of the park as their “backyard,” and even non-locals used contrast to indicate their solo experiences in the park outweighed

trips during busier times: *“My favorite is when it’s raining and nobody is out in the early morning. I’ve got the whole place to myself, it is fantastic”* (Acadia, July 5, 2018 – Post 2). Additionally, posts with significant life moments also featured close social relationships prominently, especially in Acadia’s Stories, as significant life moments were often celebrated with family, close friends, and significant others: *“[we] road tripped to Maine for our annual girl’s hangout...it’s hard to be bummed out while cliffside of such a gorgeous place with great friends”* (Acadia, March 30, 2018).

These moments and celebrations were focused not only on past experiences – *“My sister and I first visited Acadia in 2011 and have been back three times since then. We can’t get enough of it”* (Acadia, November 18, 2018) – but also looked to the future: *“It was the best part of Maine I’ve been to. We will definitely be going back”* (Acadia, April 11, 2018 – Post 1). Sometimes past and future were even joined within a single post. Posts articulated long-term relationships with place, through annual celebrations and return visits: *“It’s one of those places that, once you discover it, you have to keep coming back to visit, isn’t it? (My family has) been coming here for twenty-three years, every year”* (Acadia, July 16, 2018 – Post 2).

All three parks also used the Facebook posts to feature and highlight significant moments, events and holidays throughout the year. Some of these were formal (Fourth of July) and others informal (World Ranger Day). For example: *“...August 15th is Relaxation Day...We can’t think of a better place to relax than right here in our beautiful national park...the possibilities are endless...”* (GSMNP, August 15, 2018 – Post 1).

While many posts share this idea of the park as a special place for personal

and social events, the textual presentation of people in the park Facebook posts under study is, in general, contradictory. Some agency posts spoke positively of people and asserted that a collaborative effort from all people is needed to protect the park: *“We are very thankful for all of our visitors who come and experience Rocky, both in person and on social media! Thank you for being a part of why Rocky is so special, and for helping us protect this spectacular landscape”* (RMNP, November 21, 2018 – Post 1). In this example, the agency articulates the important role of visitors in the idea of RMNP as a special place. Similar posts encourage visitors to become more involved in the park through volunteering, applying for internships/jobs, etc. Park posts use “we” to explain that everyone, from Rangers to volunteers to visitors, has a role in protecting the park.

Opposing claims about the role of visitors in the protection and management of parks can be seen across the Facebook posts, presenting conflicting ideas about how park managers view their visitors and social media audiences. These posts implicitly raise issues about the purpose of parks themselves: that is, are people necessary for the park’s longevity, or are they destructive, needing to be managed?

Acadia’s cobblestone beaches have long been an attraction of the park. As visitors, we all have a responsibility to do our part in preserving its beauty...it’s important to remember how even just one person’s impact can, and does have lasting effects...if every visitor took just one cobble, we would soon see devastating effects to the volume of stones in the park (Acadia, July 31, 2018 – Post 4).

2.4.9. Claims about Parks as Special Places

Facebook posts also offer guidance about how people should experience a park (emotionally and physically) based on the time of year and seasonal differences. For example, a post from Rocky Mountain National Park reads: *“Have you fallen in love with the winter season in Rocky yet? Take a snowshoe hike...to experience the magic of the mountains under a layer of snow”* (RMNP, February 28, 2018). These posts also try to limit people to what the park has determined are proper park experiences; for example, in guiding and encouraging visitors through their social media posts to visit specific areas that the agency deems are either significant/special:

This week’s #WaterfallWednesday is an “oldie but goodie” of sorts, a reliable, favorite option when road closures are keeping you from getting to other trails, you find yourself needing to stretch your legs and get some fresh air after a long drive to reach the park, or you just want a walk that’s nice and simple, but still scenic: Cataract Falls (GSMNP, January 31, 2018).

NPS posts also try to encourage Facebook readers to become involved in activities the agency considers to be “proper” park experiences. Posts with claims often assert that there are specific, true and correct ways for people to experience the park. For example, *“For many years visitors have been climbing mountains, exploring trails and loving their National Park!”* (RMNP, February 15, 2018). Based on this post, climbing mountains and exploring trails are portrayed as appropriate ways to experience the park, and these are the ways that people can show “love” for the park.

In fact, the NPS uses the word “love” symbolically and in a variety of their

posts, nearly always signaling how visitors should feel about the park. Examples from RMNP include: *“What do you love most about your national parks;”* *“Have you fallen in love with the winter season in Rocky yet?”* *“Get out and connect with the land you love.”* In this way, RMNP is writing primarily for people who have already visited the park, and they are encouraging one type of specific emotional option for how visitors should engage with the park or feel about the park. Acadia’s Stories also contain the word “love” in relation to the park, its natural resources, and activities/experiences the park offers: *“We as a family love national parks. We love how close we feel to nature and love the hikes”* (Acadia, January 14, 2018 – Post 2). Love of the outdoors, nature and hiking are all common sentiments throughout the stories. People express love for Acadia’s unique features, beauty, scenery and the ability to be close to nature in the park in their stories. People from Acadia’s Stories overwhelmingly speak positively of the park. It’s their “happy place,” a place that brings them joy.

In the same way that love is an ideal, Facebook posts also use rhetorical claims to portray parks as aesthetically valuable places. Such posts tend to ignore non-aesthetic values or uses of the parks, and instead focus on the positive values associated with park scenery, wildlife and natural resources. This is shown in an example from GSMNP: *“As spring and summer come around, the Great Smoky Mountains National Park is known for its amazing and beautiful wildflowers growing throughout the park”* (GSMNP, May 20, 2018 – Post 1).

Stylistically, posts emphasize literary devices such as analogies, including biblical comparisons (parks are “heaven”); for example, *“Acadia National Park is a proverbial Noah’s ark when it comes to wildlife”* (Acadia, August 28, 2018 – Post 1).

Parks and their features are often personified, giving them anthropomorphic qualities: *“Ah, spring! Melting water makes its own music – melodies...that transform snowfields into the lifeblood of the land”* (RMNP, May 6, 2018). Park Facebook posts indicate that, from the perspective of agency authors, the landscapes and aesthetics of the parks are central to their uniqueness and iconicity: *“There are few landscapes as picturesque as a lighthouse along a rocky coast or on a windswept shoreline. This iconic view...lighthouses preserved by the National Park Service...tell stories that remind us of our nation’s maritime history and of the families and individuals who braved the elements to offer safe passage and save lives”* (Acadia, February 1, 2018).

Claims about each park as a unique and special place are prevalent throughout the Facebook texts. Postings from parks use generalized, often unclear, sometimes grandiose adjectives and superlatives to describe park resources, features, and experiences, whether it is through the visitors’ words themselves (via Acadia’s Stories) or in text posts provided by the agency itself. Even when Acadia visitors discuss their experiences in Stories posted by the NPS, they are often unable to articulate what specifically makes the park so special; for example: *“Acadia National Park is absolutely breathtaking...Acadia will always have a special place in our hearts”* (Acadia, February 14, 2018).

Examples of common adjectives used in these posts include: “beautiful,” “magical,” “amazing,” “picturesque,” “spectacular,” “scenic,” and “wonderful.” What is implied is that readers should implicitly understand what makes each park unique and special. These adjectives offer no real explanation of what exactly makes the park special beyond general references to natural features and common on-site visitor

experiences (e.g., watching sunrise). For those who have never visited one of these parks, it may be unclear why they should visit – which suggests that the Facebook posts are likely being written for those familiar with the park, who have already visited, or those with broad cultural knowledge about national parks. From this, connotations related to broader cultural discourses of parks as sublime areas of wilderness are suggested.

Another stylistic device used in these Facebook posts is the use of contrast. Contrast also demonstrates ideas of uniqueness by stating that individual parks are different from both the outside world, as well as other national parks. This is especially pronounced in many of Acadia’s Stories: “*The scenery and wildlife of Acadia make me feel like I’ve left the rest of the world behind me every time I visit*” (Acadia, March 2, 2018 – Post 2). Parks are places removed from the rest of society.

This also shows up in the verbs used in social media posts: visitors are often given a passive role in descriptions of visiting the park and interacting with its resources. That is, visitors listen, walk, and view: “*An early morning hike to Big Meadows may reward you with big wildlife sightings*” (RMNP, July 4, 2018). In other words, good visitors are passive visitors.

2.4.10. Photographic Image Analysis

Semiotic analysis revealed several distinctions across the three study parks. All images (n=751) were analyzed as part of the image content analysis, which is discussed below and shown in Table 4. The remainder of this section then discusses a small subset of the images (n=43, 6%) as part of the semiotic analysis.

Table 4. Image Content Analysis Summary Results (Entire Data Set): All Three Parks

Acadia NP	% Frequency	Great Smoky Mtn. NP	% Frequency	Rocky Mountain NP	% Frequency
Close-ups	46% <i>(49% with people)</i> <i>(31% natural resources)</i>	Close-ups	62% <i>(33% with people)</i> <i>(53% natural resources)</i>	Close-ups	38% <i>(28% with people)</i> <i>(63% natural resources)</i>
Landscapes	42% <i>(64% with people)</i> <i>(19% natural resources)</i>	Landscapes	23% <i>(12% with people)</i> <i>(63% natural resources)</i>	Landscapes	56% <i>(30% with people)</i> <i>(51% natural resources)</i>
Graphics, Docs, Promo Images	11%	Graphics, Docs, Promo Images	15%	Graphics, Docs, Promo Images	5%
Unknown	1%	Unknown	<1%	Unknown	1%

The review of the entire data set of photographic images showed that Acadia’s pictures are almost evenly split between close-ups and landscapes. Acadia featured more photos with people, likely because they pull images from peoples’ own Instagram accounts (Acadia interview, August 21, 2019). While Acadia had many landscape images, they overwhelmingly featured people (64%) rather than solely focusing on natural resources (19%). Acadia’s close-up images also favored people (49% compared to 31% natural resources). There are almost twice as many photos with people (landscapes and close-ups) as there are photos of natural resources at Acadia. Acadia’s use of personal images mirrors their focus on peoples’ Stories and experiences. By including many images with people, Acadia contrasts with the other two parks, which present more images showing their parks as untouched areas of wilderness.

Great Smoky Mountains National Park’s images are mainly close-ups of flora

and fauna with a much smaller percentage of landscapes – while Rocky Mountain National Park has over half of their images as landscapes and about a third as close-ups. Great Smoky Mountains’ images are mainly close-ups of objects, and about half are of natural resources. This parallels the content of their text posts, which are mainly informational and focus on sharing information about different resources in the park. Rocky Mountain’s images overwhelmingly focus on natural resources; the majority of their photos are without people or even the presence of humans (i.e., few photos of human artefacts and built infrastructure).

Both Rocky Mountain and Great Smoky Mountains’ emphasis on images centered on natural resources reinforces cultural ideas of national parks as wilderness areas that are protected for their natural resources and unique natural features, instead of for human exploration. In an interview with RMNP social media staff, it was stated that they determine what is most effective for getting visitor interaction by focusing on the visual content of their posts, because, as they explain, “good” pictures are key to getting people to read the posts (RMNP interview, June 25, 2019). The fact that most of their photos are of landscapes without people indicates that the agency prefers these as a way to tell about the park and attract social media users; that these images are what they consider “good” and enticing photos. This further reinforces discourses of national parks as areas of sublime wilderness.

Both scenery and wildlife are common visual representations of parks in society. In these data, all three parks studied had high numbers of images with landscapes focused on natural resources (i.e., no people or built infrastructure); this was true for both Rocky Mountain National Park and Great Smoky Mountains National

Park. All three parks also had high numbers of close-ups of natural resources (especially Great Smoky Mountains and Rocky Mountain National Park). Through these pictorial emphases, agencies appear to be reinforcing ideas that national parks are important for their natural resources, and less so for the cultural and social experiences they offer people.

2.4.11. Photographic Images: Review of Small Sample

The results above show the distribution of images across the entire data set. The smaller case study of images (n=43, a sample from one week in summer 2018) reinforced the findings noted above. Most of Acadia's images contained people, while half or less than half of the RMNP and GSMNP's images did. Acadia's photographic images typically show people socializing and experiencing nature together, and most photos have landscapes as the background (though people are often minimized, and landscapes maximized in these photos). Images during this case study week also featured long lines of cars, contrasting with traditional ideas of national parks (as seen in images from other parks) as primarily natural places – but reinforcing for social media viewers the popularity of the park. Images from Acadia also contained symbols, like the NPS arrowhead logo shown on the uniforms of Park Rangers.

Great Smoky Mountains primarily featured close-ups of wildlife and plants. The backgrounds in the photos are blurred, emphasizing a focus on the natural resources. One of the few photos of people centers on showcasing park staff conducting research on wildlife, again emphasizing natural resources. The wildlife and plant life featured in these images are smaller, less well-known species of plants and animals, not

the “charismatic megafauna” that are often a reason to draw people to national parks (e.g., bison in Yellowstone).

In the smaller case study, Rocky Mountain National Park featured landscape images, as well as images with people. Similar to Acadia, RMNP shared a photo of a long line of cars at the park entrance – showing popularity, but contrasting with ideas of solo wilderness experiences often promoted at this park. Symbols are also present in their images, with a Park Ranger in uniform giving a talk to people with mountains in the background. Every photo has some element of a mountainous landscape, often with snow – an iconic view at RMNP. A rainbow is present in one image of a mountainous landscape, signifying an idealized natural experience from a park visit to RMNP.

Overall, photos are primarily idealized, utopian images (aside from a few images and text posts about crowding during the busiest weekends/holidays). In the same way that most agency texts do not discuss negative aspects of visitation (e.g., crowding), images for the most part do not feature management issues, or even unhappy people. Photographs that accompany Acadia’s Stories, for example, show smiling, happy faces, and the corresponding texts describe positive experiences. Acadia’s emphasis on including photos with people is also imitated in their text posts, specifically their Stories. Often, their Stories emphasize significant life moments celebrated in the park and feature close social relationships (e.g., friends and family), which are then visually depicted through the images posted to Facebook.

Further, the iconic landscape images and emphasis on natural resources imagery (which is also mirrored in texts of RMNP and GSMNP) reinforce common discourses about why parks should be protected. Like the texts, these images portray

the park as a special place by emphasizing the aesthetic qualities of the park. Images are overwhelmingly colorful, appealing landscapes – not blurry, poor-quality photos. These photos emphasize what managers believe makes their park “special,” and thus deserving of protection and public attention – e.g., Acadia’s emphasis on rocky, beach landscapes; RMNP’s emphasis on snow-covered, mountainous landscapes; and GSMNP’s emphasis on flora and fauna (to the point where they blur out the background). Images also reinforce the dominant themes of each park’s special place qualities, revealed in the texts referencing natural and cultural symbols (e.g., showing Rangers in uniform distributing park passes). All of these images help to establish an idealized destination image for each national park.

2.4.12. Other Issues

Repeating the themes mentioned above, agencies’ use of hashtags in their Facebook postings also promotes the idea that parks are unique, special places with a diversity of resources that must be protected. When first introduced in social media, hashtags were used for filtering posts by topic area, making it easier to find posts on a particular subject. More recently, though, hashtags have become a way to communicate specific messages, functioning sometimes as symbols of social movements (#MeToo, #TimesUp, and #BlackGirlMagic). Park agencies follow this trend, especially GSMNP, by using hashtags like #20YearsDiscovering and #WondrousDiversityOfLife, which reinforce their emphasis on the diversity of that park’s resources. It also emphasizes the connection to time present in many of the park’s social media posts (e.g., 20 years of discovering resources in the park).

2.5. Discussion

This comparative study offers an understanding of differential approaches to NPS social media practices, and how these contribute to shaping ideas about place experiences and place meanings. The analysis shows that national parks use unique stylistic devices and methods of persuasion to make explicit and implicit claims about place and visitor experiences. Messages produced by agencies and posted on Facebook often reference significant life moments, and they use certain natural and cultural symbols to develop discourses about each park as a special place – one that links broad ideas about the value of parks, personal experience and identity. As shown in these data, the rhetorical claims presented in Facebook posts also function to some extent to constrain ideas about national parks and their meanings as places, reinforcing existing historical and cultural ideas about national parks.

Data analysis showed that the three study parks relied heavily on emotional appeals to make claims about the place-based values of their park. This was seen prominently in Acadia's Stories, where visitors shared both new and long-term relationships with the park, all bound by the theme of significant life moments and emotional connections to the park. This emphasis on the social and personal relative to place meanings and experiences has been echoed in other studies (Hay, 1998). Additionally, logos (logical, reasoned rhetoric) also played an important role in parks' discursive argumentation practices. Sometimes texts from all three parks used combinations of pathos, logos and ethos (though less frequently) to assert their truths.

Facebook messages also used specific cultural symbols (Park Rangers, the arrowhead symbol, wildlife, and landscapes) in presenting discourses about each park

as a special cultural and personal place. Many posts reference particular spots within the park, placing emphasis on certain features and areas over others, such as trails, or spots of the park like Cadillac Mountain in Acadia, or specific natural resources (like lesser known plants and animals at GSMNP). Facebook postings also described and encouraged certain kinds of visitor behaviors deemed “appropriate,” while sometimes also using social media as an information source for park news, rules, and events.

Ideas about place conveyed through figurative language in social media posts also supported existing social and cultural meanings of national parks. This study shows that some common cultural place meanings for national parks are also perpetuated in the form of Facebook postings, even in this newer media platform. For example, the frequent use of generalized positive adjectives and superlatives to describe park features and infrastructure, and to focus on the aesthetic and experiences as unique and “special,” reinforces ideas about parks as sublime places. Given their cultural importance as special natural places, national parks present themselves as different from one another, and elevated above other kinds of places; this supports their mission and provides reasons for their continued protection. However, the lack of discursive specificity about the exact nature of what makes them special can also foster uncertainty among audiences who are unfamiliar with national parks or who do not connect with the way the park is portraying its resources and experiences. They may possess different place meanings that do not align with those cultivated by NPS managers through the language they use on Facebook.

Ideas about the purpose and meanings of national parks have been debated since Yellowstone was first set aside as publicly protected land in 1872 (Foresta, 2013). This

is unsurprising, as the National Park Service has a dual (and often argued, contradictory) mission of preserving natural and cultural resources unimpaired and providing for the enjoyment of people now and for future generations (US NPS, 2019). This has influenced the ways that rhetorical discourses of national parks are constructed and framed. An example of competing discourses around parks and public lands is seen in debates about the preservation of parks for spiritual qualities, or conservation and use of park lands for utilitarian purposes. In the data presented in this study, there were examples of converging and diverging discourses in terms of the purpose and use of parks and the visitors who were most desirable. For example, some postings highlighted the use of a park for celebrating significant life moments (Acadia), while others emphasized the protection of natural resources (GSMNP), and others (all study parks) presented guidelines that could be read as exclusionary to some groups. Understanding how rhetorical claims about places are constructed and used discursively can reveal social and cultural place meanings, the processes that contribute to these place meanings, and how they contribute to discourses surrounding national parks.

The Facebook presentation of the experiential reality of parks is overall utopian – rarely do text or image postings showcase crowding and other common management issues. When postings do mention crowds, it is done in combination with the assurance that there are other significant areas to visit. The utopian promises created through automobile advertising discourse are similar to the utopia promoted by parks through their text posts and use of imagery (Gunster, 2007). Parks are portrayed in Facebook posts – especially in Acadia’s Stories – as places to escape to and experience the sublime and magical qualities of nature. This feeds into related discourses of parks as

places to escape from normal life, and that parks provide access to/are that escape.

Overall, our study found that the majority of agency images could be separated into landscapes and close-ups, and from there into three main categories: images with people, images of built environment/infrastructure, and images containing natural resources. This finding is similar to a study by McCreary, Seekamp, Davenport and Smith (2020), which found that natural resources, built resources, and human subjects were the most frequent elements of destination image. Furthermore, images from parks further support the idea that parks are sublime areas of wilderness, with RMNP and GSMNP's photos rarely containing people. Acadia featured people much more prominently, particularly through their Stories posts. Overall, park agencies posted many images of wilderness and other natural resources, like wildlife. Similarly, Stedman, Beckley, Wallace and Ambard (2004) found that the landscape around communities served as a significant source of place attachment; with many of their responses from people centered on wildlife and the scenery.

In addition to the positive values expressed in Facebook texts and photographic images, there are also topics that are glaring in their omission. In this study, we found that agency Facebook posts seemed to ignore non-aesthetic aspects of parks, as well as people of color. While the NPS is overtly pursuing an agenda of increasing diversity within parks – trying to expand traditional ideas about who belongs at parks to broader identities – there is little evidence of diverse visitors in the Facebook posts studied here. Moreover, a 2010 study of visitors to Rocky Mountain National Park showed a clear lack of diversity (Blotkamp, Boyd, Eury & Hollenhorst, 2011). The NPS's diversity efforts may be hindered by the current representations of place and the perpetuation of

existing historical and cultural discourses surrounding parks on social media. Specifically, in Facebook postings, the agency does not seem concerned with expanding traditional cultural and personal discourses surrounding national parks. Working to enlarge and expand inclusion discourses in their social media messages could aid parks in their diversity efforts.

Our analysis of Facebook posts also showed that the three study parks presented connections to time and timelessness of parks rhetorically in their social media. These claims included that visitors could expect the same experiences upon subsequent visits (e.g., sledding down the same hills every winter). Many visitors writing Acadia's stories communicated this in sharing Stories about their personal annual celebrations. However, the results and implications of ecological research have shown that climate change has/will affect multiple aspects of national parks, including park ecosystems, wildlife and tourism prospects (Burns, Johnston & Schmitz, 2003; De Urioste-Stone, Le, Scaccia, & Wilkins, 2016; Halofsky & Peterson, 2018; Saunders, Easley & Spencer, 2010). Promotion of this idea of permanence of parks and their resources, based on the idea that the NPS can forever protect the resources so long as people behave a certain way, ignores the effects of larger global problems like climate change. Future research should examine the ways that climate change influences national park social media rhetoric and discourses.

2.6. Conclusion

Prior research about social media and tourism tends to be quantitative in nature, and studies focus more on visitors than on the agencies themselves. The

research presented in this thesis shifts the focus to agencies, specifically three US national parks, and studies the language, texts, discourses and images they present in social media use. The goal of this research was to understand how park management agencies use social media (Facebook) to report on and guide viewers' experiences of national parks, while also communicating meaningful ideas about place. This research expands understandings of the discursive processes of place meaning, as well as methods for sampling and analyzing social media posts.

This study shows that some common cultural place meanings for national parks continue to be perpetuated, even in the form of a newer media platform. In this way, social media are used as a tool for reinforcement of longstanding cultural discourses about national parks. Social media as an “echo chamber” or “bubble” of reinforcement for institutionalized ideas, political ideologies, and organizational positions has been explored in other studies, mainly in the realm of politics (Garimella, Gionis, De Francisci Morales & Mathioudakis, 2018; Jacobson, Myung & Johnson, 2016; Quattrociochi, Scala & Sunstein, 2016). This study, on the other hand, by examining the rhetorical positioning of social media discourses, has identified some of the problems with social media and its likely inability to reach diverse audiences.

Given their cultural importance as special natural places, national parks are often elevated as meaningful social and cultural symbols associated with desirable American values; this provides reasons for their continued protection. However, the lack of specificity about the exact nature of what makes them special can also foster uncertainty among audiences who are unfamiliar with national parks or who may not connect with the way the park is portraying its resources and experiences. Members of

these groups may possess different place meanings that do not align with those cultivated by NPS managers through the language they use on Facebook. Though this study did not ascertain how different audiences received social media posts disseminated by our sample of national parks, we did identify rhetorical inconsistencies and issues in the presentation of national parks places and experiences. Notably, we saw in the data that park managers have the power to make claims about what is important in terms of places, which resources need protection, and who belongs and who doesn't at parks.

As national park agencies set and create diversity goals and agendas, they should consider how social media can be used to better craft discourses that are more inclusive of different identities. They might consider, for example, how to develop discourses that expand beyond people who've already visited the park, or those who share similar cultural ideas about park places, or others who share ideas about how to experience a park. Our data suggest that agencies might be using social media as simply a way to get messages "out" to existing visitors, failing to use social media in more inclusive, expansive ways. The analysis presented here suggests that agencies' Facebook messaging is primarily internally-generated, with some exceptions: Acadia's Stories seem to be an unusual use of the media, though these are filtered and edited by Acadia staff. An insular focus is also seen in the ways that park agencies remain somewhat disconnected from current events and issues. For example, climate change is infrequently mentioned by agencies, even though the social media posts by agencies use an overarching metaphor of the passage of time – and over time, climate change will impact parks (and likely has already).

The study presented here has practical implications in that park managers can have a better understanding of the rhetorical qualities of the messages they share, which can inform how parks might manage visitor behavior and communicate about how people should experience parks. Agencies' emphasis on significant life moments and visitors' stories offer a unique focus that could be used to reach diverse audiences. This could be accomplished by placing more of a focus on the shared, social aspects of parks; for example, in emphasizing shared events within parks, highlighting the park as a place to celebrate life moments, and presenting parks as places for building community. The prominence of cultural symbols in park posts could also assist agencies when creating social media posts through reconciling discourses surrounding individual and community roles in national parks' protection, and strategically choosing which cultural symbols to emphasize.

Having a better understanding of what messages parks are communicating via social media (and assessing the effectiveness of these) can ultimately aid NPS social media managers who are already investing significant resources and time into creating social media messages, and managing social media sites.

Overall, this study presents a better understanding of the messages national parks are posting to social media, how they work to create and sustain ideas about national parks as meaningful places, and how they view their online audiences. As a newer form of communication used by agencies, social media present opportunities for park managers to enlarge and expand meaningful messages about national parks – though this rhetorical analysis suggests that social media may not be reaching their full potential in elaborating the varied and important social messages about people and

place in national parks in contemporary times.

2.6.1. Future Research

This study looked primarily at textual data that contained explicit claims, as a way to assess the explicitly rhetorical aspects of Facebook posts. Yet, it was surprising to see the number of postings that could not be identified as explicitly rhetorical (particularly in Acadia Stories) – though many Stories and other posts could be interpreted as implicitly rhetorical. The use of rhetorical discourse analysis is a new and exciting way to examine and interpret social media related to national parks, and we encourage further study of the rhetorical and non-rhetorical discursive qualities of social media posts, along with their implications.

Given the amount of textual and image data, this thesis primarily focused on claims within text posts by the three parks. Future studies could look more in-depth at literal and symbolic meanings in text posts with and without claims, as well as images for their contributions to concepts of ‘place.’ Furthermore, a key feature of social media posts is the ability for social media users to comment on posts (and subsequently, parks to respond to those comments), such that social media may become an “on-going conversation” among agencies, visitors, businesses, governments, and others using social media. The conversations between parks and their virtual visitors could be examined for what/how they communicate about place, as well as how social media users use language rhetorically to develop ideas about place.

This study analyzed national parks that had been primarily established to highlight their natural resources, and all three study parks are located in rural places.

Future studies could examine urban parks and others that feature important cultural settings to study whether diversity features more prominently in their social media posts. Other future research could examine the modes of argumentation used by social media viewers/commenters, specifically surrounding ideas about 'place.' Future research should correlate rhetorical appeals with user responses (by using cross-tabulations and other statistical methods), and should analyze the guidelines for posting to social media at each park. The potential overlap between social media messages and each park's identity (or brand personality) might also be a fruitful avenue for future research.

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2.8. Appendix A: Detailed Data Tables

2.8.1. Content Analysis

The content analysis data tables show the specific distribution of categories for each study park. Tables 1a and 1b show the data that are summarized in Table 1 above.

Table 1a. Parks Posting Frequency

National Park	Post Frequency (per day)
RMNP	1.02
GSMNP	1.34
Acadia	1.55

Table 1b. Number of Text and Image Posts: All Three Parks

	Acadia	Great Smoky Mountains	Rocky Mountain
Number of Text	267	223	186
Number of Images	299	267	185

2.8.2. Contents of Posts, and Frequencies, by Park

Tables 2a, 2b, and 2c display the primary content categories, and frequency of those, for each study park. Summary Table 2 in the text above compares the top five categories across the three parks.

Table 2a. Acadia National Park: Categories of Social Media Posts (Texts)

Acadia National Park Text Categories	# References	% Frequency
Stories Stories or other accounts from people about experiences and visits to Acadia	119	45%
News Posts that provide current updates on park conditions, are intended to spread the word about a current occurrence in the park, etc.	47	18%
Programs and Events Information and news related to current and upcoming programs and events in the park	36	13%
Commands Posts that include commands	21	8%
Information Informational posts about various aspects of the park	19	7%
Contests Posts encouraging Facebook users to vote in various Acadia related contests	9	3%
Descriptions Descriptions of park features	5	2%
Holidays & Gratitude Towards Staff, Volunteers, Visitors Posts in celebration of a holiday and/or posts celebrating and/or expressing gratitude towards park staff, volunteers, visitors, etc.	5	2%
Questions for Facebook Users Posts asking visitors various questions about park experiences, features, etc.	4	1%
Unknown Posts that do not easily sort into one of the above categories	2	1%

Table 2b. Great Smoky Mountains National Park: Categories of Social Media Posts(Texts)

Great Smoky Mountains National Park Text Categories	# References	% Frequency
Information Informational posts from the park on a variety of topics	73	33%
News Posts that provide current updates on park conditions, are intended to spread the word about a current occurrence in the park, etc.	34	15%
Questions for Facebook Users Posts asking visitors various questions about park experiences, features, etc.	26	12%
Programs and Events Information and news related to current and upcoming programs and events in the park	21	9%
Descriptions Descriptions of park features and historical features	19	9%
Commands Posts that contain commands	18	8%
Holidays and Gratitude Towards Staff, Volunteers, Visitors Posts in celebration of a holiday and/or posts celebrating and/or expressing gratitude towards park staff, volunteers, visitors, etc.	12	5%
Quotes Quotes shared by the park from famous authors, current staff, etc.	8	4%
Stories Stories or other accounts from people about experiences and visits to GSMNP	7	3%
Unknown Texts that do not fit into one of the other categories or do not contain substantive text (image focused posts)	5	2%

Table 2c. Rocky Mountain National Park: Categories of Social Media Posts (Texts)

Rocky Mountain National Park Text Categories	# References	% Frequency
News Posts that provide current updates on park conditions, are intended to spread the word about a current occurrence in the park, etc.	41	22%
Questions for Facebook Users Posts that include questions for visitors about various things: their favorite hikes/spots, asking for them to share images/photos, to caption photos, fill-in-the-blank, etc.	41	22%
Commands Posts that contain commands, including those related to preparedness and safety and interacting with and encountering wildlife	28	15%
Quotes Quote of the week posts and other quotes shared by the park from famous authors, etc.	28	15%
Programs and Events Information and news related to current and upcoming programs and events in the park	19	10%
Holidays & Gratitude Towards Staff, Volunteers, Visitors Posts in celebration of a holiday and/or posts celebrating and/or expressing gratitude towards park staff, volunteers, visitors, etc.	13	7%
Information Informational posts about various aspects of the park	13	7%
Descriptions Descriptions of park features	3	2%

2.8.3. Top 5 Text Categories

The following tables (3a, 3b, and 3c) provide textual examples of each of the top five text content categories for each park.

Table 3a. Examples of the Top 5 Text Categories from Acadia

Acadia	Example
1. Stories	<p><i>April 26, 2018</i></p> <p><i>Mo Li, of Poway, California, shares a photo of Seal Harbor last June. "My family was playing along the little creek that flows into the harbor. I noticed several seagulls were picking things up from the creek. Looking through my longest zoom lens I found one of the seagulls had a big mussel in its mouth. Me, my wife and my daughters immediately started to imitate the seagulls. We found many big mussels and clams in the stream. My daughters were very excited. Of course, all clams and mussels were admired and safely released back to the stream." (Photo courtesy of Mo Li @ leemovie2000 Used with permission.) More @ http://go.nps.gov/YourAcadiaNPS</i></p>
2. News	<p><i>November 20, 2018 – Post 2</i></p> <p><i>#AcadiaAlert: As of 2:30 pm today, with the reopening two-way traffic on Route 3, the Paradise Hill detour on the Park Loop Road is now closed to public traffic. Keep tabs on all park closures and weather alerts at https://go.nps.gov/AcadiaAlerts</i></p>
3. Programs and Events	<p><i>May 24, 2018 – Post 3</i></p> <p><i>Want to work side-by-side with biologists and college students on a citizen science project during your visit to Acadia this summer? It's a great way to experience the park in a totally different way, through the eyes of researchers looking to understand how Acadia's food webs work. In this project, you can help study how the number and types of insects in Acadia changes over summer. For information about what dates are available, to sign up and track the data collected this summer, visit acadiabugproject.com</i></p>
4. Commands	<p><i>July 1, 2018 – Post 2</i></p> <p><i>Peak visitation is expected over the July 4 holiday. Don't let gridlock diminish your Acadia experience. Always visit with a back-up plan. Don't expect to find a parking space at popular sites. Park legally and responsibly. If a parking lot is full when you arrive, choose another destination, come back during non-peak times, or try another mode of transportation. Learn more at https://www.nps.gov/.../safe-and-enjoyable-independence-day.h... (NPS Photo by Rhonda Wasner)</i></p>

5. Information	<p>May 23, 2018 – Post 2</p> <p>Three painted turtles (<i>Chrysemys picta</i>), the most widespread native turtle in North America, congregate on a log in Witch Hole Pond this weekend. The two subspecies we have in Acadia are known to be either eastern or midlands painted turtles. They are exhibiting a behavior called basking, which virtually all reptiles do. Being cold-blooded, the turtles will sit out in the sun several times a day to get their body temperature up. When they are sufficiently warm they'll get in the water and forage for food. When they cool off again, they'll get back out to bask.</p> <p>Share your creature sightings and identification requests with the park's team of wildlife technicians at acadiawildlife@nps.gov (Photo courtesy of Christie Anastasia. Used with permission.)</p> <p>#AcadiaWildlifeWednesday</p>
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Table 3b. Examples of the Top 5 Text Categories from Great Smoky Mountains

Great Smoky Mountains	Example
1. Information	<p>October 21, 2018 – Post 1</p> <p>Last month, the hag moth caterpillar showed us a perfect example of Wasmannian mimicry. Another amazing form of mimicry is called batesian mimicry, which is when a harmless organism mimics a harmful one. The hoverfly is a perfect example of this. It mimics the coloring of a wasp perfectly! Picture by Allison Bate</p> <p>Image Description: Hoverfly feeding on yellow flower</p>
2. News	<p>January 16, 2018 – Post 1</p> <p>Winter weather is here in the Smokies! These photos show icy conditions on the Appalachian Trail between Newfound Gap and Icewater Springs this weekend. We are also expecting 1-3 inches of snow across the lower elevations and up to 4 inches in the higher elevations, accumulating into the early morning hours. Stay safe!</p> <p>For the most up-to-date road closure information, please check @SmokiesRoadsNPS on Twitter (no Twitter account is needed to see this!).</p> <p>NPS Photos: Nick Yarnell</p>
3. Questions	<p>May 8, 2018</p> <p>Did you know that as you walk along the Appalachian trail in the park you are usually walking along the Tennessee and North Carolina state line? That means you have a foot in each state as you hike along! What's your favorite hike to do in the park?</p> <p>Photo by Christine Hoyer</p> <p>#TuesdayTips #Findyourpark #AT #FunFacts #Hiking</p>
4. Programs and Events	<p>August 30, 2018 – Post 3</p> <p>Bring the family and come to the Sugarlands Visitor Center on Saturday, September 8 for Music of the Mountains, a free daytime program of live old-time music, dancing, and singing! #GreatSmokyNPS #MusicoftheMountains</p>
5. Descriptions	<p>November 18, 2018</p> <p>What a way it is to welcome a new day with a sunrise on top of the mountains. Watching the dark sky light up with hues of orange and gold is a memory never forgotten. Picture by Bob Carr</p> <p>Image Description: Sunrise at Mt. Sterling</p>

Table 3c. Examples of the Top 5 Text Categories from Rocky Mountain

Rocky Mountain	Example
1. News	<p>July 17, 2018</p> <p><i>Old Fall River Road will be TEMPORARILY CLOSED to vehicles late Wed 7/18–early Thu 7/19</i></p> <p><i>Due to maintenance at Trail Ridge Store, Old Fall River Road will temporarily close to vehicles at approximately 10 pm on Wednesday, July 18, and is anticipated to reopen to vehicles by 10 am on Thursday morning, July 19.</i></p> <p>https://www.nps.gov/romo/index.htm</p> <p><i>(NPS photo)</i></p>
2. Questions	<p>December 8, 2018</p> <p><i>Fill in Blank...</i></p> <p><i>Driving past the entrance sign always makes me feel _____.</i></p> <p><i>(NPS photo)</i></p>
3. Commands	<p>March 15, 2018 – Post 1</p> <p><i>THROWBACK THURSDAY: Throw yourselves back into the soundscapes of the park with our newly updated sounds library! NPS sites protect many things, and one of them is natural sound. Turn up the volume, close your eyes and place yourself in the soundscapes of Rocky Mountain National Park. https://www.nps.gov/.../photo.../sounds-wildlife-soundscapes.htm</i></p>
4. Quotes	<p>September 10, 2018</p> <p><i>QUOTE OF THE WEEK</i></p> <p><i>Autumn is the season of change.</i></p> <p><i>-Taoist Proverb (File Photo NPS) ks</i></p>
5. Programs and Events	<p>June 20, 2018 – Post 2</p> <p><i>Make volunteering a part of your visit to Rocky!</i></p> <p><i>Join a ranger for a programs on Leave No Trace ethics and spend the rest of the hour volunteering in the park! No experience is needed and all ages and abilities are welcome! This is a great way to give back during your visit!</i></p> <p><i>Mondays - 9-10am Sprague Lake</i></p> <p><i>Wednesday – 9-10am Beaver Meadows Visitor Center</i></p> <p><i>Fridays – 9-10am – Hidden Valley Picnic Area</i></p> <p><i>Saturdays – 9:30-10:30 Timber Creek Campground</i></p>

2.8.4. Images, by Park

Tables 4a, 4b, and 4c show the primary image categories, and their frequencies, for each study park. Summary Table 3 in the text above compares frequencies of natural resource and people-centric images within the two major image categories (close-ups and landscapes) across the three parks.

Table 4.a. Acadia National Park: Categories of Social Media Posts (Images)

Acadia National Park Image Categories	# References	% Frequency
Close-up Images	137	46%
Close-ups of Built Infrastructure	27	20%
Close-ups of Natural Resources	43	31%
Close-ups of People	67	49%
Graphics, Documents and Promotional Images	34	11%
Landscape Images	126	42%
General Landscapes	24	19%
General Landscapes with Built Infrastructure	21	17%
General Landscapes with People	81	64%
Unknown	2	1%

Table 4.b. Great Smoky Mountains National Park: Categories of Social Media Posts

(Images)

Great Smoky Mountains National Park Image Categories	# References	% Frequency
Close-ups	166	62%
Close-ups of Built Infrastructure	24	14%
Close-ups of Natural Resources	88	53%
Close-ups of People	54	33%
Graphics, Documents and Promotional Images	40	15%
Landscapes	60	23%
General Landscapes	38	63%
General Landscapes with Built Infrastructure	15	25%
General Landscapes with People	7	12%
Unknown	1	0.4% or >1%

Table 4.c. Rocky Mountain National Park: Categories of Social Media Posts (Images)

Rocky Mountain National Park Image Categories	# References	% Frequency
Close-ups	71	38%
Close-ups of Built Infrastructure and Human Artifacts	6	8.4%
Close-ups of Natural Resources	45	63.4%
Close-ups of People	20	28.2%
Graphics and Promotional Images	9	5%
Landscapes	104	56%
General Landscape (natural features)	53	51%
General Landscape with Built Infrastructure and Human-Made Objects	20	19%
General Landscape with People	31	30%
Unknown	1	1%

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