

In Such Manner and By Such Means:
How the National Park Service can fulfill its mission
to Protect *and* Provide for the Enjoyment of its Resources.

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ABSTRACT: The Organic Act of 1916 that created the National Park Service established a mission that was both ingenious and inherently challenging: to conserve and provide for the enjoyment of its resources “in such manner and by such means as will leave them unimpaired for the enjoyment of future generations.” Faced with growing visitor pressures of the twenty-first century, how can the Park Service educate, inspire, and invite the public to enjoy its parks without impairing them for future generations? There is a large body of research that explores well-known, localized visitor impacts, such as littering and erosion. Studies suggest that interpretation can address such issues successfully. However, impacts like overcrowding, that affect the aesthetic and experience value of parks, are less understood and harder to address. Despite these challenges, emerging research has identified a few strategies for managing visitor impact. This paper highlights the importance of interpretation as a conservation tool to foster a sense of stewardship in park visitors. By improving visitor contacts and exploring creative ways to engage the nation in conservation concerns of its public lands, the National Park Service can maintain its tradition of being one of the United State’s most cherished and trusted agencies.

“Man, we should just put up a fence,” Eric says. He’s about to resume picking his guitar, but he slaps its belly and looks up with a wide smile and narrowed eyes. “If I was running this place I would block the road, too, and just say ‘Sorry, you can’t come in.’”

We laugh. Sometimes, Eric says the kinds of things you’re nervous to even think about. Through the living room window of the park housing apartment, I stare at Mount Alice. She is a giant rising right up from the shoreline of Resurrection Bay. The bay is bright and blue today. It’s close to ten in the evening, but the sun can hardly bring itself to set on a summer night in Seward, Alaska.

I look back to our game of Euchre and play my card. “If that were the case,” I say, “I don’t think we would have jobs, Eric.”

“Whatever man, I just think if we’re actually trying to protect the park, the best thing we could do is just close it off and not let anyone in. It would be better off.”

Our group of friends is not a quiet one, but for a moment we are silent. I look back to the window. A few straggler charter boats are pattering across the bay, back home to the harbor. Maybe from the top of Mount Alice, I could look across the bay and see the Harding Icefield of Kenai Fjords National Park, hidden behind Seward’s mountain sentinels. I idly peel the label of the Alaskan White in my hand.

“But if we did that, people wouldn’t know it’s there,” I say, playing my next card. “People wouldn’t care.” But I’m not as convinced as I sound. Maybe the park *would* be better off.

“You think they care now?” Eric asks with a strum of the guitar.

I look up from my cards. My eyes skim the apartment’s beige walls and carpet, the cliché Alaskan décor, and the other park employees around me. Does my summer stint in Seward actually matter? My eyes settle again on Alice, and the way the reluctantly setting sun throws golden slanted beams at her icy slopes.

“I do,” I finally respond. “I think they have to.”

Call it conversations park rangers have after work.

CONCERNS OF A GREEN, GREEN AND GREY

I love my job. Growing up I thought I would have to try ten different careers to satisfy all of my interests. But as an Interpretive Ranger for the National Park Service (NPS), everyday I get to be a scientist, an artist, an actor, an activist, a comedian, a historian, and a teacher. As a front-line interpreter, I answer visitor questions, lead hikes, and give walks and talks. My job is to help visitors understand and appreciate the resources they came to experience. From nineteen, when I had my first internship as an interpreter at Rocky Mountain National Park, I was hooked. After a season at Glacier National Park, Montana, and Kenai Fjords National Park, Alaska, I know; I am absolutely meant to be an interpretive park ranger.

But as a three-season Park Service rookie, my honeymoon with the National Park Service is ending, and I am left to seriously evaluate the career and the organization I fell in love with. I

know I have helped people connect to their National Parks. I know I have made people care more about the parks they visited. But in getting to know the Park Service, I have become increasingly aware of the troublesome tension in the NPS mission to preserve our nation's most valued resources *and* provide for their enjoyment. We invite people to visit our untrammelled wilderness, but with so many visitors, some of the land is trampled. There is some uncomfortable irony in that. Eric said it out loud, and I couldn't ignore that. Was he right? Would our parks be better off if we kept visitors, and maybe us feds, out?

Luckily for me—and the American people, the answer is no. While our parks might thrive ecologically if we figuratively fence them off, the political survival of our parks depends on fostering the public's sense of ownership for them. Visitors have to experience national parks to truly feel this pride. Maybe the wolverines and whales of Kenai Fjords would be relieved by the abatement of people. But without people to care about them, how long would their sanctuary last? And besides, with the establishment of the NPS, all Americans were bestowed with the right to enjoy the land of their nation. So like it or not, visitors aren't going anywhere.

But one thing that comforts this green ranger is that I am not the only one looking for a solution to these issues. Numerous quality studies exist that explore the challenges the Park Service faces in harmonizing visitor use with resource protection, the ways it could succeed, and what is at stake if it fails to try. Reworking the NPS visitor management strategies to accommodate the challenges of the 21st century will be both challenging and controversial. But in this trial lies opportunity. If the National Park Service uses the best research to inform its visitor management policies and explores new and creative ways to connect the public with their parks, it can continue its tradition of innovative policy that inspires the world and makes Americans proud.

YOUR NATIONAL PARK SERVICE: NPS history, mission, and significance

As a twenty-year old waiting for my training session to begin at Glacier National Park, I stared up at a plaque, mounted on the wood paneling of the West Glacier Community Building.

NATIONAL PARK SERVICE MISSION: "to conserve the scenery and the natural and historic objects and the wild life therein and to provide for the enjoyment of the same in such manner and by such means as will leave them unimpaired for the enjoyment of future generations." –THE ORGANIC ACT.

Among park rangers, it is tradition to have this memorized. I scanned the words over and over, thinking of the flat hat I had not yet worn, sitting on my dresser. "In such manner and by such means," stood out. I hooked onto that phrase as a way to remember the whole statement. "Dear parks," I paraphrased to myself. "Conserve your resources and invite people to enjoy them. PS: You better do it so that the next people can enjoy them just as much." I looked around at my fellow employees milling about, asking one another how their off season was. There were interpreters, law enforcement, trail crew, some VERP (Visitor Experience and Resource Protection), park historians, custodians, and the administration—who were getting ready to begin the training session. I looked at the plaque. We were the life of these forty-two words. Suddenly my flat hat felt a little intimidating.

At the time of the National Park idea's conception, the concept of preserving land for the enjoyment of all people was revolutionary. Heels at the edge of a seemingly endless continent, Americans had thought only of conquering, filling, stripping, and harvesting the land before them. Land not turning a profit was land wasted. But by the end of the seventeenth century, wild untrammelled land was becoming harder and harder to come by. John Muir wrote with worry,

The great wilds of our country, once held to be boundless and inexhaustible, are being rapidly invaded and overrun in every direction, and everything destructible in them being destroyed. How far destruction may go is not easy to guess. Every landscape low and high seems doomed to be trampled and harried (Duncan 63).

After a National Park tour, including a camping trip with Muir in Yosemite, President Theodore Roosevelt realized what this destruction would mean for future generations. In a speech entitled "Conservation as a National Duty" he declared that the United States was past the stage as a nation where we could excuse those who abused the nation's land and were "content for the sake of three year's profit for himself to leave a desert for the children of those who were to inherit the soil" (Duncan 107). Roosevelt was the first president to use the word "conservation" in a speech to Congress.

Fredrick Law Olmsted, designer of Central Park, recognized that not only does the government need to protect nature; it needs to protect the common man's right to access it. "The enjoyment of the choicest natural scenes in the country and the means of recreation connected with them," he wrote, "is a monopoly of a few very rich people. The great mass of society, including those to whom it would be of the greatest benefit, is excluded from it" (Duncan 162). With the establishment of the first few National Parks, the United States essentially declared that all Americans had a place they were welcome. At the laying of the keystone of Yellowstone's north entrance arch, Roosevelt said of the park, "The scheme of its preservation is noteworthy in its essential democracy... This Park was created and is now administered for the benefit of and enjoyment of the people" (Duncan 92). In a time when most saw only monetary value in land and when one's wealth determined his access to nature, the United States had an idea: to preserve lands so that the people could enjoy their cultural and natural value.

But without a central agency, parks like Yellowstone, Yosemite, Glacier, and Rocky Mountain, were disorganized, underfunded, and thus vulnerable to well-organized, well-funded interests determined to dismantle, what many thought, was a waste of perfectly productive land. Horace J. McFarland, a politician from Pennsylvania described the need for a National Park system. Nowhere "can an inquirer find an office of the national parks, or a desk devoted solely to their management," he said. "This is no one's fault. Uncle Sam has simply not waked up about his precious parks" (Duncan 161). When the details of the bill creating a National Park Service was finally drafted, McFarland turned to Fredrick Law Olmsted Jr. to provide the core statement, "the essential thing... the reason it was worth while," a statement that could guide the park into an uncertain future (Duncan 161).

That statement, those forty-two words engraved in the West Glacier conference room, gave the agency a mission with enough ingenuity and inherent tension to continuously inspire and challenge park managers. The Park Service mission, to conserve resources *and* provide for their enjoyment in such a manner as leaves them unimpaired for future generations, sets up an obvious paradox for park managers. But the authors of the bill deemed this tension necessary for establishing the National Park Service they envisioned, an agency that balanced what they saw as equally important goals: protecting our resources and providing for our people. Horace Albright, who would become the second director of the Park Service, explained,

We were aware of and discussed the paradox of use and enjoyment of the parks by the people versus their preservation “unimpaired.” Of course we knew there was this paradox... We had finally come to the belief that with rational careful, and loving thought, it could be done (Duncan 163).

An agency so innovative in its design and purpose, he seemed to say, would have to have a mission that demanded equal ingenuity and creativity of the park’s caretakers.

While the Park Service today enjoys a reputation as one of the most trusted and well-received agencies in the nation, throughout most of its history, the agency struggled to uphold its mission. For many parks, providing for visitor enjoyment was easier than following the resource protection mandate of the Organic Act. At Yosemite National Park, managers allowed firefalls, the construction of bonfires that were thrown off Glacier Point at dusk (Burns). Only decades ago, visitors delightedly threw food out of their car window for begging bears. Neither Americans nor the managers of their parks yet knew how to behave in a National Park (Burns).

In this struggle to decide what constituted appropriate visitor conduct, the young agency was guided by national mistakes of the past, namely the privatization Niagara Falls. As a young nation, America missed its opportunity to preserve the natural wonder, and so for the American people, the best experience at the falls went to the highest bidder (Burns). Europe laughed at the tackiness and indiscretion of Americans, doubting that we could exercise the self-control necessary to preserve our natural wonders. Fortunately, conservationists lobbied for the end of tacky ploys for visitor entertainment in the parks, aware that they did not honor the NPS’ duty to protect its resources (Burns). Today the National Park Service still struggles to define its resource management policies. The agency strives to inform its practices on the best science and balance the demands of its dual mission. But in a time where annual visitors to National Parks number 3.5 times as many people made up the national population when the Organic Act was enacted (281mil¹ : 76mil²), we have entered a new era in park management.

LOVING OUR PARKS TO DEATH: visitor impacts

It’s not hard to imagine the negative impact 281 million yearly visitors can have on our NPS sites. A range of visitor impacts is causing degradation of both physical resources and aesthetic value of parks. Glenn E. Haas, an expert in visitor capacity in the parks, notes these visitor use issues are impacting nearly all protected areas: “virtually every park, wilderness, wild and scenic river, national forest, wildlife refuge, national recreation areas and trail, national seashore and all public lands and waters” (Haas “On the” 1). And so, as visitor use impacts have become increasingly worrisome, so has visitor management become a topic of interest among researchers.

It is important to understand that the activities and impacts associated with visitor use in National Parks are quite varied. Park visitors engage in an array of activities: traditional activities like hiking and camping, illegal or inappropriate actions like littering and hiking off trail, and largely unavoidable activities like driving and facility use. Ralph Buckley, of the International Centre for Ecotourism, and Carolyn Littlefair, of Australia’s National Parks and Wildlife Service, note that the impacts from these actions “range from global contributions to

¹ NPS.GOV QUICK FACTS

² UNITED STATES CENSUS BUREAU

climate change and ocean pollution to localized effects on endangered plant and animal species in protected areas” (Littlefair, Buckley 1).

Recreational activities such as hiking, camping, picnicking, and climbing have localized impacts on physical resources, and thus defy the NPS’ mission to protect park lands. When these activities are done in an inappropriate way, whether intentionally or unintentionally, the resource impacts tend to be the same, just magnified (Pickering 75). The Avalanche Lake trail in Glacier National Park for instance, becomes trampled with heavy use, but when visitors take short cuts or go off trail to avoid muddy sections, erosion increases. Similarly, campers inevitably have an impact footprint where they camp. But campers that fail to follow leave no trace principals or do not follow regulations such as camping only in designated areas, exacerbate the impact of their activity (73). Researchers also note that variation in season and weather determines the severity of impacts (75). Park managers at Glacier often close Avalanche Lake trail in the early summer when climate is wetter, and the trail is more vulnerable to erosion.

Overcrowding of parks magnifies the impacts of these recreational activities. When a park is overloaded with visitors, there are simply more people having individual impacts on the park’s resources. But Catherine Pickering of the International Centre for Ecotourism Research notes that at peak visitor use, individual’s impacts can actually be greater than normal. At Peak times, facilities are often be overwhelmed, so that roads, parking lots, pullovers, toilets, campgrounds, and trash cans overflow (Pickering 76). Pickering notes that,

“as a result, some visitors may do things they are less likely to do when sites are not as crowded. This could include defecating away from toilets, leaving litter outside of full bins, parking on verges, camping outside formal sites, and walking off track” (Pickering 76).

So it is clear that the more visitors, the more park resources and facilities take a beating.

But it is not just the park’s physical resources that are impacted. Robert Manning states in an article for the *Journal of Tourism and Leisure Studies* that, “In effect, Overcrowding of parks not only magnifies these resource impacts, it degrades the quality of visitor experience (Manning 184). Today, visitors to Yosemite won’t find the solitude John Muir experienced when he wrote of roaming about the park without encountering a soul. Today, to hear the geysers of Yellowstone, visitors must tune out one another. As a nineteen-year-old intern at Rocky Mountain National Park, I told visitors if they wanted to know the secret for spotting wildlife, “just be quiet and listen carefully for the distinct sound of a traffic jam.” Like Rocky Mountain elk in need of more space to graze, “more people are competing for what can be perceived to be limited resources (car, park, toilet, access to tracks, campsites, huts, tethering areas, etc.)” (Manning 184). David Newsome and Carol Lacroix assert in the *Journal of Tourism and Leisure Studies* that due to overcrowding in National Parks, “the value of natural landscapes and protected areas in terms of their authenticity, natural soundscapes, and visual amenity is being increasingly compromised” (Newsome, Lacroix 315).

These diffuse, broad impacts impair the Park Service’s ability to fulfill its mission to provide for the enjoyment of its resources. In essence, these impacts spoil the natural experience that should be protected by the Organic Act. Research has identified that most visitors seek natural areas to enjoy the natural environment, find solitude, view wildlife, and get away from the city (321). They desire, as Newsome and Lacroix state, “to be substantially free from human made noise and the visual impact of urban settings” (321). Crowding is destroying that solitude, one of the most essential and valuable resources of National Parks.

Newsome and Lacroix also note that there are consequences of these issues that go beyond their immediate impact. For example, litter might remind a visitor of waste and consumption and “by extension give the visitor a negative impression about management concerns for the environment” (323). If they get the impression their peers and government do not care for a place they might wonder, why should they?

My supervisor, Jenna, at Kenai Fjords National Park called this the broken window theory. The same way a house with one broken window is more likely to invite a second and third rock to be thrown at it, she said, one piece of litter attracts another. Jenna, a former legal analyst for the army with piercing blue eyes and a compelling grin, rocks a curly silt grey bob and a feather tattoo that just barely peaks out from her uniform shirt. Her pants always creased and her shoes are always polished. She likes to keep her Exit Glacier nature center and staff looking and acting just as professionally. And it does. She reminds us there is *always* something to do, we could always search the parking lot for litter. But Kenai Fjords only has to manage about a 130,000 visitors a year. Parks like Yosemite and Yellowstone attract millions in the summer season alone. For them, controlling something as trivial as litter can be a huge task. At what point a park becomes filled with visitors beyond its ability to accommodate them without impacting park resources and visitor experience is a question researchers and park managers are asking. What’s clear is that the answer is not simple.

In the same way researchers liken overcrowding to a competition among visitors for limited resources, many are defining a parks ability to accommodate visitors in terms of “visitor carrying capacity.” In his article for *Journal of Tourism and Leisure Studies*, Manning defines visitor carrying capacity by asking, “How much recreational use can be accommodated in National Parks before there is unacceptable impact to the park resources and the quality of visitor experience?” (Manning 184). Manning’s definition is significant in that it essentially asks how much use can be accommodated before the dual mission of the park service can no longer be met. At what point, he asks, can a park no longer protect *and* provide for the enjoyment of its resources without impairing them for future use? For each park, the answer is vastly different. The delicate alpine tundra of Rocky Mountain NP can withstand far less trampling than the boulder coast of Acadia NP. But while some researchers focus on *identifying* a park’s visitor carrying capacity, others focus on ways we can *increase* a park’s visitor carrying capacity.

THE MANNER AND THE MEANS: the importance of interpretation in visitor management

"The fact that people love their parks so much is a great thing," says NPS spokesman, David Barna. "We just need to figure out how to accommodate everyone without impacting the experience too significantly" (Villano 3). Park managers employ a variety of strategies to accommodate the most visitors they can without damaging the park’s resources nor the quality of visitors’ experiences. Ralf Buckley categorizes these strategies into four management tools: rules, fees, education, and hardening the environment (Buckley 405). Take Glacier’s famed Avalanche Lake trail, where park managers have used nearly all of these strategies to protect the trail and the quality of visitors’ experiences. When the trail becomes so muddy that it cannot take any more abuse, the park closes it. The park reserves the right to fine visitors that do not comply with the rules. When the trail is open, rangers “rove” the trail or lead guided walks. These rangers set a positive example by not going off trail to avoid muddy sections. And finally, to make sure the trail can withstand heavy use, NPS trail crew construct water diversion ditches, bolster the trail with wooden supports, and build boardwalks. This combination has worked well

for Glacier NP. But as we face the challenges of a warmer, more crowded world, which visitor management strategies will parks rely on most?

If there is one thing that freaks me out, it's the suggestion that we might have to manage our National Parks like amusement parks and borrow ideas from places like Disney World. Will we start capping visitors? Will we rely on a lottery system to determine who gets to enjoy our parks? "Could we see something like a FastPass at a national park?" asked Robert Manning in a 2011 issue of Time Magazine (Villano 3). "It sounds far-fetched, but 30 years ago, the idea of shuttle buses probably seemed silly too," he says. Does it have to be that way? By helping visitors care for and decrease their impact on parks, perhaps we can avoid management strategies that disable the NPS in its mission to provide all people with the enjoyment of its wild places.

In professing his love for the rugged slopes and turquoise lakes of the newly established Glacier National Park, the conservationist George Bird Grinnel inadvertently, but beautifully describes the purpose of interpretation. "Anyone who had been so fortunate as to witness [the national parks] and spend quiet hours in the inspiring contemplation of their beauties," he said, "will surely return home with a burning determination to love and work for, and if necessary fight and die for, the glorious land which is his" (Duncan 116). In the past, park rangers mostly gave information about a park's resources to visitors. But today the field of interpretation has transformed to capture the potential the Grinnel describes. In the words of the researchers Kim, Aise, and Szias in their article for the *Journal of Tourism and Leisure Studies*, it has become "a means of contributing to the protection of the natural environment through revealing the meanings of an object, a culture, or a place or enriching visitors' understanding of the place" (Kim, Aise, and Szias 1).

In a *Time Magazine* piece on the impact of recreational climbing on Yosemite NP, Terry McCarthy accounts the efforts of one climbing ranger who, to spread a "leave no trace" message, "mingles with the climbers as much as possible and plays host to a coffee each Sunday morning at Camp 4" (McCarthy 2). McCarthy writes of the ranger, "He tries his hardest to educate the growing legions of boulderers, many of whom started climbing in gyms and regard the sport as a social activity, not a wilderness experience" (McCarthy 2). The theory of interpretation holds that his efforts will reduce the climbers' impact. Is that true?

Researchers are indeed confirming that interpretation can alter visitor behavior in a positive way and thus can contribute to the protection of park resources. In a literature review by Kim, Aise, and Szias the researchers affirm that,

Interpretation can help manage negative impacts of tourism by providing visitors with alternative sites, routes, or activities. It can also enhance visitors understanding of conservation issues. Ultimately, interpretation can help people develop a positive environmental attitude and modify their behavior. (Aise, Kim, and Szias 4).

Newsome and Lacroix add that, a visitor's experience in nature is often heightened if a learning component is involved (Newsome, Lacroix 321). They agree with Kim, Aise, and Szias and note that environmental education and interpretation are recognized as "vital components of best practice ecotourism" (Newsome, Lacroix 321). So most researchers agree that interpretation has potential to both reduce visitor impact and foster in visitors positive attitudes about conservation. But to what degree is interpretation really successful?

Research suggests that interpretation is more successful in correcting behaviors than it is in changing attitudes: "Problem/unintentional behavior and uninformed actions can be

considerably altered by information and interpretive programs. While the success of altering environmental attitude and environmental concern is much less clear” (Kim, Aise, and Szias 6). So while as an NPS interpreter, you may find it relatively easy to convince a group to stay on the trail with you, it is understandably much more difficult to get them to evaluate their role in climate change. As Ralf Buckley of the International Centre for Ecotourism Research puts it rather bluntly in his article “Tourism and the Environment”, “There is no evidence that taking tourists to areas of high conservation value converts them to conservation advocates” (Buckley 410). Perhaps in the past, it was enough for parks to speak for themselves. But with the challenges of today, we need effective interpreters to reveal the personal value of these places.

So what are the characteristics of effective interpretation? First, interpreters must realize the varied audience that is NPS visitors. According to the environmental psychology’s Elaboration Likelihood Model, the characteristics of a visitor are a major factor in the success of an interpretive message (Kim, Aise, and Szias 5). So while an interpreter might deliver a well-crafted, generally persuasive message, the nature of a visitor’s “interest, existing attitudes, prior knowledge and past experience,” might render them unlikely to accept the message (5). Effective interpretation does its best to adapt to the audience and the beliefs they find important. As an interpretation intern in Colorado, the first thing I learned was how to use universal concepts. Ideas like life and death, survival, and family, I jotted in my training notebook, are notions that virtually everyone can identify with. So if you’ve got an American first grader and a retired engineer from India in your audience, perhaps neither will take to the idea of beavers building dams, but both can relate to the concepts of home and family.

In their study, Kim, Aise, and Szias also note the importance of specificity in their study. At a rocky New England coast, where they conducted a study evaluating interpretation effectiveness, they observed how interpretive pamphlets confused visitors by not adequately explain visitor’s role in cliff erosion. The pamphlets said “Help us stop cliff erosion,” but did not describe that humans cause erosion along with natural forces (5). Thus, a visitor might be confused about what really causes erosion. Visitors often have little time to spare on their visit. To save time and be effective, interpretive messages need to be crystal clear.

Along these lines, interpretive information also needs to be absolutely accurate and unbiased. The Park Service enjoys a reputation as one of the most trustworthy government agencies in the United States. Thus the agency has an awesome opportunity to reach its visitors and truly change their environmental attitudes in a positive way (“A Call to” 6).

Those studying and reviewing literature on the effectiveness of interpretation note that we need more research on the topic. Buckley noted the paucity of information on the “demographics and motivations of nature-based tourists in parks” (Buckley 410). Kim, Aise, and Szias identify the need for a serious examination of our interpretive methods: “To be effective, interpretation managers need to evaluate the effects of interpretation on the multiple measures,” they assert, “and examine which visitor beliefs (or feelings) really influence how they behave in a particular situations as a result of their interpretive experience” (Kim, Aise, and Szias 1). Only then, can interpretation live up to its full potential.

CLIMATE CHANGE CONFUSION: An examination of the Kenai Fjords National Park experience

So interpretation messages need to be clear, trustworthy, and tailored for the audience. But what about when you are interpreting something as complex and controversial as climate change?

Visitor experience at Kenai Fjords National Park provides an example of the complications of climate change interpretation. Visitors to Kenai Fjords National Park in Seward, Alaska, essentially have two options for visiting the park. The 700,000 acre park is accessible by one road that pokes just over a mile into the park's northeast corner and ends at the Exit Glacier Nature Center. From the nature center, visitors can walk a mile to the edge of Exit Glacier or climb four miles to the edge of the Harding Icefield. The rest of the park, fjords carved by fingers of ice, is accessible only by boat. Many visitors to Kenai Fjords arrive by cruise ship or fly to Anchorage and come by car or train.

A visitor to Exit Glacier will face climate change. A visitor will see signs marking the historical extent of the glacier and signs describing climate change. If she attends a ranger program, she will hear about climate change. This experience is much different on the tour boats of Kenai Fjords. While one of the two major tour companies hosts NPS interpreters on its tours, the other relies on captain and crew to narrate. Park rangers are directed to interpret climate change on the tour. But when passengers are paying over \$150 for some tours, there is palpable hesitance to broach a topic so sensitive. At the end of the summer, a fellow rookie ranger and I were given the opportunity to narrate a few boat tours. He was braver than I am. He informed the passengers not only about climate change, but that the boat burned nearly 140 gallons of fuel for their tour. I'm not sure if the crew asked him to make up the deficit in their tip jar for that one.

Perhaps not all interpreters will feel as brave as my friend Abe, but regardless, climate change is a topic Kenai Fjords tour narrators must address. If they don't, visitors may get a confusing and weak climate change message.

The tourism industry, of which national parks are a part of, has reason to talk climate change. The industry makes a sizeable contribution to global greenhouse gasses, "mainly in its air transport of tourists and service items," as Buckley states (Buckley 400). In a new era where social media and the availability of information has brought some transparency to our social and science issues, I think it will be harder and harder to fool visitors. I think more will want an authentic vacation experience, and won't want to pretend they came to a theme park that can't be harmed. I think they will want to know that what they experience is *real*, and that they are a part of it. Plus, the industry's investments are at risk in a world of changing climate (Scott 1). There is also potential for climate change interpretation to actually attract visitors. At Kenai Fjords a visitor said to me, hands on his son's shoulders, "we had to show him the glaciers before they disappeared."

Despite the challenges in the awkwardness of addressing climate change, Kenai Fjords National Park has become a model for addressing the issue. The park has chosen to lead by example, installing an energy efficient fuel cell in its nature center and using hybrid and electric cars. The park superintendent Jeff Mow has also requested climate change be discussed in all interpretive programs. The one-thing NPS researchers say all parks could all do better? Talk about climate change even more. Studies of visitor interest in climate change versus how much climate change is actually interpreted reveals that visitors are more apt to listen than we think they are ("Climate Change" 22). Parks and their interpreters need to take advantage of the tremendous opportunity they have to bring truth and science to the people.

RATIONAL, CAREFUL, AND LOVING THOUGHT: how the Park Service will write its new chapter

In our challenge to protect the resources of our National Parks and our right to experience our public lands, the stakes couldn't be higher. We can't deny that there are more people and less wild places than ever. When things get hotter, that is when we will need our parks the most. The history of the Park Service had made clear: you can't just kick out visitors as a mean of protecting parks. We need an approach to visitor management that balances the dual mission of established by the Organic Act.

Robert Manning makes the case that, armed with new research, "we are ready to engage the visitor capacity of national parks more aggressively" (Manning 206). Not only are we ready, we are obligated to get a move on. Manning says that tackling visitor management will be, "challenging and sometimes even contentious," but our failure now will make the challenges of the future even more difficult (Manning 206). He asks,

Do we want to manage national parks – the crown jewels of our natural and cultural heritage – by design or by default? If we choose not to manage visitor capacity of national parks, we are implicitly deciding that their current conditions are acceptable and that trends in use and related impacts are not worrisome" (206).

Americans are counting on the Park Service to address today's trials with the same "rational careful, and loving thought" that Horace Albright and the other writers of the Organic Act expected.

Last year, the NPS stepped up with its release of "A Call to Action: Preparing for a Second Century of Stewardship and Engagement". The document outlines goals and strategies that the agency hopes to tackle by its centennial in 2016. The plan brings the agency's mission into the 21st century, with strategies to unite the nation around its National Parks:

In our second century, the National Park Service must recommit to exemplary stewardship and public enjoyment of these places. We must promote the contributions that national parks and our community assistance programs make to create jobs, strengthen local economies, and support ecosystem services. We must strategically integrate our mission across parks and programs and use their collective power to leverage resources and expand our contributions to society ("A Call to" 1).

The NPS hopes to reach groups that have traditionally had less access to parks: poor, urban, and minority Americans. The agency also recognizes the value of citizen science, which gets the public involved with their public land and community, while also increasing scientific literacy (Miller-Rushing). To meet the new challenges of a new chapter in the Park Service's history, the agency is looking for innovative solutions. We will see if they are solutions that would make Muir, Teddy, Grinnel, and Albright proud. I know the Park Service hopes to make Americans proud.

My last day at work for my season at Kenai Fjords National Park was mostly the same as the rest. I lead a walk to the edge of Exit Glacier, a behemoth tongue of blue ice that spills from the 700 square-mile Harding Icefield. I answered the same questions: what is a glacier, why is it blue, where did its name come from, has it really receded that far? But on my last day, I answer the questions with the kind of polish and authority that can only come from a summer of practice. I look at my watch and figure how long I could stay with the glacier before returning to the nature center. Not long. I look into the glacier's blue moulin caverns, carved by dribbling melt water. I look up at the cold cobalt giant that for a summer, I introduced countless people to. A few feet away, a family is debating climate change. I look back at my watch. This is one of my last chances this summer. I have to butt in.

"If it helps, I can offer you the National Park Service's stance on climate change," I say with a wide, friendly smile. They look at me somewhat suspiciously. I continue. "The Park Service uses science." I gesture toward the cold breath coming off the glacier. "Last year, the glacier receded 140 feet, the year before that it was 130." I point toward the valley behind us. "Of course we know climate has changed before. We know ten thousand years ago this valley was filled with ice." I look back at the family. I have their attention. "But what makes this change different is the *rate* that the glacier is receding. In the past it has receded 42 feet a year, on average. Now we're seeing 140. We know humans are accelerating that rate." The group nods in sincere agreement. Facts are hard to argue with. At this point a few others are listening in. I turn to include them.

"You're lucky," I say. "Not many people get to come and see glaciers. You can see science. You can *see* that the glacier is shrinking." I fully realize I am on a soapbox, and today I don't care. "You don't have to hear it from someone else, or wonder if you can trust the science. Here it is."

I stop and look at my little audience. I laugh. "I'm sorry. I didn't mean to get up on my podium. It's my last day here. I just really care about this." Tension eases. The group smiles.

One woman offers, "we appreciate it. We want to know."

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