

THE GRAND GESTURES FOR OUR PLANET

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Rocks crunched under my feet as my legs dragged forward, barely passing as a full stride. My head tipped to my chest, refusing to look up in fear of the wind taking another precious breath from my lungs. The unexpected cold front blew an icy chill that completely revised my definition of summer in the mountains. As a Florida-born beachgoer, my mind and body were more acclimated to sand and sun at sea level than snow and ice at 13,000 feet. I knew our destination was less than a mile away, but it wouldn't come as easily as a leisurely beach stroll.

A hand rested on my shoulder, drawing me out of the warm cavity formed from my bowed head. The hand belonged to my trip leader, Matt, who calmly said, "Not at sea level anymore eh? Try to breathe in more deeply. Although the summit will probably take your breath away too." A snicker followed his supremely bad joke, which forced me to crack a smile through my equally cracked lips. A deep breath and helping hand drove me to the top of the mountain, where an insanely expansive, exquisite view appeared. The curvature of the valleys and pointed peaks pierced the sky, commanding my attention. I had never seen such detail among a seemingly endless horizon before. I gazed upon the landscape before me, grateful for my successful summit and forever changed by my month in the mountains.

My recent experience in the Grand Teton National Park scarred me for life, but in the way a scar represents strength and resilience and honors the place where it was received. I am one of many to experience our nation's beautiful national parks, which attract 331 million people each year (Simmonds et al., 2018). These tourists, including myself, are largely ignorant to the imperceptible changes that our prized parks have undergone in the past few decades. Higher-than-normal temperatures have accelerated snowmelt and exacerbated seasonal wildfires. As I browsed pictures from my thrilling adventure, I noticed the towering whitebark pines were stripped of their branches and leaves, having met their demise by a different blaze: mountain pine beetles. These pests have chewed through 95% of Montana, Wyoming, and Idaho's 31,000 square miles of whitebark pines (Fischer, 2014). Whitebark pines' decline represents a larger message nature is desperately communicating to all 331 million tree huggers: It's natural to love nature, but we are loving it to death.

Whitebark pines command Yellowstone Forest and its neighboring parks at 66 feet tall. I remember savoring the protection its long branches granted my fellow hikers and me from the summer sun. As a keystone species, the whitebark pine is vital to its ecosystem. By slowing snowmelt, regulating runoff, reducing soil erosion, and providing seeds for birds and mammals, the whitebark pine earns its title as a keystone species. However, the tree species has its weaknesses.

Whitebark pines were not subjected to intense evolutionary pressures before the dreaded mountain pine beetle. As a result, the pines lacked enough genetic diversity to withstand a targeted infestation. Mountain pine beetles are a voracious and unrelenting pest, accounting for the death of

approximately 51% of standing whitebark pines in 2016 (Fischer, 2014). Environmental factors were in their favor. The warmer mountain climate and the trees' susceptibility to infection accelerated the mountain pine beetles' destruction. The pest thrives at lower elevations but warming at higher elevations has allowed pine beetles to travel upwards and enter the territory of whitebark pines. With little genetic variability and unseasonably warm winters, whitebark pines are being gobbled up by the rapidly reproducing bugs.

Today, whitebark pines continue to be threatened by mountain pine beetles and other environmental stressors spawned from climate change. In February 2021, the U.S. Fish and Wildlife Service proposed to list the whitebark pine as a threatened species to advance conservation efforts (Fischer, 2014). Although the proposal is still under pending status, multiple state and federal bodies have developed and implemented restoration strategies to revive the population. Worldwide efforts to gradually cool off our warming planet provide the best opportunity for whitebark pines to return to their former throne as the keystone species of our nation's beloved parks.

I've returned to Jackson Hole twice since my first hiking trip. When I feel cool air in my lungs or tightness in my chest, I am reminded of my strength and my scars from the hike that chiseled me into the environmentally conscious hiker and traveler I am today. This summer, I will be greeted again by the postcard view of the Grand Tetons and the deep green pines that dot its rocky walls. Mountain pine beetles may have changed the view, but I hold firm that whitebark pines will mount a comeback.

Wyoming is not only enriched with lush trees. A glistening lake, called Leigh Lake, sits at the bottom of the Grand Tetons, the West's most picturesque mountain range. While art galleries depict Leigh Lake in a tranquil scene with lone elk crossing its shallow stream, the reality of Leigh Lake is less peaceful and attractive to wildlife. At dawn, a local photographer may be able to capture such a gallery-worthy depiction. At midday, Leigh Lake becomes "Instagrammable," attracting hundreds of people to claim their presence by sharing their experience on social media and driving away organisms who would otherwise be contributing to the ecosystem. The rise of social media has glorified scenic hot spots such as Leigh Lake, creating lines of people hungrily waiting for their moment to capture a seemingly authentic encounter with a herd of bison or bubbling hot spring. We used to live within the environment, and now we look upon it.

While a digital photo seems ineffectual in the big picture of overtourism, its compounded effect can be threatening. A photo posted on social media can go viral, collecting millions of views, likes, and comments from other eager travelers and subjecting a particular location to overtourism (Simmonds et al., 2018). Overtourism can lead to trail erosion, habitat disturbance, and conflict with local residents or businesses (Holson, 2018). Some of Leigh Lake's inhabitants have continued with their normal behavior despite human occupation. They have chosen to pose for the camera instead of shy away from it. During one visit to the shallow blue pond, a massive moose strutted across with at least 20 people in the vicinity. As the scene unfolded, many of these individuals whipped their phones out to capture the moment. The moose was unfazed.

Five billion people, roughly over half of the world's population, use social media (Dean, 2021). To combat environmental degradation due to overtourism, some organizations have implemented social media tactics that curb excessive traffic and encourage responsible social media

use. The Jackson Hole Travel & Tourism Board, which oversees the Grand Teton National Park, pioneered the use of generic geotagging, whereby Instagram and other social media account users post pictures with no specific location cited in their post. Instead, they use the generic location tag, “Tag Responsibly, Keep Jackson Hole Wild” (Haugen, 2019).

Jackson Hole’s tourism board introduced generic geotagging in response to the newly crowded scene at Leigh Lake. Some wildlife’s indifference towards throngs of tourists revealed that crowded lakes and vistas are becoming commonplace. Generic geotagging tames the social urge to show off and encourages sightseers to prioritize the environment over engagement. The underlying framework around obscure geotags is Leave No Trace traveling and camping. Leave No Trace principles dictate the circumstances under which tourists can safely and conservatively interact with the environment and other tourists. Jackson Hole hopes investing in this conservation combo will alleviate the social and environmental pressures impacting its ecosystem.

Overtourism is not exclusive to Jackson Hole. Leigh Lake is one of countless “Instagrammable” places in the world that find themselves similarly labeled. Jackson Hole serves as a useful case study for cities, national parks, and other attractions looking to mitigate foot traffic at scenic spots. Other “Instagrammable” attractions can leverage generic geotagging using Jackson Hole’s strategies to put the tourists’ eyes before the camera’s lens. Organizations also must consider a tourist’s role as a social media influencer, who may prioritize engagement over Leave No Trace principles via geotagging. Influencers can use generic geotagging as an opportunity to educate their viewers on responsible social media sharing and showcase nearby environmental conservation efforts. Social media users are expected to increase by 13% each year (Dean, 2021). Generic geotagging can set the standard for travel content as social media use becomes more widespread.

A snapshot of Leigh Lake today features fewer camera phones and more tourists enjoying the surrounding environment. While social media impacts societies and cultures across the globe, it’s encouraging to see an organization anticipating social media’s impact on the environment. As I plan my own world travel, I hope to see more generic geotagging and more tourists tapping into their sense of exploration, following their own path rather than a viral itinerary from an influencer. The allure of growing our virtual community through beautiful pictures is strong, but setting down our cameras and seeing through the lens of our own eyes creates a deeper connection with nature and preserves the beauty of our national parks.

After a handful of memorable summers in Jackson Hole, Wyoming hiking, backpacking, and kayaking with my peers, I was ecstatic to guide my mom during our upcoming outing to the Wild West. As we deplaned directly onto the tarmac, I saw the familiar silhouette of the Sleeping Indian, a nearby mountain range whose form resembled its early inhabitants. Yet the Indian’s pointy nose and crossed arms were blurred by a smoky haze filling the air. Nearby California wildfires were traveling across the West, including Wyoming, coating the sky with smoke and sediment. I felt my excitement dull as I remembered earth science lessons from middle school and high school. Wildfires are a natural occurrence that flush out low-growing plants and debris, but they can be dangerous if untamed. In recent years wildfires have become more widespread, likely due to our warming climate. A laundry list of factors contribute to climate change, with the commercial production and distribution of meat products as one prominent factor. As I drew a connection between the

environmental changes in a city I love dearly and the human practices that strain the planet's resources, I discovered a possible solution to prolong the lifespan of our species and our planet.

The plant-based diet, also known as veganism, has sprouted from imminent environmental concerns and transparency in the meat, poultry, and fish supply chains. This new philosophy of eating eliminates the consumption of animal-based products, whose production threatens the natural balance of the atmosphere. The meat intake in the Paleolithic Period pales in comparison to the tons of steak, poultry, and other proteins the modern-day paleolithic diet demands. Commercialized production and distribution of such products releases enormous amounts of CO₂ into the atmosphere, generates considerable fertilizer runoff, consumes gallons of fresh water, and causes other aversive effects (Fran, 2021). As a result, the world climate is changing and our national parks, which are strictly regulated and acutely preserved, are evidence that no piece of our planet is immune. Jackson Hole is home to the Grand Teton National Park and the Sleeping Indian, which are susceptible to these same environmental pressures. After seeing my beloved summer vacation spot vulnerable to climate change, I became increasingly dedicated to researching the issue.

A social craze has begun around the plant-based diet, now revered for its ability to provide unprecedented health benefits and reduce carbon footprint. On average, meat production requires two to four times the amount of water required for produce production depending on the type of meat (Fran, 2021). By decreasing national demand for meat, which has decreased by 12% since 2019, the meat industry's supply chain has gradually slowed, granting the Earth slight reprieve from the constant gushing of CO₂ into the atmosphere (Sousa et al., 2021). The agricultural industry can also make changes. Wyoming ranks 11th nationally in total land of farms and ranches and ranks 1st for average size of farms and ranches (Ag Facts Archives). By transitioning from animal farming and ranching to grain and produce farming, Wyoming can tap into a growing market while preserving its fertile land.

The switch to a plant-based diet is indicative of humanity's commitment to saving the bountiful nature scenes and resilient ecosystems in our national parks. It's a step toward prosocial and pro-environmental action. Efforts to conserve endangered species and change the climate around social media are two more steps forward. As I reminisce on my time hiking in Grand Tetons, I remember each step counts. Taking action to preserve our national park's beautiful landscapes and structured ecosystems will connect more people with nature and foster a conversationist outlook on our planet.

I've created a photo album's worth of memories hiking, biking, and sightseeing during my countless visits to Jackson Hole. Some of the pictures may have a foggy film of the Sleeping Indian in the background or a tint of orange in the sky. Some of the pictures may be dotted with sparse trees or sprawling with crowded lakes. I cherish the views nonetheless, knowing that my generation and future generations are committed to responsibly engaging on social media, incorporating plant-based eating into their diet, and championing a new conservationist attitude towards how we live.

Alexandra (Alex) Hess graduated the University of Florida in Spring 2022, earning degrees in Business Administration and Psychology. She has led and participated in backpacking trips in

Wyoming, Utah, Montana, Hawaii, Spain, France, and Italy for outdoor education company Wilderness Adventures. Her experiences hiking in the mountains of the West inspired her piece about the Grand Teton National Park and the impacts of climate change. Alex is currently a student at the University of Florida Levin College of Law.

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